

**TUCSON SUPPLEMENTAL RETIREMENT SYSTEM
BOARD OF TRUSTEES
Notice of Regular Meeting / Agenda**

DATE: Thursday, August 25, 2016
TIME: 8:30 a.m.
PLACE: Finance Department Conference Room, 5th floor
City Hall, 255 West Alameda
Tucson, Arizona 85701

A. Consent Agenda

1. Approval of July 28th, 2016 TSRS Board Meeting Minutes
2. Retirement ratifications for August 2016
3. July 2016 TSRS Budget Vs Actual Expenses
4. TSRS Portfolio Composition, Transactions and Performance Review July 2016

B. Disability Applications *

1. Alfred Carley
2. Robyn Scott

C. Investment Activity Reports

1. Annual Manager Review – Blackrock – Kaye Tao and Laura Wallace
2. June 30, 2016 TSRS Quarterly Review of Investment Performance – Callan Associates, Inc.
3. Would It Be Better to Index the Whole Fund & Manager Evaluation Discussion

D. Plan Administrator's Report

4. Report on Office Operations and Key Facts and Figures From the Past Month
5. TSRS Operation Highlight – The Actuarial Data Process

E. Administrative Discussions

1. Approval of TSRS Board Meeting Minutes for June 30th, 2016
2. Board Member Education Plan Discussion

F. Articles for Board Member Education / Discussion

1. Barron's-BlackRock's Fredircks Balances Risk and Income
2. Causeway-The Price of Popularity

G. Call to Audience

H. Future Agenda Items

1. Duties and Selection of Advisory Board
2. TSRS Board Annual Evaluation of Staff and Consultants
3. RFQ for Actuarial Services
4. Action Plan for Black Swan Events
5. Champlain Investment Partners – Annual Manager Review

I. Adjournment

Please Note: Legal Action may be taken on any agenda item

*Pursuant to ARS 38-431.03(A)(3) and (4): the board may hold an executive session for the purposes of obtaining legal advice from an attorney or attorneys for the Board or to consider its position and instruct its attorney(s) in pending or contemplated litigation. The board may also hold an executive session pursuant to A.R.S. 38-431.03(A)(2) for purposes of discussion or consideration of records, information or testimony exempt by law from public inspection.

TUCSON SUPPLEMENTAL RETIREMENT SYSTEM BOARD OF TRUSTEES MEETING MINUTES

DATE: Thursday, July 28, 2016
TIME: 8:30 A.M.
PLACE: Finance Department Conference Room, 5th floor
City Hall, 255 West Alameda
Tucson, Arizona 85701

Members Present: Robert Fleming, Chairman
Kevin Larson, City Manager Appointee (arrived 8:36 AM)
Rebecca Hill, Interim HR Director
Karen Tenace, Deputy Director of Finance
Michael Coffey, Elected Representative (arrived 8:36 AM)
Jorge Hernández, Elected Representative
John O'Hare, Elected Retiree Representative

Staff Present: Dave Deibel, Deputy City Attorney
Neil Galassi, Pension Administrator
Silvia Navarro, Treasury Administrator
Dmitriy Adamia, Administrative Assistant

Guests Present:

Absent/Excused:

Robert Fleming called the meeting to order at 8:30 AM.

A. Consent Agenda

1. Approval of June 30th, 2016 TSRS Board Meeting Minutes
2. Retirement ratifications for July 2016
3. June 2016 TSRS Budget Vs Actual Expenses
4. TSRS Portfolio Composition, Transactions and Performance Review

John O'Hare requested Consent Agenda item A1 be considered separately.

Chairman Fleming asked for a vote on the approval of items A2, A3, and A4 from the Consent Agenda. Consent Agenda items A2, A3, and A4 were approved by a vote of 4 – 0 (Kevin Larson and Michael Coffey absent/excused, Chairman Fleming did not vote).

Chairman Fleming asked for a vote on the approval of item A1 from the Consent Agenda. Consent Agenda item A1 failed due to a lack of quorum. (Kevin Larson and Michael Coffey absent/excused, John O'Hare abstained, and Chairman Fleming did not vote).

John O'Hare abstained from voting on the Consent Agenda item A1 because he was absent from the June 30, 2016 meeting.

B. Plan Administrator's Report

1. Report on Office Operations and Key Facts & Figures for the Past Month

Neil Galassi stated this item is a replacement to the oral reporting to the Board by staff of the investment executive summary as has been the practice in the past. The Board will notice the executive summary and Callan's Report have been moved to the consent agenda as per staff's understanding of the Board's direction. Upon meeting with Chairman Fleming last month, we discussed what would serve as a replacement for this item. We concluded avenues to allow staff to better educate the board on the operations of the TSRS Office while offering insights into the results of operations and investment activity during the month would be of great benefit to the Board. Therefore, beginning with this meeting Mr. Galassi presented an Administrator's Report to highlight operational/investment facts and figures since the last Board meeting as well as briefly educate the board on an aspect of the operation of the Retirement Office. For this month he chose the administration of the ICMA Defined Benefit Plans.

Mr. Galassi continued to state over the month of June the office processed 20 retirements. Of that amount 17 were normal retirements with 10 retiring under the medical incentive as indicated by an effective retirement date of 6/11/2016 on the ratification report, one was a disability retirement and 2 were deferred retirements. There were a total of 2,930 pension payments across all categories during the month, of that amount 2,909 were direct deposit and only 20 were live checks. The reduction in live checks is a result of an effort by TSRS staff and payroll to verify or pre-note bank accounts before the first pension payment to a retiree. This has resulted in less paper checks, 11 refunds/rollovers were processed during the month of June totaling approximately \$177,800. Procedures to reconcile the member data system (GRS) to the advantage general ledger were completed. No unidentifiable items were identified in the process, and the systems reconcile. The next step is investment reconciling and compilation for year-end reporting of which we are currently in process. TSRS staff began preparations for the annual audit to be conducted by CliftonLarsonAllen. This has involved providing schedules for audit sampling and completion of internal control narratives/forms. The audit is scheduled to begin the second week of September. We began efforts to revise standard forms to ensure the information included is the most up to date, they are readable, understandable, and they provide needed efficiencies for the office. This began with the Lump-Sum Distribution form which was updated for clarity based on member feedback. Mr. Galassi stated this part of the report is designed to offer some highlights of the portfolio from the prior month end to date, and highlight activities performed by staff related to investments during the past month. The total portfolio return as of Fiscal Year End, June 30, 2016 was 1.73% which trailed the total fund benchmark of 1.82% by 9 basis points. It should be noted other public pension plans around the county experienced similar or lower returns, for example CALPERS was at .60% for the fiscal year. The portfolio saw a near \$10 Million gain in asset value since June 30 to date. It appears domestic equities have rebounded from the previous month and the fixed income area saw gains as well. Callan will provide a report on the final quarter of the fiscal year and an economic update going forward at the August Board Meeting. He met with J.P Morgan on July 27th, they walked Mr. Galassi through the details of the Strategic Property Real Estate and the Income & Growth Real Estate Funds we have invested in. His biggest takeaway was how the strategies differ from each other and how our portfolio derives different potential benefits from each one. He learned the Strategic Property Fund derives much the majority of return from asset appreciation. That portfolio strives to invest in solid established real estate assets in the residential, retail, and Office Sectors that have excellent location and growth factors to appreciate. The Income and growth fund derives to find assets that are competitively positioned in the same sectors but with a focus on assets that provide income yields vs. appreciation. He also met with Macquarie on July 21st. He learned that fund is primarily invested, at 86% in two airports; the Copenhagen Airport, and the Brussels Airport. We discussed the bombing of the Brussels airport in late March referred to by Callan in the May meeting. He reiterated Callan's sentiments that operations were largely unaffected. Temporary passenger facilities were used for 2 weeks after the bombing and the Airport was back to 100% by June 2nd. There is insurance and regulatory ability for the airport to have carriers cover parts of the damage. There really is no immediate impact from the Brexit given the nature of the assets in the fund, but it should be worth noting Brussel's is the Headquarters' of the EU. Should the EU completely dissolve there could be an impact to the Brussels airport. The Board may have heard PIMCO announced the appointment of a new CEO, Emmanuel Roman. Mr. Galassi received a call from our relationship manager Sasha Talcott in regards to the change which they indicated they are very excited about it and the change will happen methodically. PIMCO will provide more details when they present at the annual retreat.

2. TSRS Operation Highlight – Defined Contribution Plans

**ICMA RC
DEFERRED COMPENSATION PLANS**

457B Plan # 301512	ROTH IRA Plan # 705608	401a Plan # 106302	401a (ER) - Plan #107425
> Open to all Employees > Voluntary Tax deferred savings through payroll deduction. > IRS Contribution Limits < Age 50 = \$ 18,000.00 > Age 50 = \$ 24,000.00 3 Year Catch Up = \$ 36,000.00	> Open to all Employees > Voluntary AFTER TAX SAVINGS through payroll deduction. > IRS Contribution Limits \$5,000.00 > Age 50 = \$ 6000.00	> Open to all Employees > Voluntary Tax deferred savings through payroll deduction. > Available only during 90 days of hire / appointment. % based voluntary election of pay period contributions and % for final cash payout of Vacation Leave. NO CHANGES ALLOWED IN % ONCE EMPLOYEE ELECTION HAS BEEN ACCEPTED / PROCESSED. > IRS Contribution Limits \$53,000.00	> Available <i>only</i> to APPOINTED Employees by the Mayor/Council or City Manager based on a Contract for Employment.
Payroll Deduction Code: ICMA *	Payroll Deduction Code: ROTH *	Payroll Deduction Code: 401AE *	Payroll Deduction Code: 401ER *

Mr. Galassi referenced the table above. He stated Chairman Fleming and staff decided it would be beneficial for the Board to have better knowledge of the operations of the Retirement Office. Therefore, with each administrator’s report Mr. Galassi will bring forward an aspect of our operations to briefly describe to the Board for purposes of knowledge and education. For this meeting he chose the administration of the defined contribution plans administered by ICMA-RC. His purpose in choosing this aspect was to provide the Board a base understanding of the defined contribution plans the City offers to employees. As Board members talk to other TSRS plan members and interested parties about the TSRS, knowledge of this aspect of the operation may help as Board members may run into individuals who have questions about the these plans. ICMA-RC was brought on-board via council action in 2006 and the plans detailed in the table were established. The 457b plan that is more commonly referred to as the Deferred Compensation Plan, allows for voluntary tax deferred savings with the benefits being access to funds if you separate from employment before the age of 50 and 1/2 without the 10% tax penalty. This is offered to employees as a vehicle to save in order to supplement their retirement income.

Chairman Fleming clarified separated members are able to withdraw funds without the 10% penalty.

Mr. Galassi answered in the affirmative.

Chairman Fleming clarified the TSRS Board has no control over the deferred compensation plans.

Mr. Galassi answered in the affirmative, the Defined Contribution Board and staff controls and evaluates the deferred compensation plans.

Mr. Galassi continued Roth IRA plan is voluntary to all employees, this allows an after tax contribution and also serves as a vehicle for employees to save for retirement. The 401a plan that is only available to employees during the 1st 90 days of their employment per the plan document. This has higher contribution limits than the traditional 401k plan. Finally there is 401a ER plan that is only offered to the City Manager, City Attorney, City Clerk, and Police Chief as dictated in their individual contracts. These plans only provide for employer contributions.

Chairman Fleming asked if an employee can change their contribution rate in the 401a plan.

Mr. Galassi stated once an employee chooses a contribution rate, that rate cannot be changed.

Chairman Fleming asked for the participation level of the 401a plan.

Mr. Galassi stated in the 401a plan there are 16 participants with assets balance of \$5.2M.

Rebecca Hill asked if this information is provided during new employee orientation.

Mr. Galassi answered in the affirmative, the ICMA representative goes over the options. If the ICMA representative is unable to make it then the TSRS staff informs the new employees.

Mr. Galassi continued the 457B plan has 2,399 participants with assets balance of \$243M.

John O'Hare asked of the 2,399 how many are retired employees.

Mr. Galassi answered 2,229 active and 170 terminated.

Chairman Fleming stated once an employee is terminated they have the option to move their 457b plan to an IRA.

Mr. Galassi stated affirmative, they have the option to move their funds or leave them with ICMA.

Mr. Galassi continued the Roth plan has 44 participants with assets balance of \$631,000.

Mr. O'Hare asked does staff inform employees about these plans.

Mr. Galassi stated staff is in the process of improving the communication with employees, the table referenced above is framed and placed at the front desk and the City Attorney's office has been provided this information for management contracts. Additionally every year the 3rd week of October is National Save for Retirement week, TSRS staff and ICMA representatives schedule events around the City to meet with City employees to discuss retirement options. The ICMA Administrative Fund pays for TSRS staff and operation expenses.

Ms. Hill asked if employees can request a percentage of their pay check to be contributed to one of these plans instead of a set dollar amount.

Mr. Galassi answered unfortunately at this point in time that is not an option. Staff is working with the Payroll System to possibly add that as an option for the future.

Chairman Fleming clarified if an employee has been with the City for 10 years and wants to enroll into the 401a plan, that employee is unable to enroll because it is past the first 90 days.

Mr. Galassi answered in the affirmative, that is the way the plan document is written. The main difference between the plans is the contribution limits.

Mr. O'Hare stated once an employee reaches the contribution limit, they cannot contribute anymore.

Mr. Galassi stated it is an annual limit. Additionally TSRS staff oversees and monitors the relationship with ICMA in conjunction with the Defined Contribution Plan Board. The Pension Administrator is the named Plan Coordinator for all ICMA plans. TSRS Staff ensures employee contribution amounts as set up by the employee with ICMA are correctly represented in the payroll system. We review the file generated by payroll on a bi-weekly basis for correct submission of contribution amounts by each participating employee to ICMA. We also facilitate rollover of leave before retirement if desired by the employee. We facilitate plan member communication with ICMA as questions and circumstances arise.

Michael Coffey asked if these are the only products offered by ICMA.

Mr. Galassi answered these are the only products the City has an agreement with ICMA to offer.

Mr. Coffey asked how does the City of Tucson participation numbers compare to other governmental retirement systems. Maybe ICMA has other products with greater benefit to City employees.

Mr. O'Hare stated City employees are able to participate in a Roth IRA with a 3rd party company, not having to choose ICMA.

Mr. Galassi stated affirmative, employees may participate in any retirement plan with any company they so choose. The benefit for a City employee to choose ICMA is the lower management fees, the management fee for the Roth IRA plan though ICMA is 0.075 percent of aggregate assets.

Mr. O'Hare stated that is a huge benefit to City employees.

Mr. Coffey asked if staff is planning on promoting these plans to employees.

Mr. Galassi stated affirmative, staff has information posted in the office and on the internet. Additionally during National Save for Retirement week staff is able to communicate this information to employees and participation levels are very high, there were over 150 new enrollments during last year's event.

Karen Tenace stated there was very good participation during last year's National Save for Retirement week, staff set-up different stations with information on all of the plans and employees were able to get their retirement estimates.

C. Administrative Discussions

1. Education Plan for Staff and Trustees

Neil Galassi stated the TSRS Board of Trustees and the City of Tucson are both committed to hiring and retaining a competent and qualified staff to oversee the operation and administration of the TSRS. In addition, the TSRS Board of Trustees must have the ability to effectuate the administration, management, and operation of the system as dictated in City code Sec. 22-44 Board of Trustees. To that end, onboarding of new Board members and continuing professional education is a crucial element to ensure both staff and Board members obtain and utilize the most current and relevant information to facilitate their roles with the TSRS on an ongoing basis. It is the philosophy of the Board that TSRS staff is given access to the necessary training and resources to perform their day to day duties from the inception of their employment. The Pension Administrator is responsible for ensuring TSRS staff continually possess the necessary and most recent information and training to facilitate appropriate job performance. The Pension Administrator will devise an education strategy that is most relevant to each position. The strategy will involve inter-office cross training, utilization of internal subject matter experts, and external continuing professional education as approved by the Pension Administrator. The Pension Administrator will actively seek any and all training opportunities for staff on an ongoing basis. It has been the philosophy of the TSRS that Board Members are individually responsible for ensuring they retain the necessary knowledge and competence to perform their duties as dictated in the City code. To that end a training budget is established on an annual basis to be utilized by both the Trustees and Staff to obtain current and relevant training. The Pension administrator will actively seek out external training avenues, and make all efforts to notify board members in a timely manner to allow board members to plan for potential attendance.

Mr. Galassi stated he provided to the Board information and advance notice with their materials on the Opal Public Funds Summit to occur in Scottsdale, Arizona on January 9th through the 11th 2017. In case Board members need time to plan for the seminar, it is a very good educational opportunity for the Board to consider.

John O'Hare stated the local CFA chapter allows affiliate memberships for people who are not a CFA. He stated it may be a good idea for the TSRS administrator Mr. Galassi to become a member for staff education purposes.

Mr. Galassi asked Mr. O'Hare for additional information on the CFA for staff consideration.

Michael Coffey stated last year staff had a training budget of \$14,000 of which only \$400 was used. He asked if staff had something in mind for that budget this year.

Mr. Galassi answered in the affirmative, a part of that budget will be Board members and staff attending training and seminars.

Chairman Fleming asked is the Opal Public Funds Summit a good starting point for a Board member attending their first seminar.

Mr. Galassi stated he choose this seminar because of the keynote speakers and attendees which will include investment managers, consultants, attorneys, accountants, and hedge fund managers.

Chairman Fleming asked if the Board members decided to attend the seminar would the hotel and travel cost be reimbursed.

Mr. Galassi answered in the affirmative; seminar, hotel, and travel costs are a part of the training budget. If the Board is comfortable with the above framework staff would like to move forward with these parameters for staff and Board education. It is assumed this is a living document that will be added to and/or updated as necessary.

Chairman Fleming made an adjustment to Section 2 of the Education Handout. "It has been the philosophy of the TSRS that Board Members are individually responsible for ensuring they obtain and retain the necessary knowledge and competence to perform their duties as dictated in the City code".

Mr. O'Hare stated he believes that in the best interest of the active and retired City Employees there should be a requirement or a set number of hours Board members need to obtain and retain the necessary knowledge and training to perform their duties. Members should not be individually responsible for ensuring they obtain and retain the necessary knowledge and competence to perform their duties.

Chairman Fleming clarifies with Mr. O'Hare if he is asking for a mandatory number of hours dedicated to Board members training.

Mr. O'Hare stated the Board needs something that is more structured than just the individual's responsibility to obtain and retain the necessary knowledge.

Chairman Fleming stated the Board would need to see a proposal in writing for the Board to consider any changes to policy.

Mr. O'Hare stated he will make a 15 minute presentation at the August 25, 2016 TSRS Board meeting.

Mr. O'Hare stated Opal offers lots of different seminars throughout the year that Board members have the option of attending.

Mr. Galassi stated the seminar presented at today's meeting was recommended by the Director of the ASRS.

Mr. Coffey asked staff to compile a list of possible public sector pension seminars for Board members to choose from.

Karen Tenace stated the National GFOA has a pension section, the seminar is in Denver, Colorado during the month of May.

Mr. O'Hare stated the number of seminars has diminished because of budget cuts.

Mr. Galassi stated the Board's investment managers do offer client conferences.

2. Implementation of an Intern Program

Mr. Galassi summarized the benefits and cons of having an intern program for the TSRS Office. Mr. Galassi stated that at this time Staff is not bringing forward a formal internship program to the Board for recommendation. While Staff feels the benefits of an internship program would outweigh the cons, the TSRS office is currently not in a position to be adequately conducive to onboarding an intern and providing a beneficial experience. This is due to the current state of the office with all staff still onboarding and learning their roles and duties given recent noted turnover. Staff recommends revisiting the implementation of an intern program at a time when the office is better positioned to do so.

Chairman Fleming stated basically staff believes hiring an intern is a good idea but not at this time, new staff members need time to get adjusted and situated.

John O'Hare asked if staff would be ready in a year's time.

Neil Galassi stated possibly, staff will continue to evaluate and report to the board.

Chairman Fleming stated staff does not need Board approval to hire an intern as long as staff stays within the approved budget.

Mr. O'Hare stated the Tucson Water has been very successful hiring interns.

3. Retreat Topics Update

Neil Galassi stated as of July 28, 2016 we have 5 very good speakers attending the retreat. Andrew Goldberg from JP Morgan will be presenting a Guide to the Markets. GRS will be presenting the actuarial report which leads to the Board's recommend contribution rate to the Mayor and council for the next fiscal year. As well as 50/50 split contribution rate discussion presented by GRS. External legal counsel Catherine Langford will facilitate the fiduciary training. Callan will be presenting on currency. PIMCO will discuss Stocks Plus, Custom Fix Income, and the Economic update. And Black Swan events maybe worked into the retreat discussion.

John O'Hare asked to see Pimco's projections from last year to see how accurate they were.

Kevin Larson stated GASB statements #68 and #71 could be a retreat topic.

Mr. Galassi stated a GASB discussion will be added to the retreat topics.

D. Articles for Board Member Education / Discussion

1. J.P. Morgan – Asset Class Implications Post Brexit
2. Callan Associates Inc. – Thoughts and Summary on Brexit
3. Wall Street Journal – Brexit Adds to Pension Funds' Pain

E. Call to Audience - None heard.

F. Future Agenda Items

1. Duties and Selection of Advisory Board
2. TSRS Board Annual Evaluation of Staff and Consultants
3. Formal Evaluation of Active Managers – 1.5% over benchmark over a given period
4. RFQ for Actuarial Services
5. Action Plan for Black Swan Events
6. Would It Be Better to Index the Whole Fund

- 7. BlackRock – Annual Manager Review
- 8. Champlain Investment Partners – Annual Manager Review

G. Adjournment 9:19 A.M.

Approved:

Robert Fleming
Chairman of the Board

Date

Neil S. Galassi
Pension Administrator

Date

Service & Disability Retirements, End of Service Entrants for TSRS Board of Trustees Ratification

07/10/16 - 08/09/16 - July 2016

Name of Applicant	Department	Type	Effective Date	Date of Birth	Age	Credited Service	Present Value	Member's Accumulated Contributions	AFC	Option	Pension
Karen M Leavitt	City Courts	Normal Retirement	8/6/2016	11/10/1958	57.74	30.8592	564,505.94	145,527.02	5,804.93	Single Life	4,030.55
George E Morey Jr	Information Technology	Normal Retirement	7/20/2016	10/24/1948	67.74	35.8294	616,069.83	568,971.91	6,824.87	J&S 100	4,318.58
James M Patterson Jr	Water Utility	Deferred Retirement	7/10/2016	7/10/1954	62.00	17.0403	152,972.27	95,594.10	3,145.24	J&S 50	1,128.92
Cecilia M Richards	Transportation	Normal Retirement	7/13/2016	7/13/1954	62.00	9.5943	72,778.15	22,727.21	2,547.11	Single Life	549.85
Jeanne A Slaughter	Police	Deferred Retirement	7/22/2016	7/22/1954	62.00	7.3539	55,284.12	27,097.88	2,524.26	J&S 100	332.95
David Villa	General Services	Deferred Retirement	7/2/2016	7/2/1954	62.00	9.0728	72,552.42	21,645.48	2,801.72	Single Life	571.94
Averages					18.67		255,693.79	146,927.27	3,941.36		1,822.13

Comparison of Monthly Pension Payments - Beginning of FY 2016 to Current Monthly Pension Payments

	Plan Year beginning 07/01/2015 ('from GRS annual valuation)			July 2016 Pension Payroll		Annualized	Annual change since July 1, 2015	% change
	Monthly	Annual						
Service Pensions	2,305	5,007,097.17	60,085,166	2,383	5,245,713	62,948,555.88	2,863,390	4.77%
Disability Pensions	160	174,259	2,091,109	148	164,149	1,969,792.92	(121,316)	-5.80%
Survivor Pensions	344	298,979	3,587,750	344	338,738	4,064,856.00	477,106	13.30%
	2,809	5,480,335	65,764,025	2,875	5,748,600	68,983,205	3,219,180	4.90%
				(36) \$ (29,333)				
				(net) change from previous month				

Report ID : FIN-COT-BA-0001

Run Date : 08/16/2016

Run Time : 09:24 AM

City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017

Parameter Page

Parameters and Prompts

Fiscal Year	2017
Accounting Period	1
Fund	072
Department	*
Unit	*
Object Code	*

Report Description

The Expenses vs. Actual Report shows expenditures and encumbrances for the selected accounting period and for the selected fiscal year compared against the current expense budget and the unobligated budget balance. The report is sectioned by Department, Fund and Unit and summarized by Object.

Report ID : FIN-COT-BA-0001

Run Date : 08/16/2016

Run Time : 09:24 AM

City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017

Department	Fund	Unit	Object	Current Period Encumbrance	Current Period Expenditure	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
900 - TUCSON SUPPL RETIREMENT SYSTEM	072 - TUCSON SUPP RETIREMENT SYSTEM	9001 - Normal Retiree Benefit	105 - PAYROLL PENSION	0.00	5,242,630.12	0.00	5,242,630.12	5,242,630.12	5,242,630.12	68,300,000	63,057,369.88	92.32 %
Total for 100 - PAYROLL CHGS				0.00	5,242,630.12	0.00	5,242,630.12	5,242,630.12	5,242,630.12	68,300,000	63,057,369.88	92.32 %
Total for Unit 9001 - Normal Retiree Benefit				0.00	5,242,630.12	0.00	5,242,630.12	5,242,630.12	5,242,630.12	68,300,000	63,057,369.88	92.32 %

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City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017

Department	Fund	Unit	900 - TUCSON SUPPL RETIREMENT SYSTEM	072 - TUCSON SUPP RETIREMENT SYSTEM	9003 - Normal Retiree Beneficiary Benefit	Current Period Encumbrance	Current Period Expenditure	Current Total Obligations	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
			0.00	0.00		308,319.48	308,319.48	308,319.48	0.00	308,319.48	308,319.48	3,100,000	2,791,680.52	90.05 %
			0.00	0.00		308,319.48	308,319.48	308,319.48	0.00	308,319.48	308,319.48	3,100,000	2,791,680.52	90.05 %
						0.00	308,319.48	308,319.48	0.00	308,319.48	308,319.48	3,100,000	2,791,680.52	90.05 %
						0.00	308,319.48	308,319.48	0.00	308,319.48	308,319.48	3,100,000	2,791,680.52	90.05 %

City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017

Department	Fund	Unit	Object	Current Period Encumbrance	Current Period Expenditure	Current Total Obligations	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
900 - TUCSON SUPPL RETIREMENT SYSTEM	072 - TUCSON SUPP RETIREMENT SYSTEM	9020 - Disability Retiree Benefit	105 - PAYROLL PENSION	0.00	164,149.41	164,149.41	0.00	164,149.41	164,149.41	1,975,000	1,810,850.59	91.69 %
Total for 100 - PAYROLL CHGS				0.00	164,149.41	164,149.41	0.00	164,149.41	164,149.41	1,975,000	1,810,850.59	91.69 %
Total for Unit 9020 - Disability Retiree Benefit				0.00	164,149.41	164,149.41	0.00	164,149.41	164,149.41	1,975,000	1,810,850.59	91.69 %

City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017

Department	Fund	Unit	Object	Current Period Encumbrance	Current Period Expenditure	Current Total Obligations	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
900 - TUCSON SUPPL RETIREMENT SYSTEM	072 - TUCSON SUPP RETIREMENT SYSTEM	9021 - Pension Fund Administration	101 - SALARIES & WAGES FOR PERMANENT EMPLOYEES	0.00	14,474.61	14,474.61	0.00	14,474.61	14,474.61	230,100	215,625.39	93.71 %
			103 - OVERTIME WAGES	0.00	4.84	4.84	0.00	4.84	4.84	0	(4.84)	0.00%
			108 - DOWNTOWN ALLOWANCE & DISCOUNTED TRANSIT PASSES	0.00	75.84	75.84	0.00	75.84	75.84	1,200	1,124.16	93.68 %
			113 - TSRS PENSION CONTRIBUTION	0.00	4,132.14	4,132.14	0.00	4,132.14	4,132.14	63,280	59,147.86	93.47 %
			114 - FICA (SOCIAL SECURITY)	0.00	1,147.12	1,147.12	0.00	1,147.12	1,147.12	17,600	16,452.88	93.48 %
			115 - WORKERS COMPENSATION INSURANCE	0.00	214.95	214.95	0.00	214.95	214.95	6,440	6,225.05	96.66 %
			116 - GROUP PLAN INSURANCE	0.00	1,256.93	1,256.93	0.00	1,256.93	1,256.93	32,760	31,503.07	96.16 %
			117 - STATE UNEMPLOYMENT	0.00	20.03	20.03	0.00	20.03	20.03	300	279.97	93.32 %
			196 - INTERDEPARTMENTAL LABOR	0.00	0.00	0.00	0.00	0.00	0.00	156,000	156,000.00	100.00 %
			Total for 100 - PAYROLL CHGS	0.00	21,326.46	21,326.46	0.00	21,326.46	21,326.46	507,680	486,353.54	95.80 %
			202 - TRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	4,000	4,000.00	100.00 %
			204 - TRAINING	0.00	240.00	240.00	0.00	240.00	240.00	14,000	13,760.00	98.29 %
			205 - PARKING & SHUTTLE SERVICE	0.00	0.00	0.00	0.00	0.00	0.00	220	220.00	100.00 %
			212 - CONSULTANTS AND SURVEYS	0.00	0.00	0.00	0.00	0.00	0.00	50,000	50,000.00	100.00 %
			219 - MISCELLANEOUS PROFESSIONAL SERVICES	0.00	1,270.04	1,270.04	0.00	1,270.04	1,270.04	4,210,000	4,208,729.96	99.97 %
			221 - INSUR-PUBLIC LIABILITY	0.00	251.23	251.23	0.00	251.23	251.23	32,100	31,848.77	99.22 %
			228 - HAZARDOUS WASTE INSURANCE	0.00	48.77	48.77	0.00	48.77	48.77	0	(48.77)	0.00%
			232 - R&M MACHINERY & EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	1,200	1,200.00	100.00 %

City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017

Department	900 - TUCSON SUPPL RETIREMENT SYSTEM	Current Period Encumbrance	Current Period Expenditure	Current Total Obligations	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
Fund	072 - TUCSON SUPP RETIREMENT SYSTEM	0.00	0.00	0.00	0.00	0.00	0.00	1,200	1,200.00	100.00 %
Unit	9021 - Pension Fund Administration	0.00	0.00	0.00	0.00	0.00	0.00	41,000	41,000.00	100.00 %
Object		0.00	0.00	0.00	0.00	0.00	0.00	2,560	2,560.00	100.00 %
	245 - TELEPHONE	0.00	0.00	0.00	0.00	0.00	0.00	1,500	1,326.06	88.40 %
	260 - COMPUTER SOFTWARE MAINTENANCE AGREEMENTS	0.00	0.00	0.00	0.00	0.00	0.00			
	263 - PUBLIC RELATIONS	0.00	0.00	0.00	0.00	0.00	0.00			
	284 - MEMBERSHIPS AND SUBSCRIPTIONS	0.00	173.94	173.94	0.00	173.94	173.94			
	Total for 200 - PROF CHARGES	0.00	1,983.98	1,983.98	0.00	1,983.98	1,983.98	4,357,780	4,355,796.02	99.95 %
	311 - OFFICE SUPPLIES	0.00	248.74	248.74	0.00	248.74	248.74	9,000	8,751.26	97.24 %
	312 - PRINTING, PHOTOGRAPHY, REPRODUCTION	0.00	268.52	268.52	0.00	268.52	268.52	9,000	8,731.48	97.02 %
	314 - POSTAGE	0.00	0.00	0.00	0.00	0.00	0.00	12,000	12,000.00	100.00 %
	341 - BOOK, PERIODICALS AND RECORDS	0.00	0.00	0.00	0.00	0.00	0.00	250	250.00	100.00 %
	345 - FURNISHINGS, EQUIPMENT AND TOOLS < \$5,000	0.00	0.00	0.00	0.00	0.00	0.00	1,000	1,000.00	100.00 %
	346 - COMPUTER EQUIPMENT < \$5,000	0.00	0.00	0.00	0.00	0.00	0.00	1,000	1,000.00	100.00 %
	Total for 300 - SUPPLIES	0.00	517.26	517.26	0.00	517.26	517.26	32,250	31,732.74	98.40 %
	Total for Unit 9021 - Pension Fund Administration	0.00	23,827.70	23,827.70	0.00	23,827.70	23,827.70	4,897,710	4,873,882.30	99.51 %

**City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017**

Department	Fund	Unit	900 - TUCSON SUPPL RETIREMENT SYSTEM	072 - TUCSON SUPP RETIREMENT SYSTEM	9022 - Disability Retiree Beneficiary Benefit	Current Period Encumbrance	Current Period Expenditure	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
			0.00	30,418.52	0.00	30,418.52	0.00	30,418.52	30,418.52	30,418.52	350,000	319,581.48	91.31 %
			0.00	30,418.52	0.00	30,418.52	0.00	30,418.52	30,418.52	30,418.52	350,000	319,581.48	91.31 %
			Total for 100 - PAYROLL CHGS										
			0.00	30,418.52	0.00	30,418.52	0.00	30,418.52	30,418.52	30,418.52	350,000	319,581.48	91.31 %
			Total for Unit 9022 - Disability Retiree Beneficiary Ben										

**City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017**

Department	Fund	Unit	900 - TUCSON SUPPL RETIREMENT SYSTEM	072 - TUCSON SUPP RETIREMENT SYSTEM	9023 - ACTIVE MEMBER REFUNDS-CONTRBS	Current Period Encumbrance	Current Period Expenditure	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
186 - TSRS REFUNDS			0.00	236,913.87	0.00	236,913.87	0.00	236,913.87	236,913.87	236,913.87	2,400,000	2,163,086.13	90.13 %
Total for 100 - PAYROLL CHGS			0.00	236,913.87	0.00	236,913.87	0.00	236,913.87	236,913.87	236,913.87	2,400,000	2,163,086.13	90.13 %
Total for Unit 9023 - ACTIVE MEMBER REFUNDS-CON			0.00	236,913.87	0.00	236,913.87	0.00	236,913.87	236,913.87	236,913.87	2,400,000	2,163,086.13	90.13 %

**City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017**

Department 900 - TUCSON SUPPL RETIREMENT SYSTEM
 Fund 072 - TUCSON SUPP RETIREMENT SYSTEM
 Unit 9025 - INTEREST ON REFUNDS

Object	Current Period Encumbrance	Current Period Expenditure	Current Total Obligations	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
186 - TSRS REFUNDS	0.00	611.31	611.31	0.00	611.31	611.31	50,000	49,388.69	98.78 %
Total for 100 - PAYROLL CHGS	0.00	611.31	611.31	0.00	611.31	611.31	50,000	49,388.69	98.78 %
Total for Unit 9025 - INTEREST ON REFUNDS	0.00	611.31	611.31	0.00	611.31	611.31	50,000	49,388.69	98.78 %

**City of Tucson
Budget vs Actual Expenses
Through: July, 2017
For Fiscal Year 2017**

Department	Fund	Unit	Object	Current Period Encumbrance	Current Period Expenditure	Current Total Obligations	YTD Encumbrance	YTD Expenditure	YTD Total Obligations	Current Budgeted Amount	Unobligated Budget Balance	Percent
900 - TUCSON SUPPL RETIREMENT SYSTEM	072 - TUCSON SUPP RETIREMENT SYSTEM	9026 - DWE SYSTEM BENEFIT PAYMENT	186 - TSRS REFUNDS	0.00	0.00	0.00	0.00	0.00	0.00	200,000	200,000.00	100.00 %
Total for 100 - PAYROLL CHGS				0.00	0.00	0.00	0.00	0.00	0.00	200,000	200,000.00	100.00 %
Total for Unit 9026 - DWE SYSTEM BENEFIT PAYMENT				0.00	0.00	0.00	0.00	0.00	0.00	200,000	200,000.00	100.00 %
Total for Fund 072 - TUCSON SUPP RETIREMENT SYS				0.00	6,006,870.41	6,006,870.41	0.00	6,006,870.41	6,006,870.41	81,272,710	75,265,839.59	92.61 %
Total for Department 900 - TUCSON SUPPL RETIREME				0.00	6,006,870.41	6,006,870.41	0.00	6,006,870.41	6,006,870.41	81,272,710	75,265,839.59	92.61 %
Grand Totals				0.00	6,006,870.41	6,006,870.41	0.00	6,006,870.41	6,006,870.41	81,272,710	75,265,839.59	92.61 %



TSRS Portfolio Performance Review

DATE: August 18, 2016

TO: The Board of Trustees
Tucson Supplemental Retirement System

FROM: Neil S. Galassi, CPA
Pension Administrator

SUBJECT: July 2016 Summary Performance Report

SUMMARY:

This report presents the Tucson Supplemental Retirement System's investment portfolio as of July 31, 2016. Attached to this summary is the Callan prepared Investment Measurement Service Monthly Review Report which serves as the basis for this summary.

As of June 30, 2016 and July 31, 2016, the Total Fund balance of was \$722.7 million and \$742.5 million respectively. This represents a \$11.4 million increase from the prior month. There were withdrawals totaling \$2.0 million from the Total Fund to support pension payments during the recent month, and \$2.0 million has been withdrawn during fiscal year 2017.

For the month of July, the Total Fund performance, net of fees, was a positive 2.87% which met the custom benchmark return of 2.87%. Total Fund performance was primarily impacted by positive returns during the month in all equity classes with domestic equity returning 4.27% and international equity returning 4.23%. Fixed Income, Real Estate, and Infrastructure investment allocations saw modest returns during the month of 1.39%, 0.39%, and 0.30% respectively; the S&P 500 Index returned 0.26% during the month.

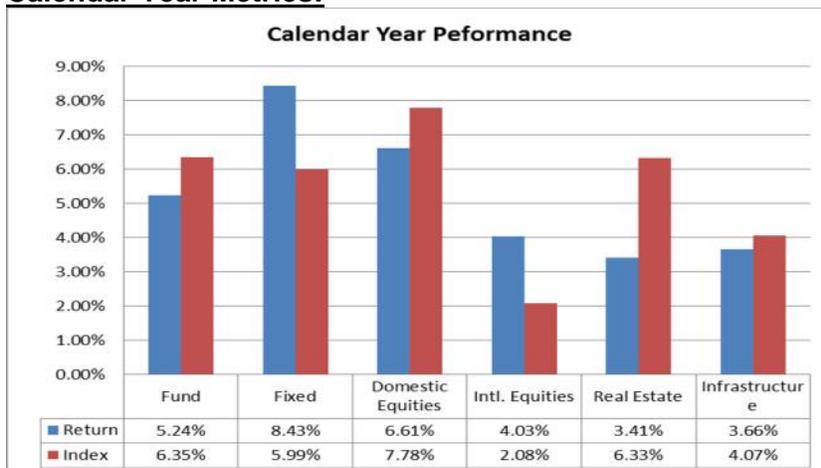
For the last twelve months the Total Fund performance was a positive 3.62% which was slightly below of the custom benchmark return of 3.72% by 10 basis points. The Total Fund performance was impacted by negative but improving returns in the International Equity Markets of negative 6.59%, which were slightly better than the previous month's 12 month return of negative 10.04%. Domestic equity market returns underperformed relative to the benchmark by 1.44% for the same 12 month period with Small/Mid Cap Domestic Equity outperforming the benchmark by 2.07%. The Fund continues to experience 12 month positive returns on Fixed Income of 6.88% and returns on the Real Estate and Infrastructure were 9.41% and 13.13% respectively.

In regards to equity funds over the past 12 month period, the Small/Mid Cap Equity funds for Champlain Mid Cap performed well above their benchmark by 4.34% while and Pyramis Small Cap underperformed relative to the benchmark by 1.63%. Large Cap Equity fund managers were relatively consistent with their benchmark except for T-Rowe Price which underperformed relative to the benchmark by 5.93%. The international equity fund managed by Causeway trailed the benchmark by 4.64% while the Aberdeen international equity fund outperformed the benchmark by 1.80%. For fixed income funds, the PIMCO Fixed Income Fund underperformed relative to benchmark by 65 basis points, while the BlackRock U.S. Debt Fund was consistent with the benchmark of 5.94% at 6.04%. For Real Estate fund managers, both the JPM Strategic Property Fund and JPM Income and Growth Fund trailed the benchmark by 1.57% and 2.60% respectively. The Macquarie European Infrastructure Fund was 4.02% above the benchmark, and the Steel River Infrastructure fund also outperformed the benchmark by 12.71%

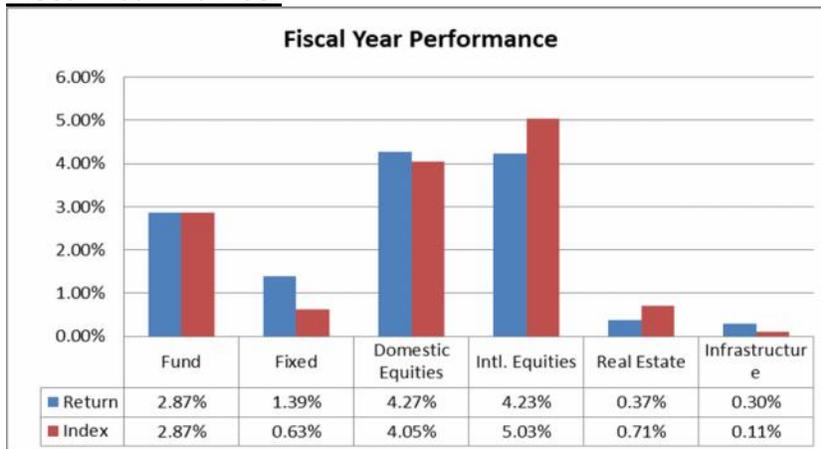
The Total Fund total as of today, July 21, 2016 was \$744.8 million. This represents an increase of \$2.3 million (30 basis points), over the balance as of July 31, 2016. The increase was primarily a result of an increase of 70 basis points in international equity asset balances and modest increases in the Domestic Equity and the fixed income asset balances since prior month end.

Summary graphs are as follows:

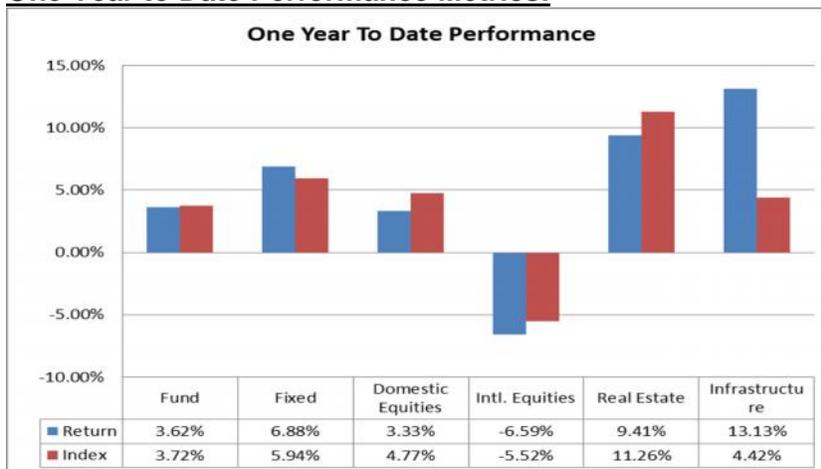
Calendar Year Metrics:



Fiscal Year Metrics:



One Year to Date Performance Metrics:



July 31, 2016



Tucson Supplemental Retirement System

**Investment Measurement Service
Monthly Review**

The following report was prepared by Callan Associates Inc. ("CAI") using information from sources that include the following: fund trustee(s); fund custodian(s); investment manager(s); CAI computer software; CAI investment manager and fund sponsor database; third party data vendors; and other outside sources as directed by the client. CAI assumes no responsibility for the accuracy or completeness of the information provided, or methodologies employed, by any information providers external to CAI. Reasonable care has been taken to assure the accuracy of the CAI database and computer software. Callan does not provide advice regarding, nor shall Callan be responsible for, the purchase, sale, hedge or holding of individual securities, including, without limitation securities of the client (i.e., company stock) or derivatives in the client's accounts. In preparing the following report, CAI has not reviewed the risks of individual security holdings or the conformity of individual security holdings with the client's investment policies and guidelines, nor has it assumed any responsibility to do so. Advice pertaining to the merits of individual securities and derivatives should be discussed with a third party securities expert. Copyright 2016 by Callan Associates Inc.

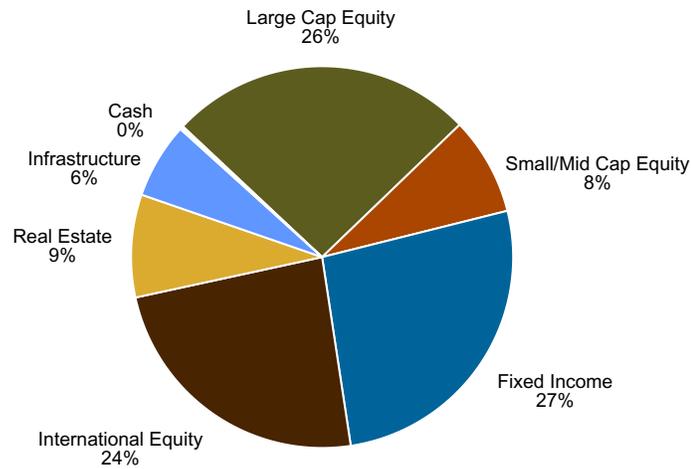
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July 31, 2016

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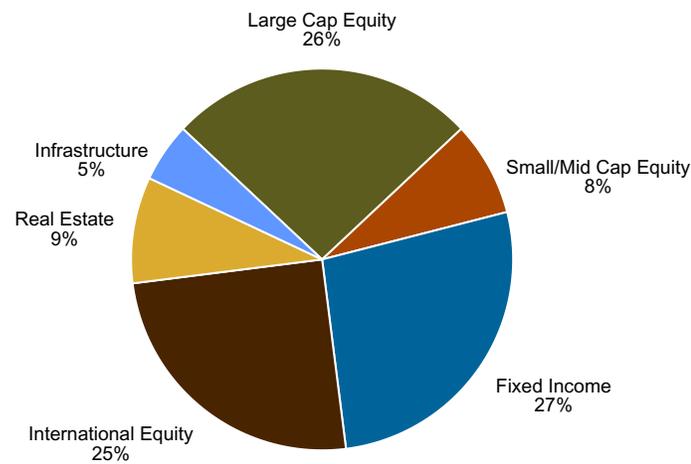
Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of July 31, 2016. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Percent Actual	Percent Target	Percent Difference	\$000s Difference
Large Cap Equity	191,866	25.8%	26.0%	(0.2%)	(1,193)
Small/Mid Cap Equity	61,389	8.3%	8.0%	0.3%	1,986
Fixed Income	197,061	26.5%	27.0%	(0.5%)	(3,424)
International Equity	178,001	24.0%	25.0%	(1.0%)	(7,632)
Real Estate	64,606	8.7%	9.0%	(0.3%)	(2,222)
Infrastructure	47,555	6.4%	5.0%	1.4%	10,428
Cash	2,057	0.3%	0.0%	0.3%	2,057
Total	742,534	100.0%	100.0%		

*Current Month Target Performance is calculated using monthly rebalancing.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2016, with the distribution as of June 30, 2016. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	July 31, 2016		Net New Inv.	Inv. Return	June 30, 2016	
	Market Value	Percent			Market Value	Percent
Domestic Equity	\$253,255,367	34.11%	\$(2,144,551)	\$10,590,915	\$244,809,003	33.83%
Large Cap Equity	\$191,866,117	25.84%	\$(2,074,215)	\$8,146,989	\$185,793,344	25.67%
Transition Account (1)	10,602	0.00%	0	2	10,600	0.00%
Alliance S&P Index	55,558,069	7.48%	(1,999,721)	2,035,567	55,522,224	7.67%
PIMCO StocksPLUS	30,353,018	4.09%	0	1,191,446	29,161,572	4.03%
BlackRock Russell 1000 Value	52,588,467	7.08%	0	1,494,162	51,094,305	7.06%
T. Rowe Price Large Cap Growth	53,355,961	7.19%	(74,494)	3,425,812	50,004,643	6.91%
Small/Mid Cap Equity	\$61,389,250	8.27%	\$(70,336)	\$2,443,927	\$59,015,659	8.15%
Champlain Mid Cap	30,611,131	4.12%	(72,111)	1,040,759	29,642,483	4.10%
Pyramis Small Cap	30,778,119	4.15%	1,775	1,403,168	29,373,176	4.06%
International Equity	\$178,001,243	23.97%	\$(76,674)	\$7,310,640	\$170,767,277	23.59%
Causeway International Opps (2)	70,868,368	9.54%	(76,674)	2,874,709	68,070,332	9.41%
Aberdeen EAFE Plus	72,534,450	9.77%	0	2,409,315	70,125,135	9.69%
American Century Non-US SC (1)	34,598,425	4.66%	0	2,026,615	32,571,810	4.50%
Fixed Income	\$197,060,738	26.54%	\$(145,665)	\$2,855,754	\$194,350,648	26.85%
BlackRock U.S. Debt Fund	72,460,486	9.76%	0	461,907	71,998,579	9.95%
PIMCO Fixed Income	124,600,252	16.78%	(145,665)	2,393,847	122,352,070	16.91%
Real Estate	\$64,605,614	8.70%	\$(114,263)	\$367,027	\$64,352,850	8.89%
JPM Strategic Property Fund	46,761,817	6.30%	(114,263)	366,032	46,510,048	6.43%
JPM Income and Growth Fund	17,843,798	2.40%	0	996	17,842,802	2.47%
Infrastructure	\$47,554,522	6.40%	\$(179,402)	\$321,819	\$47,412,106	6.55%
Macquarie European	21,816,066	2.94%	(179,402)	321,819	21,673,650	2.99%
SteelRiver Infrastructure	25,738,456	3.47%	0	0	25,738,456	3.56%
Total Cash	\$2,056,942	0.28%	\$11	\$453	\$2,056,478	0.28%
Cash	2,056,942	0.28%	11	453	2,056,478	0.28%
Total Fund	\$742,534,427	100.0%	\$(2,660,543)	\$21,446,608	\$723,748,362	100.0%

(1) The Domestic Equity transition account was implemented for the May 2016 plan rebalancing. As part of the rebalancing, the American Century Non-US Small Cap strategy was funded on May 27, 2016.

(2) Client transitioned from Causeway International Value to International Opportunities in May 2016.

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2016

	Last Month	Year to Date	Last 12 Months	Last 36 Months	Last 60 Months
Gross of Fees					
Domestic Equity	4.33%	6.73%	3.63%	11.24%	13.72%
Total Domestic Equity Target (1)	4.05%	8.09%	4.77%	10.54%	13.00%
Large Cap Equity	4.40%	5.99%	3.46%	11.22%	13.59%
S&P 500 Index	3.69%	7.66%	5.61%	11.16%	13.38%
Alliance S&P Index	3.67%	7.53%	5.54%	11.12%	13.33%
S&P 500 Index	3.69%	7.66%	5.61%	11.16%	13.38%
PIMCO StocksPLUS	4.09%	8.12%	4.63%	11.68%	14.54%
S&P 500 Index	3.69%	7.66%	5.61%	11.16%	13.38%
BlackRock Russell 1000 Value	2.92%	9.17%	5.23%	9.05%	12.80%
Russell 1000 Value Index	2.90%	9.38%	5.38%	8.99%	12.75%
T. Rowe Price Large Cap Growth	6.85%	0.21%	(1.07%)	13.06%	14.54%
Russell 1000 Growth Index	4.72%	6.15%	4.35%	12.86%	13.62%
Small/Mid Cap Equity	4.14%	9.44%	4.35%	11.37%	14.04%
Russell 2500 Index	5.22%	9.40%	1.54%	8.16%	11.46%
Champlain Mid Cap	3.51%	13.01%	9.76%	12.36%	13.94%
Russell MidCap Index	4.57%	10.31%	4.37%	10.37%	12.73%
Pyramis Small Cap	4.78%	5.71%	(1.10%)	10.21%	14.00%
Russell 2000 Index	5.97%	8.32%	0.00%	6.74%	10.43%
International Equity	4.28%	4.46%	(5.98%)	1.00%	1.89%
Total International Equity Target (2)	5.03%	3.90%	(5.52%)	1.36%	1.36%
Causeway International Opps (5)	4.22%	(1.18%)	(9.63%)	1.47%	4.24%
MSCI ACWI ex US	4.95%	3.88%	(5.54%)	1.35%	1.35%
Aberdeen EAFE Plus	3.44%	10.33%	(2.99%)	(0.37%)	-
MSCI ACWI x US (Net)	4.95%	3.88%	(5.54%)	1.35%	1.35%
American Century Non-US SC (3)	6.22%	-	-	-	-
MSCI ACWI ex US Small Cap	5.56%	5.36%	1.74%	5.13%	3.40%
Fixed Income	1.47%	8.70%	7.21%	5.27%	4.93%
Barclays Aggregate Index	0.63%	5.98%	5.94%	4.23%	3.57%
BlackRock U.S. Debt Fund	0.64%	6.07%	6.07%	4.38%	3.70%
Barclays Aggregate Index	0.63%	5.98%	5.94%	4.23%	3.57%
PIMCO Fixed Income	1.96%	10.31%	7.90%	5.81%	5.83%
Custom Index (4)	1.22%	8.95%	8.03%	5.64%	5.28%

(1) The Total Domestic Equity target is currently composed of 76% S&P 500 and 24% Russell 2500 Index.

(2) The Total International Equity Target reflects the MSCI ACWI ex-US (Net Div) through May 2016 and the MSCI ACWI ex-US IMI (Net Div) thereafter.

(3) The American Century Non-US Small Cap strategy was funded May 2016.

(4) The PIMCO custom index is composed of 25% Barclays Mortgage, 25% Barclays Credit, 25% Barclays High Yield, and 25% JP Morgan EMBI Global. Previously the index was composed of 70% Barclays Mortgage, 15% Barclays Credit, and 15% Barclays High Yield.

(5) Client transitioned from Causeway International Value to International Opportunities in May 2016.

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2016

	Last Month	Year to Date	Last 12 Months	Last 36 Months	Last 60 Months
Gross of Fees					
Real Estate	0.57%	4.47%	10.56%	12.49%	12.86%
NFI-ODCE Value Weight Gr*	0.71%	5.10%	11.26%	12.83%	12.62%
JPM Strategic Property Fund	0.79%	4.76%	10.77%	12.59%	12.86%
JPM Income and Growth Fund	0.01%	3.73%	10.06%	12.61%	15.20%
NFI-ODCE Value Weight Gr*	0.71%	5.10%	11.26%	12.83%	12.62%
Infrastructure	0.68%	9.61%	13.88%	8.21%	7.09%
CPI + 4%	0.11%	4.02%	4.42%	4.68%	5.07%
Macquarie European Infrastructure Fund	1.50%	9.00%	9.34%	3.21%	5.28%
SteelRiver Infrastructure North Amer.**	0.00%	10.15%	17.75%	13.91%	9.17%
CPI + 4%	0.11%	4.02%	4.42%	4.68%	5.07%
Total Fund	2.97%	6.71%	4.07%	8.32%	9.40%
Total Fund Target	2.87%	6.07%	3.72%	7.37%	8.43%

* Current Month Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

*The NFI-ODCE Value Weight benchmark current quarter return is preliminary.

**SteelRiver Infrastructure's performance reflects prior month's market value adjusted for flows.

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2016

	Last Month	Year to Date	Last 12 Months	Last 36 Months	Last 60 Months
Net of Fees					
Domestic Equity	4.27%	6.50%	3.33%	10.93%	13.34%
Total Domestic Equity Target (1)	4.05%	8.09%	4.77%	10.54%	13.00%
Large Cap Equity	4.35%	5.86%	3.30%	11.05%	13.40%
S&P 500 Index	3.69%	7.66%	5.61%	11.16%	13.38%
Alliance S&P Index	3.67%	7.51%	5.50%	11.09%	13.29%
S&P 500 Index	3.69%	7.66%	5.61%	11.16%	13.38%
PIMCO StocksPLUS	4.09%	8.12%	4.63%	11.68%	14.37%
S&P 500 Index	3.69%	7.66%	5.61%	11.16%	13.38%
BlackRock Russell 1000 Value	2.92%	9.14%	5.21%	9.01%	12.77%
Russell 1000 Value Index	2.90%	9.38%	5.38%	8.99%	12.75%
T. Rowe Price Large Cap Growth	6.70%	(0.19%)	(1.58%)	12.54%	13.98%
Russell 1000 Growth Index	4.72%	6.15%	4.35%	12.86%	13.62%
Small/Mid Cap Equity	4.02%	8.88%	3.61%	10.53%	13.14%
Russell 2500 Index	5.22%	9.40%	1.54%	8.16%	11.46%
Champlain Mid Cap	3.27%	12.25%	8.81%	11.41%	12.94%
Russell MidCap Index	4.57%	10.31%	4.37%	10.37%	12.73%
Pyramis Small Cap	4.78%	5.32%	(1.63%)	9.47%	13.18%
Russell 2000 Index	5.97%	8.32%	0.00%	6.74%	10.43%
International Equity	4.23%	4.06%	(6.59%)	0.31%	1.16%
Total International Equity Target (2)	5.03%	3.90%	(5.52%)	1.36%	1.36%
Causeway International Opps (5)	4.11%	(1.63%)	(10.18%)	0.83%	3.55%
MSCI ACWI ex US	4.95%	3.88%	(5.54%)	1.35%	1.35%
Aberdeen EAFE Plus	3.44%	9.94%	(3.74%)	(1.16%)	-
MSCI ACWI x US (Net)	4.95%	3.88%	(5.54%)	1.35%	1.35%
American Century Non-US SC (3)	6.22%	-	-	-	-
MSCI ACWI ex US Small Cap	5.56%	5.36%	1.74%	5.13%	3.40%
Fixed Income	1.39%	8.44%	6.88%	4.94%	4.59%
Barclays Aggregate Index	0.63%	5.98%	5.94%	4.23%	3.57%
BlackRock U.S. Debt Fund	0.64%	6.04%	6.04%	4.34%	3.68%
Barclays Aggregate Index	0.63%	5.98%	5.94%	4.23%	3.57%
PIMCO Fixed Income	1.84%	9.91%	7.38%	5.30%	5.32%
Custom Index (4)	1.22%	8.95%	8.03%	5.64%	5.28%

(1) The Total Domestic Equity target is currently composed of 76% S&P 500 and 24% Russell 2500 Index.

(2) The Total International Equity Target reflects the MSCI ACWI ex-US (Net Div) through May 2016 and the MSCI ACWI ex-US IMI (Net Div) thereafter.

(3) The American Century Non-US Small Cap strategy was funded May 2016.

(4) The PIMCO custom index is currently composed of 25% Barclays Mortgage, 25% Barclays Credit, 25% Barclays High Yield, and 25% JP Morgan EMBI Global. Prior to 2/1/2012, the custom index was composed of 70% Barclays Mortgage, 15% Barclays Credit, and 15% Barclays High Yield.

(5) Client transitioned from Causeway International Value to International Opportunities in May 2016.

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended July 31, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended July 31, 2016

	Last Month	Year to Date	Last 12 Months	Last 36 Months	Last 60 Months
Net of Fees					
Real Estate	0.39%	3.74%	9.41%	11.30%	11.60%
NFI-ODCE Value Weight Gr*	0.71%	5.10%	11.26%	12.83%	12.62%
JPM Strategic Property Fund	0.54%	3.99%	9.69%	11.50%	11.72%
JPM Income and Growth Fund	0.01%	3.08%	8.69%	11.09%	13.61%
NFI-ODCE Value Weight Gr*	0.71%	5.10%	11.26%	12.83%	12.62%
Infrastructure	0.30%	9.02%	13.13%	7.27%	5.76%
CPI + 4%	0.11%	4.02%	4.42%	4.68%	5.07%
Macquarie European Infrastructure Fund	0.66%	8.10%	8.44%	2.42%	4.10%
SteelRiver Infrastructure North Amer.**	0.00%	9.83%	17.13%	12.71%	7.60%
CPI + 4%	0.11%	4.02%	4.42%	4.68%	5.07%
Total Fund	2.87%	6.38%	3.62%	7.84%	8.86%
Total Fund Target	2.87%	6.07%	3.72%	7.37%	8.43%

* Current Month Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

*The NFI-ODCE Value Weight benchmark current quarter return is preliminary.

**SteelRiver Infrastructure's performance reflects prior month's market value adjusted for flows.

BLACKROCK®

BlackRock Account Review

Prepared for: Tucson Supplemental Retirement System

August 25, 2016

Table of Contents

- I. **BlackRock Update**
- II. **Holdings and Performance Summary**
- III. **Transition Recap**
- IV. **Fixed Income Review**
- V. **Equity Index Review**

I. BlackRock Update

BlackRock Mission Statement

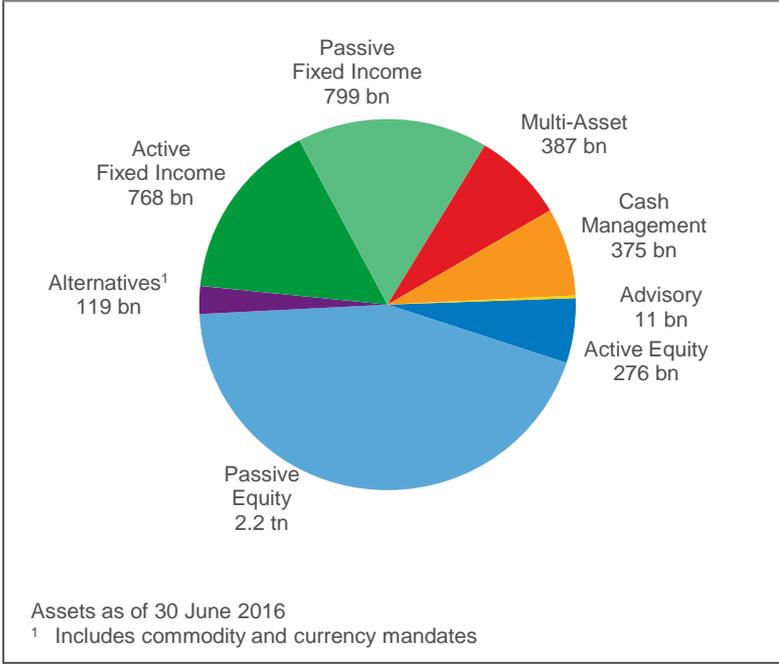
Create a better financial future for our clients by building the most respected investment and risk manager in the world

BlackRock facts *

- ▶ Established in 1988
- ▶ NYSE: BLK
- ▶ \$4.89 trillion assets under management
- ▶ More than 12,000 employees
- ▶ More than 1,800 investment professionals **
- ▶ Offices in over 30 countries
- ▶ 25 primary investment centers globally **
- ▶ Clients in over 100 countries
- ▶ Over 750 iShares® ETFs Globally
- ▶ Through BlackRock Solutions, the Firm provides risk management and enterprise investment services for over 200 clients
- ▶ Financial Markets Advisory business managed or advised on over \$8 trillion in asset and derivative portfolios
- ▶ Transition Management team partners with clients to save costs and reduce risks when changing investment exposures

* As of 30 June 2016
 ** As of 31 March 2016

\$4.89 trillion managed across asset classes



II. Holdings and Performance Summary

Account review: Holdings and performance summary

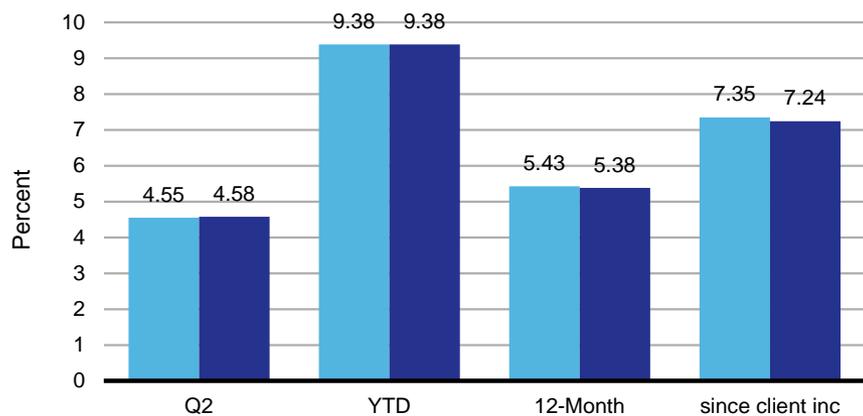
As of 31 July 2016

Tucson Supplemental Retirement System

Russell 1000 Value Fund

Account value **\$52,588,467**

Performance



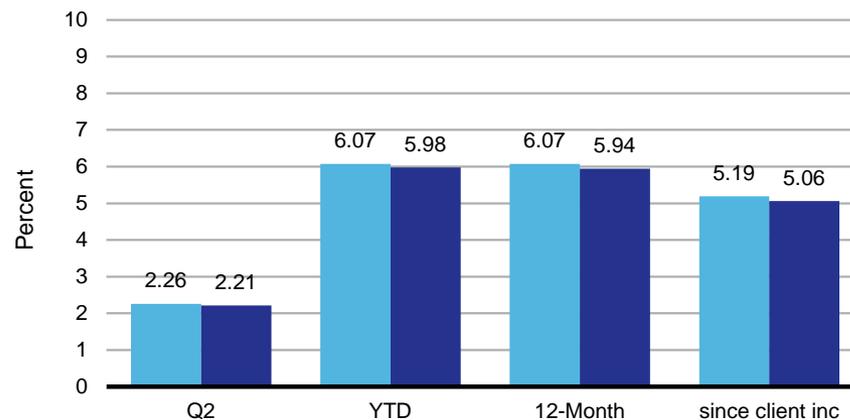
Difference	-0.03	0.00	+0.05	+0.11
------------	-------	------	-------	-------

■ Russell 1000 Value Fund ■ Russell 1000 Value Index

US Debt Index Fund

Account value **\$72,460,510**

Performance



Difference	+0.05	+0.09	+0.13	+0.13
------------	-------	-------	-------	-------

■ US Debt Index Fund ■ Barclays US Aggregate Bond Index

Returns since inception for periods greater than one year are annualized.
Client inception dates: Russell 1000 Value Fund 11/30/2001, US Debt Index Fund 12/30/2011

III. Transition Recap

TSRS Portfolio Transition Recap

Overview

- TSRS conducted a multi-asset, multi-manager restructure
- After a holistic review of the rebalance, the scope of the transitioning assets was determined to be approximately \$105 million across 11 different strategies
- As the transition manager, BlackRock acted as the central point of contact for the transition to coordinate with all relevant parties on all aspects of the transition.
- Key goal of the transition was to manage four dimensions of risk: Exposure, Execution, Process, and Operation

Timeline of Main Events

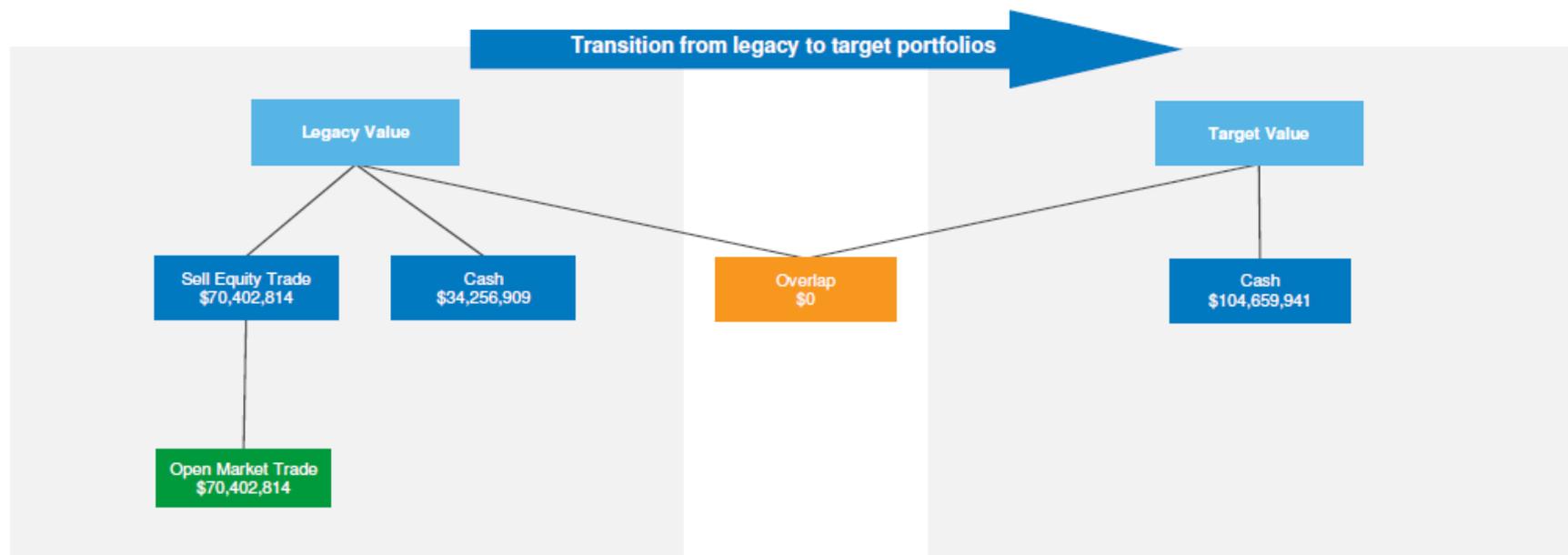
- April 26 – initial transition kick-off call with TSRS, Callan, and BlackRock
- 1H May – BlackRock prepared pre-trade analysis/trading strategy; ongoing planning/communication/trade preparation with all stakeholders
- May 23/24 - BNYM certified transition account assets to BlackRock
- May 24 - BlackRock finalized trade solution and executed trades at market close
- May 25-27 Cash movements, all target managers received funding

Transition Results

- Smooth and timely process – great teamwork across TSRS, Callan, BNYM, BlackRock and all managers involved
- Actual transition performance/costs came in consistent with pre-trade estimates

Trading Summary

The following schematic details the activity breakdown that took place when moving from the legacy to target portfolios.

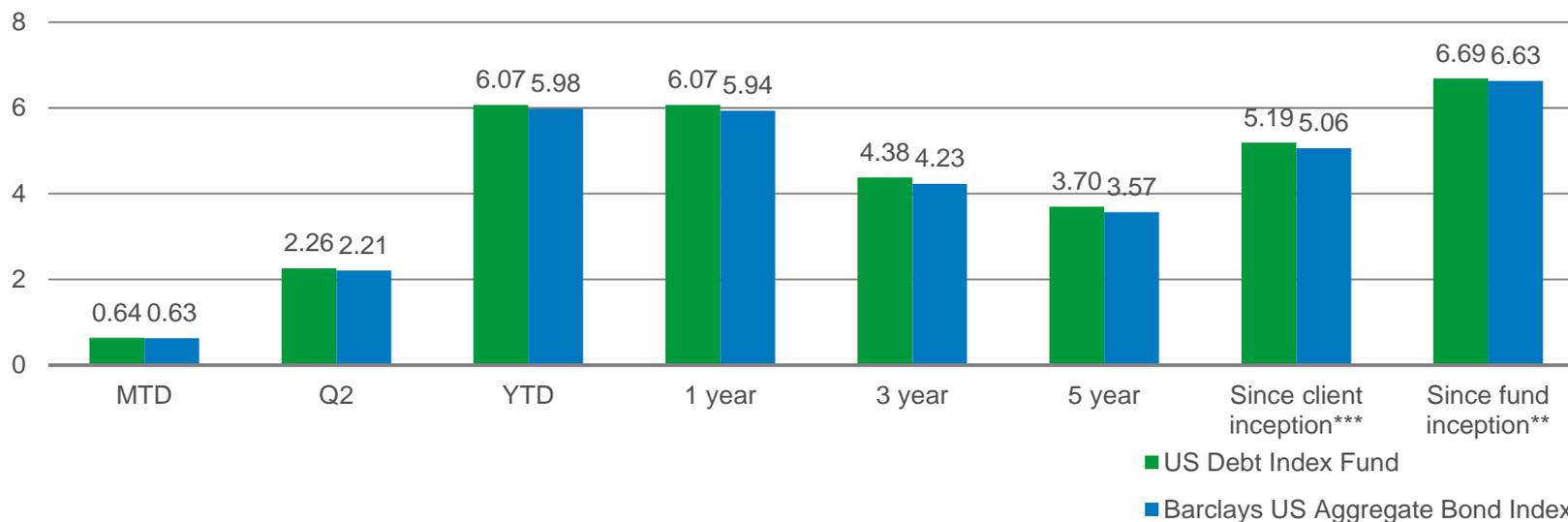


The above results are aggregated in a table below and showed versus the projected activity breakdown on pre-transition analysis.

Pre-Transition Estimate			Actual Results			Difference
	Trade Value	Total (%)		Trade Value	Total (%)	Total (%)
Open Market Trade	73,819,025	100%	Open Market Trade	70,402,814	100%	0%
	73,819,025	100%		70,402,814	100%	0%

IV. Fixed Income Review

Gross total return in USD (annualized* %)



	MTD %	Q2 %	YTD %	1-yr %	3-yr %	5-yr %	Since client incept %	Since incept %
Tracking difference (Gross vs. Benchmark)	0.01	0.05	0.09	0.13	0.15	0.13	0.13	0.06

* Period returns for less than a year are cumulative

** Fund inception date 30 June 1986

*** Client inception date 30 December 2011

The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Performance is for the US Debt Index Collective Trust Fund.

US Debt Index Fund		
	US Debt Index Fund	Barclays Aggregate Bond Index
Market value (\$B)	8.52	19,539.09
# Issues	7,744	9,864
Characteristics		
Coupon (%)	3.20	3.12
Yield to maturity (YTM) (%)	1.79	1.80
Weighted avg life (yrs)	7.45	7.47
Effective duration (yrs)	5.15	5.14
Spread duration	3.58	3.58
Option adjusted spread (bps)	49	49
Convexity	0.06	0.05
Quality breakdown (mkt val %)		
AAA or above	71.20	71.17
AA	3.91	3.78
A	11.25	11.29
BBB	13.64	13.76

	US Debt Index Fund	Barclays Aggregate Bond Index
Sector breakdown (mkt val %)		
Treasury	36.39	36.49
Agencies	2.54	2.48
Financials	7.98	8.00
Industrials	15.69	15.80
Utilities	1.95	1.98
Non-US credit	4.65	4.68
Taxable munis	0.87	0.91
ABS	0.49	0.46
Mortgages	27.17	27.29
Hybrid ARM	0.21	0.16
CMBS	1.70	1.67
Foreign Government	0.00	0.09
Cash	0.37	0.00
Weighted avg life breakdown (mkt val %)		
0-1	1.96	0.39
1-2	9.55	10.80
2-3	11.03	10.26
3-5	35.27	36.28
5-7	15.42	15.72
7-10	10.78	10.49
10-20	3.50	3.65
20-30	11.99	11.92
30+	0.50	0.50

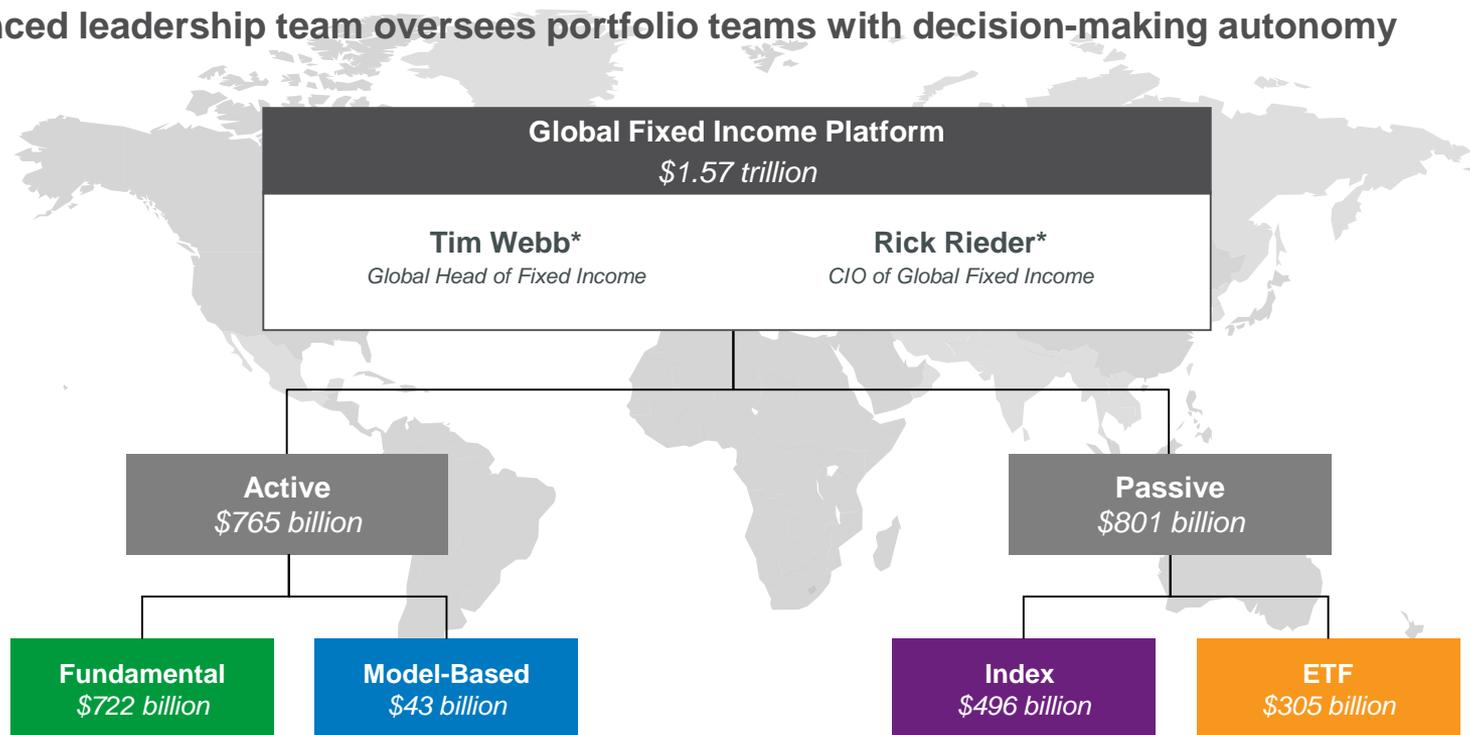
Data is for analytical purposes only. Index data points may differ to those published by the Index due to different classification criteria. Breakdowns may not sum to total due to rounding, exclusion of cash, STIF, and statistically immaterial factors. Past performance is not a reliable indicator of future results. The above information is based on the US Debt Index Collective Trust Fund's portfolio characteristics. Source: BlackRock

Global fixed income platform provides greater access to investment opportunities

Benefits of BlackRock's breadth and depth

- ▶ **Talent:** 400+ fixed income professionals** generate ideas and identify insights to create alpha opportunities
- ▶ **Trading:** Global execution platform provides deep market access
- ▶ **Technology:** Best-in-class analytics and risk management enables us to better understand and take risk in pursuit of alpha
- ▶ **Culture:** Fiduciary commitment to advising and serving clients drives our investment culture

Experienced leadership team oversees portfolio teams with decision-making autonomy



AUM in USD as of 30 June 2016; excludes fixed income alternative assets

*Organizational changes took effect on 2/1/2016

**Source: BlackRock, as at June 2016. For illustrative purposes only.

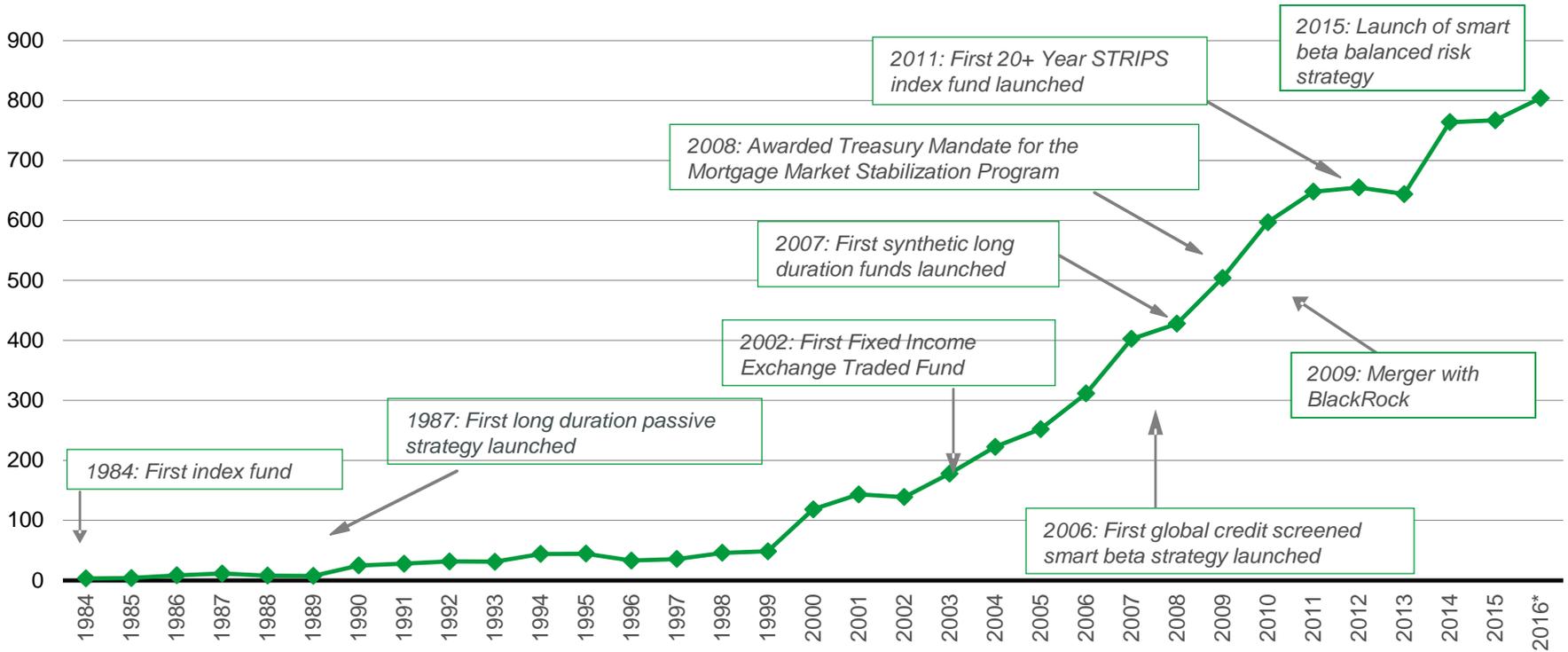
BlackRock global fixed income

Pioneer for over 30 years in passive investing

Pioneer in:

- ▶ Fixed Income index investing — largest fixed income index and ETF manager globally**

BlackRock index & model-based global fixed income assets under management (\$ billions)



* As of 31 March 2016

** Source: Pension & Investments as of 30 June 2015

BlackRock Model-Based North America Portfolio Solutions Team

The North America portfolio solutions team consists of 25 investment professionals



Scott Radell, CFA, Managing Director, is Head of US Fixed Income Portfolio Solutions within BlackRock's Model-Based Fixed Income Portfolio Management Group.

Mr. Radell's service with the firm dates back to 2003, including his years with Barclays Global Investors (BGI), which merged with BlackRock in 2009. At BGI, Mr. Radell was the Head of Portfolio Solutions, a group responsible for management and oversight of all US based active fixed income funds. Before founding the Portfolio Solutions Group, he was a portfolio manager responsible for BGI's active investment grade long-only and long/short cross-over portfolios. Prior to joining BGI, Scott served for over seven years as an analyst for corporate bond and Commercial Mortgage Backed Securities for Morgan Stanley Investment Management. Mr. Radell began his career as a fixed income client service and mortgage analysts at BARRA.

Mr. Radell earned a BA degree in quantitative economics and decision sciences from the University of California at San Diego in 1992.

Multi-Sector/Other		Credit		Rates/Mortgage/EM	
Scott Radell Sr. Portfolio Manager Multi-Sector	Joel Silva Sr. Portfolio Manager Municipals / Canada	David Dulski Portfolio Manager Corporate Credit	Jonathan Graves Sr. Portfolio Manager Corporate Credit	Jay Mauro Sr. Portfolio Manager US Government Bonds	Mark Buell Portfolio Manager US Government Bonds
Karen Uyehara Portfolio Manager Multi-Sector	Tao Chen Portfolio Manager Municipal Bonds	Allen Kwong Portfolio Manager Corporate Credit	Elya Schwartzman Portfolio Manager Corporate Credit	Wes George Portfolio Manager US Government Bonds	Cynthia Fan Jr Portfolio Manager US Government Bonds
Rena Patel Portfolio Manager Municipals	Jermaine Pierre Portfolio Manager Canada	Karishma Kaul Portfolio Manager Corporate Credit	Leo Landes Portfolio Manager Corporate Credit	Marcus Tom Portfolio Manager Agency Mortgages	Daniel Ruiz Portfolio Manager Emerging Markets
Jasmita Mohan Portfolio Manager Multi-Sector	Lip Tong Portfolio Manager Canada	Nicolas Giometti Jr Portfolio Manager Corporate Credit	Jesse Kang Jr Portfolio Manager Corporate Credit		Gabe Shipley Portfolio Manager Emerging Markets
Clay Armistead Portfolio Manager Securitized Credit		Sam Dreyfuss Jr Portfolio Manager Corporate Credit			

As of 30 June 2016

Total performance management

We believe that superior investment outcomes may be best achieved through a disciplined, objective process to managing return, risk and cost

Return

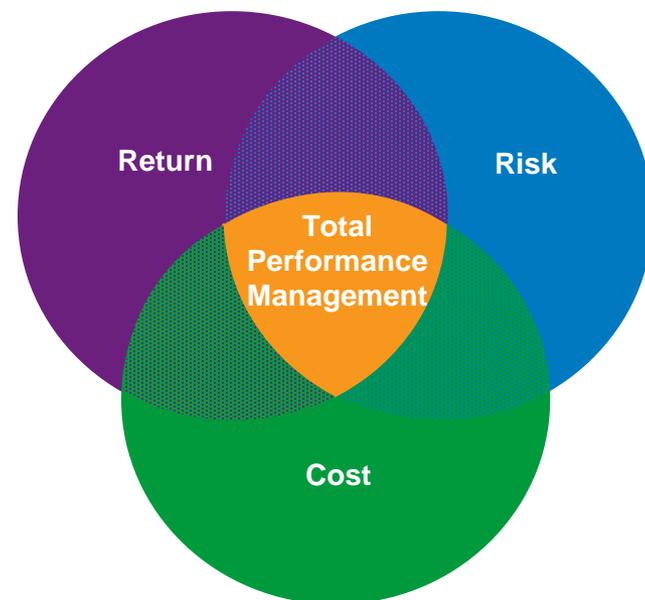
- ▶ Performance as planned with value added portfolio management
- ▶ Flexible strategies and solutions

Risk

- ▶ Proprietary portfolio & risk management systems help manage investment and operational risk

Cost

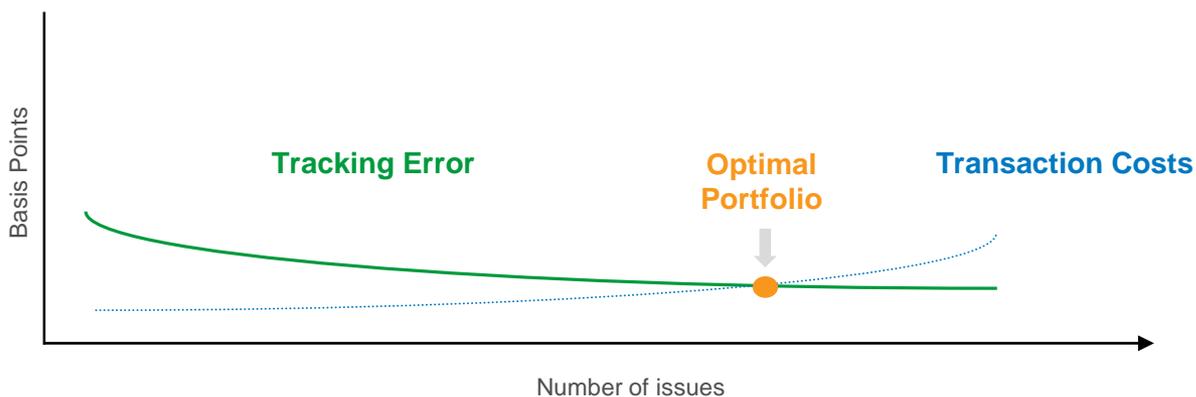
- ▶ Trading costs integrated into portfolio construction using proprietary transaction cost models
- ▶ Transaction costs minimized through use of internal crossing network
- ▶ For all external trading including FX, focus on best execution



Fixed Income indexing: different market, different strategy

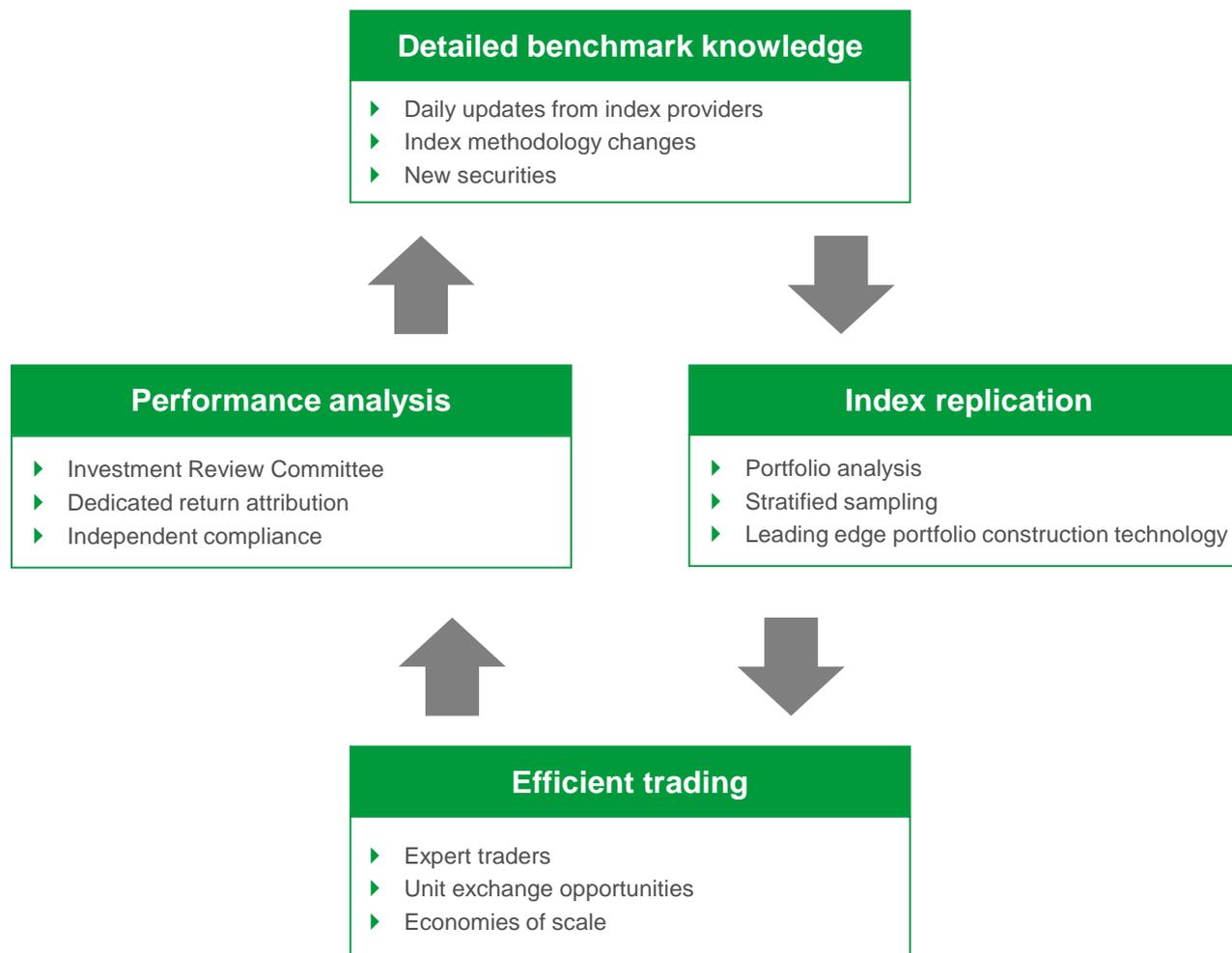
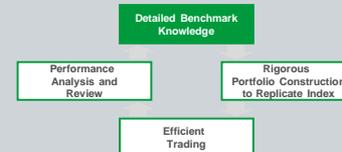
Quantitative process balances tracking error & transaction costs

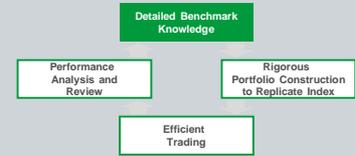
- ▶ Unlike equities, Fixed Income is not traded on exchanges
- ▶ Prohibitive costs, uncertain liquidity, and issue scarcity often makes perfect replication infeasible
- ▶ Index process optimizes marginal contribution to tracking error with T-Costs



For illustrative purpose only.
Source: BlackRock

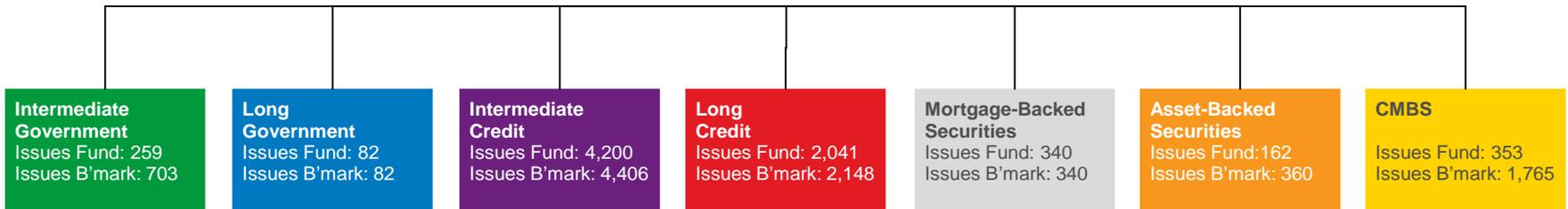
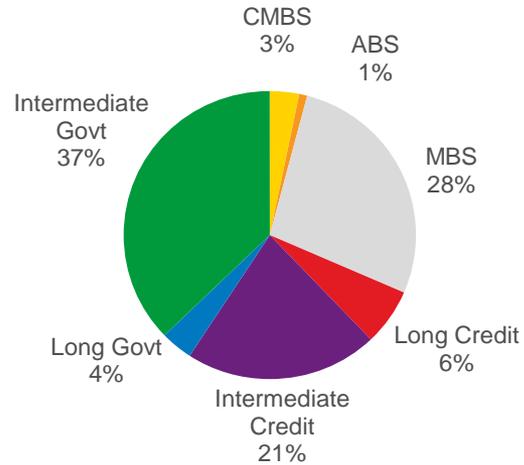
Index portfolio construction processes





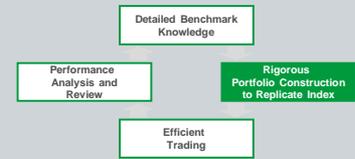
BlackRock's modular fund design leverages our scale and facilitates crossing opportunities for clients

Barclays US Aggregate
 Issues Fund: 7,713
 Issues Benchmark: 9,804

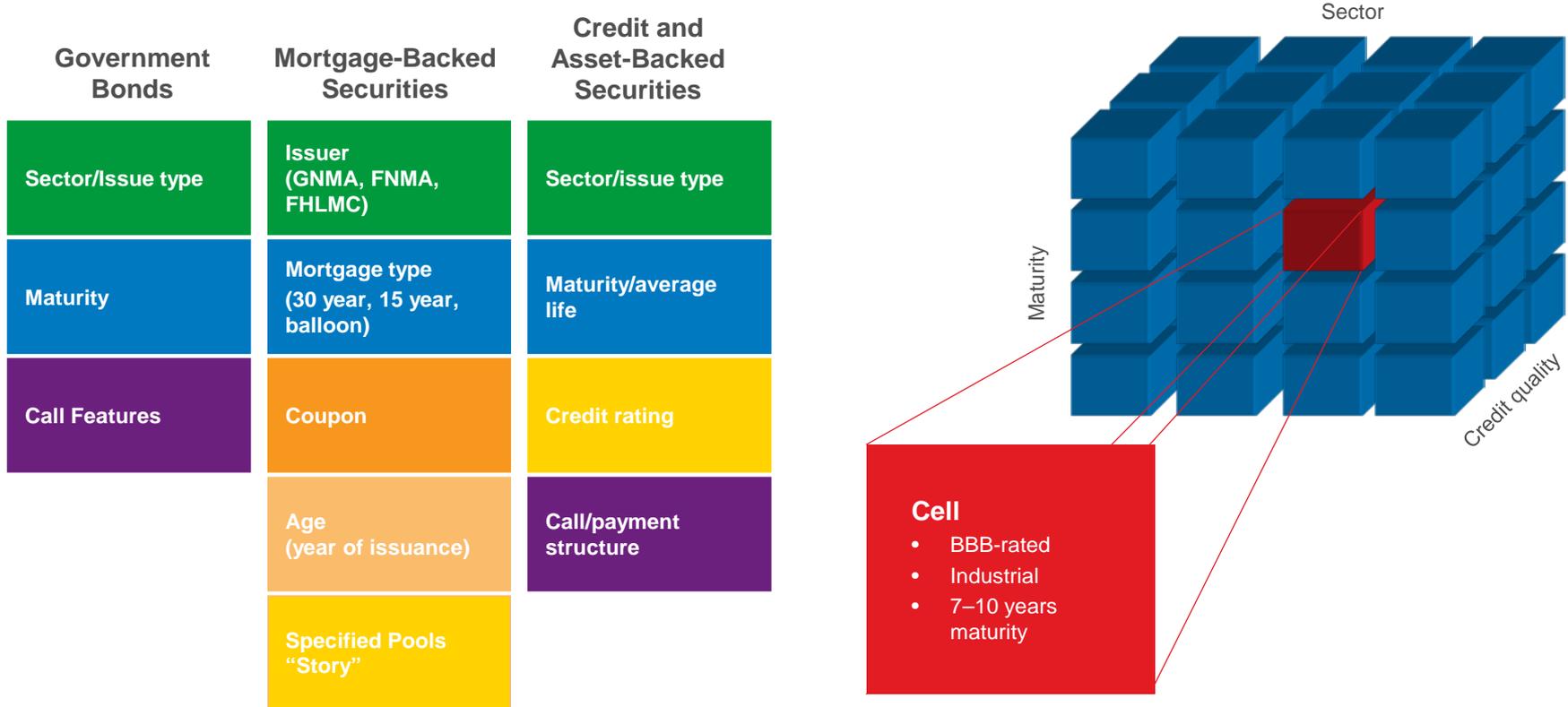


Source: BlackRock; data as of 30 June 2016

Portfolio construction



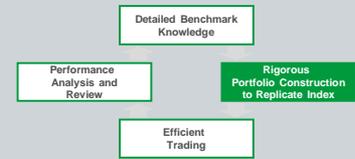
Stratified sampling methodology: Dividing the various indexes into subsets (cells) based upon relative parameters



Portfolios are constructed by sampling bonds from each index cell

For illustrative purpose only.
Please see important notes in the appendix for additional Credit Quality information

Portfolio construction: Sample/Optimize



Part 1

Stratify Universe by Risk Cells

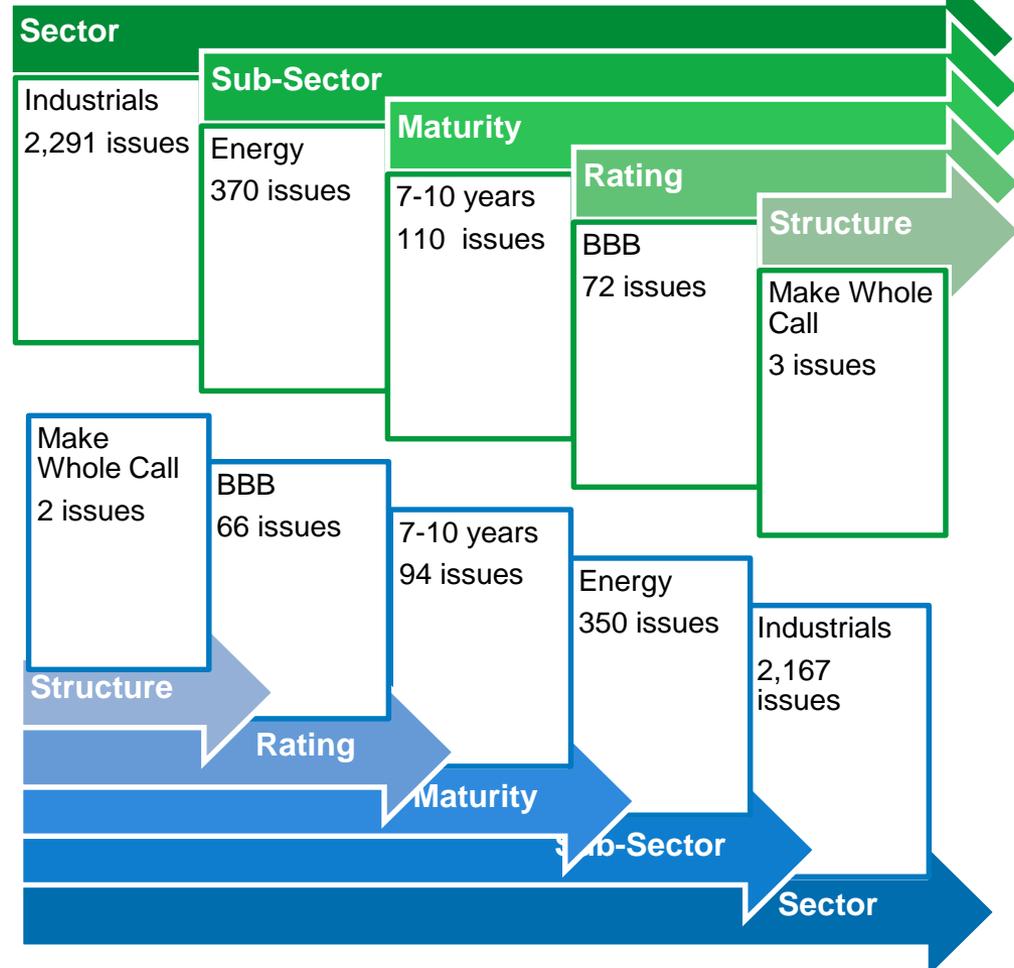
- Sector
- Industry / sub-sector
- Maturity
- Credit
- Optionality

Part 2

Optimize by Risk Factors

- Key Rate Duration
- Convexity
- Duration Times Spread
- T-Cost

Barclays Intermediate Credit Index: 4,406 issues

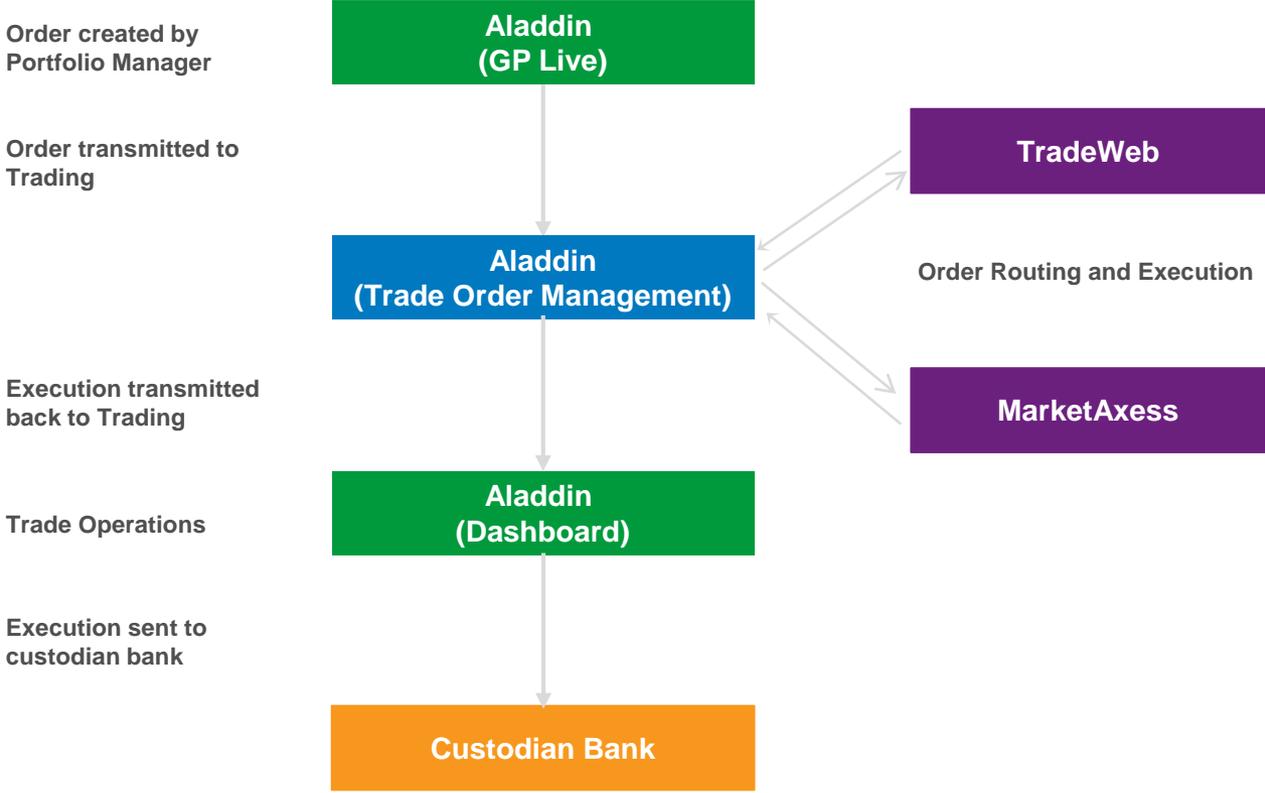


BlackRock Intermediate Credit Bond Index Fund: 4,200 issues

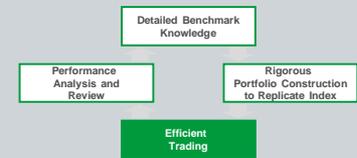
Source: BlackRock; data as of 30 June 2016
Please see important notes in the appendix for additional Credit Quality information

Efficient trading

Electronic linkages between systems

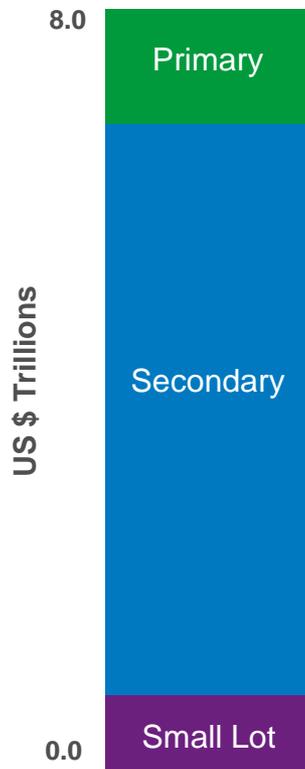


BlackRock is the largest counterparty to Wall Street



Size and scale are a clear competitive advantage in the Fixed Income marketplace

- ▶ BlackRock traded \$8 trillion of fixed income last year
- ▶ Globally coordinated trading business leveraging scale across all investment activity for strong pricing power
- ▶ The uniqueness of our breadth and depth benefits our trading experience at all levels of execution



Primary Issuance

- ▶ BLK Global Capital Markets/Syndicate manages deal structure as well as optimizes allocations
- ▶ BLK drives many “issued to manage” deals which result in reduced fees and increased allocations

Secondary Trading

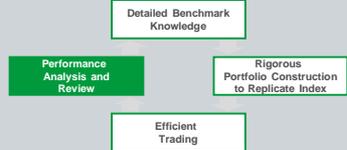
- ▶ Pricing power of US\$4 trillion annual flow
- ▶ Managed trade distribution and optimized execution leverages price discovery, reduces bid/offer spread

Small Lot Trading

- ▶ Dedicated unit aggregates firm-wide small lot orders
- ▶ Execution benefits from round-lot price improvement

Source: BlackRock; Data as of 31 December 2015

Performance analysis and review



Aladdin® Enterprise System

“One Database, One System, One Process”

- ▶ \$14 tln maintained and analyzed across 2 million positions
- ▶ 180 million option adjusted calculations per week
- ▶ 8,000 live portfolios held by 6,000 Aladdin users

Risk Country Bloc Summary Exposure Report 07-SEP-2010

Market Index	3M GOVT	6M GOVT	1Yr GOVT	2Yr GOVT	3Yr GOVT	5Yr GOVT	10Yr GOVT	30Yr GOVT	1M Libor	3M Libor	CDX.NA.HY.14	CDX.NA.IG.14
USD	0.1320	0.1830	0.2350	0.4900	0.7420	1.4060	2.6070	3.6690	0.2577	0.2919	571.3	107.1
EUR	0.2525	0.3735	1.1700	1.7600	2.3000	3.2800	4.8300	5.1300	0.6170	0.8810	571.3	107.1
JPY	0.1100	0.1100	0.1100	0.1300	0.1900	0.3700	1.1400	1.9700	0.1481	0.2300	571.3	107.1

PORTFOLIORISKTOOLS

Risk Calc: Time Series | Risk Matrix

Report: Contribution to Analytical Risk

Using: Portfolio

Portfolio Risk: 1125 bps
 Benchmark Risk: 1125 bps
 Active Risk: 0 bps

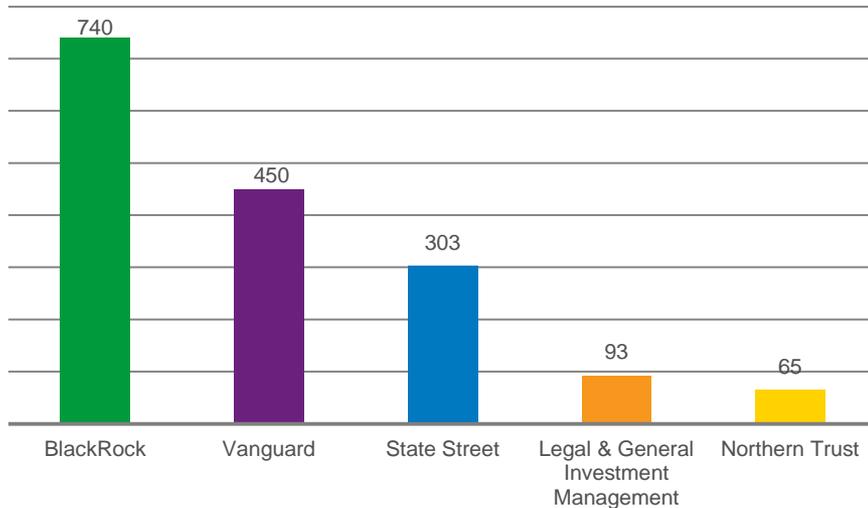
Sample screenshots are for illustrative purpose only.

BlackRock's index strategies have delivered strong performance

There are four key reasons to pick BlackRock over any other index provider

- ▶ Low historical tracking error
- ▶ An experienced, stable team
- ▶ Low transaction costs from size and scale
- ▶ Transparent pricing and no cross subsidization as BlackRock has no custody business

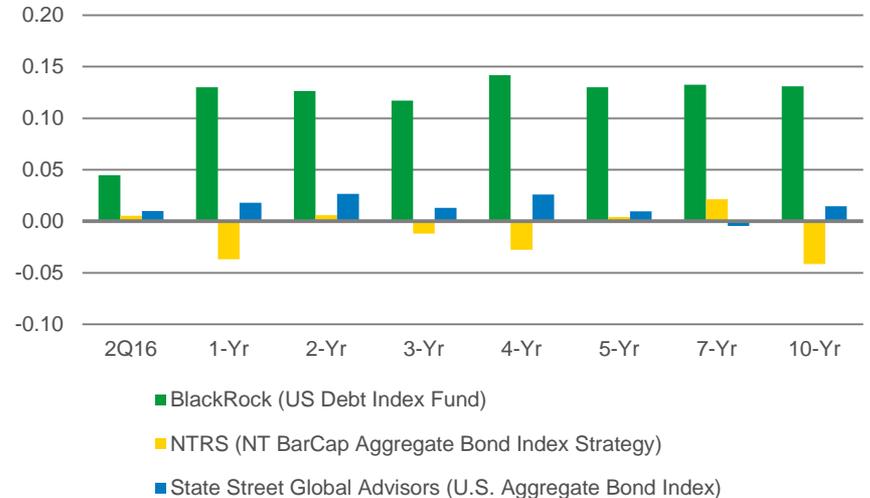
Global Fixed Income Index Market AUM¹



1 Source: Pension & Investments. The above managers are the top 5 by AUM as represented in the P&I database. All dollar values are in \$ billions.; data as of 30 June 2015. The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. Past performance is not necessarily an indicator of future performance. Certain managers have been excluded from this analysis based on AUM threshold.

2 Source: eVestment; data as of 30 June 2016. Past performance is no guarantee of future results. Indexes are unmanaged and one cannot invest directly in an index. Managers included based on global fixed income index market AUM per Pension & Investments. Managers may employ different management techniques that will result in different tracking errors and performance. Vanguard not included based on lack of CTF offering. L&G not included based on lack of CTF offering as reported in eVestment. CTF performance is that of individual CTFs that were self-reported to eVestment.

Excess CTF returns vs. Barclays US Aggregate Index²



Platform Offerings: Global Fixed Income Products Index & ETF

Index

US Strategies

Barclays Aggregate
Intermediate Aggregate
Government/Credit
1-3 Year Government/Credit
Intermediate Government/Credit
Long Government/Credit
Government
 Treasury (multiple maturities)
 TIPS
 0-5 Year TIPS
 20+ Year STRIPS
Intermediate Government
Long Government
Investment Grade Credit
1-3 Year Credit
Intermediate Credit
Long Credit
Long Corporate
High Yield Credit
Mortgage-Backed Securities
Asset-Backed Securities
Commercial Mortgage-Backed
Securities
Synthetic US Fixed Rate
Treasury US Fixed Rate
Fixed Income Balanced Risk

Canada

FTSE TMX Canada
Universe
Long
Corporate
Government
Long Government
Real Return
20+ Strips

UK

Credit
Government (multiple maturities)
Government/Credit
Inflation Linked

Europe

Credit
Government
Government/Credit
Inflation Linked

Australia

Government/Credit

Emerging Markets

USD Emerging Markets
Local Currency EM Debt

Global

Aggregate
Aggregate ex-USD
Credit
Governments
Inflation Linked

ETF

US Strategies

Barclays US Aggregate
Barclays US Universal
Active Short Duration
Fixed Income Balanced Risk
Government
 Treasury (multiple maturities)
 TIPS (multiple maturities)
 Agency Debt
 Treasury Floaters
Municipals
 National
 California
 New York
 AMT-Free Series
 Short Active Muni
Government/Credit
 Government/Credit
 Intermediate Government/Credit
 10+ Year Government/Credit
Credit
 Investment Grade
 Short Investment Grade
 High Yield
 Short High Yield
 Interest Rate Hedged
 1-3 Year Credit
 10+ Year Credit
 Intermediate Credit
 Floating Rate Note
 Baa-Ba Rated Corporates
 B-Ca Rated Corporates
 Utilities
 Industrials
 Financials
 iShares iBonds Series (Corp)
 iShares iBonds Series(Corp ex. Fin)
Mortgage-Backed Securities

Mexico

Government
Credit

Canada

FTSE TMX Canada
Universe
Long
Short
Corporate
Government

UK

Credit
Government (multiple maturities)
Inflation Linked

Europe

Credit
Short Duration Credit
Interest Rate Hedged
Government (multiple maturities)
Inflation Linked
Covered Bond
iShares iBond

Germany

Credit
Government (multiple maturities)
Pfandbriefe

Emerging Markets

USD Emerging Markets
Local currency EM Debt
Emerging Markets Corporates
Emerging Markets High Yield

Global/International

Global Inflation Linked
International Inflation Linked
International 1-3 Treasury
International Treasury
Global High Yield
Global ex-US High Yield

As of 30 June 2016

Important Notes

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The credit quality of a particular security or group of securities does not ensure the stability or safety of an overall portfolio. The quality ratings of issues/issuers are provided to indicate the credit worthiness of such issues/issuers and generally range from AAA (highest) to D (lowest) for S&P and Fitch, and Aaa (highest) to C (lowest) for Moody's.

Forward Looking Information

This material may contain "forward-looking" information that is not purely historical in nature. Such information may include, among other things, projections, forecasts, estimates of yields or returns, and proposed or expected portfolio composition. Moreover, where certain historical performance information of other investment vehicles or composite accounts managed by BlackRock, Inc. and/or its subsidiaries (together, "BlackRock") has been included in this material and such performance information is presented by way of example only. No representation is made that the performance presented will be achieved, or that every assumption made in achieving, calculating or presenting either the forward-looking information or the historical performance information herein has been considered or stated in preparing this material. Any changes to assumptions that may have been made in preparing this material could have a material impact on the investment returns that are presented herein by way of example.

Index

It is not possible to directly invest in an unmanaged index.

The Barclays US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency). Provided the necessary inclusion rules are met, US Aggregate eligible securities also contribute to the multi-currency Global Aggregate Index and the US Universal Index, which includes high yield and emerging markets debt. The US Aggregate Index was created in 1986 with history backfilled to January 1, 1976.

The Barclays US Government/Credit Index is a widely recognized index that features a blend of US Treasury, government-sponsored (US Agency and supranational), and corporate securities limited to a maturity of more than ten years.

The Barclays Long Term Government/Credit Index is an unmanaged index of U.S. Government or Investment Grade Credit Securities having a maturity of 10 years or more.

Important Notes cont'd

The Barclays TIPS Index includes all publicly issued, U.S. Treasury inflation-protected securities that have at least one year remaining to maturity, are rated investment grade, and have \$250 million or more of outstanding face value.

No Recommendation

These materials are neither an offer to sell nor a solicitation of any offer to buy shares in any fund. You may not rely upon these materials in evaluating the merits of investing in any fund that employs any of the strategies referred to herein. Any reference herein to any security and/or a particular issuer shall not constitute a recommendation to buy or sell, offer to buy, offer to sell, or a solicitation of an offer to buy or sell any such securities issued by such issuer.

Risk

Investing in the bond market is subject to certain risks including market, interest-rate, issuer, credit, and inflation risk. Mortgage and asset-backed securities may be sensitive to changes in interest rates, subject to early repayment risk, and while generally backed by a government, government-agency or private guarantor there is no assurance that the guarantor will meet its obligations. High-yield, lower-rated, securities involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. Investors will, at times, incur a tax liability. Income from municipal bonds may be subject to state and local taxes and at times the alternative minimum tax. Derivatives may involve certain costs and risks such as liquidity, interest rate, market, credit, management and the risk that a position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested.

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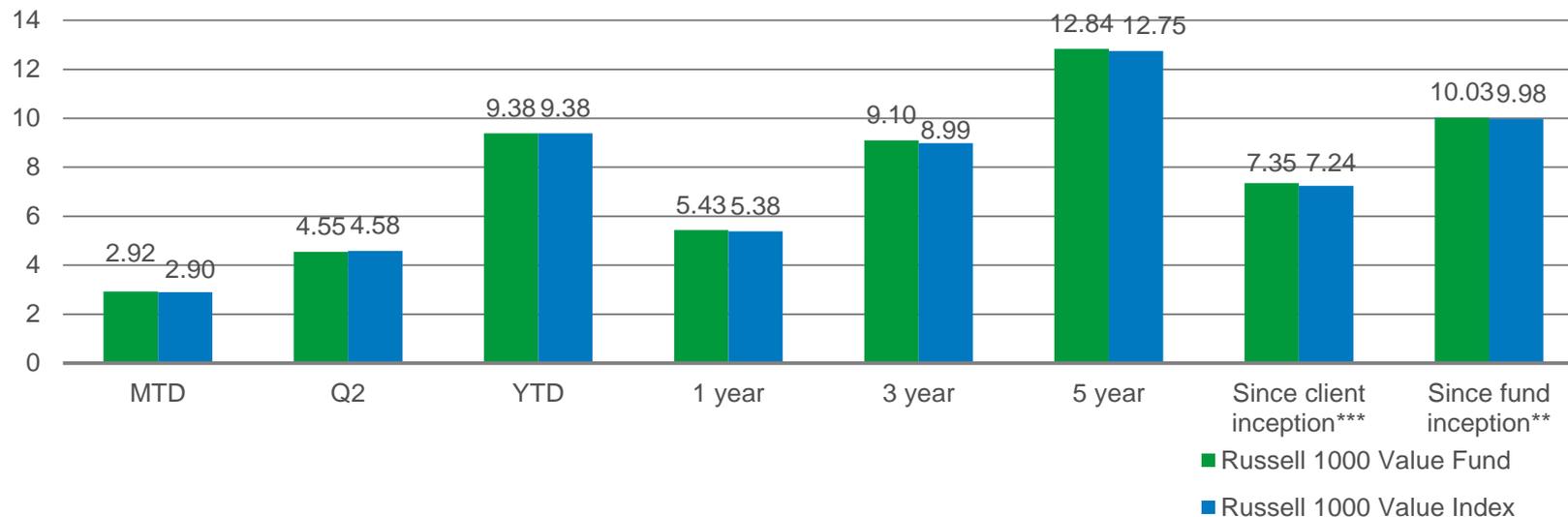
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V. Equity Index Review

Russell 1000 Value Index Fund Performance

As of 31 July 2016

Gross total return in USD (annualized* %)



	MTD %	Q2 %	YTD %	1-yr %	3-yr %	5-yr %	Since client incept %	Since incept %
Tracking difference (Gross vs. Benchmark)	0.02	-0.03	0.00	0.05	0.11	0.09	0.11	0.05

* Period returns for less than a year are cumulative

** Fund inception date 31 October 1991

*** Client inception date 30 November 2001

The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Performance is for the US Debt Index Collective Trust Fund.

Russell 1000® Value Index Fund

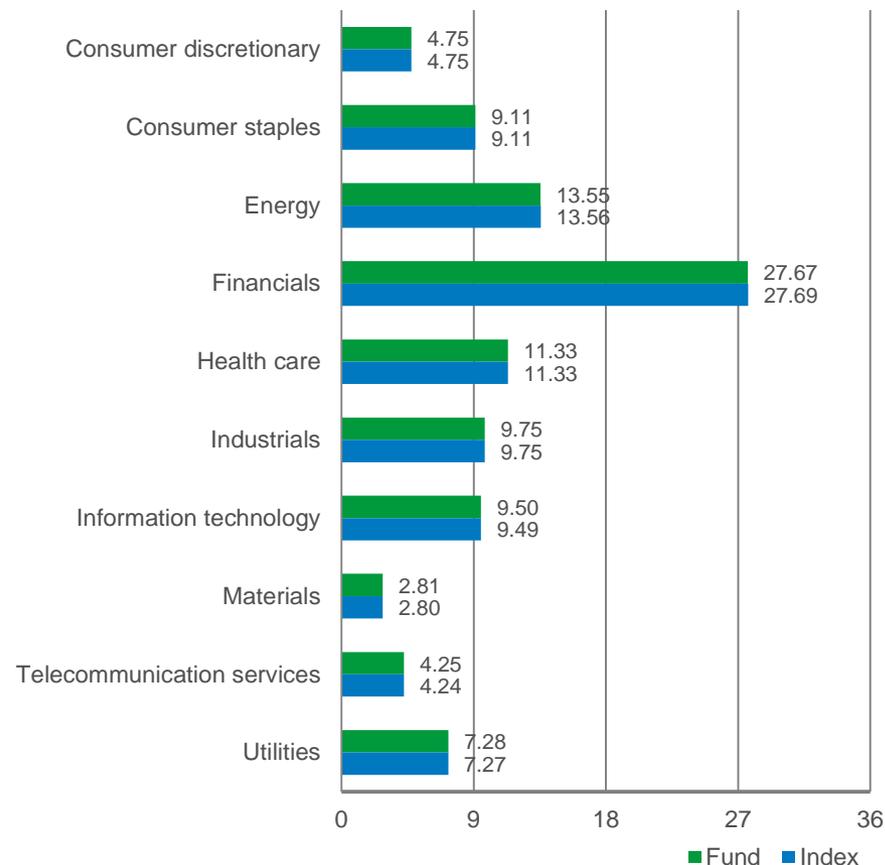
Characteristics

As of 30 June 2016

Characteristics	
Strategy	Russell 1000® Value Index
Total fund assets	\$4.04B
Number of holdings	691

Top 10 holdings		
	Fund %	Index %
Exxon Mobil Corporation	3.81	3.81
Johnson & Johnson	2.70	2.70
Berkshire Hathaway Inc. Class B	2.68	2.68
AT&T Inc.	2.61	2.61
General Electric Company	2.29	2.29
JPMorgan Chase & Co.	2.22	2.22
Procter & Gamble Company	2.21	2.21
Wells Fargo & Company	2.12	2.12
Chevron Corporation	1.93	1.93
Pfizer Inc.	1.93	1.93

Sector diversification



Data is subject to change. Portions of the above characteristics are based on benchmark data as the portfolio fully replicates benchmark and is for analytical purposes only. Index data may differ to those published by the Index due to different classification criteria. Breakdowns may not sum to total due to rounding, exclusion of cash, STIF, and statistically immaterial factors. The above information is based on the Russell 1000 Value Index Collective Trust Fund 's portfolio characteristics. Sources: BlackRock, FactSet

BlackRock's Beta Strategies Platform

Global leader in Index Equity assets¹

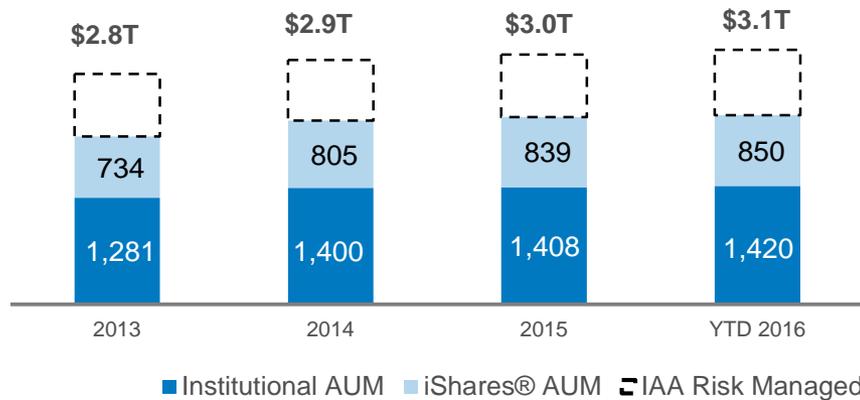
- ▶ We seek to deliver consistent performance with precise and reliable outcomes for our clients
- ▶ Thousands of skillful and thoughtful decisions made each year for swift response to market trends and client demands

Extensive and flexible platform for beta strategies

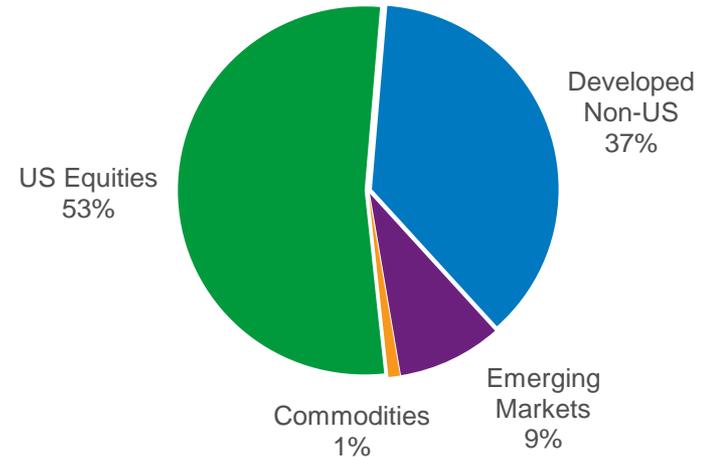
- ▶ Over 2,000 funds managed against 650+ benchmarks
- ▶ Daily liquidity with T-1 notification (for US equities) and T-2 notification (for non US equities)²
- ▶ Modular fund structure and asset allocation platform facilitates custom and outcome oriented solutions

Total Beta Strategies risk managed assets of \$3.0 trillion USD

In billions USD



Distribution of assets by region of mandate



Source: BlackRock, Inc. and its affiliates (together "BlackRock") as of 30 June 2016

¹ In terms of AUM. Source: Pensions & Investments

² Frontier markets commingled fund and currency hedged funds are currently open bi-monthly and monthly, respectively

Beta Strategies: Americas Index Equity

Beta Strategies Leadership

Amy Schioldager
Global Head of Beta Strategies

Americas Index Equity

Alan Mason
Head of Americas Beta
Strategies

Global Strategy

Kristen Dickey
Head of Global
Product Strategy

Portfolio Management

Research

Strategy

Institutional Portfolio Management

iShares Portfolio Management

Index Asset Allocation

Global Research

Global Strategy

U.S. & Developed

Index Plus & Emerging

U.S. & Canada

Developed & Emerging

DB & DC

Research

Index Research Group

Americas

Rachel Aguirre
Co-Head of Institutional
Portfolio Management

Creighton Jue, CFA
Co-Head of Institutional
Portfolio Management

Greg Savage, CFA
Co-Head of iShares
Portfolio Management

Jennifer Hsui, CFA
Co-Head of iShares
Portfolio Management

Amy Whitelaw
Head of Index
Asset Allocation

Matthew Lee, Ph.D.
Global Head of
Research

Stephanie Allen
Global Head of
Index Research

Scott Dohemann, CFA
Head of U.S.
Product Strategy

Christian De Leon

Kevin Kim

Timothy Murray, CFA

Jacqueline Ramkumar

U.S.

Index Plus

U.S.

International Developed

Defined Benefit

Research Officers

Index Research

+ 7 Portfolio
Managers

+ 2 Portfolio
Managers

+ 5 Portfolio
Managers

+ 5 Portfolio
Managers

+ 3 Portfolio
Managers

+ 3 Research
Officers

+ 9 Index
Researchers

International Developed

FX / Synthetics

Canada

International Emerging

Defined Contribution

+ 7 Portfolio
Managers

+ 5 Portfolio
Managers

+ 4 Portfolio
Managers

+ 4 Portfolio
Managers

+ 6 Portfolio
Managers

International Emerging

+ 6 Portfolio
Managers

EMEA

Andrew Graver*
Head of EMEA
Index Strategy

Rita Gemelou*

Flora Herries*

Norbert van Veldhuizen*

APAC

Ben Garland, CFA*
Head of APAC
Index Strategy

Colin Zhang*

As of June 2016

* Located outside of the US

Beta strategies continue to be a growing portion of client portfolios

Investors today are enhancing their passive allocations in three ways:

Comprehensive core

- ▶ Migrating to broader mandates — segregated index mandates are re-aggregated into one
- ▶ Going global — ACWI / ACWI IMI* is the fastest growing index strategy
- ▶ Moving EM into mainstream — no longer niche; gain EM exposure via global indices

Complementary styles

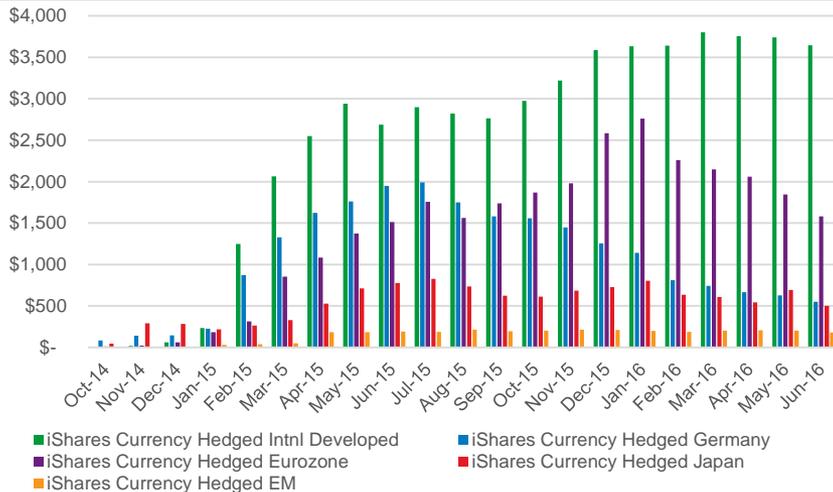
- ▶ Growing suite of smart beta offerings, complementing traditional indices
 - Certain equity risk factors proven to add value over the long term
 - Value
 - Quality
 - Momentum
 - Size

Customization

- ▶ Social & environmental investment considerations
 - Spurring a wide variety of societal outcomes with capital
 - Multi-faceted goals on top of financial return and risk
- ▶ Tax-sensitive investing

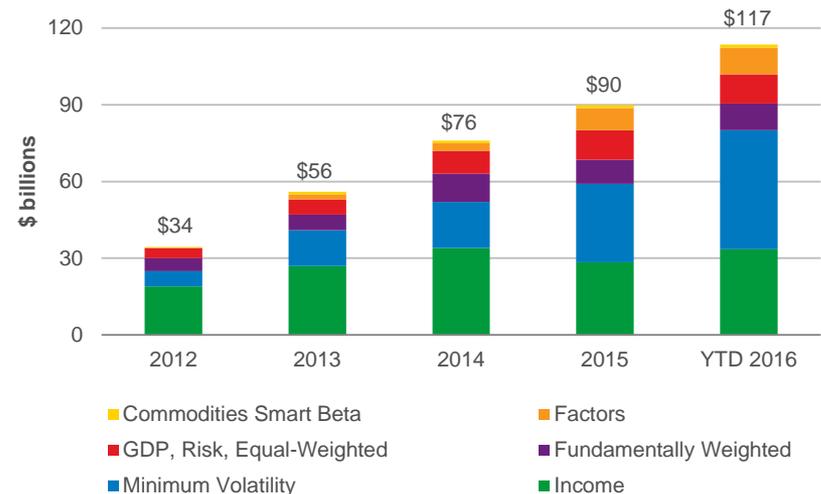
*All Country World Index Investable Market Index

Increase of currency hedged assets under management



Source: BlackRock, as of 30 June 2016. Above is display of Currency Hedged ETFs with longest track record. BlackRock offers multiple currency hedged vehicles, including: separate accounts, CTFs and ETFs.

Growth in smart beta long-only equity strategies over 5 years



Source: BlackRock smart beta (non-market cap weighted equity index strategies) assets under management. As of 30 June 2016.

Core investment philosophy of total performance management

We believe that superior investment outcomes are best achieved through a disciplined, objective process to manage return, risk and cost



Return

- ▶ Performance as planned with value-added portfolio management
- ▶ Flexible strategies and solutions

Risk

- ▶ Proprietary portfolio & risk management system helps manage investment and operational risk

Cost

- ▶ Trading cost integrated into portfolio construction using proprietary transaction cost models
- ▶ Potential for reduced transaction costs through netting of client flows
- ▶ Focus on best execution for all external trading, including FX

Beta Strategies is anything but passive — Google corporate action

Background	<p>Google announced a distribution of new class of non-voting C shares to existing shareholders of outstanding shares of Class A and Class B common stock</p> <p>S&P and Russell <i>originally</i> planned to delete the Google Class A shares from their respective indexes, and double the weight of the Class C shares</p>
Impact	<p>Google represents ~2% in S&P 500 and Russell 1000. Beta Strategies engaged with indexers and Google on potential risk of original treatment including tracking error, tax implications, and price volatility</p>

Ensuring the interests of our clients and advocating on their behalf are high priorities	Risks considered	Delete Class A Shares (Original)	Retain both Class A and C Shares (Final Decision)
	Liquidity	x	✓
	Capital structure	x	✓
	Capital gains	x	✓
	Tracking error	x	✓
	Market impact	x	✓

BlackRock-driven outcome:

S&P and Russell revised published methodology to maintain both Class A and C shares, avoiding **\$45 billion** in unnecessary trading and additional price volatility

The issuers referenced is an example of an issuer that BlackRock considers to be well known and that may fall into the stated sector. BlackRock may or may not own any securities of the issuers referenced and, if such securities are owned, no representation is being made that such securities will continue to be held.

Russell Reconstitution 2016

Overall Global Beta Strategies executed 99,000 orders worth approximately \$57 billion

- ▶ 109 funds traded with an aggregate AUM of \$337 billion
- ▶ Overall performance of the reconstitution this year was flat
- ▶ Crossed approximately 50% of activity

Methodology Changes

- ▶ Share classes that do not qualify independently will no longer be combined with the primary line and will be removed from available shares (except Berkshire Hathaway class A)
- ▶ The threshold level of free float was modified. A joint effort was made between BlackRock and Russell to apply this change thus reducing sizable impact on eight index members.
- ▶ Beta Strategies implemented active trading on selected names and funds

Buy – sell spread performance

Russell 1000

- ▶ **Adds:** Transocean (RIG) and US Foods (USFD) closed down 4.73%, underperforming R1 by 1.1%.
- ▶ **Deletes:** Jazz Pharmaceuticals (JAZZ), ended down 4.9%, underperforming the index by 1.26%
- ▶ Overall moved right way with Buys outperforming the Sells by 1.36%

Russell 2000

- ▶ **Adds:** Additions in the Financials and Health Care sectors made the highest contributions and outperformed the index by 0.25%
- ▶ **Deletes:** Health Care and Technology sectors, the biggest underperformance drivers, ended underperforming the index by 1.32%
- ▶ Overall moved wrong way with Sells outperforming the Buys by 1.95%

Index change highlights

	Russell 1000	Russell 2000
Adds	2	182
Deletes	1	127
2016 Two-Way Turnover	3.77%	21.71%
2015 Two-Way Turnover	4.54%	20.88%

Platform offerings: Index strategies

Equity

US Equity Index Funds

S&P Indexes

- S&P 500
- S&P/Citigroup Value
- S&P/Citigroup Growth
- S&P 400 Mid Cap
- S&P 500 Dividend Aristocrats
- S&P 500 Equal Weighted

Dow Jones Indexes

- US Equity Market (DJ Total Stock Market)
- Extended Market (DJ Completion Total Sk Mkt)

Russell Indexes

- Russell 3000
- Russell 2500
- Russell 1000
- Russell 1000 Value
- Russell 1000 Growth
- Russell 2000
- Russell 2000 Value
- Russell 2000 Growth

MSCI Indexes

- MSCI US
- MSCI US IMI
- MSCI US Small Cap

Developed International Index Funds

- MSCI Canada Index
- MSCI EAFE ex-Japan
- MSCI EMU and EMU IMI
- MSCI EAFE Hedged
- MSCI Europe
- MSCI Pac Rim
- MSCI World
- MSCI World ex-US
- Russell Developed ex-US Large Cap

Developed International Index Funds (cont.)

MSCI EAFE Index

- | | | |
|-----------|-------------|-------------|
| Australia | Hong Kong | Norway |
| Austria | Ireland | Portugal |
| Belgium | Italy | Singapore |
| Denmark | Israel | Spain |
| Finland | Japan | Sweden |
| France | Netherlands | Switzerland |
| Germany | New Zealand | UK |

Integrated International Broad and Small Cap Index Strategies

- MSCI ACWI and ACWI IMI
- MSCI ACWI ex-US & ACWI ex US IMI
- MSCI Global Investable Market Indices
- MSCI EAFE Small Cap
- MSCI Canada Small Cap
- MSCI World Small Cap
- World ex-US Small Cap
- MSCI Emerging Markets Small Cap
- MSCI ACWI ex US Small Cap

Emerging Markets Index Funds

MSCI EM Index

- | | | |
|------------|-------------|--------------|
| Brazil | Hungary | Russia |
| Chile | India | South Africa |
| China | Indonesia | South Korea |
| Colombia | Malaysia | Taiwan |
| Czech Rep. | Peru | Thailand |
| Egypt | Philippines | Turkey |
| Greece | Poland | Qatar |
| UAE | | |

BlackRock Frontier Markets Fund (countries included)

- | | | |
|------------|------------|-----------|
| Argentina | Kazakhstan | Pakistan |
| Bahrain | Kenya | Romania |
| Bangladesh | Kuwait | Slovenia |
| Botswana | Lebanon | Sri Lanka |
| Bulgaria | Lithuania | Tunisia |
| Croatia | Mauritius | Vietnam |
| Estonia | Morocco | |
| Ghana | Nigeria | |
| Jordan | Oman | |

Frontier Markets ex-GCC Fund

Index Plus Strategies

- | | |
|--------------|-----------------------|
| S&P 500 | EM |
| Russell 1000 | World ex-US Small Cap |
| EAFE | ACWI ex-US |
| World ex-US | World ex-US IMI |

Non-Lending Funds

- | | |
|--------------------------------|-----------------------|
| S&P 100 | |
| S&P 500 | |
| S&P 400 | |
| Russell 1000, V, G | EM |
| Russell 2000 | EM IMI |
| Russell 2500 | EM Small Cap |
| Russell 3000 | ACWI |
| Russell Midcap | ACWI ex-US |
| EAFE | ACWI ex-US IMI |
| EAFE Small Cap | World |
| Canada | World ex-US |
| Canada Small Cap | World ex-US Small Cap |
| Russell Developed ex-US Lg Cap | |

Alternatives

US Commodity Funds

- S&P GSCI Total Return Indexes
- Bloomberg Commodity Index
- Commodity Smart Beta

Real Estate Investment Trust (REITs) and Infrastructure Indices

- DJ US Real Estate Securities Index (RESI)
- MSCI US REIT Index
- FTSE EPRA/NAREIT Developed ex-US Index
- FTSE EPRA/NAREIT Developed Index
- DJ Brookfield Global Infrastructure Developed REIT — Non-lending
- Global Real Estate — Non-lending

Smart Beta

- Russell Defensive Indices
- FTSE RAFI Indices
- FTSE EDHEC Efficient US
- MSCI Minimum Volatility Indices
- Equal and GDP-Weighted Indices
- MSCI USA Risk-Weighted Index
- MSCI USA Value Index
- MSCI USA Momentum Index

ESG Thematic

- US Large Cap Carbon Efficient
- Developed ex-Fossil Fuel
- MSCI Ex-Controversial Weapons
- MSCI AC Asia ex
- Japan/EM/Europe/World (Small Cap)
- ESG Screened
- MSCI World Minimum Volatility ESG

Custom Strategies available

Platform offerings: Defined Contribution Strategies

BlackRock collective trust funds with daily trading capabilities

Lending Funds

Equity Index Strategies

S&P Indices

- S&P 500®
- S&P Value
- S&P Growth
- S&P Equal Weighted
- S&P 400 MidCap®

Dow Jones Indices

- US Equity Market (DJ U.S. Total Stock Market Index™)
- Extended Market (DJ U.S. Completion Total Stock Market Index™)

Russell Indices

- Russell 3000®
- Russell 2500®
- Russell 2000®
- Russell 2000 Value®
- Russell 2000 Growth®
- Russell 1000®
- Russell 1000 Value®
- Russell 1000 Growth®

MSCI Indices

- ACWI ex-U.S.
- ACWI ex-U.S. IMI
- EAFE®
- EAFE® Small Cap
- Emerging Markets
- World ex-U.S.
- World ex-U.S. Small Cap Plus

REIT Index Strategies

- U.S. Real Estate Index (MSCI® REIT)
- Developed Real Estate Index (FTSE/EPRA NAREIT Developed)

Non-Lending Funds

Equity Index Strategies

S&P Indices

- S&P 500®
- S&P 400 MidCap®

Russell Indices

- Russell 3000®
- Russell 2500®
- Russell 2000®
- Russell 1000®
- Russell 1000® Value
- Russell 1000® Growth

MSCI Indices

- ACWI IMI
- ACWI ex-U.S.
- ACWI ex-U.S. IMI
- EAFE®
- Emerging Markets

FTSE Indices

- FTSE RAFI Emerging Index

Short Term Investment Fund

- Government Short-Term Investment Fund

Other Strategies

- Developed Real Estate Index
- Bloomberg Commodity Index Total Return
- Bloomberg Roll Select Commodity Index Total Return

Asset Allocation Strategies

- LifePath® Index Non-Lendable
- Strategic Completion Non-Lendable

Important Notes

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BlackRock Russell 1000 Value and U.S. Debt Index Funds

1. What is the methodology used to track the index for both strategies, is it full replication, stratified sampling, or some other portfolio management strategy?
2. What is the targeted tracking error for each portfolio and what was it as of 6/30/14 (please define tracking error for the benefit of Board members who may not be familiar)?
3. Please describe securities lending and BlackRock's process to lend securities. How is the collateral invested? From a return perspective has securities lending benefited the portfolios?
4. Annually, Russell reconstitutes their indices, which may result in securities being added or removed from a particular index. For the Russell 1000 Value index fund, please address how BlackRock buys and sells stocks around the reconstitution date. Do you focus on minimizing tracking error, or do you use the rebalancing event as an opportunity to marginally enhance the index fund's pre-fee return?
5. What team(s) manage these portfolios at BlackRock and have there been notable departures or hires recently?

June 30, 2016



Tucson Supplemental Retirement System

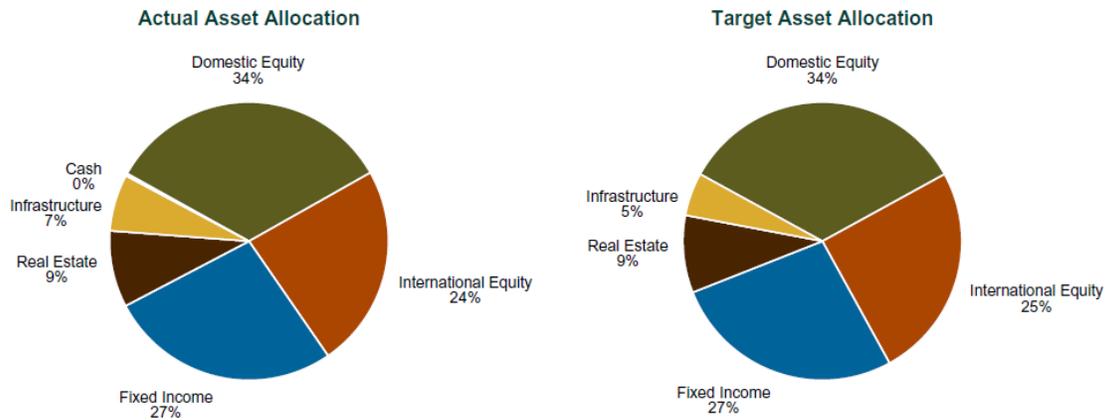
Investment Measurement Service
Quarterly Review

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Tucson Supplemental Retirement System

Executive Summary for Period Ending June 30, 2016

Asset Allocation



Total Fund Performance

Returns for Periods Ended June 30, 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 years
Total Fund Gross	2.84%	2.33%	8.61%	8.54%	6.23%
Total Fund Net	2.71%	1.89%	8.13%	8.01%	5.70%
Total Fund Benchmark*	1.46%	1.82%	7.51%	7.64%	6.02%

Fiscal Year Returns

	2016	2015	2014	2013	2012
Total Fund Gross	2.33%	4.63%	19.64%	14.84%	2.40%
Total Fund Net	1.89%	4.17%	19.11%	14.21%	1.82%
Total Fund Benchmark*	1.82%	4.34%	16.97%	12.87%	3.04%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

Recent Developments

- During the second quarter of 2016, portfolio assets were transitioned to align with the Board approved asset allocation policy. The transition was completed on May 25th and was executed on-time and within the range of costs initially estimated. The total explicit and implicit cost of the transition was 21 basis points or \$221,373, which is believed to be reasonable for the services provided by BlackRock considering they transitioned over \$100 million of the TSRS portfolio. The cost is lower than what would have been incurred through buy and sell transactions on the open market and BlackRock assumed fiduciary responsibility for the assets and their services during the transition event. Lastly, roughly \$70 million of U.S. equity securities were sold on May 24, 2016, which was a favorable day for sellers. The market's performance that day generated an unexpected additional amount of \$1.3 million to TSRS.

Organizational Announcements

- On July 20th, PIMCO announced that Manny Roman will become the firm's CEO as of November 1, 2016. Roman has been CEO at Man Group since 2013 and is widely credited for turning the firm around after a number of troubled years. The current CEO of PIMCO, Doug Hodge, will remain at PIMCO as a Managing Director and Senior Advisor with a focus on client relations. He will remain at PIMCO at least through the end of 2017. Hodge has been CEO since early 2014, when Mohammed El-Erian abruptly resigned. Prior to taking the role as CEO, Hodge was COO at PIMCO.

Active Manager Performance

Fund	Peer Group Ranking		
	Last Year	Last 3 Years	Last 5 Years
PIMCO Stocks Plus	22	29	10
T. Rowe Price Large Cap Growth	81	38	[21]
Champlain Mid Cap	5	7	14
FIAM Small Cap	42	19	12
Causeway International Value Equity	77	72	44
Aberdeen EAFE Plus	35	95	[86]
PIMCO Fixed Income	11	7	3
JP Morgan Strategic Property Fund	59	34	19
JP Morgan Income and Growth Fund	68	66	17

* *Brackets indicate actual performance linked with manager composite*

- The relative performance of Aberdeen EAFE Plus has rebounded over the past few quarters. It ranked 1st percentile in its peer group over the last three months, and 35th in its peer group during the last one year period as of 6/30/16. The fund's team maintained their high conviction stance in a number of positions which recovered to help drive this quarter's performance. Novartis, 4.11% of the 50 stock portfolio, rebounded from weakness caused by poor first quarter earnings figures. Tenaris and Royal Dutch Shell, 1.54% and 3.07%, respectively, saw improved performance on the back of rising energy prices. Stock selection in Financials was also a main driver of relative returns. The Aberdeen EAFE Plus team maintains that they will seek to own companies with strong competitive advantages, diversified revenue streams, and robust financing structures.

Gordon Weightman, CFA
Vice President

Paul Erlendson
Senior Vice President

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Keep Calm and Carry On

ECONOMY

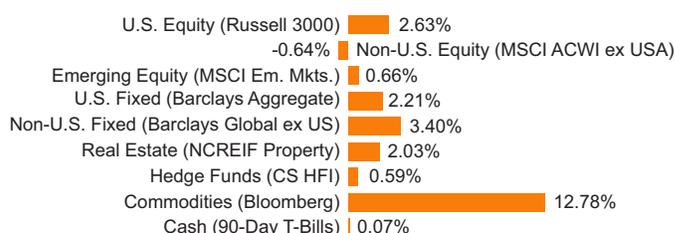
2 Despite global turmoil, all indicators of the U.S. economy pointed toward the strongest growth in consumption in a decade. But a disappointing first read on GDP for the second quarter is likely to give the Fed enough reason to delay a much-anticipated September rate hike.

Any Relief in Sight?

FUND SPONSOR

4 Corporate funds outperformed all others during the quarter because of their higher exposure to U.S. fixed income investments. But that brought little relief for their funding status, which fell by more than 3 percentage points.

Broad Market Quarterly Returns



Sources: Barclays, Bloomberg, Citigroup, Credit Suisse Hedge Index, Merrill Lynch, MSCI, NCREIF, Russell Investment Group

Greener Grass

U.S. EQUITY

6 The **S&P 500** ended the quarter only 1.5% below its all-time high achieved in May 2015, indicating that for investors wary of the turbulence around the world, the grass does appear to be greener in the United States.

Fasten Your Seat Belts

NON-U.S. EQUITY

9 Markets around the world ended the quarter relatively stable despite the Brexit vote, with the **MSCI ACWI ex USA Index** down only slightly (-0.64%), and the **MSCI Pacific Index** up a bit (+0.87%). The **MSCI Europe Index**, not surprisingly, finished down more 2.69%.

Rally Across the Board

U.S. FIXED INCOME

12 All sectors rallied during the quarter and produced positive returns, with investment-grade corporates leading the way, as investors assessed the broad strength of the U.S. economy and relatively attractive opportunities with the U.S. fixed income markets in the wake of Brexit.

How Low Can Rates Go?

NON-U.S. FIXED INCOME

15 Major global bond indices showed positive returns for the quarter, as sovereign yields fell. Most major global currencies weakened against the U.S. dollar; the British pound was hit hardest. Emerging market bonds continued to rebound despite a bumpy ride.

It Really Is Location, Location, Location

REAL ESTATE

17 The U.S. real estate market has become increasingly attractive and has captured nearly 30% of global capital allocations in 2016. Investors are flooding into the U.S. due to low government bond yields globally, Brexit uncertainties, and concerns about China's slowing growth.

Sticker Shock

PRIVATE EQUITY

19 Fundraising surged in the second quarter, with a large jump in venture capital. The investment pace by funds into companies slowed, but the amount invested into VC companies increased. And IPOs by both buyout-backed and VC-backed firms increased in the quarter.

Caution as Britannia Waives the Rule

HEDGE FUNDS

20 Hedge funds eked out modest gains in the second quarter, with convertible arb funds performing best and short bias the worst. Emerging market and fixed income arb funds showed positive returns, making up for losses in the first quarter.

Target Date Funds Continue to Rule

DEFINED CONTRIBUTION

21 As usual, target date funds attracted most of the assets during the first quarter, and now command more than a quarter of total DC assets. But the **Callan DC Index** lagged the Age 45 Target Date Fund by 42 bps in the quarter.

Keep Calm and Carry On

ECONOMY | Jay Kloepfer

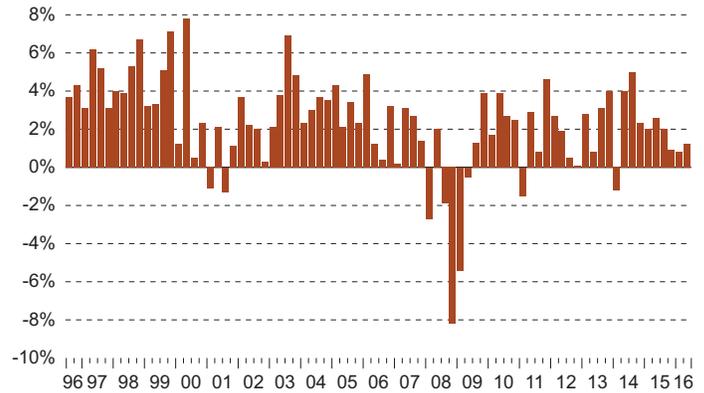
Voters in the United Kingdom narrowly approved a referendum to leave the European Union on June 23, and this unexpected result completely overshadowed everything else that happened in the global economy during the second quarter. Global bond yields fell to record lows, the British pound hit a 31-year low versus the U.S. dollar, and global equity markets plunged before quickly bouncing back to regain much of what they lost over a period of just a week.

In the background, the U.S. economy seemed to be calmly carrying on, as all indicators pointed toward the strongest growth in consumption in a decade. The first read of second-quarter gross domestic product (GDP) growth was therefore clearly disappointing at just 1.2%, dashing consensus expectations (or maybe just hopes) for a rate of 2% or higher. The revision to the first-quarter result was disappointing as well, pulled down from 1.1% to just 0.8%. The U.S. economy has now expanded by just 1.2% over the past year, the weakest 12-month gain since the reduction in Federal fiscal stimulus during 2013. Second-quarter growth was fueled by the standout strength in consumer spending, which increased at a robust rate of 4.2%. Gains in employment, disposable income, and home asset values (boosting household wealth)—along with low energy prices, modest inflation, and low interest rates—are providing the tailwind for consumers. Weighing down overall GDP growth is continued retrenchment in non-residential fixed investment, a blip downward in residential investment, and the fourth consecutive quarter of inventory reduction, which subtracted more than 1% from overall GDP growth. This weak GDP growth is likely to give the Federal Reserve sufficient reason to delay a much-anticipated September rate hike.

The job market gave quite a scare during the second quarter and was likely a primary factor in derailing what looked to be a certain Fed rate hike in June. April job gains slowed to 144,000 after averaging close to 200,000 during the first quarter, and then plummeted to just 11,000 in May, before recovering to an impressive 287,000 gain in June. The April and May

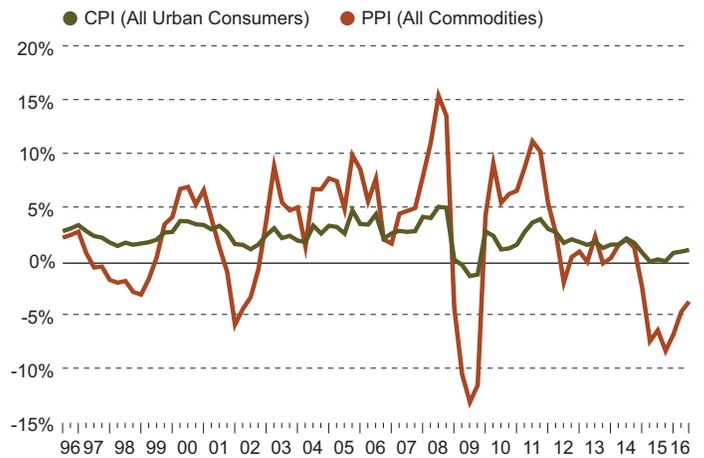
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

jobs reports spurred fears that the economy was stalling, but the June gain may dispel some of those fears. As the U.S. economy approaches full employment, payroll gains can't grow at 200,000 per month indefinitely, let alone the 250,000 rate achieved in much of 2015. The unemployment rate remains below 5%, although it actually bounced up in June from 4.7% to 4.9% as more people rejoined the workforce. The biggest challenge for the labor market is the mismatch between the strong demand for skilled labor and the ample supply of relatively lower-skilled workers.

The conundrum holding back stronger economic growth is the decline in company capital investment in a period of very low interest rates. Non-residential fixed investment fell in both the first and second quarters of 2016, dragged down by the collapse in drilling activity for oil and natural gas. The strong dollar has also hit exports and domestic sales of manufacturing industries exposed to international competition, and weak global growth has suppressed prices for agricultural goods. On a more positive note, the impact of these forces suppressing capital spending has peaked and is fading relative to last year. The Institute for Supply Management's index of manufacturing activity rose back above 50—the line between expansion and contraction—and reached a 16-month high in June, suggesting that manufacturing may have bottomed in the first quarter of the year. Another anomaly impacting GDP growth is the inventory buildup caused by last winter's warm weather. A huge buildup in natural gas stocks was to be expected, but oddly enough, the warm weather spurred excess inventories in wholesalers and retailers, and the correction has slowed demand from manufacturers.

The Brexit vote will likely be a small bump in the road for U.S. trade. U.S. exports of goods and services to the U.K. and the EU constitute just 1% and 3% of GDP, respectively. The damage to U.S. GDP will likely be limited to a few tenths of one percent. The larger impact may come from Brexit's potential to dampen consumer and business confidence and to complicate central governments' attempts to address global economic stagnation.

The European Central Bank (ECB) continued its efforts to stimulate euro-zone economies, where unemployment remains at 10%. The ECB began buying corporate bonds in June, reaching nearly 5 billion euros by the end of the month. The average yield on investment-grade European corporate debt dropped to a record low of less than 1%. Negative-yielding government debt

The Long-Term View

Index	2016 2nd Qtr	Periods ended December 31, 2015			
		Year	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	2.63	0.48	12.18	7.35	10.03
S&P 500	2.46	1.38	12.57	7.31	9.82
Russell 2000	3.79	-4.41	9.19	6.80	10.50
Non-U.S. Equity					
MSCI EAFE	-1.46	-0.81	3.60	3.03	5.40
MSCI Emerging Markets	0.66	-14.92	-4.80	3.61	—
S&P ex-U.S. Small Cap	-1.30	5.92	5.51	5.33	6.80
Fixed Income					
Barclays Aggregate	2.21	0.55	3.25	4.51	6.15
90-Day T-Bill	0.07	0.05	0.07	1.24	2.93
Barclays Long G/C	6.55	-3.30	6.98	6.45	8.08
Citi Non-U.S. Govt	3.40	-5.54	-1.30	3.05	5.37
Real Estate					
NCREIF Property	2.03	13.33	12.18	7.76	8.05
FTSE NAREIT Equity	6.96	3.20	11.96	7.41	12.13
Alternatives					
CS Hedge Fund	0.59	-0.71	3.55	4.97	—
Cambridge PE*	—	6.69	13.08	11.18	15.74
Bloomberg Commodity	12.78	-24.66	-13.47	-6.43	—
Gold Spot Price	6.88	-10.46	-5.70	7.41	4.02
Inflation – CPI-U	1.22	0.73	1.53	1.86	2.30

*Private equity data is time-weighted return for period. Most recent quarterly data not available. Sources: Barclays, Bloomberg, Citigroup, Credit Suisse, FTSE, MSCI, NCREIF, Russell Investment Group, Standard & Poor's, Thomson/Cambridge, Bureau of Economic Analysis.

in the euro zone surged to nearly \$12 trillion. By comparison, U.S. yields look high, suggesting further downward pressure on seemingly rock-bottom U.S. interest rates is possible. The decline in U.S. rates since the start of the year caught most market participants by surprise. The consensus was for the U.S. to embark on a path to gradually higher rates, starting this year. As expectations for rising rates fade, the fear is that the optimism for growth which would have justified higher rates will fade, too.

Recent Quarterly Economic Indicators

	2Q16	1Q16	4Q15	3Q15	2Q15	1Q15	4Q14	3Q14
Employment Cost–Total Compensation Growth	2.3%	1.9%	2.0%	2.0%	2.0%	2.6%	2.2%	2.2%
Nonfarm Business–Productivity Growth	1.9%*	-0.6%	-1.7%	2.0%	3.1%	-0.8%	-1.7%	3.1%
GDP Growth	1.2%	0.8%	0.9%	2.0%	2.6%	2.0%	2.3%	5.0%
Manufacturing Capacity Utilization	75.0%	75.3%	75.4%	75.6%	75.5%	75.5%	76.0%	75.7%
Consumer Sentiment Index (1966=100)	92.4	91.5	91.3	90.8	94.2	95.5	89.8	83.0

*Estimate.

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan.

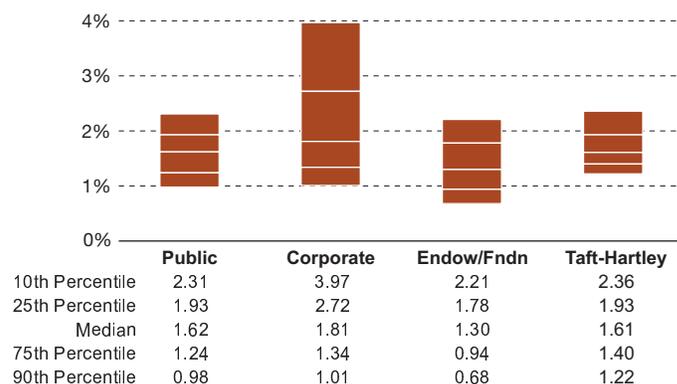
Any Relief in Sight?

FUND SPONSOR | Rufash Lama

A closer look at returns for the quarter from the Callan Fund Sponsor Databases reveals that the median corporate fund bested all other fund types. Corporate funds also had the widest dispersion of returns, and the highest total return as shown by results for funds in the 10th percentile. However, some Taft-Hartley funds outperformed the lowest-performing corporate funds, as shown by returns in the 90th percentile.

The outperformance of corporate funds during the quarter stemmed from their higher exposure to U.S. fixed income, particularly those funds with long duration. At the other end of the spectrum, endowments/foundations lagged all other fund types given their minimal exposure to U.S. fixed income. Higher allocations to non-U.S. equity and hedge funds also dragged down relative performance for endowments/foundations. Over longer time periods (5 and 10 years), compound returns for all fund sponsors have been in the range of 5% to 7%, with endowments/foundations lagging over short- and long-term periods.

Callan Fund Sponsor Returns for the Quarter



Source: Callan

The median funded status of corporate defined benefit plans declined for the quarter, primarily due to the dramatic fall in interest rates. Based on data from actuaries and asset managers, the median and average funded ratio fell by more than 3 percentage points in the quarter, to 76.0% and 76.4%, respectively. Year to date, the median funded status has declined by more than 6 percentage points.

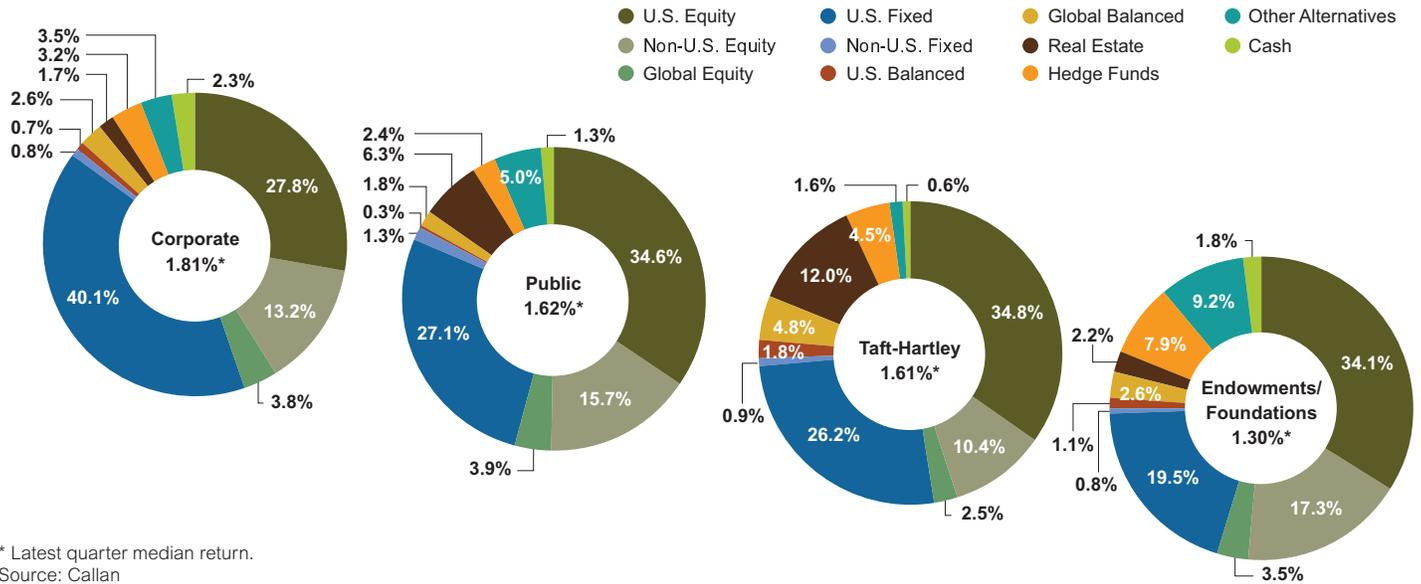
Callan Database Median Returns* for Periods ended June 30, 2016

Fund Sponsor	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Public Funds	1.62	2.98	0.54	6.39	6.42	5.65	5.94
Corporate Funds	1.81	3.88	1.66	6.59	6.62	5.85	6.00
Endowments/Foundations	1.30	2.05	-1.55	5.24	5.53	5.34	5.69
Taft-Hartley	1.61	2.69	0.97	7.12	6.97	5.54	5.68

*Returns less than one year are not annualized.

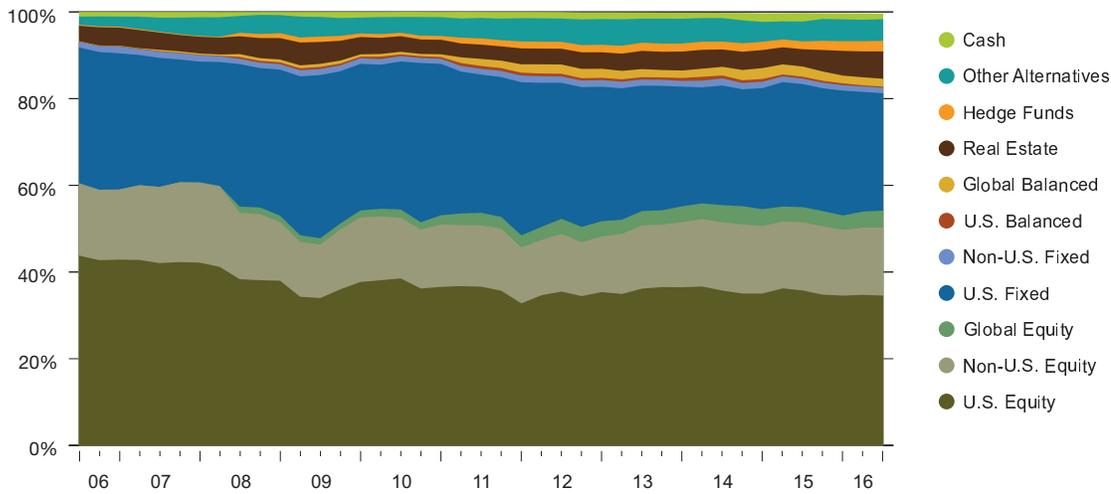
Source: Callan. Callan's database includes the following groups: public defined benefit, corporate defined benefit, endowments/foundations, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

Callan Fund Sponsor Average Asset Allocation



Callan Public Fund Database Average Asset Allocation

(10 Years)



Source: Callan. Callan's database includes the following groups: public defined benefit, corporate defined benefit, endowments/foundations, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

Greener Grass

U.S. EQUITY | Lauren Mathias, CFA

Though the **S&P 500 Index** ended in positive territory (+2.46%), it was subject to substantial volatility during the quarter. The U.K.'s vote to leave the European Union sent global markets reeling in late June; the S&P 500 fell 5.3% in the first two trading days after the vote. Volatility, as measured by VIX, spiked but remained below values posted in January. Despite uncertainty abroad and the steep drop after Brexit, the S&P 500 ended the quarter only 1.5% below its all-time high achieved in May 2015. Amid the global turmoil, it appears the grass is greener in the U.S.

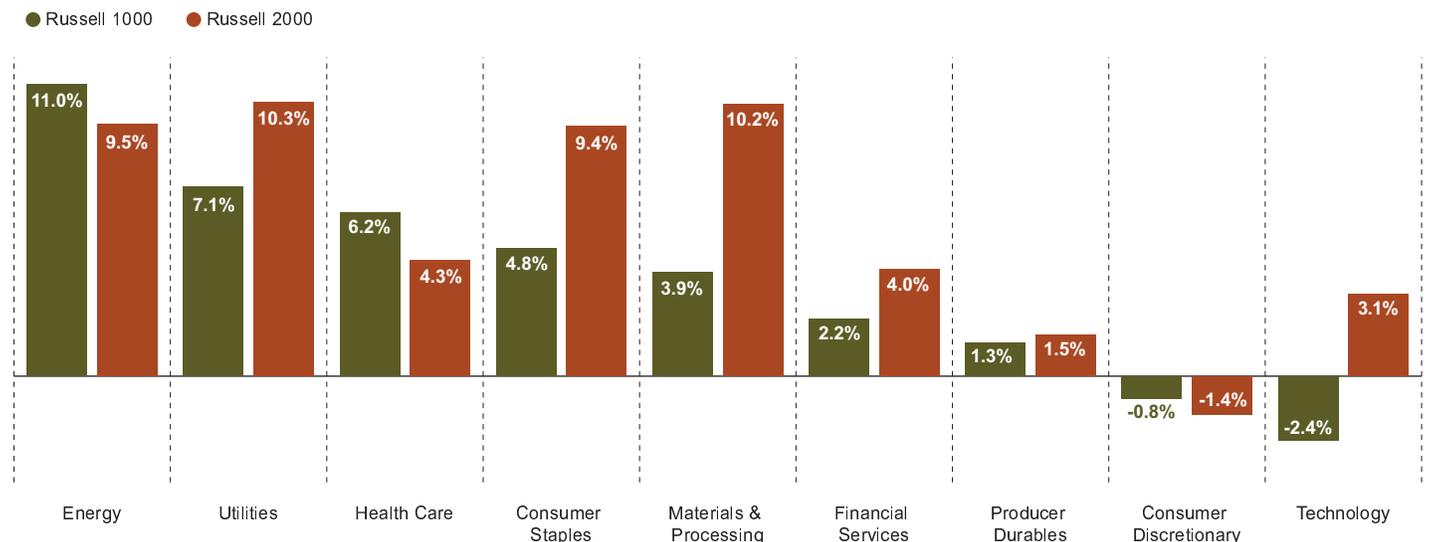
Global markets did not appear to affect domestic production either: Manufacturing activity increased (the ISM Composite Index hit a 16-month high); existing home sales were up 4.5% in May; and retail sales showed strength. But disappointing unemployment figures—4.7% due to a lower labor force

participation rate of 62.6%—and low first-quarter GDP prompted the Fed to keep interest rates at current levels.

After another strong quarter, value remained ahead of growth in all capitalizations (**Russell 2000 Value Index**: +4.31% and **Russell 2000 Growth Index**: +3.24%); the difference was most significant within large capitalizations (**Russell 1000 Value Index**: +4.58% and **Russell 1000 Growth Index**: +0.61%). Smaller was better: micro-, small-, and mid-capitalization companies outpaced large-capitalization stocks (**Russell Microcap Index**: +3.97%, **Russell 2000 Index**: +3.79%, **Russell Midcap Index**: +3.18%, and **Russell 1000 Index**: +2.54%).

With economic uncertainty and lower interest rates in the foreseeable future, defensive and yielding areas of the mar-

Economic Sector Quarterly Performance



Source: Russell Investment Group

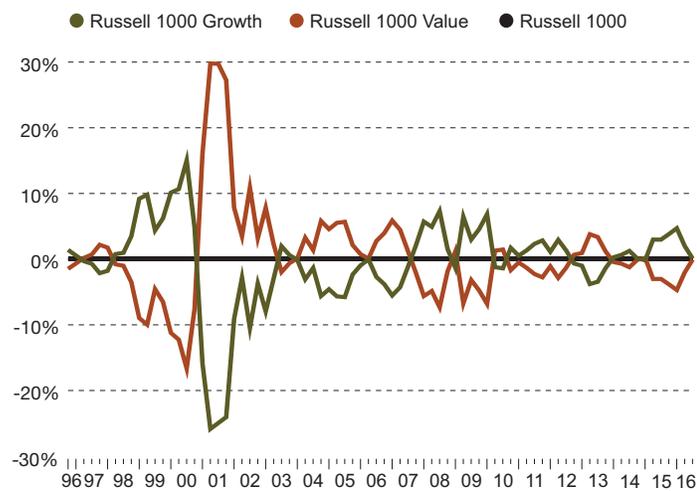
Note: As of the fourth quarter of 2015, the Capital Market Review reports sector-specific returns using the Russell Global Sectors (RGS) classification system rather than the Global Industry Classification Standard (GICS) system. RGS uses a three-tier classification system containing nine sectors; GICS uses a four-tier system containing 10 sectors.

ket did well: Utilities, Telecommunications, Health Care, and Consumer Staples. Factors like low beta and high dividend yield were in favor and boosted the performance of these sectors. After a long period of poor performance, Energy was by far the leading sector, buoyed by an almost 30% increase in oil prices. Financials lagged, mostly due to a tough June—both the Brexit crisis and absent interest rate hike were the culprits. Health Care and Technology, large sectors in the growth benchmark, were dragged down by the pharmaceuticals/

biotechnology and hardware and equipment industries, respectively. Stock correlations elevated in June, making it challenging for active management; however, levels remain below those experienced in 2015.

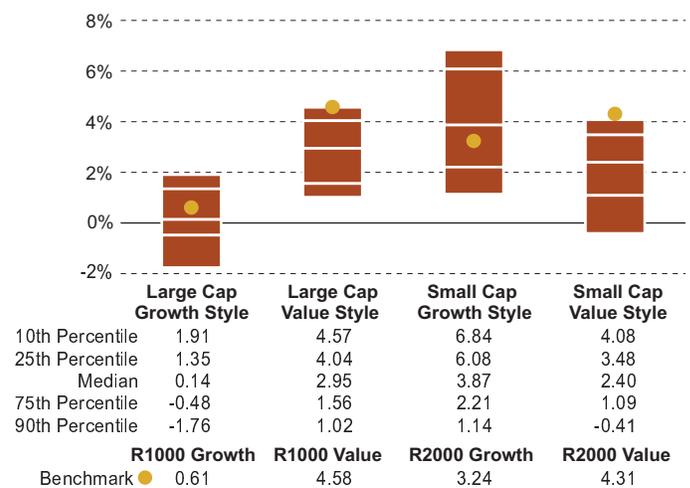
The U.S. equity market managed to escape a tumultuous June with positive results in the full quarter. However, active funds have found it challenging to outpace their respective benchmarks this year—fewer than 50% were able to do so.

Rolling One-Year Relative Returns (vs. Russell 1000)



Source: Russell Investment Group

Callan Style Group Quarterly Returns



Sources: Callan, Russell Investment Group

U.S. Equity Index Characteristics as of June 30, 2016

	S&P 500	Rus 3000	Rus 1000	Rus Midcap	Rus 2500	Rus 2000
Number of Issues	506	3,007	1,000	800	2,507	2,006
% of Russell 3000	82%	100%	92%	27%	17%	7%
Wtd Avg Mkt Cap (\$bn)	127.80	106.54	114.81	12.03	3.79	1.70
Price/Book Ratio	2.7	2.6	2.7	2.4	2.1	1.9
Forward P/E Ratio	16.6	17.1	17	18.5	18.4	18.7
Dividend Yield	2.2%	2.1%	2.1%	1.8%	1.7%	1.6%
5-Yr Earnings (forecasted)	11.9%	12.0%	12.0%	10.2%	11.7%	12.9%

Sources: Russell Investment Group, Standard & Poor's.

U.S. EQUITY (Continued)

Callan Style Median and Index Returns* for Periods ended June 30, 2016

Large Cap Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Large Cap Core Style	1.73	1.44	0.33	11.02	11.74	7.68	6.31
Russell 3000	2.63	3.62	2.14	11.13	11.60	7.40	6.09
Russell 1000	2.54	3.74	2.93	11.48	11.88	7.51	6.02
S&P 500	2.46	3.84	3.99	11.66	12.10	7.42	5.75
Large Cap Growth Style	0.14	-1.72	-0.14	12.60	11.60	8.68	5.75
Russell 1000 Growth	0.61	1.36	3.02	13.07	12.35	8.78	5.50
Large Cap Value Style	2.95	3.34	-0.81	9.20	10.97	6.52	7.07
Russell 1000 Value	4.58	6.30	2.86	9.87	11.35	6.13	6.38
Mid Cap Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Mid Cap Core Style	1.67	3.33	-1.67	10.90	10.64	8.25	9.24
Russell Midcap	3.18	5.50	0.56	10.80	10.90	8.07	8.68
Mid Cap Growth Style	2.31	-0.02	-5.69	9.24	8.94	8.17	7.86
Russell Midcap Growth	1.56	2.15	-2.14	10.52	9.98	8.12	6.99
Mid Cap Value Style	3.29	4.90	-0.82	10.13	10.67	8.17	9.91
Russell Midcap Value	4.77	8.87	3.25	11.00	11.70	7.79	9.50
Small Cap Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Small Cap Core Style	2.85	2.80	-4.76	9.34	10.24	7.92	9.43
Russell 2000	3.79	2.22	-6.73	7.09	8.35	6.20	6.96
Small Cap Growth Style	3.87	-1.57	-12.40	7.18	8.37	7.55	7.39
Russell 2000 Growth	3.24	-1.59	-10.75	7.74	8.51	7.14	5.91
Small Cap Value Style	2.40	4.64	-2.44	8.63	9.94	7.61	10.00
Russell 2000 Value	4.31	6.08	-2.58	6.36	8.15	5.15	7.73
Smid Cap Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Smid Cap Broad Style	2.21	2.85	-4.23	8.86	10.29	9.49	-
Russell 2500	3.57	3.98	-3.67	8.61	9.48	7.32	8.09
Smid Cap Growth Style	3.25	-0.46	-8.43	8.00	8.70	8.35	8.01
Russell 2500 Growth	2.70	-0.03	-7.69	9.06	9.27	7.96	6.76
Smid Cap Value Style	2.39	5.38	-4.11	8.27	9.86	7.95	10.08
Russell 2500 Value	4.37	7.84	0.22	8.14	9.59	6.52	8.77
Russell 3000 Sectors	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Consumer Discretionary	-0.88	0.98	0.99	11.18	14.59	9.98	-
Consumer Staples	4.94	10.42	18.31	15.50	15.49	12.63	-
Energy	10.94	14.41	-8.17	-3.18	-0.85	3.18	-
Financial Services	2.35	-1.03	-1.30	9.00	11.42	0.99	-
Health Care	6.04	-1.44	-5.23	16.22	17.08	11.43	-
Materials & Processing	4.70	10.67	1.01	8.70	6.88	6.17	-
Producer Durables	1.28	6.10	4.35	11.33	10.81	6.76	-
Technology	-2.06	-0.37	2.44	14.67	11.81	9.83	-
Utilities	7.34	23.69	28.37	13.60	12.63	8.50	-

*Returns less than one year are not annualized.

Sources: Callan, Russell Investment Group, Standard & Poor's.

Fasten Your Seat Belts

NON-U.S. EQUITY | Lyman Jung

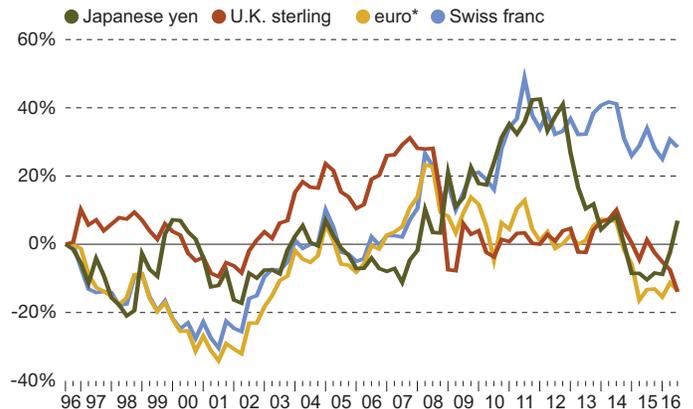
For the second consecutive quarter, non-U.S. equity markets endured a bout of extreme volatility. After a tepid start to the quarter, markets reacted to the surprise June 23 Brexit referendum to leave the European Union. Global markets lost \$2 trillion the day after, but quickly stabilized. In this uncertain environment, we expect volatility to continue.

Despite the vote, the **MSCI ACWI ex USA Index** ended the quarter down only slightly (-0.64%), buoyed by accommodative central bank policies and a strong rebound in commodity prices. Energy (+8.05%) led the charge followed by Health Care (+4.29%), as investors favored defensive, dividend-paying stocks amid the turmoil. Economic and interest-rate-sensitive sectors fared worst, with Consumer Discretionary (-6.87%) and Financials (-4.31%) leading the plunge.

Around the broader markets, the **MSCI Emerging Markets Index** (+0.66%) bested its developed counterpart in the **MSCI World ex USA Index** (-1.05%). Without Canada (+3.40%), one of the best-performing countries in developed markets, the **MSCI EAFE Index** was even more depressed (-1.46%). The **MSCI ACWI ex USA Growth Index** continued an eight-quarter trend of outperforming the Value Index. Moreover, the **MSCI ACWI ex USA Small Cap** (-0.87%) topped its developed cousin, the **MSCI World ex USA Small Cap Index** (-1.28%).

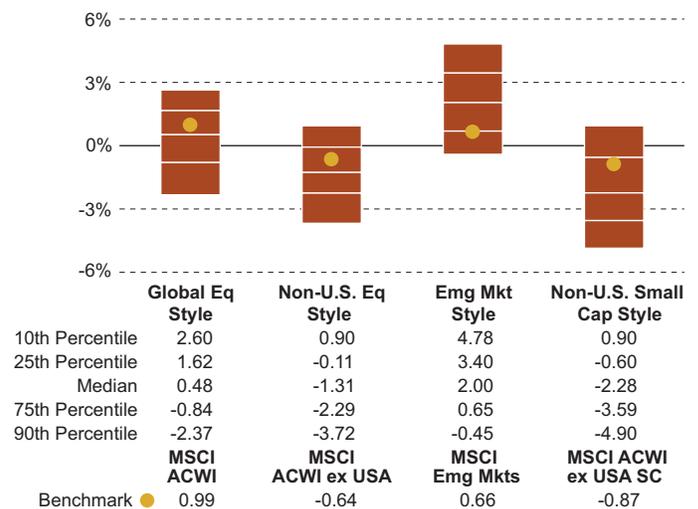
As Brexit dominated the headlines, European equity markets fell sharply only to rally in the final few days of the quarter. The **MSCI Europe Index** finished down 2.69%. Amid a general move to safe-haven countries, Switzerland (+2.03%) was a top-performer. Italy (-10.45%) and Spain (-7.67%) were among the worst mainly due to double-digit declines in banks burdened by souring loans and the potential loss of the U.K. as the financial center. Regionally, European sectors performed in line with the rest of the developed world. Energy stocks contributed 12.51% thanks to oil at nearly \$50. Conversely, Consumer Discretionary and Financials tumbled 11.10% and 10.82%, respectively,

Major Currencies' Cumulative Returns (vs. U.S. Dollar)



*German mark returns before 1Q99
Source: MSCI

Callan Style Group Quarterly Returns



Sources: Callan, MSCI

weighed down by recession fears and concerns about a slowdown in finance and investment activity.

In contrast to Europe, the **MSCI Pacific Index** (+0.87%) fared much better, boosted by Japan (+1.01%) and New Zealand (+5.85%). While Japan was positive on a U.S. dollar-return basis, on a local-return basis it fell 7.80% because the yen

NON-U.S. EQUITY (Continued)

surged 10% in the quarter—despite operating in a negative interest rate environment. The yen has been bolstered by its re-emergence as a haven currency with an uncertain Europe and also by the dollar's recent weakness after the Federal Reserve pared back expectations of U.S. interest rate increases. New Zealand gained on improved sentiment partly due to a reported trade surplus that was more than double analysts' forecasts.

Emerging market countries produced a wide spectrum of returns, but closed out the quarter slightly ahead (MSCI Emerging Market Index: +0.66%). Commodity producers such as Brazil (+13.90%) and Russia (+4.05%) benefited from the rebound in oil prices, continuing their first-quarter rally. The former was also propped up by an impeachment motion against President Dilma Rousseff that sent the equity market into a frenzied rally. Stocks in China ended the quarter nearly flat (+0.11%) thanks to a slower predicted growth of 6.6%, the weakest since the Global Financial Crisis. Further, concerns about the amount of debt on corporate balance sheets and recent policy changes

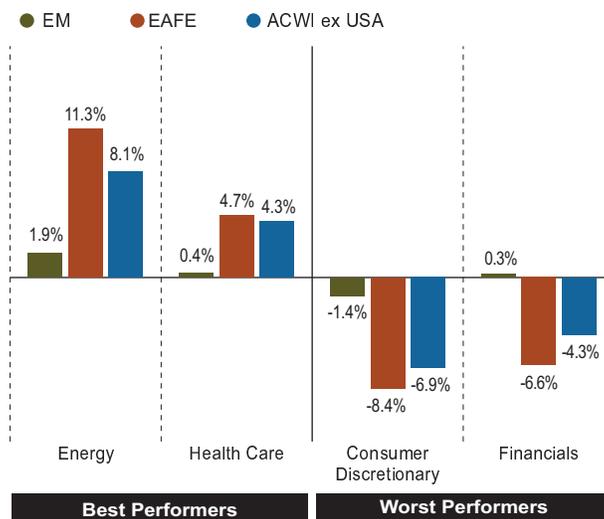
Quarterly Return Attribution for Non-U.S. Developed Countries (U.S. Dollar)

Country	Total	Local	Currency	Wtg
Australia	0.46%	3.79%	-3.20%	5.13%
Austria	-9.99%	-7.67%	-2.51%	0.12%
Belgium	2.29%	4.92%	-2.51%	1.05%
Canada	3.40%	3.82%	-0.40%	6.82%
Denmark	-0.58%	1.84%	-2.37%	1.40%
Finland	-2.12%	0.40%	-2.51%	0.69%
France	-4.31%	-1.85%	-2.51%	6.79%
Germany	-5.57%	-3.14%	-2.51%	6.11%
Hong Kong	0.94%	0.96%	-0.02%	2.34%
Ireland	-9.87%	-7.55%	-2.51%	0.33%
Israel	-3.80%	-1.72%	-2.38%	0.55%
Italy	-10.45%	-8.14%	-2.51%	1.38%
Japan	1.01%	-7.80%	9.56%	16.43%
Netherlands	-5.06%	-2.72%	-2.51%	2.24%
New Zealand	5.85%	3.19%	2.58%	0.13%
Norway	2.35%	3.55%	-1.16%	0.45%
Portugal	-2.76%	-0.25%	-2.51%	0.11%
Singapore	0.35%	0.29%	0.05%	0.96%
Spain	-7.67%	-5.29%	-2.51%	2.08%
Sweden	-5.38%	-1.11%	-4.32%	1.95%
Switzerland	2.03%	3.80%	-1.70%	6.55%
U.K.	-0.73%	6.73%	-6.99%	13.83%

Sources: MSCI, Russell Investment Group, Standard & Poor's.

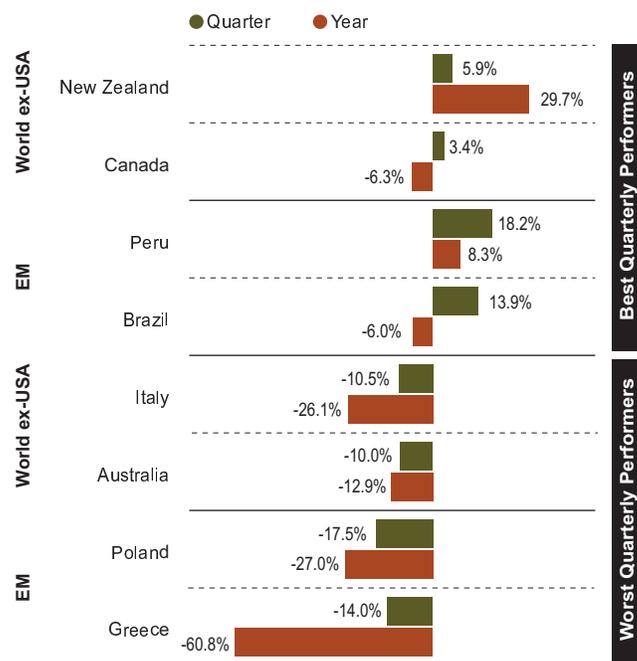
led to questions on how much stimulus the government would provide to sustain growth. Elsewhere, stocks in India (+3.72%) advanced on faster-than-expected growth and earnings of some of its biggest companies, bolstered by optimism about the nation's economic recovery.

Quarterly Returns: Strong and Struggling Sectors



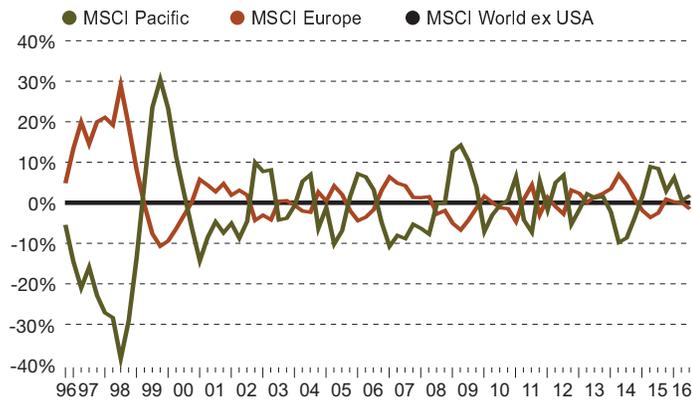
Source: MSCI

Quarterly and Annual Country Performance Snapshot



Source: MSCI

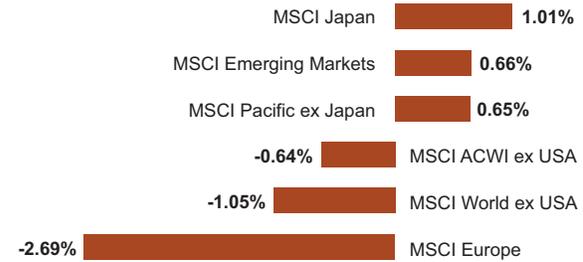
Rolling One-year Relative Returns (vs. MSCI World ex USA)



Source: MSCI

Regional Quarterly Performance

(U.S. Dollar)



Source: MSCI

Style Median and Index Returns* for Periods ended June 30, 2016

Global Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Global Equity Style	0.48	-0.92	-4.47	7.16	7.08	5.37	6.31
MSCI World	1.01	0.66	-2.78	6.95	6.63	4.43	4.86
MSCI ACWI	0.99	1.23	-3.73	6.03	5.38	4.26	4.98
Non-U.S. Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Non-U.S. Style	-1.31	-3.49	-9.43	3.27	2.83	2.91	6.25
MSCI World ex USA	-1.05	-2.98	-9.84	1.88	1.23	1.63	4.47
MSCI ACWI ex USA	-0.64	-1.02	-10.24	1.16	0.10	1.87	4.96
Regional Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
MSCI Europe ex UK	-3.53	-6.02	-10.80	2.58	0.66	1.56	4.52
MSCI Japan	1.01	-5.58	-8.94	2.71	4.21	0.14	2.32
MSCI Japan (local)	-7.80	-19.47	-23.66	3.82	9.31	-0.93	1.00
MSCI Pacific	0.87	-2.94	-8.19	2.16	2.98	1.72	4.10
MSCI Pacific (local)	-4.29	-13.22	-17.85	4.25	7.59	0.59	2.38
MSCI Pacific ex Japan	0.65	2.47	-6.75	1.08	0.86	5.43	8.89
MSCI Pacific ex Japan (local)	2.64	0.47	-5.02	5.64	5.69	5.01	6.69
MSCI United Kingdom	-0.73	-3.05	-12.14	0.67	1.71	1.43	4.22
MSCI United Kingdom (local)	6.73	6.89	3.36	5.00	5.50	4.78	4.57
Emerging/Frontier Markets	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Emerging Market Style	2.00	6.57	-8.83	-0.07	-2.06	4.88	10.67
MSCI Emerging Markets	0.66	6.41	-12.05	-1.56	-3.78	3.54	9.12
MSCI Emerging Markets (local)	0.70	3.45	-7.70	3.70	2.02	5.72	9.92
MSCI Frontier Markets	0.47	-0.47	-12.09	1.00	1.45	0.18	-
Global/Non-U.S. Small Cap Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Non-U.S. Small Cap Style	-2.28	-3.11	-3.61	7.82	6.35	5.52	10.28
MSCI World Small Cap	1.61	2.29	-3.76	7.60	6.80	5.58	8.51
MSCI ACWI Small Cap	1.51	2.22	-4.72	6.79	5.83	6.00	8.60
MSCI World ex USA Small Cap	-1.28	-0.69	-3.35	6.34	3.61	3.33	8.17
MSCI ACWI ex USA Small Cap	-0.87	-0.20	-5.46	4.93	2.28	4.08	8.71

*Returns less than one year are not annualized.
Sources: Callan, MSCI.

Rally Across the Board

U.S. FIXED INCOME | Nate Wong, CFA

Treasuries rallied in a flight to quality during the second quarter as U.S. economic data and trepidation surrounding the U.K.'s Brexit dominated activity. The Fed changed to a more dovish tone as the quarter ended. The **Barclays U.S. Aggregate Index** increased 2.21% while the **Barclays High Yield Corporate Index** again outpaced it with a 5.52% gain.

The surprising vote in the U.K. to exit the European Union triggered an immediate run on risk assets. The panic was short-lived and credit spreads ended the quarter marginally tighter as more-rational investors assessed the broader strength of the U.S. economy and the relatively attractive opportunities within the U.S. fixed income markets.

Following the Brexit vote, the Fed elected not to make any changes at its June meeting. Its forward-looking dot plot now implies a reduced number of rate hikes from four to three, while the long-term projection for the short-term rate was lowered from 3.25% to 3.0%.

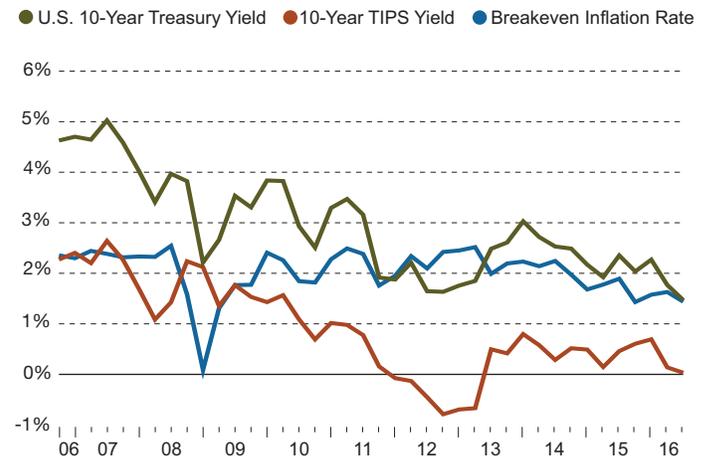
U.S. Treasury Yield Curves



Source: Bloomberg

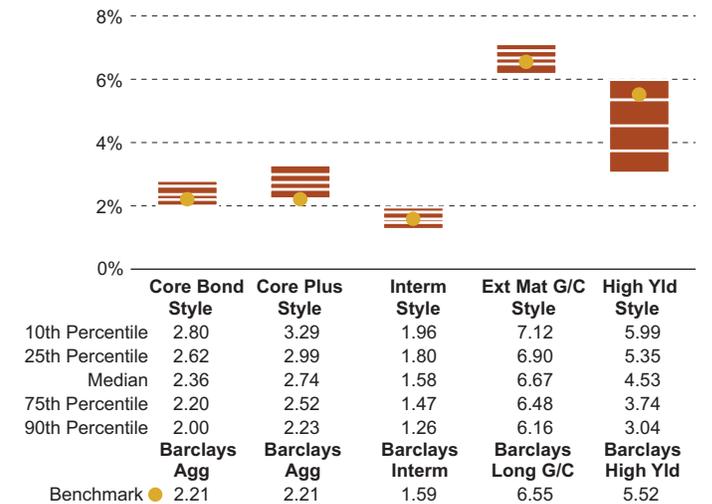
Yields declined across the maturity spectrum with the 10-year yield closing the quarter at 1.47%, its lowest level in nearly three years. Weak economic data and the negative yield environment around the globe contributed to downward pressure on U.S. yields. The 2- to 30-year spread tightened to 170 bps by the end of the quarter. Treasury returns were strong, particularly on the

Historical 10-Year Yields



Source: Bloomberg

Callan Style Group Quarterly Returns



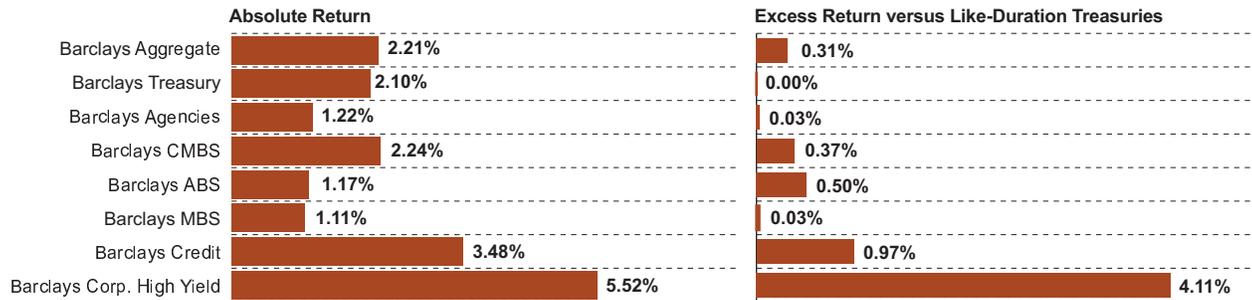
Sources: Barclays, Callan

long end of the curve, with 30-year Treasuries gaining 7.24%. All sectors rallied and produced positive returns, with investment-grade corporates leading the way. Inflation-protected securities trailed their nominal counterparts but continued their strong performance for the year.

Corporate credit performed well across the quality spectrum, gaining 3.48% and outperforming Treasuries by 97 bps on a duration-adjusted basis. Companies took advantage of low rates, with new issuance of \$350 billion during the quarter.

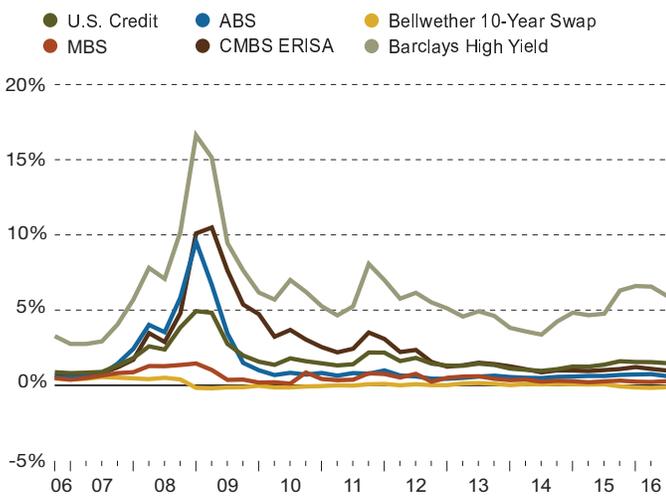
On a duration-adjusted basis, industrials outperformed utilities and financials. Corporate spreads were generally flat before experiencing some widening in reaction to the Brexit and ended the quarter at 156 bps. MBS gained 1.11%, outperforming like-duration Treasuries by 3 bps. MBS spreads also widened as the quarter closed on prepayment fears. High-yield bonds continued to rebound, gaining 5.52% and outperforming like-duration Treasuries by 411 bps. New issuance amounted to \$84 billion, returning to more normal levels and more than doubling the amount in the prior quarter.

Fixed Income Index Quarterly Returns



Source: Barclays

Effective Yield Over Treasuries



Source: Barclays

U.S. Fixed Income Index Characteristics as of June 30, 2016

Barclays Indices	Yield to Worst	Mod Adj Duration	Avg Maturity
Barclays Aggregate	1.91	5.47	7.77
Barclays Universal	2.42	5.36	7.63
Barclays Govt/Credit	1.85	6.69	8.96
1-3 Year	0.89	1.91	1.98
Intermediate	1.41	4.08	4.44
Long-Term	3.36	15.59	24.36
Barclays Long Credit	4.16	13.99	23.99
Barclays Corp High Yield	7.27	4.26	6.30
Barclays TIPS	1.47	5.26	8.71
Barclays Muni Bond 1-5 Year	0.94	2.67	3.16
Barclays Muni 1-10 Year	1.20	3.97	5.81
Barclays Municipal	1.61	5.55	13.06

Source: Barclays

U.S. FIXED INCOME (Continued)

Callan Style Median and Index Returns* for Periods ended June 30, 2016

Broad Fixed Income	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Core Bond Style	2.36	5.39	6.20	4.37	4.25	5.62	5.54
Core Bond Plus Style	2.74	5.68	5.45	4.48	4.62	6.00	6.09
Barclays Aggregate	2.21	5.31	6.00	4.06	3.76	5.13	5.08
Barclays Universal	2.53	5.68	5.82	4.19	4.01	5.30	5.33
Long-Term	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Extended Maturity Credit Style	6.77	14.26	14.09	9.26	9.15	8.65	--
Barclays Long Credit	6.65	13.92	13.76	8.70	8.45	8.14	7.78
Extended Maturity Gov/Credit Style	6.67	14.56	15.48	9.46	9.61	9.00	8.22
Barclays Long Gov/Credit	6.55	14.33	15.72	9.33	9.18	8.42	7.88
Intermediate-Term	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Intermediate Style	1.58	3.95	4.44	3.19	3.23	4.92	4.92
Barclays Intermediate Gov/Credit	1.59	4.07	4.33	2.95	2.90	4.48	4.52
Short-Term	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Defensive Style	0.72	1.76	1.95	1.57	1.49	3.13	3.30
Barclays Gov/Credit 1-3 Year	0.67	1.65	1.59	1.22	1.10	2.80	3.03
Bank Loans	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Bank Loan Style	2.43	4.11	2.01	3.28	4.28	4.61	4.85
Credit Suisse Leveraged Loans	2.86	4.23	0.93	3.03	3.87	4.10	4.51
High Yield	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
High Yield Style	4.53	7.34	1.10	4.37	5.97	7.52	7.95
Barclays Corp High Yield	5.52	9.06	1.62	4.18	5.84	7.56	7.93
Unconstrained	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Unconstrained Fixed Style	1.50	1.74	0.92	2.11	2.77	4.68	6.31
90 Day T-Bill + 3%	0.81	1.63	3.19	3.09	3.09	4.04	4.44
Stable Value	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Stable Value Style	0.45	0.91	1.81	1.79	2.14	3.03	3.82
iMoneyNet Mutual Fund Avg	0.03	0.05	0.06	0.03	0.03	0.94	--
TIPS	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Inflation-Linked Style	1.74	6.35	4.30	2.27	2.70	4.82	5.60
Barclays TIPS	1.71	6.24	4.35	2.31	2.63	4.75	5.49
Municipal	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Short Municipal Style	0.43	0.82	1.17	0.94	1.02	1.95	2.07
Barclays Municipal 1-5 Year	0.75	1.55	2.60	2.03	1.93	3.30	3.26
Intermediate Municipal Style	2.06	3.54	6.19	4.29	4.10	4.23	4.21
Barclays Municipal 1-10 Year	1.44	2.70	4.88	3.62	3.45	4.33	4.21
Long Municipal Style	2.63	4.42	8.10	5.93	5.76	5.43	5.42
Barclays Municipal	2.61	4.33	7.65	5.58	5.33	5.13	5.10

*Returns for less than one year are not annualized.

Sources: Barclays, Callan, Citigroup, Merrill Lynch.

How Low Can Rates Go?

NON-U.S. FIXED INCOME | Kevin Machiz, CFA, FRM

Sovereign yields fell in the second quarter, driven largely by a knee-jerk reaction to Brexit, sentiment to reduce risk, and globally loose monetary policy. That led major global bond indices to show positive returns for the quarter.

In addition, most major global currencies weakened against the U.S. dollar during the quarter. The British pound was hit hardest, plummeting 7% versus the U.S. dollar. While the U.S. dollar broadly strengthened immediately following Brexit, some of those gains were quickly erased over the remainder of the quarter. The Japanese yen took an opposite tack among global currencies during the quarter and soared 10% versus the U.S. dollar by the end of the period. The yen's tendency to strengthen in risk-off environments proved a tailwind to unhedged foreign bond returns for the quarter. The euro was weaker versus the

Quarterly Return Attribution for Non-U.S. Gov't Indices (U.S. Dollar)

Country	Total	Local	Currency	Wtg
Australia	0.19%	3.51%	-3.20%	2.17%
Austria	-0.02%	2.56%	-2.51%	1.76%
Belgium	0.81%	3.40%	-2.51%	2.90%
Canada	1.58%	1.99%	-0.40%	2.29%
Denmark	1.51%	3.97%	-2.37%	0.79%
Finland	-0.18%	2.39%	-2.51%	0.70%
France	0.32%	2.90%	-2.51%	11.31%
Germany	0.27%	2.85%	-2.51%	8.49%
Ireland	-0.92%	1.63%	-2.51%	0.91%
Italy	-2.08%	0.45%	-2.51%	10.81%
Japan	12.91%	3.06%	9.56%	35.77%
Malaysia	-1.89%	1.38%	-3.22%	0.54%
Mexico	-5.45%	1.79%	-7.11%	0.99%
Netherlands	0.42%	3.01%	-2.51%	2.76%
Norway	-0.08%	1.08%	-1.16%	0.29%
Poland	-5.79%	0.27%	-6.04%	0.67%
Singapore	0.56%	0.51%	0.05%	0.42%
South Africa	5.03%	4.58%	0.43%	0.53%
Spain	-0.33%	2.23%	-2.51%	6.22%
Sweden	-1.65%	2.79%	-4.32%	0.57%
Switzerland	-0.83%	0.88%	-1.70%	0.27%
U.K.	-0.73%	6.74%	-6.99%	8.83%

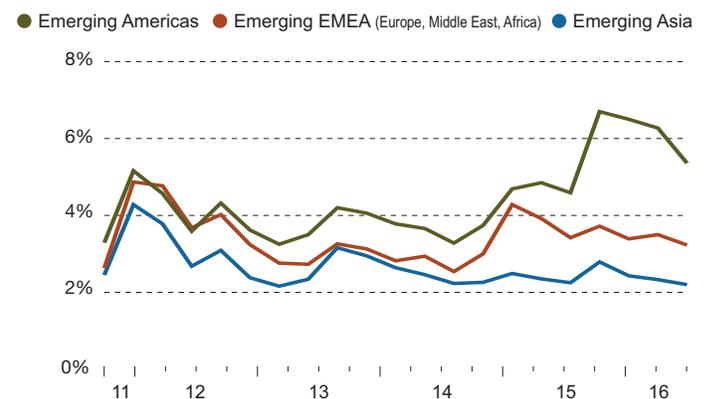
Source: Citigroup

dollar (-2.51%). The ECB maintained its dovish stance, keeping interest rates negative and proceeding with asset purchases announced in March. Interest rates fell across developed markets, leading to strong bond returns. The **Barclays Global Aggregate** gained 2.89% (+2.51% hedged).

In Germany, 10-year yields fell 28 bps and joined the rapidly growing universe of negative-yielding bonds. Similarly, 10-year yields in Japan, which were already negative, fell a further 19 bps as the Bank of Japan maintained its easy monetary policy stance. The 10-year yield in the U.K. led the pack following Brexit, falling 55 bps, though it remained in positive territory by the end of the quarter. Market expectations moved firmly toward relatively easier monetary policy in the U.K.

Emerging market bonds continued to rebound in the second quarter despite a bumpy ride. Falling bond yields were a tailwind and narrowing sovereign credit spreads further contributed to returns. The hard currency **JPM EMBI Global Diversified Index** gained 5.02%. Hard currency returns in most countries were positive, led by Venezuela. Bonds there have suffered extreme volatility as markets speculate on the timing of the country's default. The local currency **JPM GBI-EM Global Diversified** returned 2.96%, as local yields in emerging markets generally followed those in developed markets lower. Brazil was the leader for returns in local markets as yields fell and

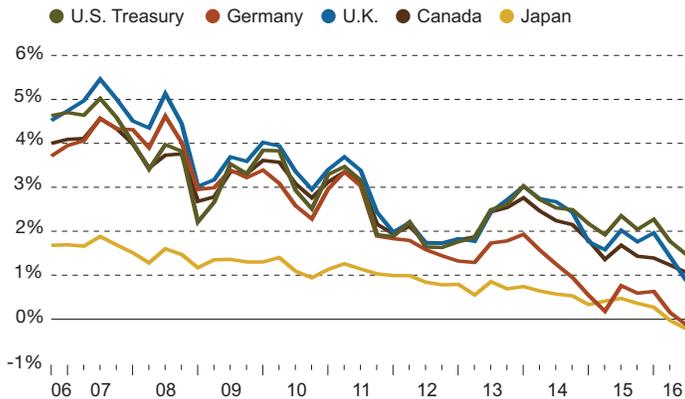
Emerging Spreads Over Developed (By Region)



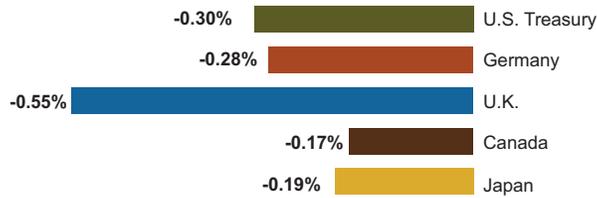
Source: Barclays

NON-U.S. FIXED INCOME (Continued)

10-Year Global Government Bond Yields



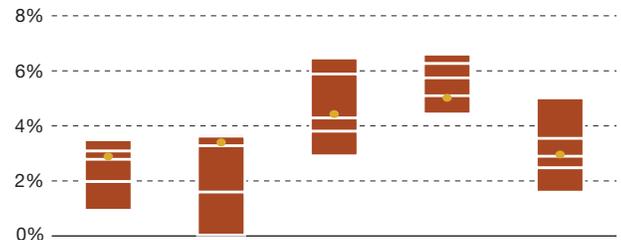
Change in 10-Year Yields from 1Q16 to 2Q16



Source: Bloomberg

the currency strengthened. During the quarter, Brazil's President Dilma Rousseff was suspended from the presidency during her impeachment trial. The market in Brazil has experienced volatility as the political future of the country is being determined.

Callan Style Group Quarterly Returns



	Global Fixed Style	Non-U.S. Fixed Style	Global High Yld	Em Debt USD DB	Em Debt Local
10th Percentile	3.52	3.75	6.49	6.63	5.04
25th Percentile	3.11	3.65	5.91	6.29	3.57
Median	2.81	3.30	4.31	5.77	2.92
75th Percentile	2.00	1.62	3.83	5.12	2.50
90th Percentile	0.96	0.06	2.94	4.46	1.62
Barclays GI Agg Benchmark	2.89				
Barclays GI Agg ex US		3.40			
Barclays High Yld			4.43		
JPM EMBI GI Div				5.02	
JPM GBI-EM GI Div					2.96

Sources: Callan, JPMorgan Chase

Callan Style Median and Index Returns* for Periods ended June 30, 2016

Global Fixed Income	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Global Fixed Income Style	2.81	8.34	7.56	2.84	2.20	4.89	6.54
Barclays Global Aggregate	2.89	8.96	8.87	2.80	1.77	4.40	5.50
Global Fixed Income Style (hedged)	2.67	5.87	7.22	5.49	5.29	5.60	5.83
Barclays Global Aggregate (hedged)	2.51	5.87	7.37	5.15	4.76	5.03	4.92
High Yield	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Global High Yield Style	4.31	7.39	1.29	3.03	4.96	7.20	9.08
Barclays Global High Yield	4.43	8.73	3.76	4.35	5.71	7.80	8.70
Non-U.S. Fixed Income	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Non-U.S. Fixed Income Style	3.30	11.49	10.12	2.17	1.04	4.39	6.71
Barclays Global Agg ex US	3.40	11.94	11.24	1.85	0.34	3.83	5.85
Emerging Markets Fixed Income	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Emerging Debt Style (US\$)	5.77	11.06	8.44	5.62	5.99	8.35	10.42
JPM EMBI Global Diversified	5.02	10.31	9.79	7.20	6.46	7.97	9.16
Emerging Debt Style (local)	2.92	13.64	1.62	-3.12	-2.10	5.04	7.18
JPM GBI-EM Global Diversified	2.96	14.30	2.24	-3.49	-2.19	5.74	--
Emerging Debt Blend Style	4.03	11.28	4.99	1.14	2.77	8.01	11.56
JPM EMBI GI Div/JPM GBI-EM GI Div	3.99	12.34	6.11	1.82	2.14	6.94	--
Emerging Debt Corporate Style	4.45	8.60	4.93	5.71	5.32	--	--
JPM CEMBI	4.27	9.02	5.78	5.72	5.45	7.45	--

*Returns less than one year are not annualized.

Sources: Barclays, Callan, JPMorgan Chase.

It Really Is Location, Location, Location

REAL ESTATE | Kevin Nagy

The **NCREIF Property Index** gained 2.03% during the second quarter, the lowest return since the first quarter of 2010, recording a 1.19% income return and a 0.84% appreciation return. Industrial (+2.90%) and retail (+2.17%) topped property sector performance for the quarter while hotels (+1.46%) brought up the rear. The West region was the strongest performer, up 2.46%, while the East was the worst at 1.73%. Transaction volume hit \$9 billion, which represents a 25% increase over the second quarter of 2015. Appraisal capitalization rates increased to 4.60%, up from an all-time low of 4.55% last quarter. Occupancy rates also increased and hit a 15-year high at 93.2%. All property types have seen occupancy increase for the year, though retail was down 20 bps for the quarter.

The preliminary return for the **NFI-ODCE Index** was 1.91%, comprising a 0.90% income return and a 1.01% appreciation return. This marks a decrease of 5 bps from last quarter's return and a new low since 2010. The U.S. real estate market has become increasingly attractive and has captured nearly 30% of global capital allocations in 2016. Investors are flooding into the U.S. due to low government bond yields globally, uncertainty caused by the Brexit vote in late June, and concerns about China's slowing growth. According to Preqin, which provides data on the alternative assets industry, the amount of dry powder for real estate investing globally increased to \$234 billion in the quarter, up 11.4% from year-end 2015.

The **FTSE EPRA/NAREIT Developed REIT Index (USD)** overcame the shock of Brexit and gained 3.74%, while U.S. REITs tracked by the **FTSE NAREIT Equity Index** surged ahead 6.96%.

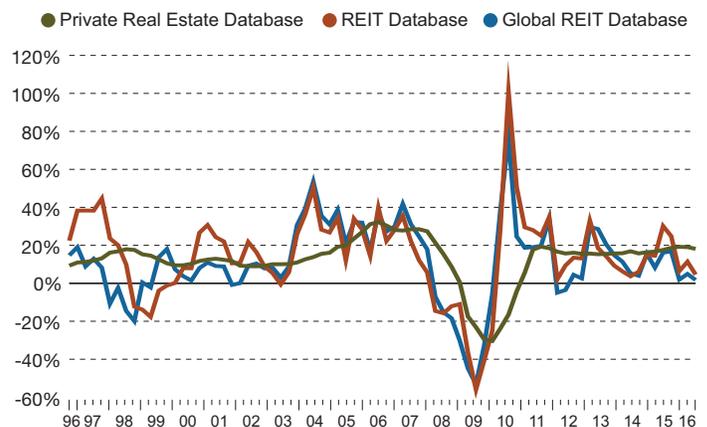
In the U.S., the strong performance of REITs was attributed to investors in search of yield. After the Brexit vote cast doubt on a Fed rate increase, global bond yields compressed 25 bps, making high-yielding REITs more attractive. Data centers (+20.59%), industrial (+15.38%), and infrastructure (+15.33%) were the

best-performing sectors. Self-storage (-5.76%) suffered a sharp fall from grace and was the worst performer in the second quarter after being the strongest performer in the first. Strong data center performance was driven by robust tenant demand and less economic sensitivity. Conversely, self-storage assets with more acute economic sensitivity struggled due to fears of slowing growth. As of June 30, U.S. REITs were trading at a 7.1% premium to net asset value (NAV), contrasting sharply with U.K. REITs, which were trading at a 21.6% discount to NAV.

Uncertainty over the Brexit vote—and its surprising result—had a tremendous effect on real estate in the U.K. compared to continental Europe. According to Cushman & Wakefield, investment volume in the U.K. was down 25% year-to-date compared to 2015, versus a 10% increase in the rest of the EU.

CMBS issuance for the quarter was \$10.8 billion, down sharply from the second quarter of 2015 (\$26.0 billion) and first quarter of 2016 (\$19.3 billion). The decline was attributed to continued concerns over economic instability, including the Brexit vote; only \$800 million in CMBS was issued in June.

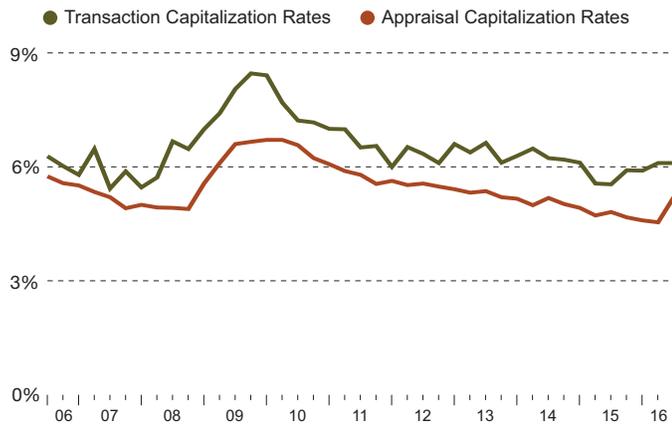
Rolling One-Year Returns



Source: Callan

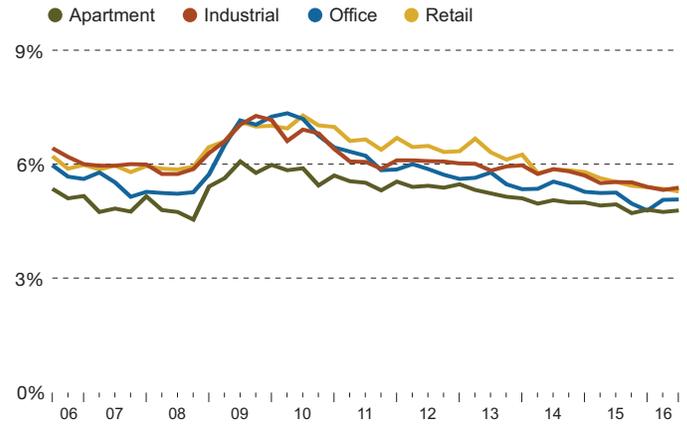
REAL ESTATE (Continued)

NCREIF Transaction and Appraisal Capitalization Rates



Source: NCREIF
Note: Transaction capitalization rate is equal-weighted.

NCREIF Capitalization Rates by Property Type



Source: NCREIF
Note: Capitalization rates are appraisal-based.

Callan Database Median and Index Returns* for Periods ended June 30, 2016

	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Private Real Estate							
Real Estate Database (net of fees)	2.17	4.38	11.86	13.09	12.23	4.89	7.36
NCREIF Property	2.03	4.29	10.64	11.61	11.51	7.40	8.91
NFI-ODCE (value wtd. net)	1.91	3.89	10.80	11.97	11.66	5.19	6.95
Public Real Estate							
REIT Database	5.87	11.19	23.14	13.97	13.00	8.24	12.57
FTSE NAREIT Equity	6.96	13.38	24.04	13.58	12.60	7.45	11.29
Global Public Real Estate							
Global REIT Database	2.96	7.74	10.87	9.50	9.24	5.56	10.14
FTSE EPRA/NAREIT Developed REIT	3.74	9.38	12.57	8.95	8.63	5.00	9.81
Global ex U.S. Public Real Estate							
Global ex-U.S. REIT Database	0.46	4.08	0.47	4.98	5.41	3.12	--
EPRA/NAREIT Dev REITs ex-U.S.	0.68	5.91	1.40	4.26	4.97	3.12	9.31

*Returns for less than one year are not annualized.
All REIT returns are reported gross in USD.

Sources: Callan, NAREIT, NCREIF, The FTSE Group. NCREIF statistics are the product of direct queries and may fluctuate over time.

Sticker Shock

PRIVATE EQUITY | Gary Robertson

In fundraising, *Private Equity Analyst* reports that second-quarter commitments totaled \$102.2 billion with 196 new partnerships formed. The number of funds raised increased by only 11% from 177 in the first quarter, but the dollar volume rocketed 92% from \$53.2 billion. Distressed debt surged to \$13.3 billion from only \$2.4 billion in the first quarter of 2016. Venture capital also saw a large jump of \$14.6 billion from only \$8.9 billion in the first quarter.

According to *Buyouts* newsletter, the investment pace by funds into companies totaled 356 transactions, bringing the first-half total to 816. The deal count is down by 86 transactions (19%) from the first quarter, and 216 transactions (21%) from the first half of 2015. The announced aggregate dollar volume in the second quarter was \$37.6 billion, and \$95.8 billion for the first half. The announced volume is down by \$20.6 billion (35%) from the first quarter, but up \$26 billion (27%) year-to-date. Only six deals with announced values of \$1 billion or more closed in the second quarter, down from 12 in the first quarter.

According to the National Venture Capital Association, new investments in venture capital companies totaled 961 rounds and \$15.3 billion in announced volume. The number of rounds decreased from 1,011 in the first quarter, but the dollar volume jumped from \$12.7 billion, primarily due to a \$3.5 billion expansion investment in Uber.

Funds Closed January 1 to June 30, 2016

Strategy	No. of Funds	Amt (\$mm)	Percent*
Venture Capital	201	23,441	15%
Buyouts	119	102,687	66%
Subordinated Debt	9	2,397	2%
Distressed Debt	11	15,568	10%
Secondary and Other	10	5,513	4%
Fund-of-funds	23	5,767	4%
Totals	373	155,373	100%

Source: Private Equity Analyst

*Totals more than 100% due to rounding.

Regarding exits, *Buyouts* reports that there were 118 private M&A exits of buyout-backed companies, with 35 deals disclosing values totaling \$24.6 billion. The M&A exits count was down from 140 in the first quarter, but the announced value increased from \$15.6 billion. There were three buyout-backed IPOs floating an aggregate \$1.6 billion—a recovery from no IPOs in the first quarter.

Venture-backed M&A exits totaled 64 transactions, with 11 disclosing a total dollar volume of \$9.0 billion. The number of private sale exits declined from 91 in the first quarter, but the announced dollar volume increased from the first quarter's \$5.2 billion, driven by a single \$5.8 billion biotechnology exit. There were 12 VC-backed IPOs in the second quarter with a combined float of \$893.9 million. For comparison, the first quarter of 2016 had 6 IPOs and total issuance of \$574.5 million.

Private Equity Performance Database (%)

(Pooled Horizon IRRs through December 31, 2015*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	2.1	13.8	22.0	16.5	11.1	4.7	24.3
Growth Equity	3.3	9.2	13.6	11.3	11.8	9.8	14.3
All Buyouts	2.4	8.5	13.3	12.3	11.2	11.8	12.8
Mezzanine	0.5	5.2	9.5	10.7	9.6	7.8	9.5
Distressed	-0.1	1.8	9.2	9.4	9.6	10.7	10.8
All Private Equity	2.1	8.6	14.1	12.4	11.0	9.6	13.8
S&P 500 Index	7.0	1.4	15.1	12.6	7.3	5.0	8.2
Russell 3000	6.3	0.5	14.7	12.2	7.4	5.4	8.3

Private equity returns are net of fees.

Sources: Standard & Poor's, Thomson/Cambridge.

*Most recent data available at time of publication.

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of *Capital Market Review* and other Callan publications.

Caution as Britannia Waives the Rule

HEDGE FUNDS | Jim McKee

Amid the sudden disorder caused by Brexit, already cautious hedge funds mistrustful of the first quarter's skittishness were relatively unaffected and eked out modest gains, on average. Representing a paper portfolio of hedge fund interests without implementation costs, the **Credit Suisse Hedge Fund Index** (CS HFI) gained 0.59%. The median manager in the **Callan Hedge Fund-of-Funds Database** edged ahead 0.78%, net of all fees.

Returns across underlying strategies, however, were varied. The strongest performers were *Convertible Arb* (+2.65%), *Event-Driven Multi-Strategy* (+2.24%), and *Distressed* (+1.95%), as their credit exposures mended strongly from weakness in the prior quarter. *Emerging Markets* (+1.77%) and *Fixed Income Arb* (+1.02%) also regained ground from first-quarter losses.

Aside from the endangered species of *Short Bias* managers (-6.32%), the quarter's most notable loser was *Equity Market Neutral* (-3.17%), caught flat-footed by shifting risk appetites surrounding Brexit. Suffering from range-bound markets earlier in the quarter, *Managed Futures* lost 2.22% while *Global Macro* salvaged a 0.71% gain. The average *Long/Short Equity* fell 1.21%, trailing the S&P 500 (+2.46%) for the third consecutive quarter.

Callan Style Group Quarterly Returns



Sources: Callan, Merrill Lynch

Within Callan's Hedge Fund-of-Funds Database, market movements only marginally affected investment styles in the second quarter. For instance, despite the stock rally at quarter end, the median *Callan Long/Short Equity FOF* (+0.28%) trailed the *Callan Absolute Return FOF* (+0.89%). With exposures to both non-directional and directional styles, the *Core Diversified FOF* gained 0.95%.

Callan Database Median and Index Returns* for Periods ended June 30, 2016

	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Hedge Fund-of-Funds Database	0.78	-2.18	-5.26	2.32	2.94	3.43	4.56
CS Hedge Fund Index	0.59	-1.62	-4.23	2.49	2.88	4.17	5.69
CS Equity Market Neutral	-3.17	-3.52	-1.49	1.02	1.13	-2.43	0.72
CS Convertible Arbitrage	2.65	2.24	0.10	1.16	2.48	3.90	4.52
CS Fixed Income Arbitrage	1.02	-0.21	-0.37	2.37	4.07	3.25	4.17
CS Multi-Strategy	1.24	0.65	1.23	5.90	5.99	5.51	6.68
CS Distressed	1.95	-0.04	-5.25	1.41	3.17	4.08	6.93
CS Risk Arbitrage	0.58	2.71	0.73	1.55	1.46	3.46	3.49
CS Event-Driven Multi-Strategy	2.24	-3.46	-12.43	-0.49	0.32	3.98	5.92
CS Long/Short Equity	-1.21	-5.01	-5.00	4.53	4.00	4.73	5.86
CS Dedicated Short Bias	-6.32	-7.16	4.31	-8.41	-10.15	-9.89	-7.63
CS Global Macro	0.71	-1.54	-3.86	1.54	3.11	5.75	8.15
CS Managed Futures	-2.22	2.03	5.37	6.54	2.34	4.20	5.59
CS Emerging Markets	1.77	0.52	-2.43	2.39	2.21	4.50	7.85

*Returns less than one year are not annualized. Sources: Callan, Credit Suisse.

Target Date Funds Continue to Rule

DEFINED CONTRIBUTION | Tom Szkwarla

In a tumultuous first quarter, the Callan DC Index™ earned just 0.38%, lagging the Age 45 Target Date Fund, which gained nearly 1%. Over the past three years the Index has performed in line with the Age 45 fund; however, since inception, it has trailed with just 5.09% annually versus the Age 45 fund's 5.70% return.

For the quarter, DC plan balances grew 0.85%. Inflows—participant and plan sponsor contributions—added slightly more to total growth (+0.475%) than market performance (+0.375%).

As usual, target date funds attracted the majority of assets during the quarter, approximately 72 cents of every dollar that flowed into DC funds. Target date funds grew to their largest allocation yet, commanding 26.1% of total DC assets in the quarter. The growth seems to be at the expense of U.S. equity, which contracted to 23.4% of total assets.

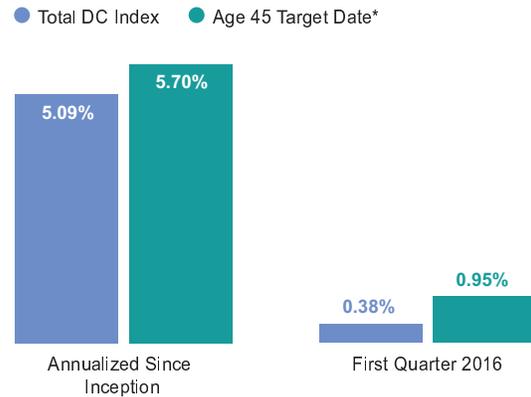
Stable value was the only other asset class with sizable inflows; this asset class typically attracts flows when markets are weak or particularly volatile. Several DC investments saw material net outflows, including U.S. equities (large and small/mid cap), U.S./global balanced, U.S. fixed income, non-U.S. equities, and company stock.

Overall turnover (i.e., net transfer activity levels within DC plans) was on par with last quarter (0.46%) at 0.44%. Turnover has been well below the historical average of 0.64% since mid-2014.

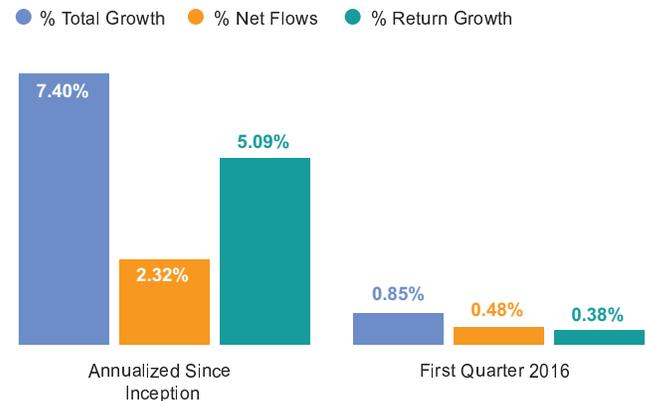
The Callan DC Index's overall equity allocation ended the quarter at 69%. Overall equity allocation has remained fairly static over the past few quarters, modestly above the Index's historical average (67%).

The Callan DC Index is an equally weighted index tracking the cash flows and performance of nearly 90 plans, representing more than one million DC participants and over \$135 billion in assets. The Index is updated quarterly and is available on Callan's website, as is the quarterly DC Observer newsletter.

Investment Performance*



Growth Sources*



Net Cash Flow Analysis (First Quarter 2016)* (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	71.60%
Stable Value	15.57%
U.S. Small/Mid Cap	-23.49%
U.S. Large Cap	-29.02%
Total Turnover**	0.44%

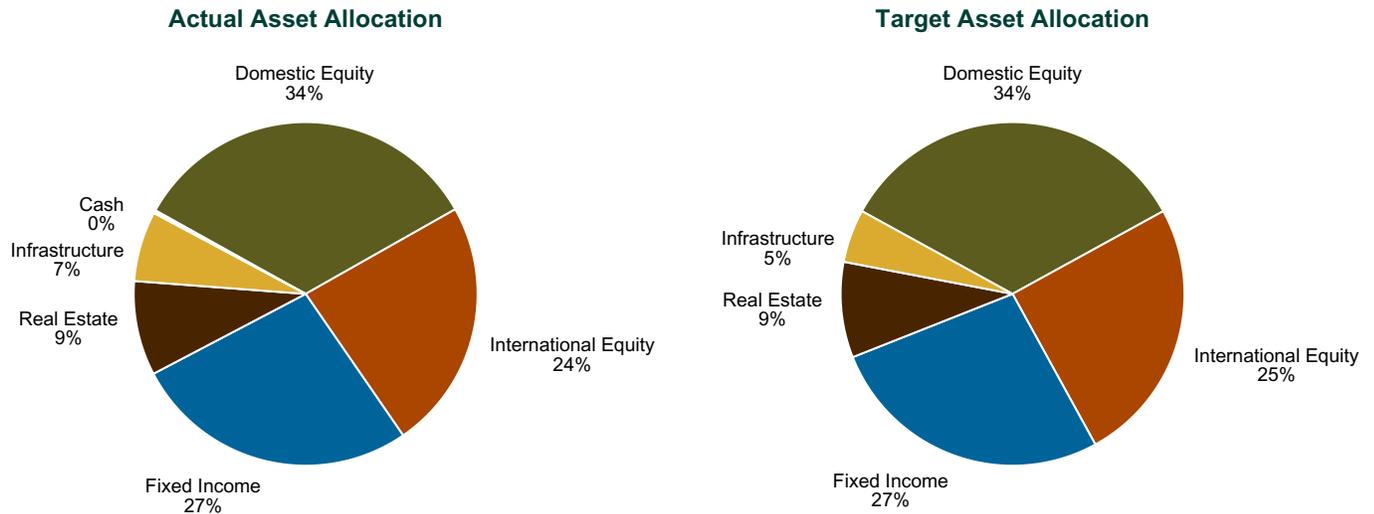
Source: Callan DC Index
Data provided here is the most recent available at time of publication.

* DC Index inception date is January 2006.

**Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

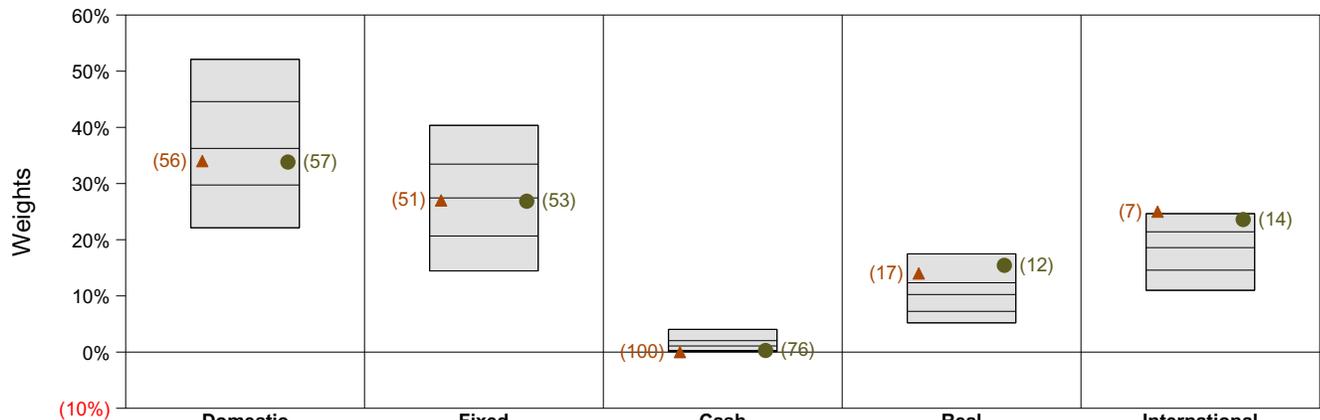
Actual vs Target Asset Allocation As of June 30, 2016

The top left chart shows the Fund's asset allocation as of June 30, 2016. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the CAI Public Fund Sponsor Database.



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equity	244,809	33.8%	34.0%	(0.2%)	(1,265)
International Equity	170,767	23.6%	25.0%	(1.4%)	(10,170)
Fixed Income	194,351	26.9%	27.0%	(0.1%)	(1,061)
Real Estate	64,353	8.9%	9.0%	(0.1%)	(785)
Infrastructure	47,412	6.6%	5.0%	1.6%	11,225
Cash	2,056	0.3%	0.0%	0.3%	2,056
Total	723,748	100.0%	100.0%		

Asset Class Weights vs CAI Public Fund Sponsor Database



	Domestic Equity	Fixed Income	Cash	Real Estate	International Equity
10th Percentile	52.11	40.36	4.05	17.48	24.64
25th Percentile	44.58	33.46	2.04	12.34	21.41
Median	36.25	27.44	1.09	10.25	18.59
75th Percentile	29.74	20.67	0.29	7.25	14.58
90th Percentile	22.12	14.45	0.10	5.20	11.00
Fund ●	33.83	26.85	0.28	15.44	23.59
Target ▲	34.00	27.00	0.00	14.00	25.00
% Group Invested	98.94%	97.87%	68.62%	62.23%	97.34%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2016, with the distribution as of March 31, 2016. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	June 30, 2016		Net New Inv.	Inv. Return	March 31, 2016	
	Market Value	Weight			Market Value	Weight
Domestic Equity	\$244,809,003	33.83%	\$(109,997,390)	\$9,378,478	\$345,427,915	48.54%
Large Cap Equity	\$185,793,344	25.67%	\$(84,913,089)	\$6,179,346	\$264,527,087	37.17%
Transition Account [1]	10,600	0.00%	(900,115)	910,715	-	-
Alliance S&P Index	55,522,224	7.67%	(28,941,020)	1,323,772	83,139,472	11.68%
PIMCO StocksPLUS	29,161,572	4.03%	(9,656,861)	977,320	37,841,114	5.32%
BlackRock Russell 1000 Value	51,094,305	7.06%	(24,112,424)	2,764,797	72,441,932	10.18%
T. Rowe Price Large Cap Growth	50,004,643	6.91%	(21,302,668)	202,741	71,104,569	9.99%
Small/Mid Cap Equity	\$59,015,659	8.15%	\$(25,084,301)	\$3,199,133	\$80,900,828	11.37%
Champlain Mid Cap	29,642,483	4.10%	(14,762,052)	2,194,167	42,210,368	5.93%
Pyramis Small Cap	29,373,176	4.06%	(10,322,249)	1,004,965	38,690,460	5.44%
International Equity	\$170,767,277	23.59%	\$81,984,221	\$1,334,222	\$87,448,834	12.29%
Causeway International Opportunities (3)	68,070,332	9.41%	18,210,552	(1,058,703)	50,918,483	7.16%
Aberdeen EAFE Plus	70,125,135	9.69%	31,032,917	2,561,867	36,530,351	5.13%
American Century Non-US SC [2]	32,571,810	4.50%	32,740,751	(168,942)	-	-
Fixed Income	\$194,350,648	26.85%	\$21,018,772	\$6,695,988	\$166,635,889	23.42%
BlackRock U.S. Debt Fund	71,998,579	9.95%	6,679,235	1,569,510	63,749,833	8.96%
PIMCO Fixed Income	122,352,070	16.91%	14,339,536	5,126,478	102,886,056	14.46%
Real Estate	\$64,352,850	8.89%	\$(178,483)	\$1,153,247	\$63,378,085	8.91%
JP Morgan Strategic Property Fund	46,510,048	6.43%	(112,422)	921,706	45,700,763	6.42%
JP Morgan Income and Growth Fund	17,842,802	2.47%	(66,061)	231,541	17,677,322	2.48%
Infrastructure	\$47,412,106	6.55%	\$(474,004)	\$1,498,689	\$46,387,420	6.52%
Macquarie European Infrastructure	21,673,650	2.99%	(558,766)	505,583	21,726,832	3.05%
SteelRiver Infrastructure	25,738,456	3.56%	84,761	993,107	24,660,588	3.47%
Cash Composite	\$2,056,478	0.28%	\$(275,293)	\$1,237	\$2,330,534	0.33%
Cash	2,056,478	0.28%	(275,293)	1,237	2,330,534	0.33%
Total Plan	\$723,748,362	100.0%	\$(7,922,178)	\$20,061,863	\$711,608,678	100.0%

[1] The Domestic Equity transition account was funded for the May 2016 plan rebalancing.

[2] American Century was funded May 2016.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Gross of Fees					
Domestic Equity	2.88%	1.24%	11.81%	12.16%	7.19%
Total Domestic Equity Target (1)	2.70%	2.28%	11.02%	11.56%	7.44%
Large Cap Equity	2.37%	1.60%	11.72%	12.05%	6.68%
S&P 500 Index	2.46%	3.99%	11.66%	12.10%	7.42%
Alliance S&P Index	2.37%	3.97%	11.62%	12.07%	7.47%
PIMCO StocksPLUS	2.94%	2.68%	12.12%	13.18%	9.31%
S&P 500 Index	2.46%	3.99%	11.66%	12.10%	7.42%
BlackRock Russell 1000 Value Index	4.35%	2.75%	9.92%	11.40%	6.27%
Russell 1000 Value Index	4.58%	2.86%	9.87%	11.35%	6.13%
T. Rowe Price Large Cap Growth	0.13%	(2.64%)	13.25%	12.96%	9.65%
Russell 1000 Growth Index	0.61%	3.02%	13.07%	12.35%	8.78%
Small/Mid Cap Equity U.S. Equity	4.77%	0.17%	12.15%	12.39%	8.99%
Russell 2500 Index	3.57%	(3.67%)	8.61%	9.48%	7.32%
Champlain Mid Cap	6.26%	4.64%	13.35%	12.52%	11.38%
Russell MidCap Index	3.18%	0.56%	10.80%	10.90%	8.07%
Pyramis Small Cap	3.20%	(4.41%)	10.78%	12.12%	9.51%
Russell 2000 Index	3.79%	(6.73%)	7.09%	8.35%	6.20%
International Equity	1.83%	(9.40%)	1.15%	0.73%	1.98%
MSCI ACWI x US (Net)	(0.64%)	(10.24%)	1.16%	0.10%	1.87%
Causeway International Opportunities (3)	(0.62%)	(11.66%)	2.20%	3.04%	3.55%
Causeway Linked Index (3)	(0.64%)	(9.42%)	2.35%	1.85%	1.66%
Aberdeen EAFE Plus	3.73%	(7.60%)	(0.63%)	0.96%	3.92%
MSCI ACWI x US (Net)	(0.64%)	(10.24%)	1.16%	0.10%	1.87%
Fixed Income	3.76%	6.39%	4.89%	4.95%	6.05%
Barclays Aggregate Index	2.21%	6.00%	4.06%	3.76%	5.13%
BlackRock U.S. Debt Fund	2.26%	6.13%	4.19%	3.90%	5.27%
Barclays Aggregate Index	2.21%	6.00%	4.06%	3.76%	5.13%
PIMCO Fixed Income	4.70%	6.55%	5.33%	5.74%	6.71%
Custom Index (2)	3.56%	7.28%	5.45%	5.27%	6.35%

(1) The Total Domestic Equity target is currently composed of 78% S&P 500 and 22% Russell 2500 Index.

(2) The custom index is currently composed of 25% Barclays Mortgage, 25% Barclays Credit, 25% Barclays High Yield, and 25% JP Morgan EMBI Global. Prior to 2/1/2012, the custom index was composed of 70% Barclays Mortgage, 15% Barclays Credit, and 15% Barclays High Yield.

(3) Causeway International Value transitioned to International Opportunities in May 2016; as such, the index has been changed accordingly from EAFE to ACWI ex-US (Net Div).

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Returns for Periods Ended June 30, 2016				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Gross of Fees					
Real Estate	1.82%	10.80%	12.66%	13.11%	5.68%
NFI-ODCE Value Weight Gr	2.13%	11.82%	13.00%	12.72%	6.17%
JP Morgan Strategic Property Fund	2.02%	11.10%	12.84%	12.92%	6.89%
NFI-ODCE Value Weight Gr	2.13%	11.82%	13.00%	12.72%	6.17%
JP Morgan Income and Growth Fund	1.32%	10.06%	12.61%	16.19%	3.83%
NFI-ODCE Value Weight Gr	2.13%	11.82%	13.00%	12.72%	6.17%
Infrastructure	3.26%	12.61%	8.40%	6.81%	-
CPI + 4%	2.28%	4.65%	4.77%	5.13%	5.72%
Macquarie European Infrastructure	2.38%	6.82%	3.43%	4.73%	-
SteelRiver Infrastructure	4.02%	17.75%	13.91%	9.17%	-
CPI + 4%	2.28%	4.65%	4.77%	5.13%	5.72%
Cash Composite	0.06%	0.12%	0.04%	0.04%	1.17%
Total Fund	2.84%	2.33%	8.61%	8.54%	6.23%
Total Fund Benchmark*	1.46%	1.82%	7.51%	7.64%	6.02%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012
Gross of Fees					
Domestic Equity	1.24%	9.01%	26.67%	23.35%	2.92%
Total Domestic Equity Target (1)	2.28%	7.15%	24.84%	21.70%	3.77%
Large Cap Equity	1.60%	7.96%	27.15%	22.41%	3.48%
S&P 500 Index	3.99%	7.42%	24.61%	20.60%	5.45%
Alliance S&P Index	3.97%	7.43%	24.50%	20.51%	5.48%
PIMCO StocksPLUS	2.68%	7.57%	27.61%	24.51%	5.80%
S&P 500 Index	3.99%	7.42%	24.61%	20.60%	5.45%
BlackRock Russell 1000 Value Index	2.75%	4.34%	23.88%	25.36%	3.07%
Russell 1000 Value Index	2.86%	4.13%	23.81%	25.32%	3.01%
T. Rowe Price Large Cap Growth	(2.64%)	12.35%	32.80%	20.37%	5.19%
Russell 1000 Growth Index	3.02%	10.56%	26.92%	17.07%	5.76%
Small/Mid Cap Equity U.S. Equity	0.17%	12.68%	24.97%	26.35%	0.64%
Russell 2500 Index	(3.67%)	5.92%	25.58%	25.61%	(2.29%)
Champlain Mid Cap	4.64%	10.27%	26.20%	22.88%	0.78%
Russell MidCap Index	0.56%	6.63%	26.85%	25.41%	(1.65%)
Pyramis Small Cap	(4.41%)	15.07%	23.59%	29.74%	0.44%
Russell 2000 Index	(6.73%)	6.49%	23.64%	24.21%	(2.08%)
International Equity	(9.40%)	(5.79%)	21.26%	17.18%	(14.49%)
MSCI ACWI x US (Net)	(10.24%)	(5.26%)	21.75%	13.63%	(14.57%)
Causeway International Opportunities (3)	(11.66%)	(2.38%)	23.76%	22.07%	(10.83%)
Causeway Linked Index (3)	(9.42%)	(4.22%)	23.57%	18.62%	(13.83%)
Aberdeen EAFE Plus	(7.60%)	(10.16%)	18.20%	11.69%	(4.27%)
MSCI ACWI x US (Net)	(10.24%)	(5.26%)	21.75%	13.63%	(14.57%)
Fixed Income	6.39%	0.78%	7.64%	1.84%	8.32%
Barclays Aggregate Index	6.00%	1.86%	4.37%	(0.69%)	7.47%
BlackRock U.S. Debt Fund	6.13%	1.99%	4.49%	(0.48%)	7.55%
Barclays Aggregate Index	6.00%	1.86%	4.37%	(0.69%)	7.47%
PIMCO Fixed Income	6.55%	0.05%	9.60%	3.27%	9.56%
Custom Index (2)	7.28%	0.75%	8.48%	2.41%	7.63%

(1) The Total Domestic Equity target is currently composed of 78% S&P 500 and 22% Russell 2500 Index.

(2) The custom index is currently composed of 25% Barclays Mortgage, 25% Barclays Credit, 25% Barclays High Yield, and 25% JP Morgan EMBI Global. Prior to 2/1/2012, the custom index was composed of 70% Barclays Mortgage, 15% Barclays Credit, and 15% Barclays High Yield.

(3) Causeway International Value transitioned to International Opportunities in May 2016; as such, the index has been changed accordingly from EAFE to ACWI ex-US (Net Div).

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012
Gross of Fees					
Real Estate	10.80%	13.92%	13.27%	16.00%	11.63%
NFI-ODCE Value Weight Gr	11.82%	14.43%	12.75%	12.17%	12.42%
JP Morgan Strategic Property Fund	11.10%	13.37%	14.08%	14.08%	12.00%
NFI-ODCE Value Weight Gr	11.82%	14.43%	12.75%	12.17%	12.42%
JP Morgan Income and Growth Fund	10.06%	16.19%	11.66%	25.49%	18.15%
NFI-ODCE Value Weight Gr	11.82%	14.43%	12.75%	12.17%	12.42%
Infrastructure	12.61%	(2.75%)	16.31%	3.27%	5.68%
CPI + 4%	4.65%	3.62%	6.05%	5.76%	5.58%
Macquarie European Infrastructure	6.82%	(9.64%)	14.63%	13.28%	0.54%
SteelRiver Infrastructure	17.75%	5.97%	18.46%	(7.19%)	13.03%
CPI + 4%	4.65%	3.62%	6.05%	5.76%	5.58%
Cash Composite	0.12%	0.00%	0.00%	0.05%	0.03%
Total Fund	2.33%	4.63%	19.64%	14.84%	2.40%
Total Fund Benchmark*	1.82%	4.34%	16.97%	12.87%	3.04%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Net of Fees					
Domestic Equity	2.78%	0.94%	11.49%	11.79%	6.79%
Total Domestic Equity Target (1)	2.70%	2.28%	11.02%	11.56%	7.44%
Large Cap Equity	2.33%	1.44%	11.56%	11.86%	6.43%
S&P 500 Index	2.46%	3.99%	11.66%	12.10%	7.42%
Alliance S&P Index	2.36%	3.93%	11.58%	12.02%	7.42%
PIMCO StocksPLUS	2.94%	2.68%	12.12%	13.00%	9.19%
S&P 500 Index	2.46%	3.99%	11.66%	12.10%	7.42%
BlackRock Russell 1000 Value Index	4.33%	2.71%	9.88%	11.38%	6.25%
Russell 1000 Value Index	4.58%	2.86%	9.87%	11.35%	6.13%
T. Rowe Price Large Cap Growth	0.01%	(3.13%)	12.74%	12.43%	9.12%
Russell 1000 Growth Index	0.61%	3.02%	13.07%	12.35%	8.78%
Small/Mid Cap Equity U.S. Equity	4.49%	(0.61%)	11.27%	11.51%	8.15%
Russell 2500 Index	3.57%	(3.67%)	8.61%	9.48%	7.32%
Champlain Mid Cap	6.05%	3.76%	12.40%	11.57%	10.45%
Russell MidCap Index	3.18%	0.56%	10.80%	10.90%	8.07%
Pyramis Small Cap	2.83%	(5.10%)	9.98%	11.30%	8.71%
Russell 2000 Index	3.79%	(6.73%)	7.09%	8.35%	6.20%
International Equity	1.66%	(10.04%)	0.44%	0.00%	1.20%
MSCI ACWI x US (Net)	(0.64%)	(10.24%)	1.16%	0.10%	1.87%
Causeway International Opportunities (3)	(0.78%)	(12.24%)	1.54%	2.37%	2.87%
Causeway Linked Index (3)	(0.64%)	(9.42%)	2.35%	1.85%	1.66%
Aberdeen EAFE Plus	3.56%	(8.32%)	(1.42%)	0.16%	3.10%
MSCI ACWI x US (Net)	(0.64%)	(10.24%)	1.16%	0.10%	1.87%
Fixed Income	3.68%	6.06%	4.56%	4.62%	5.77%
Barclays Aggregate Index	2.21%	6.00%	4.06%	3.76%	5.13%
BlackRock U.S. Debt Fund	2.24%	6.09%	4.15%	3.87%	5.25%
Barclays Aggregate Index	2.21%	6.00%	4.06%	3.76%	5.13%
PIMCO Fixed Income	4.57%	6.04%	4.82%	5.25%	6.28%
Custom Index (2)	3.56%	7.28%	5.45%	5.27%	6.35%

(1) The Total Domestic Equity target is currently composed of 78% S&P 500 and 22% Russell 2500 Index.

(2) The custom index is currently composed of 25% Barclays Mortgage, 25% Barclays Credit, 25% Barclays High Yield, and 25% JP Morgan EMBI Global. Prior to 2/1/2012, the custom index was composed of 70% Barclays Mortgage, 15% Barclays Credit, and 15% Barclays High Yield.

(3) Causeway International Value transitioned to International Opportunities in May 2016; as such, the index has been changed accordingly from EAFE to ACWI ex-US (Net Div).

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Returns for Periods Ended June 30, 2016				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Net of Fees					
Real Estate	1.56%	9.64%	11.46%	11.87%	4.45%
NFI-ODCE Equal Weight Net	1.97%	11.24%	12.08%	11.70%	4.98%
JP Morgan Strategic Property Fund	1.77%	10.02%	11.75%	11.82%	5.84%
NFI-ODCE Equal Weight Net	1.97%	11.24%	12.08%	11.70%	4.98%
JP Morgan Income and Growth Fund	1.00%	8.69%	11.09%	14.56%	2.20%
NFI-ODCE Equal Weight Net	1.97%	11.24%	12.08%	11.70%	4.98%
Infrastructure	3.18%	12.30%	7.59%	5.52%	-
CPI + 4%	2.28%	4.65%	4.77%	5.13%	5.72%
Macquarie European Infrastructure	2.38%	6.82%	2.92%	3.70%	-
SteelRiver Infrastructure	3.87%	17.13%	12.71%	7.57%	-
CPI + 4%	2.28%	4.65%	4.77%	5.13%	5.72%
Cash Composite	0.06%	0.12%	0.04%	0.04%	1.17%
Total Fund	2.71%	1.89%	8.13%	8.01%	5.70%
Total Fund Benchmark*	1.46%	1.82%	7.51%	7.64%	6.02%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012
Net of Fees					
Domestic Equity	0.94%	8.72%	26.30%	22.90%	2.50%
Total Domestic Equity Target (1)	2.28%	7.15%	24.84%	21.70%	3.77%
Large Cap Equity	1.44%	7.83%	26.95%	22.21%	3.21%
S&P 500 Index	3.99%	7.42%	24.61%	20.60%	5.45%
Alliance S&P Index	3.93%	7.40%	24.45%	20.46%	5.43%
PIMCO StocksPLUS	2.68%	7.57%	27.61%	23.83%	5.56%
S&P 500 Index	3.99%	7.42%	24.61%	20.60%	5.45%
BlackRock Russell 1000 Value Index	2.71%	4.30%	23.83%	25.35%	3.07%
Russell 1000 Value Index	2.86%	4.13%	23.81%	25.32%	3.01%
T. Rowe Price Large Cap Growth	(3.13%)	11.93%	32.16%	19.79%	4.67%
Russell 1000 Growth Index	3.02%	10.56%	26.92%	17.07%	5.76%
Small/Mid Cap Equity U.S. Equity	(0.61%)	11.80%	24.00%	25.36%	(0.16%)
Russell 2500 Index	(3.67%)	5.92%	25.58%	25.61%	(2.29%)
Champlain Mid Cap	3.76%	9.33%	25.16%	21.86%	(0.08%)
Russell MidCap Index	0.56%	6.63%	26.85%	25.41%	(1.65%)
Pyramis Small Cap	(5.10%)	14.24%	22.70%	28.79%	(0.31%)
Russell 2000 Index	(6.73%)	6.49%	23.64%	24.21%	(2.08%)
International Equity	(10.04%)	(6.46%)	20.41%	16.34%	(15.16%)
MSCI ACWI x US (Net)	(10.24%)	(5.26%)	21.75%	13.63%	(14.57%)
Causeway International Opportunities (3)	(12.24%)	(3.01%)	22.98%	21.27%	(11.43%)
Causeway Linked Index (3)	(9.42%)	(4.22%)	23.57%	18.62%	(13.83%)
Aberdeen EAFE Plus	(8.32%)	(10.90%)	17.28%	10.80%	(5.04%)
MSCI ACWI x US (Net)	(10.24%)	(5.26%)	21.75%	13.63%	(14.57%)
Fixed Income	6.06%	0.46%	7.30%	1.51%	8.03%
Barclays Aggregate Index	6.00%	1.86%	4.37%	(0.69%)	7.47%
BlackRock U.S. Debt Fund	6.09%	1.97%	4.43%	(0.49%)	7.55%
Barclays Aggregate Index	6.00%	1.86%	4.37%	(0.69%)	7.47%
PIMCO Fixed Income	6.04%	(0.43%)	9.07%	2.77%	9.15%
Custom Index (2)	7.28%	0.75%	8.48%	2.41%	7.63%

(1) The Total Domestic Equity target is currently composed of 78% S&P 500 and 22% Russell 2500 Index.

(2) The custom index is currently composed of 25% Barclays Mortgage, 25% Barclays Credit, 25% Barclays High Yield, and 25% JP Morgan EMBI Global. Prior to 2/1/2012, the custom index was composed of 70% Barclays Mortgage, 15% Barclays Credit, and 15% Barclays High Yield.

(3) Causeway International Value transitioned to International Opportunities in May 2016; as such, the index has been changed accordingly from EAFE to ACWI ex-US (Net Div).

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2016. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

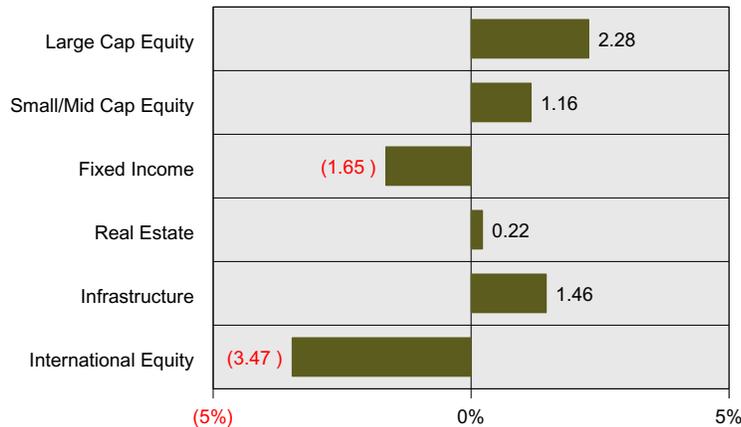
	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012
Net of Fees					
Real Estate	9.64%	12.74%	12.03%	14.67%	10.34%
NFI-ODCE Equal Weight Net	11.24%	13.64%	11.37%	10.80%	11.46%
JP Morgan Strategic Property Fund	10.02%	12.28%	12.98%	12.95%	10.90%
NFI-ODCE Equal Weight Net	11.24%	13.64%	11.37%	10.80%	11.46%
JP Morgan Income and Growth Fund	8.69%	14.74%	9.93%	23.54%	16.49%
NFI-ODCE Equal Weight Net	11.24%	13.64%	11.37%	10.80%	11.46%
Infrastructure	12.30%	(3.82%)	15.32%	1.39%	3.61%
CPI + 4%	4.65%	3.62%	6.05%	5.76%	5.58%
Macquarie European Infrastructure	6.82%	(10.56%)	14.11%	11.61%	(1.44%)
SteelRiver Infrastructure	17.13%	4.67%	16.80%	(9.28%)	10.85%
CPI + 4%	4.65%	3.62%	6.05%	5.76%	5.58%
Cash Composite	0.12%	(0.00%)	0.00%	0.05%	0.03%
Total Fund	1.89%	4.17%	19.11%	14.21%	1.82%
Total Fund Benchmark*	1.82%	4.34%	16.97%	12.87%	3.04%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

Quarterly Style Attribution - June 30, 2016

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

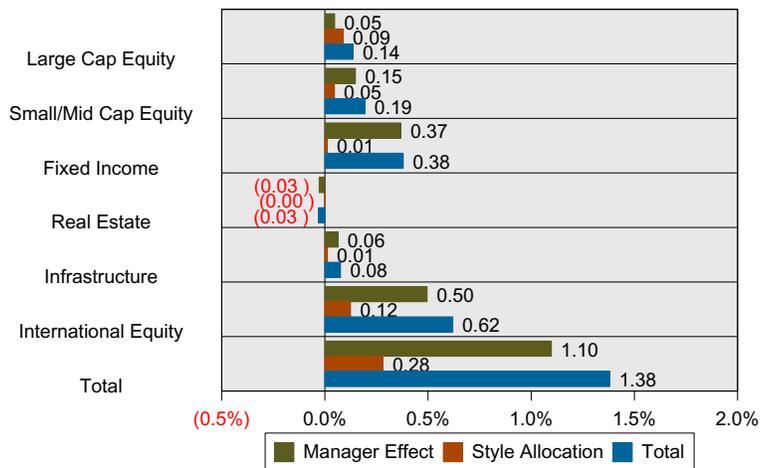
Style Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Style Class



Relative Attribution Effects for Quarter ended June 30, 2016

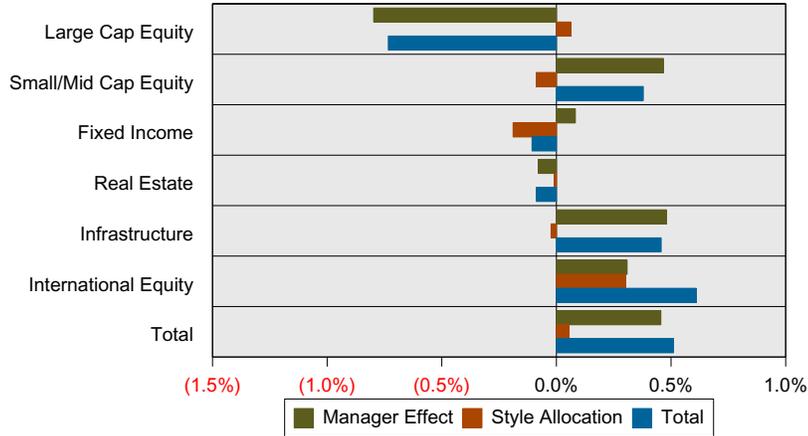
Style Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Style Allocation	Total Relative Return
Large Cap Equity	32%	29%	2.37%	2.46%	0.05%	0.09%	0.14%
Small/Mid Cap Equity	10%	9%	4.77%	3.57%	0.15%	0.05%	0.19%
Fixed Income	25%	27%	3.76%	2.21%	0.37%	0.01%	0.38%
Real Estate	9%	9%	1.82%	2.13%	(0.03%)	(0.00%)	(0.03%)
Infrastructure	6%	5%	3.26%	2.28%	0.06%	0.01%	0.08%
International Equity	18%	22%	1.83%	(0.70%)	0.50%	0.12%	0.62%
Total			2.84%	1.46%	+ 1.10%	+ 0.28%	1.38%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

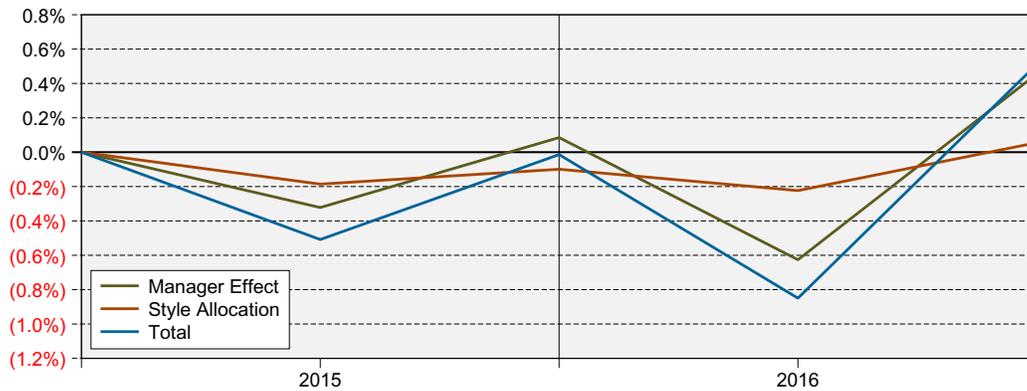
Cumulative Style Relative Attribution - June 30, 2016

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

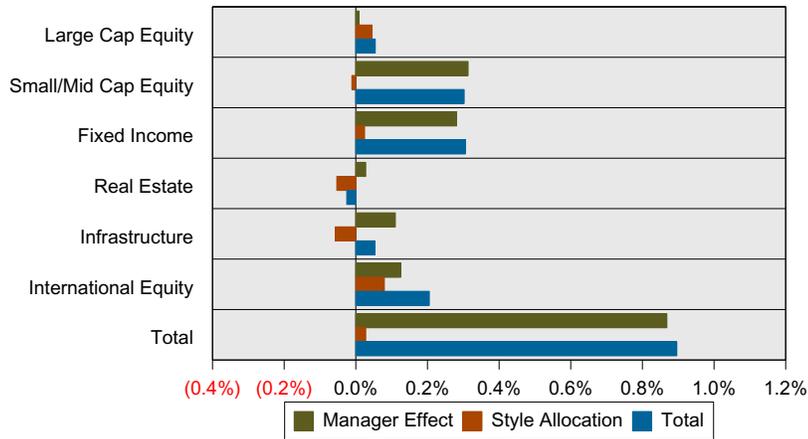
Style Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Style Allocation	Total Relative Return
Large Cap Equity	37%	34%	1.60%	3.99%	(0.80%)	0.06%	(0.73%)
Small/Mid Cap Equity	11%	10%	0.17%	(3.67%)	0.47%	(0.09%)	0.38%
Fixed Income	24%	26%	6.39%	6.00%	0.08%	(0.19%)	(0.11%)
Real Estate	9%	8%	10.80%	11.82%	(0.08%)	(0.01%)	(0.09%)
Infrastructure	6%	5%	12.61%	4.65%	0.48%	(0.02%)	0.46%
International Equity	14%	17%	(9.40%)	(10.30%)	0.31%	0.30%	0.61%
Total			2.33%	1.82%	+ 0.46%	+ 0.06%	0.51%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

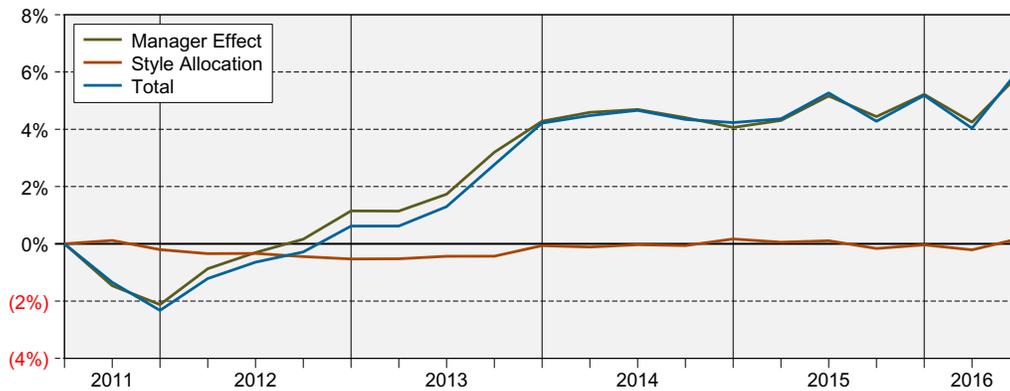
Cumulative Style Relative Attribution - June 30, 2016

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

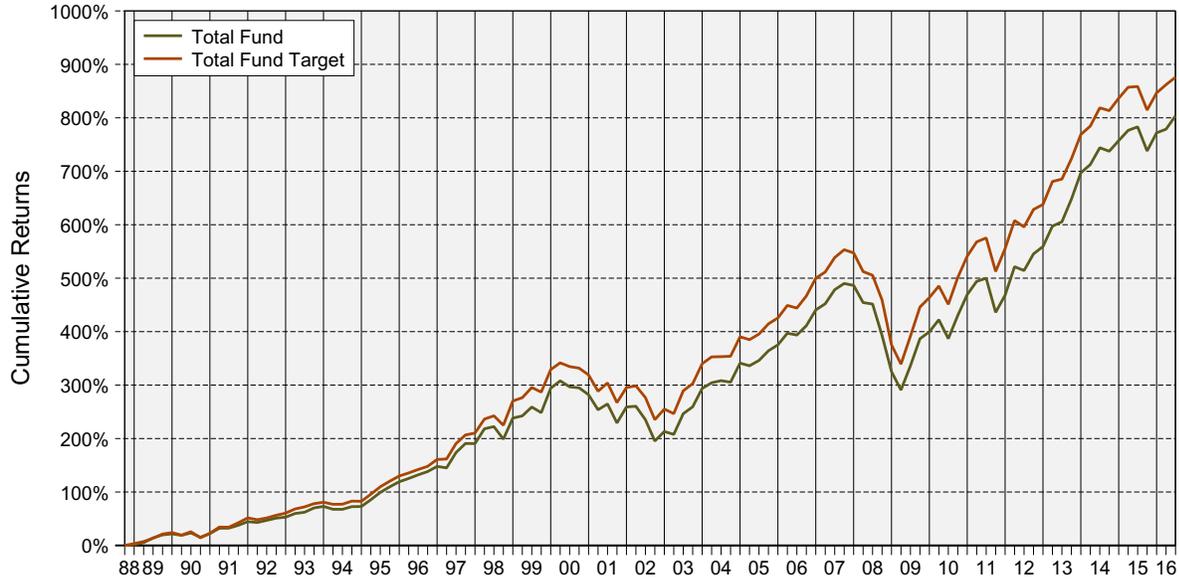
Style Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Style Allocation	Total Relative Return
Large Cap Equity	37%	36%	12.05%	12.10%	0.01%	0.05%	0.05%
Small/Mid Cap Equity	11%	10%	12.39%	9.48%	0.31%	(0.01%)	0.30%
Fixed Income	24%	26%	4.95%	3.81%	0.28%	0.02%	0.31%
Real Estate	8%	8%	13.11%	12.72%	0.03%	(0.05%)	(0.03%)
Infrastructure	6%	5%	6.81%	5.13%	0.11%	(0.06%)	0.05%
International Equity	14%	15%	0.73%	0.09%	0.13%	0.08%	0.21%
Total			8.54%	7.64%	+ 0.87%	+ 0.03%	0.90%

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

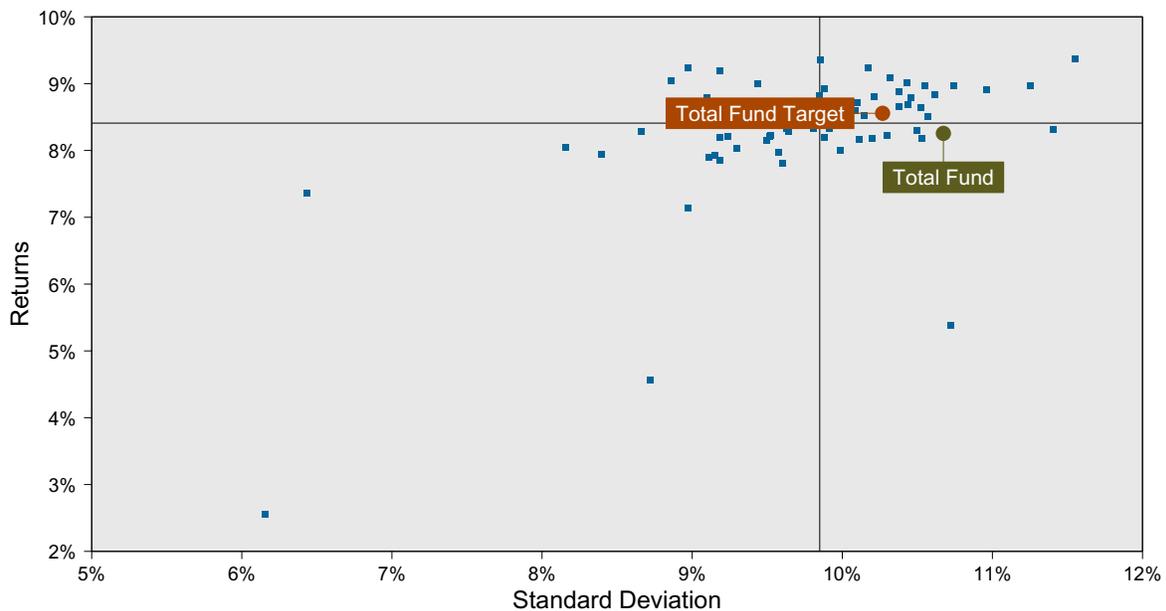
Cumulative Performance Relative to Target

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the CAI Public Fund Sponsor Database.

Cumulative Returns Actual vs Target



Twenty-Seven and Three-Quarter Year Annualized Risk vs Return



Squares represent membership of the CAI Public Fund Sponsor Database

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

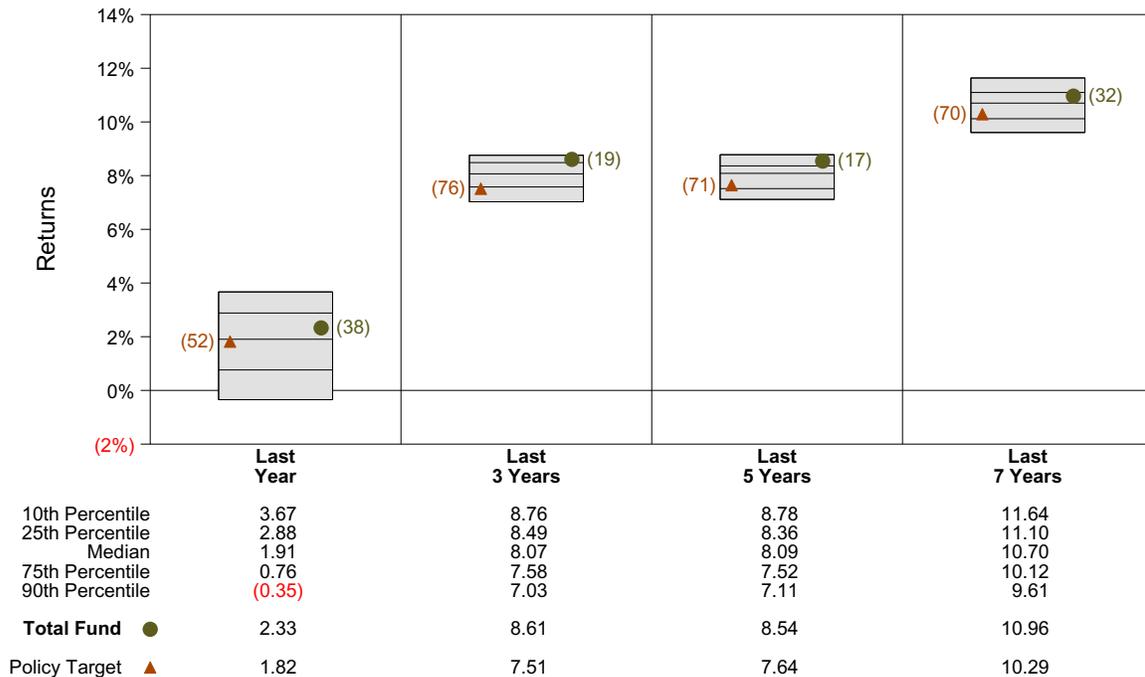
Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the CAI Public Fund Sponsor Database for periods ended June 30, 2016. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.

CAI Public Fund Sponsor Database



Asset Allocation Adjusted Ranking



* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

Total Fund Period Ended June 30, 2016

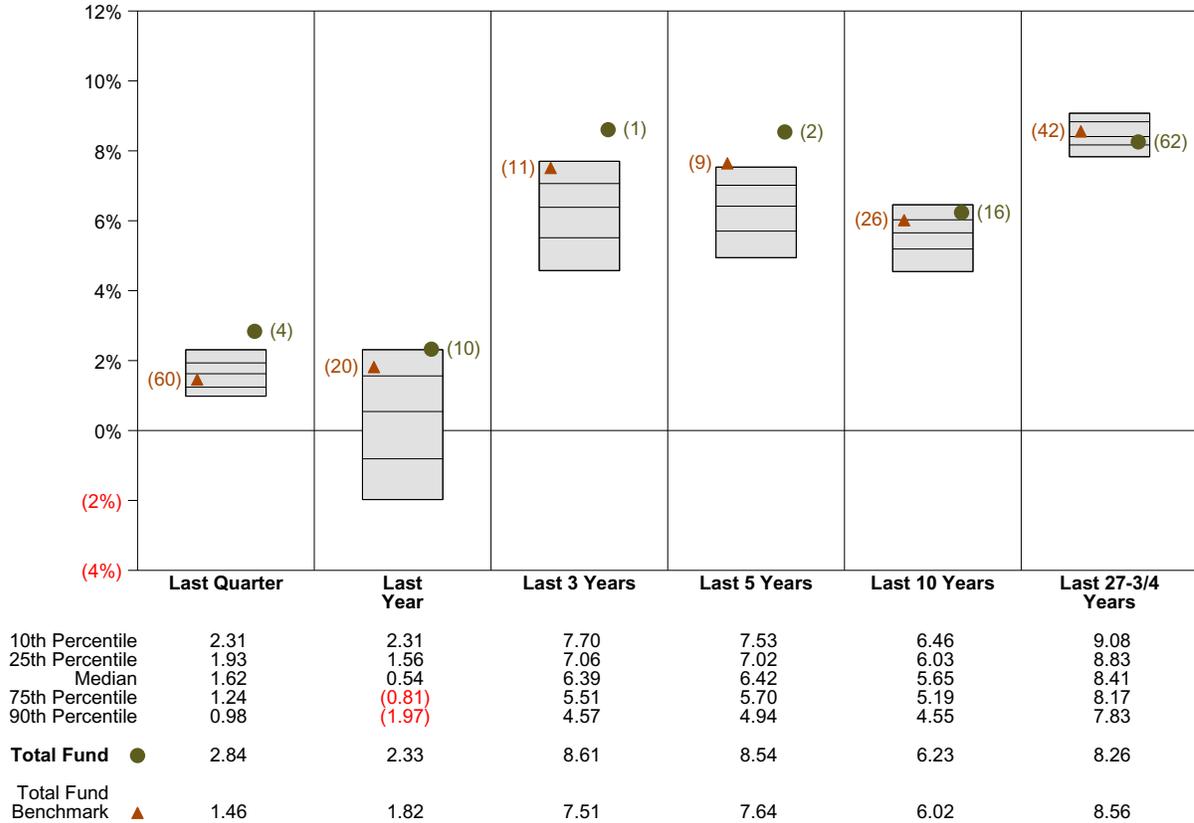
Investment Philosophy

The total fund return stream starts the third quarter of 1988.

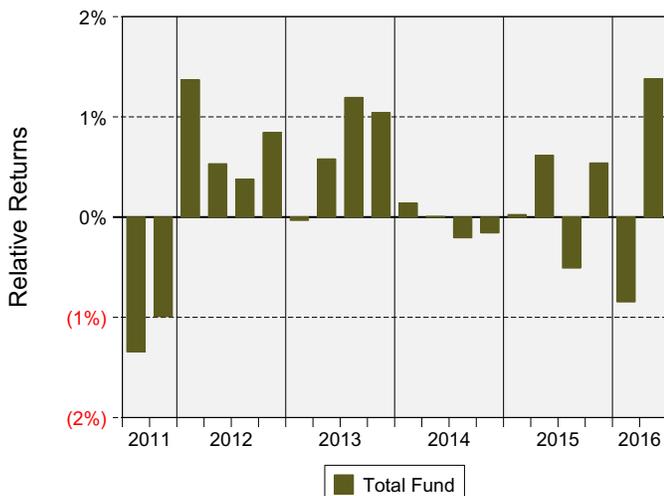
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 2.84% return for the quarter placing it in the 4 percentile of the CAI Public Fund Sponsor Database group for the quarter and in the 10 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Benchmark by 1.38% for the quarter and outperformed the Total Fund Benchmark for the year by 0.51%.

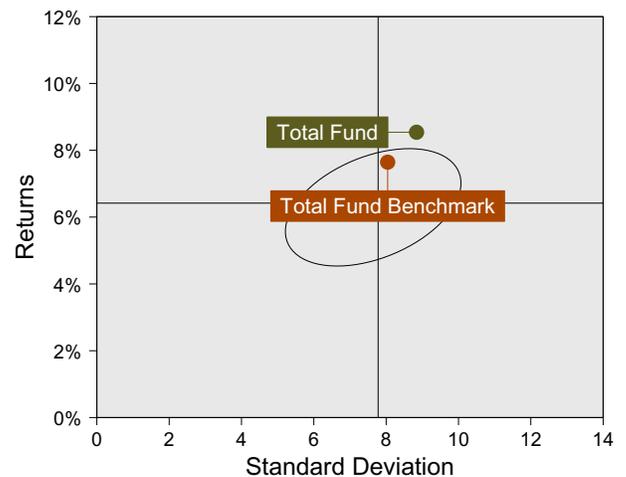
Performance vs CAI Public Fund Sponsor Database (Gross)



Relative Return vs Total Fund Benchmark



CAI Public Fund Sponsor Database (Gross) Annualized Five Year Risk vs Return



Domestic Equity

Period Ended June 30, 2016

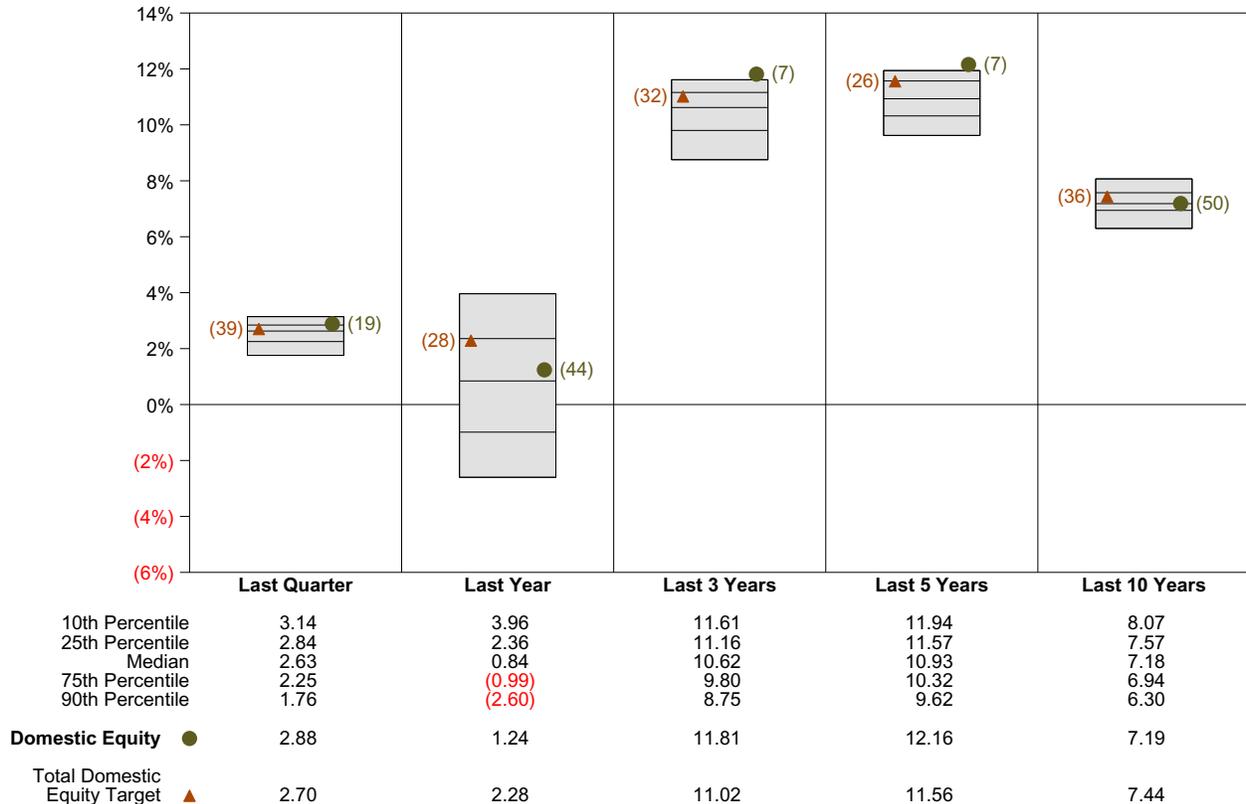
Investment Philosophy

The Total Domestic Equity target is currently composed of 78% S&P 500 Index and 22% Russell 2500 Index.

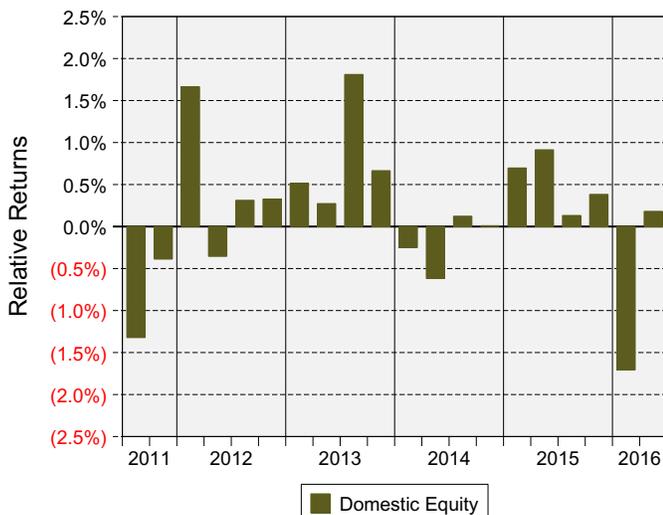
Quarterly Summary and Highlights

- Domestic Equity's portfolio posted a 2.88% return for the quarter placing it in the 19 percentile of the Pub Pln- Domestic Equity group for the quarter and in the 44 percentile for the last year.
- Domestic Equity's portfolio outperformed the Total Domestic Equity Target by 0.18% for the quarter and underperformed the Total Domestic Equity Target for the year by 1.04%.

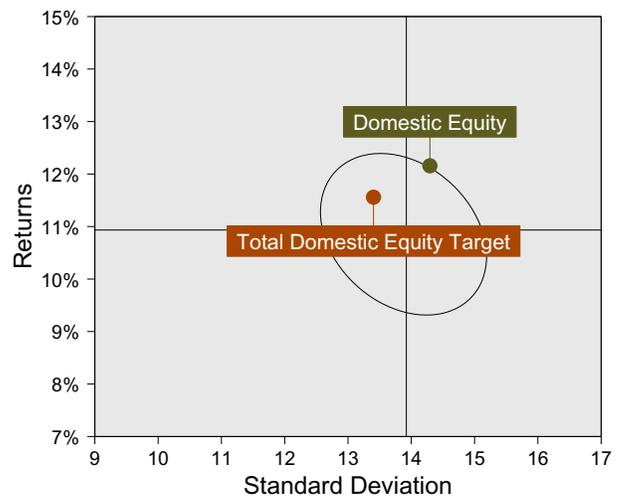
Performance vs Pub Pln- Domestic Equity (Gross)



Relative Returns vs Total Domestic Equity Target



Pub Pln- Domestic Equity (Gross) Annualized Five Year Risk vs Return

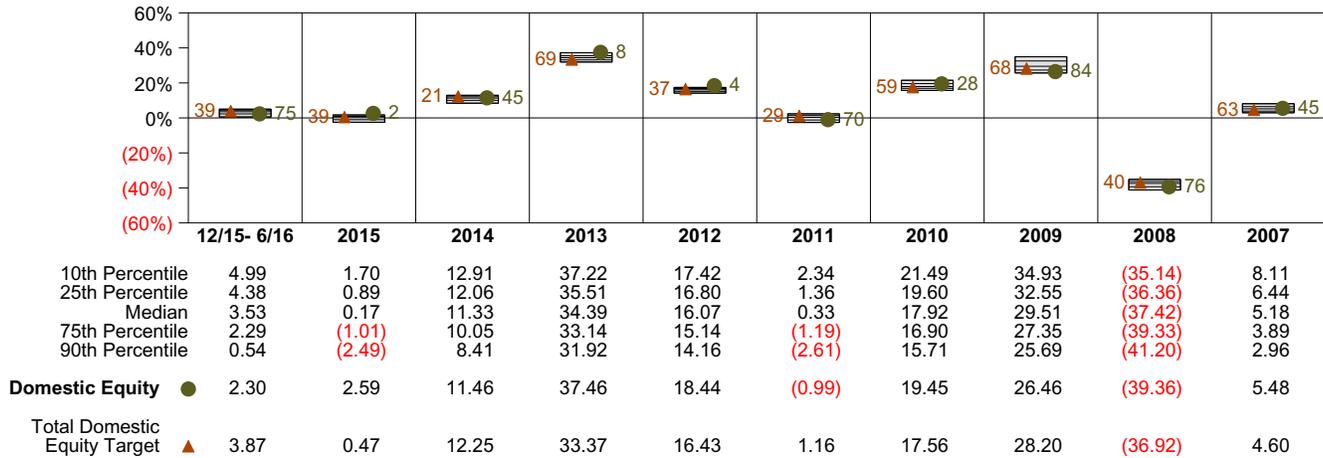


Domestic Equity Return Analysis Summary

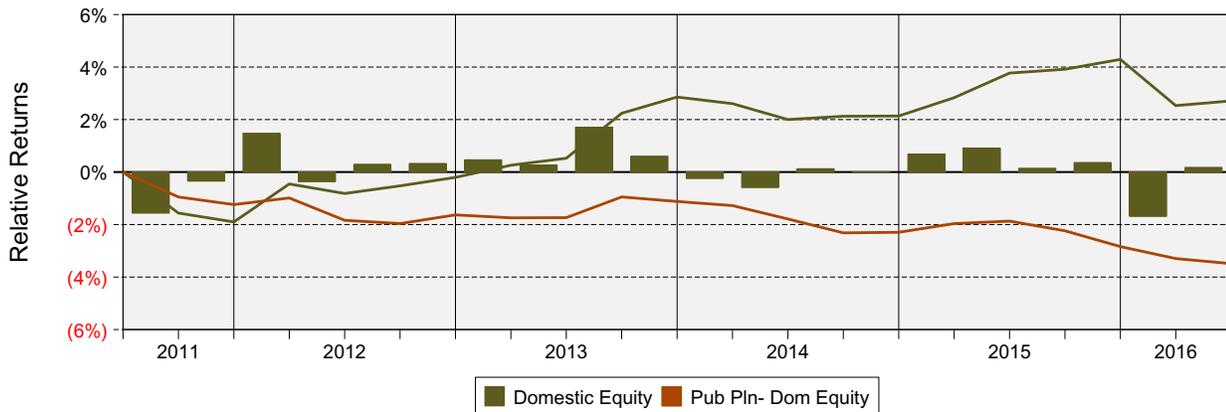
Return Analysis

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

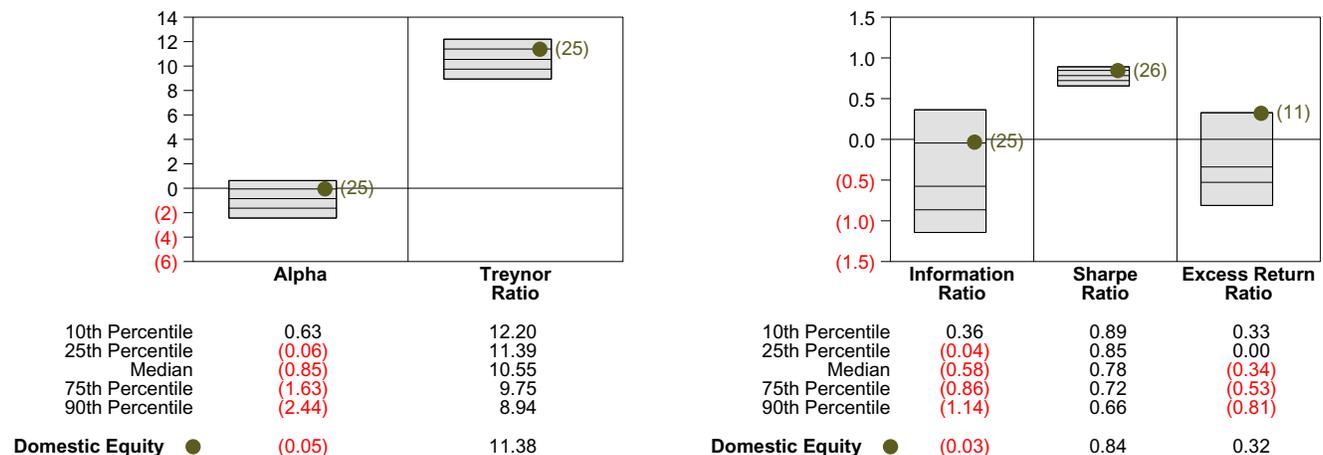
Performance vs Pub Pln- Domestic Equity (Gross)



Cumulative and Quarterly Relative Return vs Total Domestic Equity Target



Risk Adjusted Return Measures vs Total Domestic Equity Target Rankings Against Pub Pln- Domestic Equity (Gross) Five Years Ended June 30, 2016



Alliance S&P Index Period Ended June 30, 2016

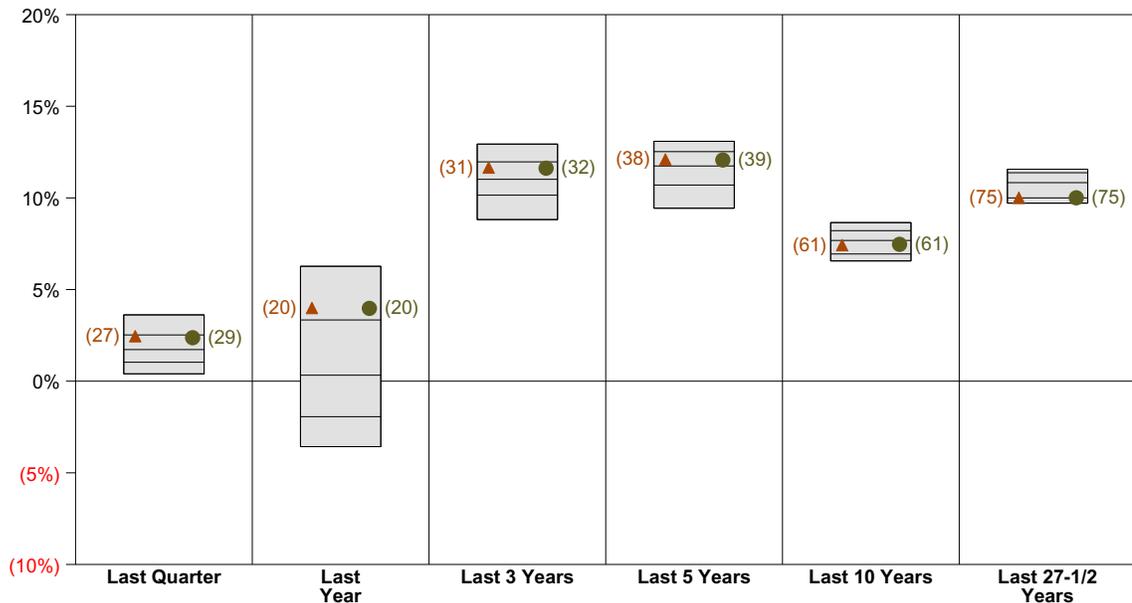
Investment Philosophy

Alliance uses a stratified sampling methodology and purchases a majority of the index stocks to replicate the Standard and Poor's 500. The product was funded during the third quarter of 1988.

Quarterly Summary and Highlights

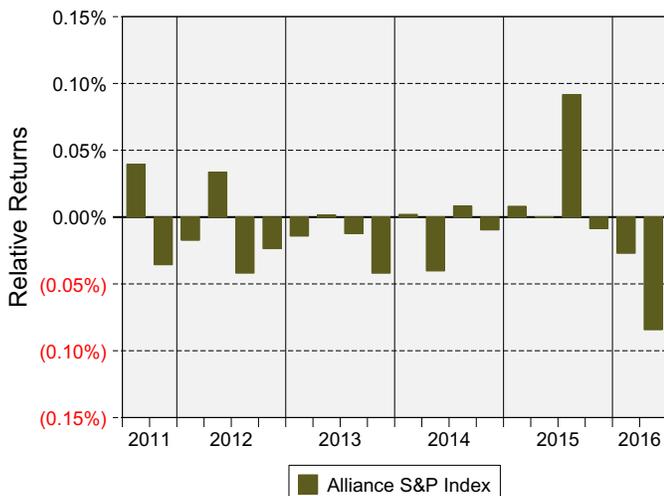
- Alliance S&P Index's portfolio posted a 2.37% return for the quarter placing it in the 29 percentile of the CAI Large Cap Core group for the quarter and in the 20 percentile for the last year.
- Alliance S&P Index's portfolio underperformed the S&P 500 Index by 0.08% for the quarter and underperformed the S&P 500 Index for the year by 0.02%.

Performance vs CAI Large Cap Core (Gross)

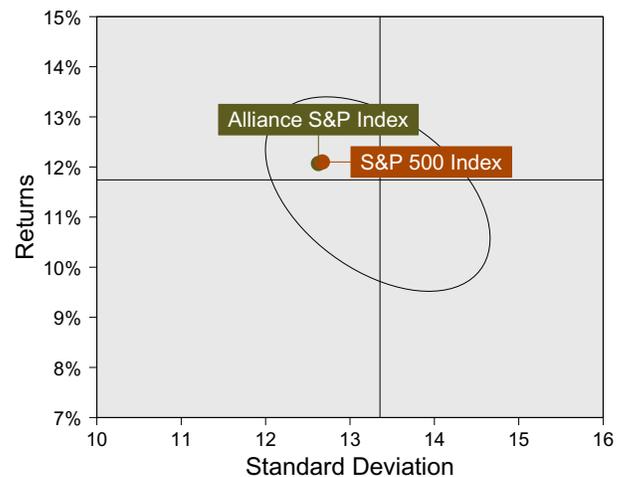


10th Percentile	3.62	6.27	12.94	13.09	8.65	11.56
25th Percentile	2.52	3.34	11.97	12.52	8.21	11.37
Median	1.73	0.33	11.02	11.74	7.68	10.83
75th Percentile	1.03	(1.94)	10.15	10.70	6.94	10.00
90th Percentile	0.40	(3.57)	8.82	9.44	6.56	9.71
Alliance S&P Index	2.37	3.97	11.62	12.07	7.47	10.00
S&P 500 Index	2.46	3.99	11.66	12.10	7.42	10.01

Relative Return vs S&P 500 Index



CAI Large Cap Core (Gross) Annualized Five Year Risk vs Return

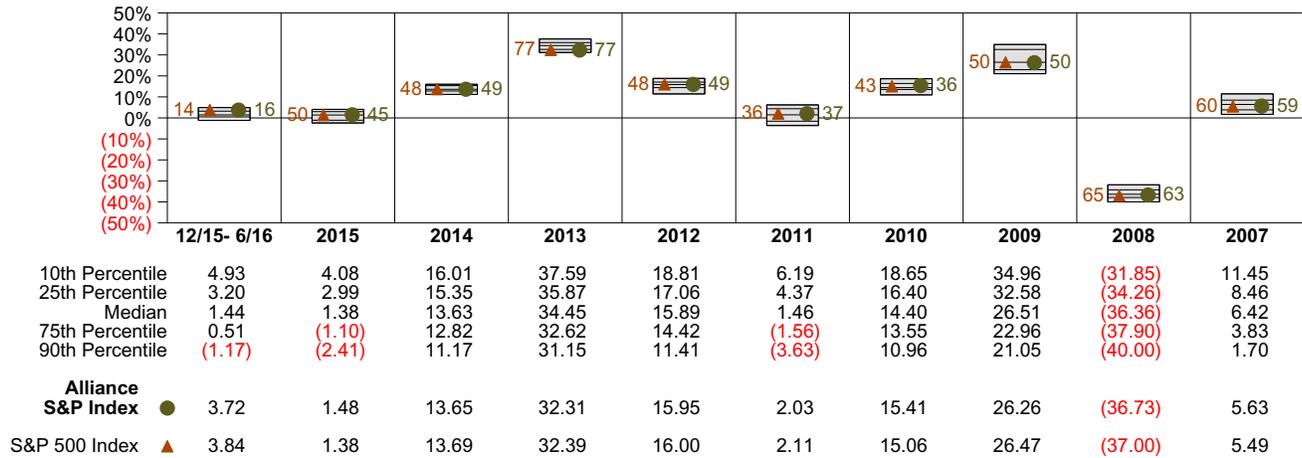


Alliance S&P Index Return Analysis Summary

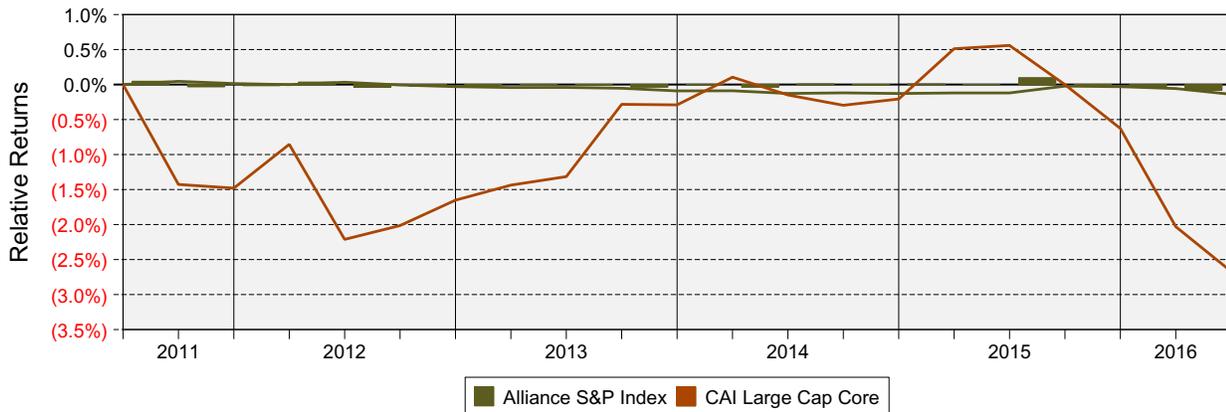
Return Analysis

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

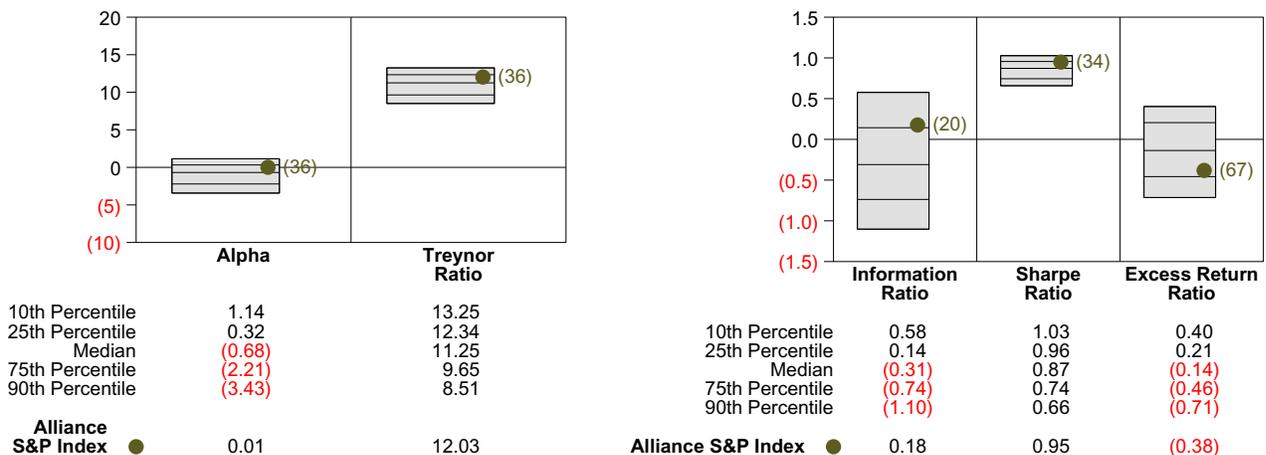
Performance vs CAI Large Cap Core (Gross)



Cumulative and Quarterly Relative Return vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index Rankings Against CAI Large Cap Core (Gross) Five Years Ended June 30, 2016



PIMCO StocksPLUS Period Ended June 30, 2016

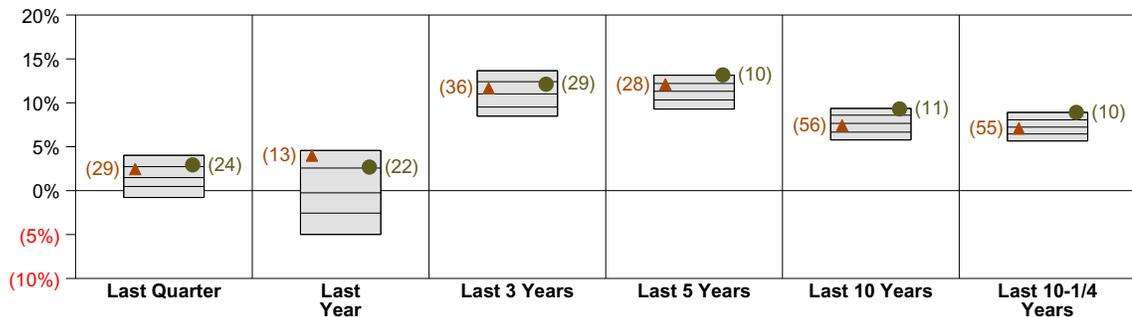
Investment Philosophy

PIMCO's StocksPLUS investment philosophy is based on the principal that stock index futures and swaps, when used as a non-leveraged vehicle for obtaining long-term equity exposure, offer an attractive means for enhancing equity market returns. The strategy seeks a longer time horizon of their investors relative to that of typical money market investors. This long time horizon allows PIMCO to use their fixed income and associated risk management skill set to seek out attractive yields relative to money market financing rates on a portion of the high quality fixed-income securities they use to back the futures contracts. Since they only require sufficient liquidity to meet a worst case margin outflow caused by a stock market decline, a portion of their fixed-income portfolio can be invested in somewhat less liquid, higher yielding securities. In addition, they generally take advantage of the typical upward slope of the short end of the yield curve by extending their duration to six months in most market environments and sometimes up to one year. PIMCO also feels that it is appropriate in most market environments to capture both the credit yield premium provided by holding a portion of the fixed-income portfolio in low duration corporate securities and the volatility yield premium provided by holding high quality mortgage securities. The product was funded during the first quarter of 2006.

Quarterly Summary and Highlights

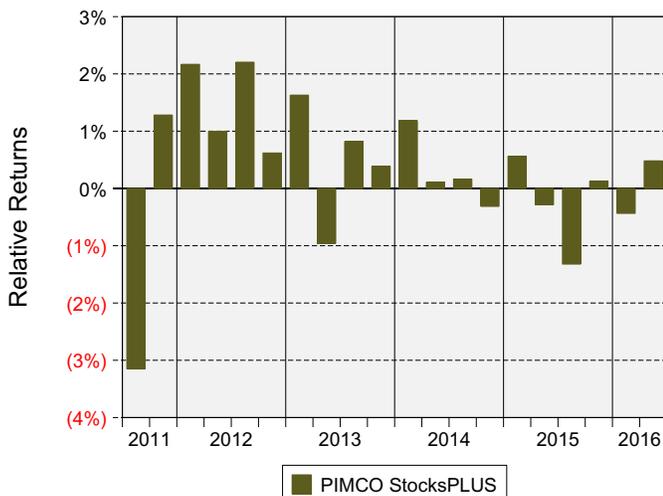
- PIMCO StocksPLUS's portfolio posted a 2.94% return for the quarter placing it in the 24 percentile of the CAI Large Capitalization group for the quarter and in the 22 percentile for the last year.
- PIMCO StocksPLUS's portfolio outperformed the S&P 500 Index by 0.48% for the quarter and underperformed the S&P 500 Index for the year by 1.31%.

Performance vs CAI Large Capitalization (Gross)

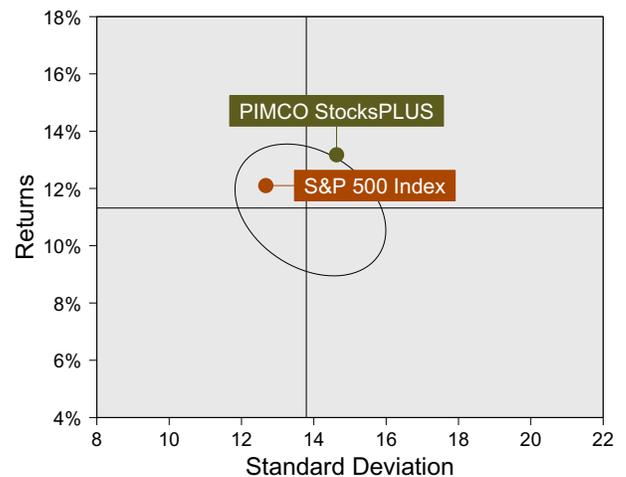


10th Percentile	4.02	4.57	13.66	13.14	9.36	8.91
25th Percentile	2.73	2.57	12.41	12.20	8.59	8.06
Median	1.49	(0.25)	11.02	11.32	7.66	7.23
75th Percentile	0.47	(2.56)	9.52	10.33	6.66	6.46
90th Percentile	(0.78)	(4.99)	8.48	9.29	5.78	5.66
PIMCO StocksPLUS ●	2.94	2.68	12.12	13.18	9.31	8.91
S&P 500 Index ▲	2.46	3.99	11.66	12.10	7.42	7.08

Relative Return vs S&P 500 Index



CAI Large Capitalization (Gross) Annualized Five Year Risk vs Return

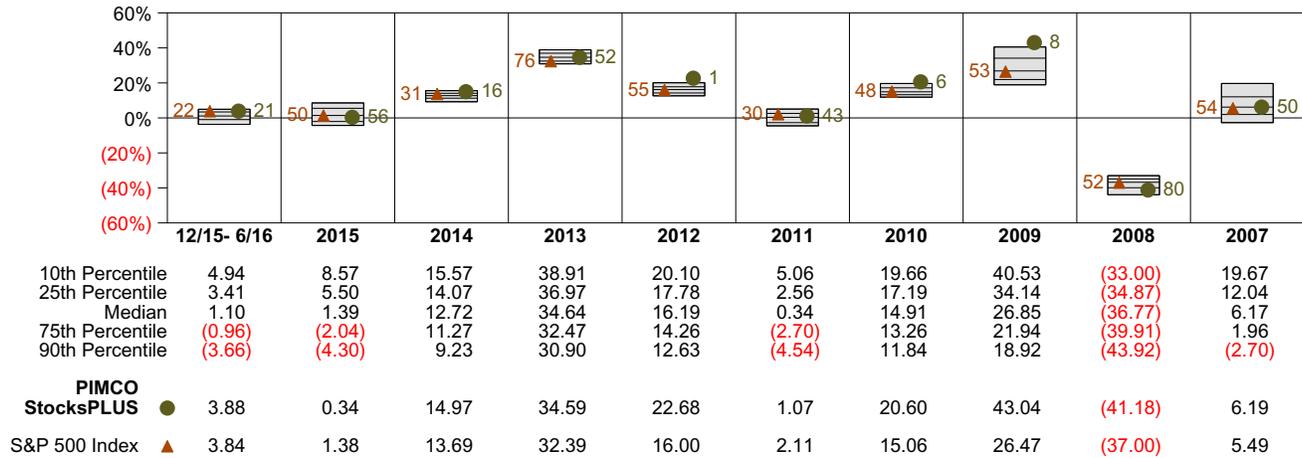


PIMCO StocksPLUS Return Analysis Summary

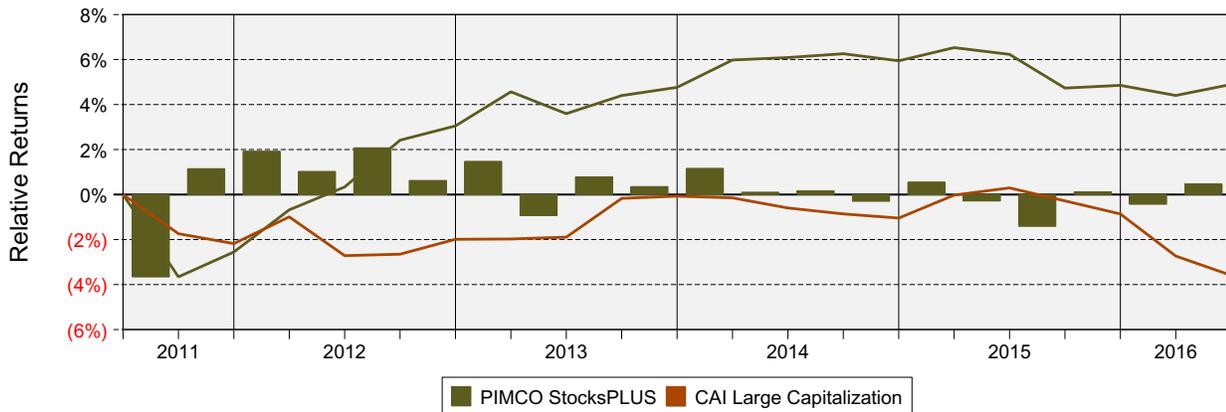
Return Analysis

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

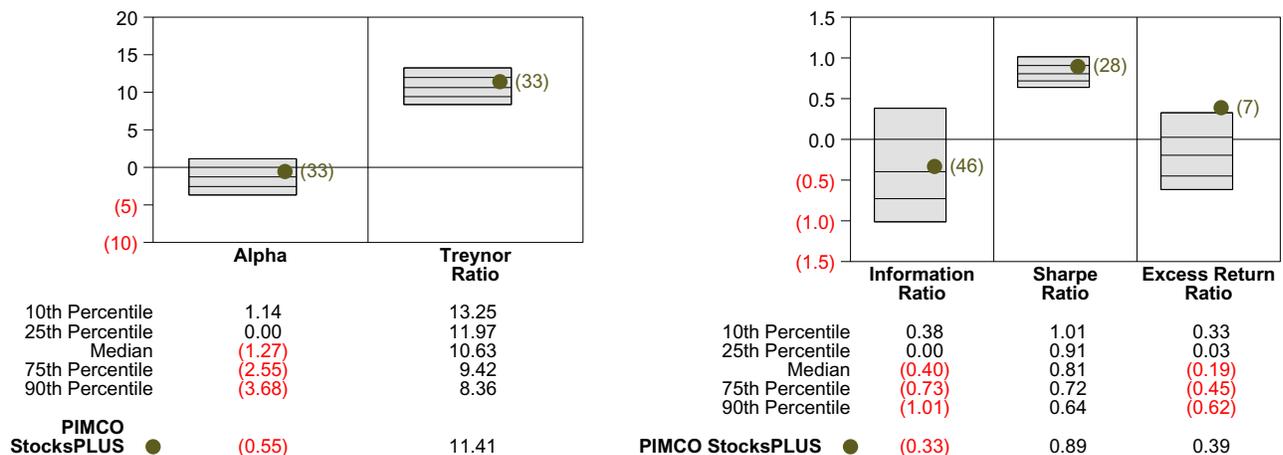
Performance vs CAI Large Capitalization (Gross)



Cumulative and Quarterly Relative Return vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index Rankings Against CAI Large Capitalization (Gross) Five Years Ended June 30, 2016



BlackRock Russell 1000 Value Period Ended June 30, 2016

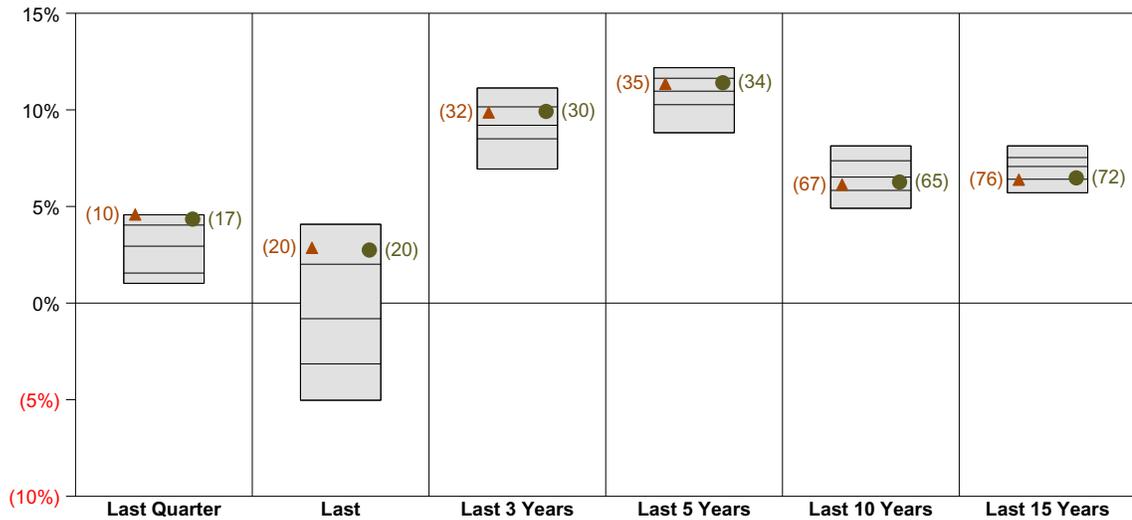
Investment Philosophy

The objective of the Russell 1000 Value Index Fund is to track the performance of its benchmark, the Russell 1000 Value Index. They seek to deliver a high quality and cost-effective index-based solution to institutional investors. The product was funded during the second quarter of 2001.

Quarterly Summary and Highlights

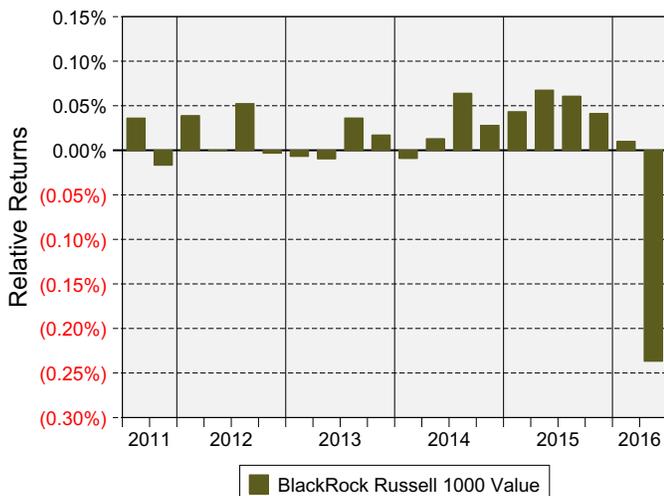
- BlackRock Russell 1000 Value's portfolio posted a 4.35% return for the quarter placing it in the 17 percentile of the CAI Large Cap Value group for the quarter and in the 20 percentile for the last year.
- BlackRock Russell 1000 Value's portfolio underperformed the Russell 1000 Value Index by 0.24% for the quarter and underperformed the Russell 1000 Value Index for the year by 0.11%.

Performance vs CAI Large Cap Value (Gross)

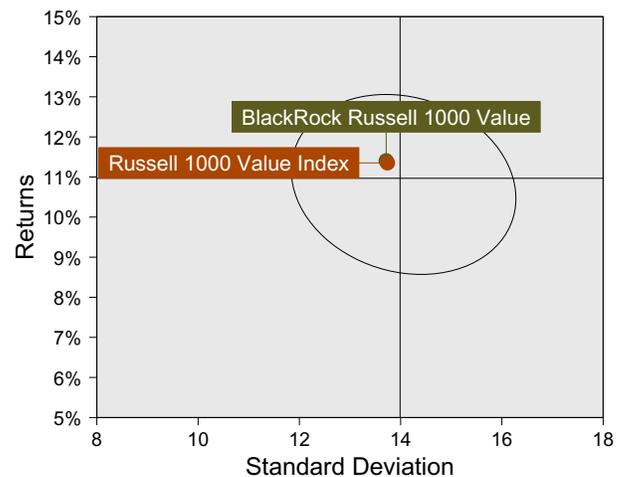


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
10th Percentile	4.57	4.08	11.13	12.18	8.13	8.14
25th Percentile	4.04	2.01	10.16	11.64	7.37	7.53
Median	2.94	(0.81)	9.20	10.97	6.52	7.07
75th Percentile	1.55	(3.15)	8.50	10.27	5.83	6.41
90th Percentile	1.02	(5.03)	6.94	8.82	4.90	5.71
BlackRock Russell 1000 Value	● 4.35	2.75	9.92	11.40	6.27	6.48
Russell 1000 Value Index	▲ 4.58	2.86	9.87	11.35	6.13	6.38

Relative Return vs Russell 1000 Value Index



CAI Large Cap Value (Gross) Annualized Five Year Risk vs Return

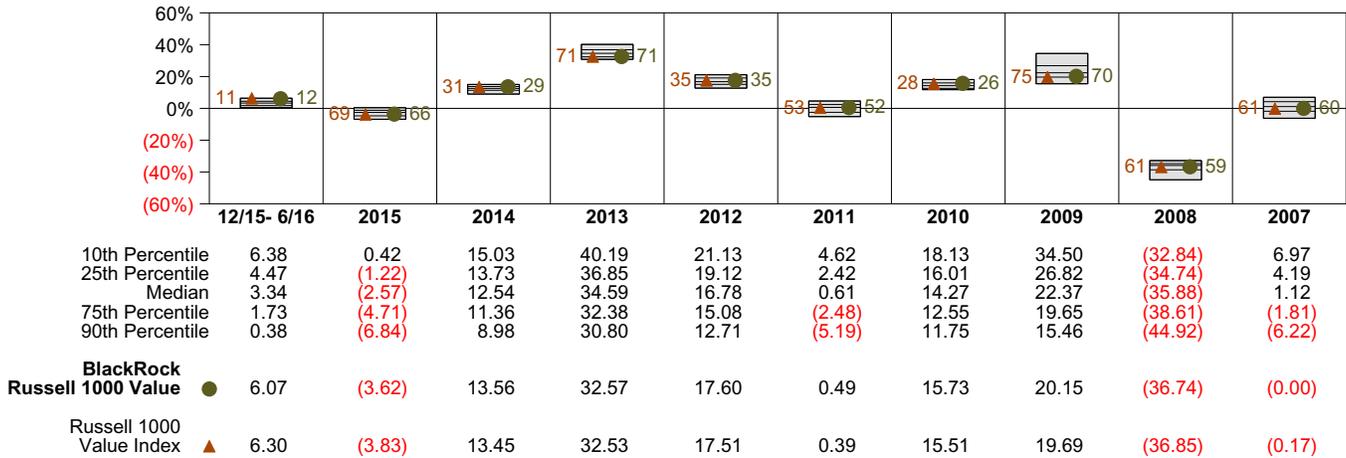


BlackRock Russell 1000 Value Return Analysis Summary

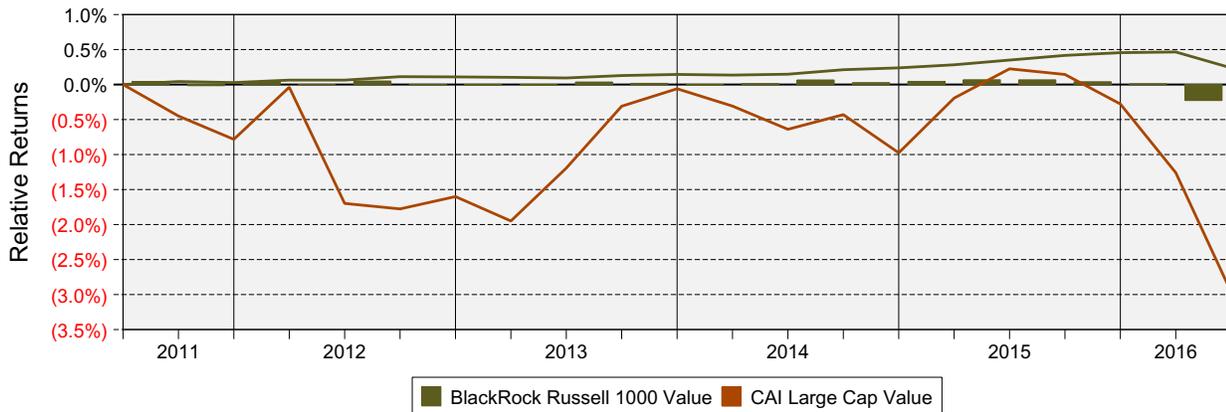
Return Analysis

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

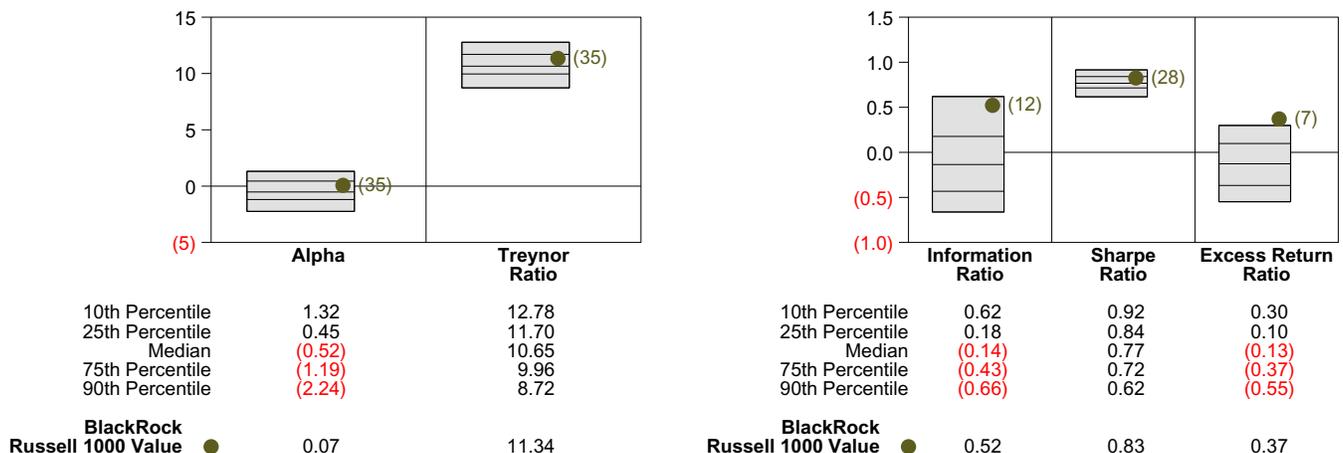
Performance vs CAI Large Cap Value (Gross)



Cumulative and Quarterly Relative Return vs Russell 1000 Value Index



Risk Adjusted Return Measures vs Russell 1000 Value Index Rankings Against CAI Large Cap Value (Gross) Five Years Ended June 30, 2016



T. Rowe Price Large Cap Growth Period Ended June 30, 2016

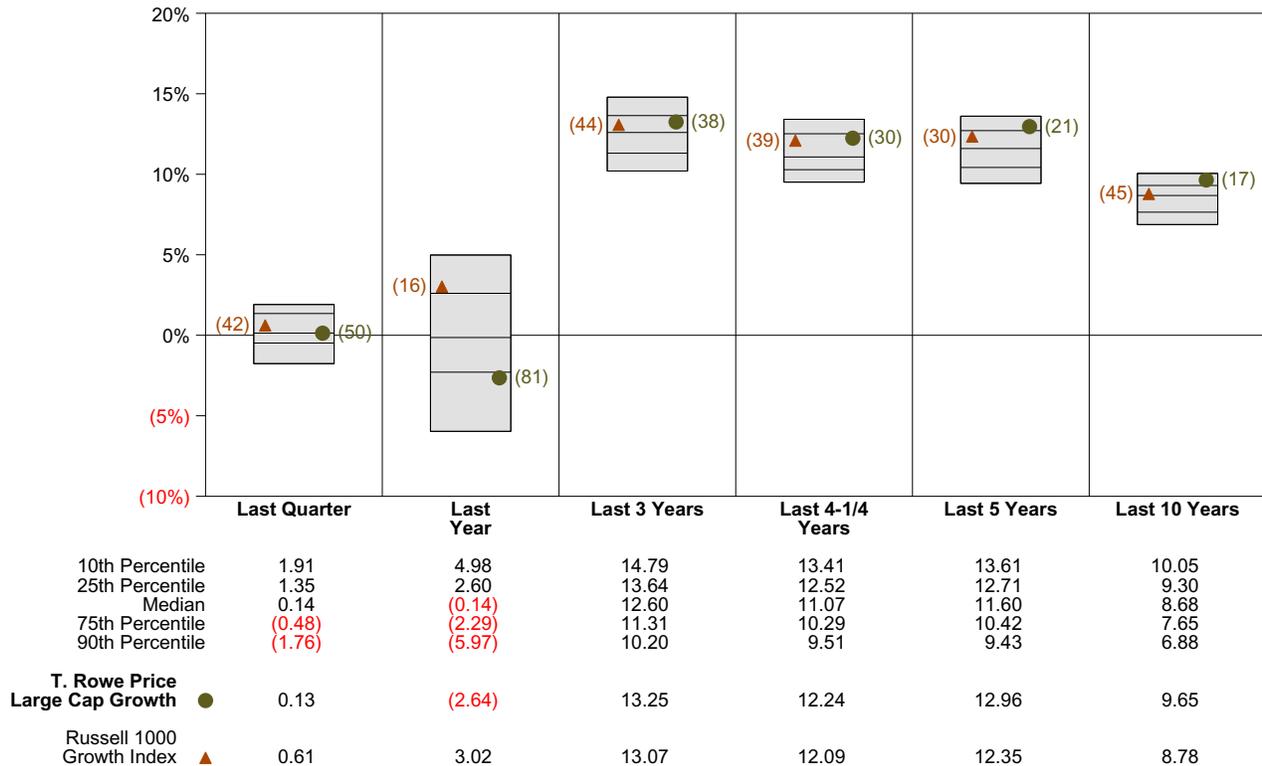
Investment Philosophy

The Large-Cap Growth Strategy is a fundamentally driven, active approach to large company growth investing. The investment philosophy is centered around the manager's belief that long-term growth in earnings and cash flow drive stockholder returns. The product was funded during the first quarter of 2012. Performance prior is that of the composite.

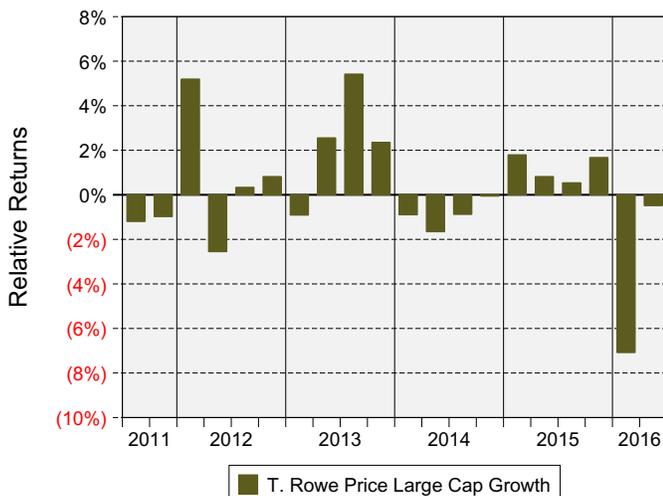
Quarterly Summary and Highlights

- T. Rowe Price Large Cap Growth's portfolio posted a 0.13% return for the quarter placing it in the 50 percentile of the CAI Large Cap Growth group for the quarter and in the 81 percentile for the last year.
- T. Rowe Price Large Cap Growth's portfolio underperformed the Russell 1000 Growth Index by 0.49% for the quarter and underperformed the Russell 1000 Growth Index for the year by 5.67%.

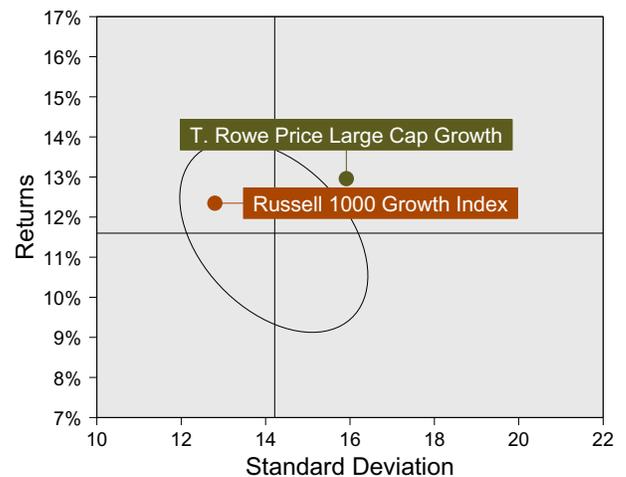
Performance vs CAI Large Cap Growth (Gross)



Relative Return vs Russell 1000 Growth Index



CAI Large Cap Growth (Gross) Annualized Five Year Risk vs Return

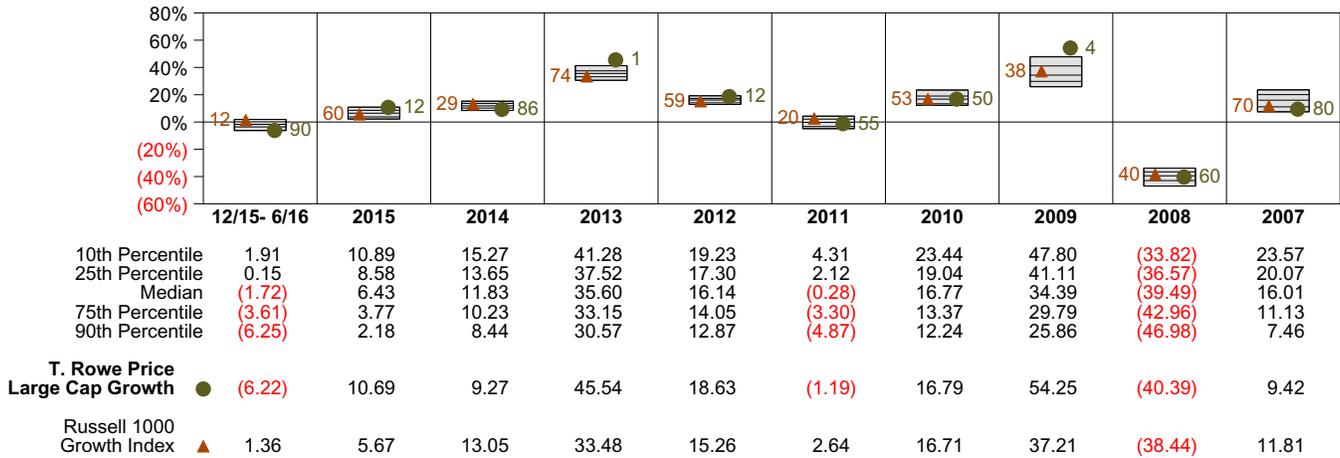


T. Rowe Price Large Cap Growth Return Analysis Summary

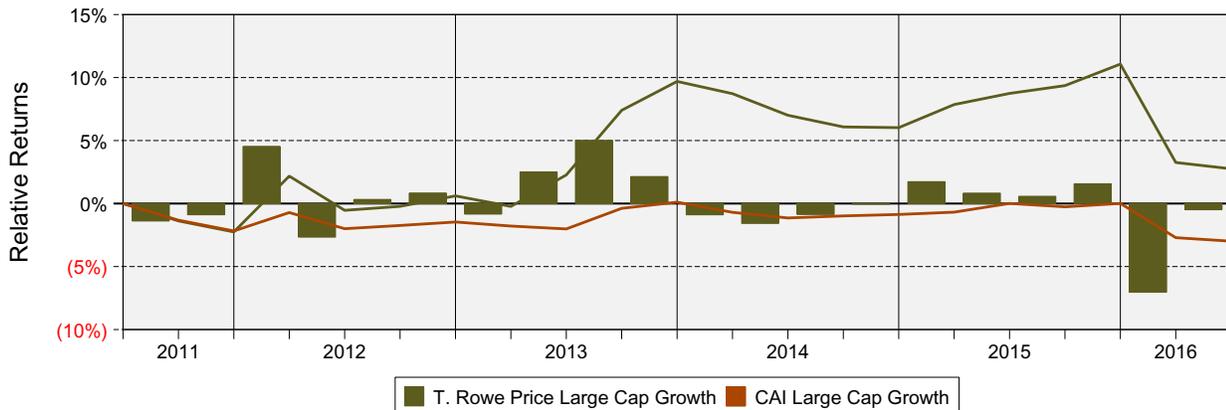
Return Analysis

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

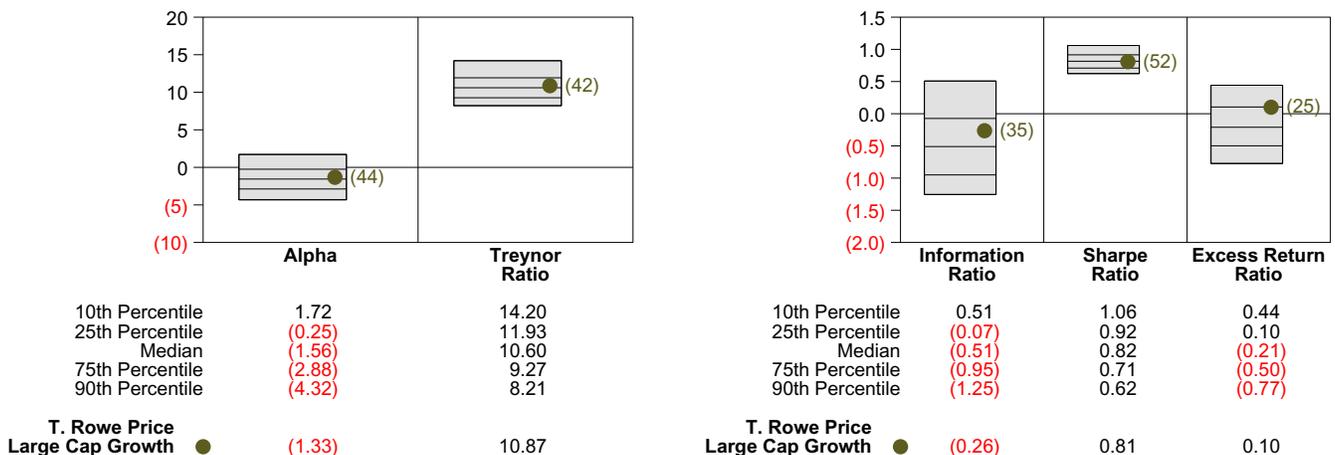
Performance vs CAI Large Cap Growth (Gross)



Cumulative and Quarterly Relative Return vs Russell 1000 Growth Index



Risk Adjusted Return Measures vs Russell 1000 Growth Index Rankings Against CAI Large Cap Growth (Gross) Five Years Ended June 30, 2016



Champlain Mid Cap Period Ended June 30, 2016

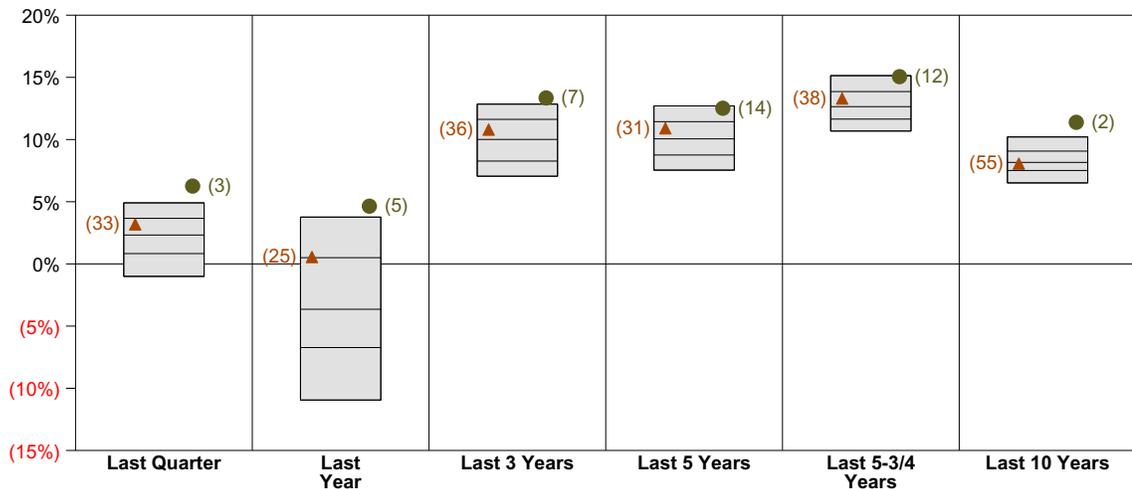
Investment Philosophy

Champlain Investment Partners believes buying the shares of superior businesses with credible and sincere managements at a discount to fair or intrinsic value gives investors several potential paths to wealth creation. First, the market may bid the shares to a premium over fair value. Second, management may grow the fair value over time at a faster rate than market appreciation. Third, the company may be bought by a larger company or private market investor. They are willing to sell over-priced stocks and harvest gains, reducing valuation risk. The product was funded during the third quarter of 2010. Performance prior is that of the composite.

Quarterly Summary and Highlights

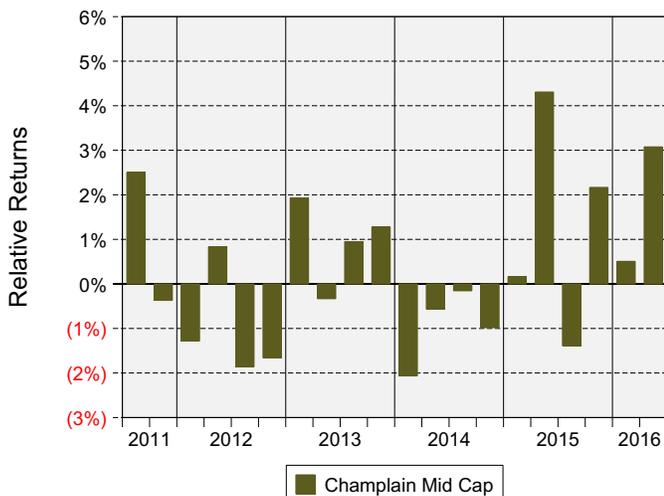
- Champlain Mid Cap's portfolio posted a 6.26% return for the quarter placing it in the 3 percentile of the CAI Mid Capitalization group for the quarter and in the 5 percentile for the last year.
- Champlain Mid Cap's portfolio outperformed the Russell MidCap Index by 3.07% for the quarter and outperformed the Russell MidCap Index for the year by 4.08%.

Performance vs CAI Mid Capitalization (Gross)

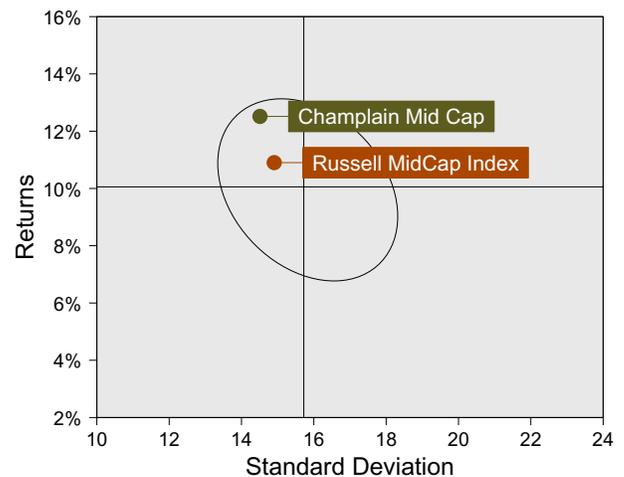


10th Percentile	4.91	3.76	12.85	12.70	15.14	10.21
25th Percentile	3.66	0.50	11.62	11.44	13.86	9.07
Median	2.32	(3.65)	10.01	10.06	12.64	8.16
75th Percentile	0.83	(6.73)	8.27	8.76	11.64	7.51
90th Percentile	(1.01)	(10.95)	7.05	7.54	10.68	6.51
Champlain Mid Cap ●	6.26	4.64	13.35	12.52	15.06	11.38
Russell MidCap Index ▲	3.18	0.56	10.80	10.90	13.30	8.07

Relative Return vs Russell MidCap Index



CAI Mid Capitalization (Gross) Annualized Five Year Risk vs Return

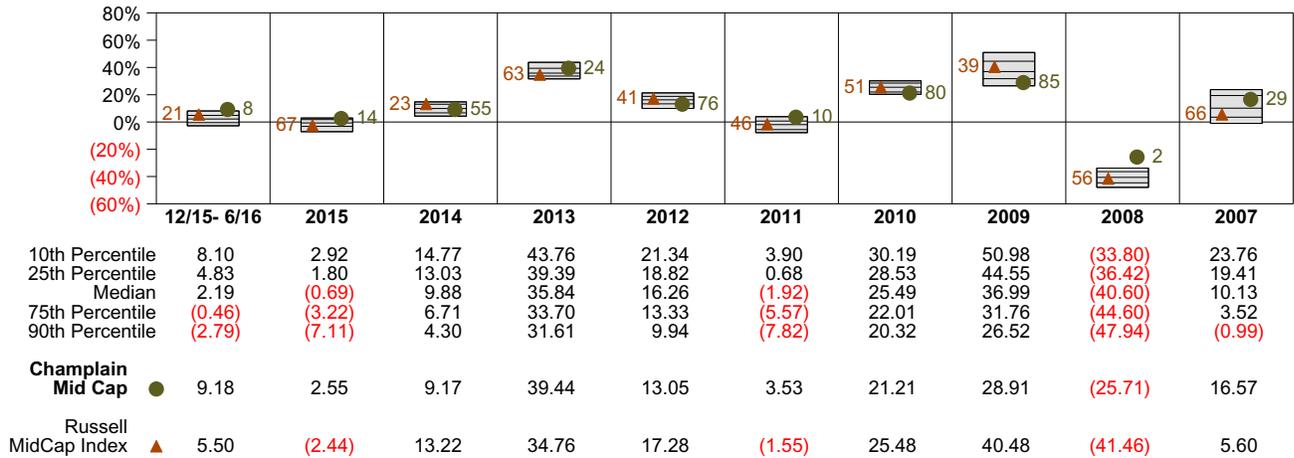


Champlain Mid Cap Return Analysis Summary

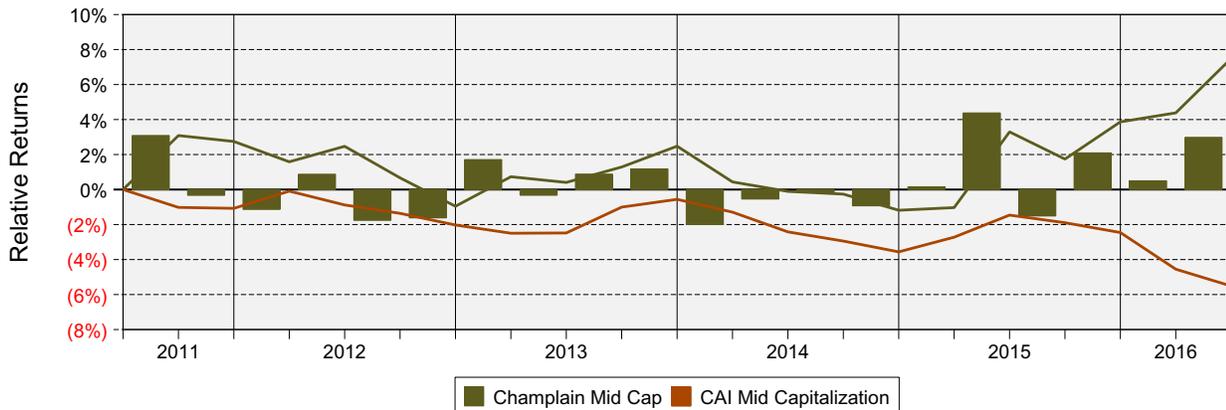
Return Analysis

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

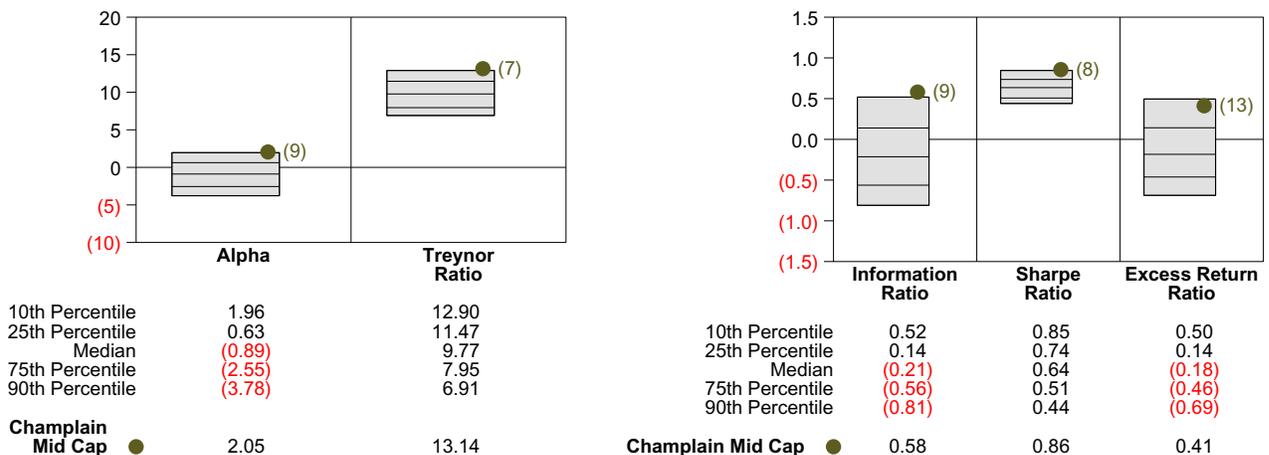
Performance vs CAI Mid Capitalization (Gross)



Cumulative and Quarterly Relative Return vs Russell MidCap Index



Risk Adjusted Return Measures vs Russell MidCap Index Rankings Against CAI Mid Capitalization (Gross) Five Years Ended June 30, 2016



Pyramis Small Cap Period Ended June 30, 2016

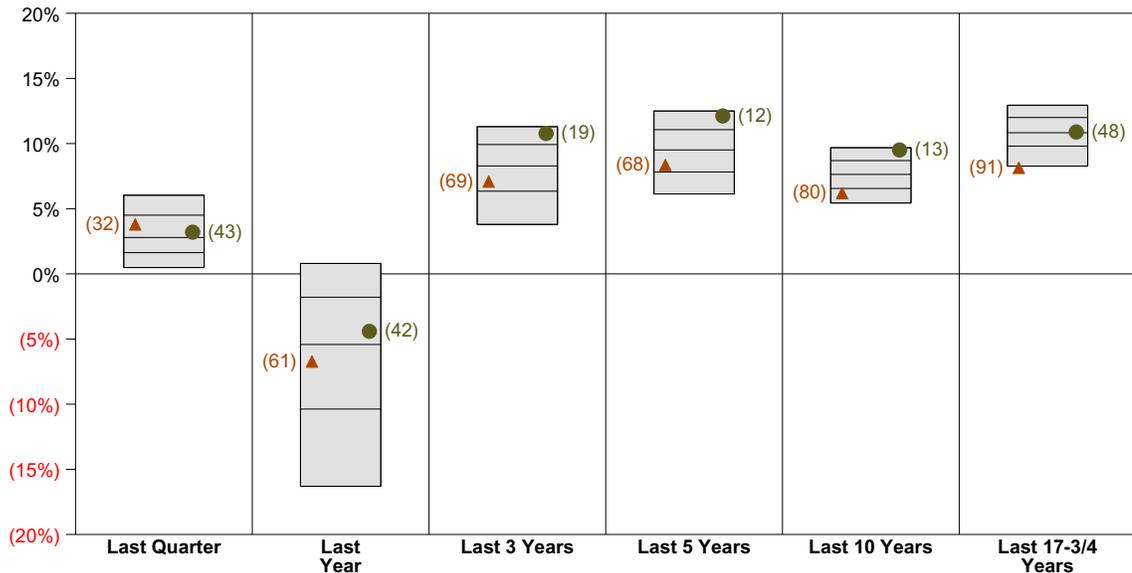
Investment Philosophy

FIAM believes that equity markets are semi-efficient and that pricing anomalies exist within the marketplace. The Small Cap Core strategy seeks to build a balanced portfolio where returns will be driven by stock selections and not by systemic biases or exposures to market factors. The product was funded during the third quarter of 1998.

Quarterly Summary and Highlights

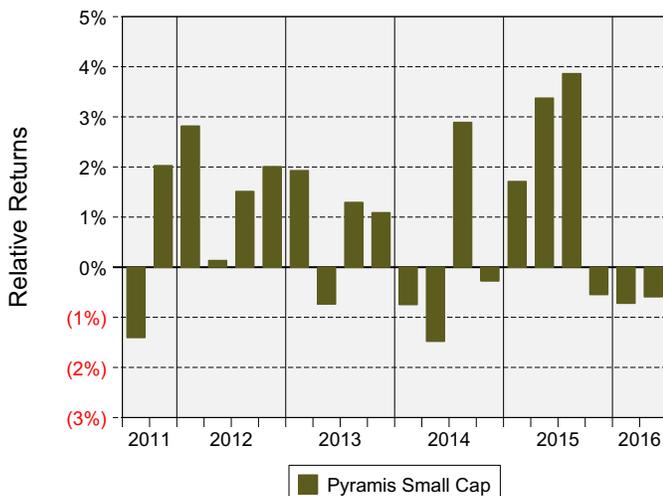
- Pyramis Small Cap's portfolio posted a 3.20% return for the quarter placing it in the 43 percentile of the CAI Small Capitalization group for the quarter and in the 42 percentile for the last year.
- Pyramis Small Cap's portfolio underperformed the Russell 2000 Index by 0.59% for the quarter and outperformed the Russell 2000 Index for the year by 2.32%.

Performance vs CAI Small Capitalization (Gross)

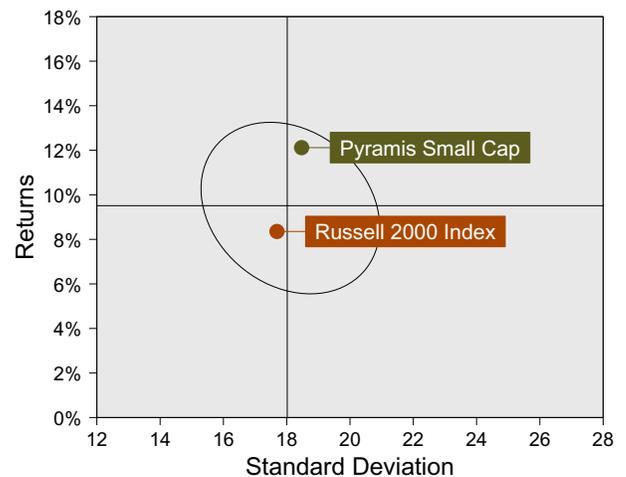


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 17-3/4 Years
10th Percentile	6.04	0.80	11.30	12.50	9.68	12.94
25th Percentile	4.51	(1.79)	9.92	11.07	8.69	12.00
Median	2.79	(5.42)	8.29	9.51	7.63	10.83
75th Percentile	1.63	(10.37)	6.35	7.82	6.56	9.80
90th Percentile	0.48	(16.30)	3.79	6.14	5.44	8.27
Pyramis Small Cap ●	3.20	(4.41)	10.78	12.12	9.51	10.89
Russell 2000 Index ▲	3.79	(6.73)	7.09	8.35	6.20	8.14

Relative Return vs Russell 2000 Index



CAI Small Capitalization (Gross) Annualized Five Year Risk vs Return

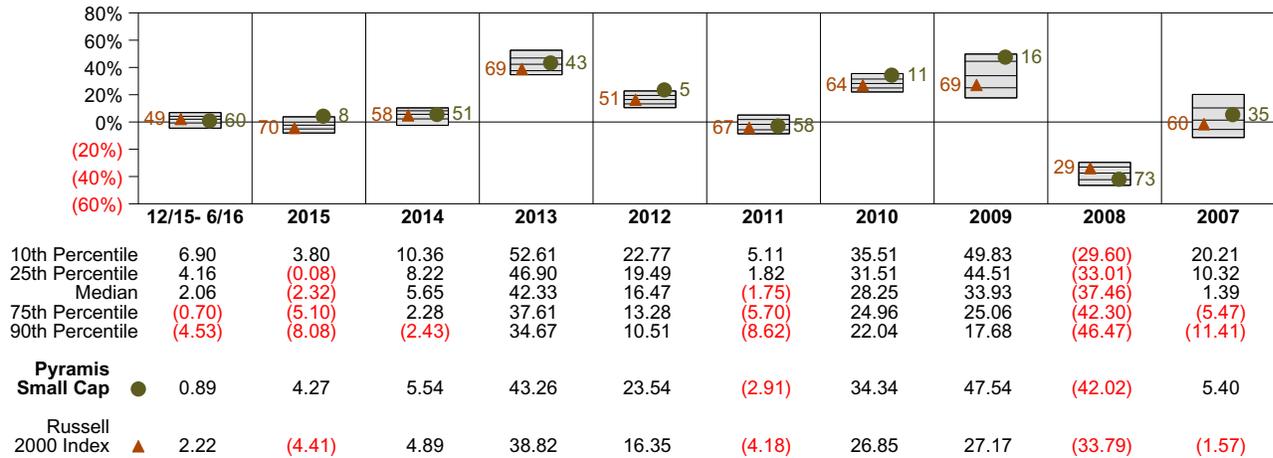


Pyramis Small Cap Return Analysis Summary

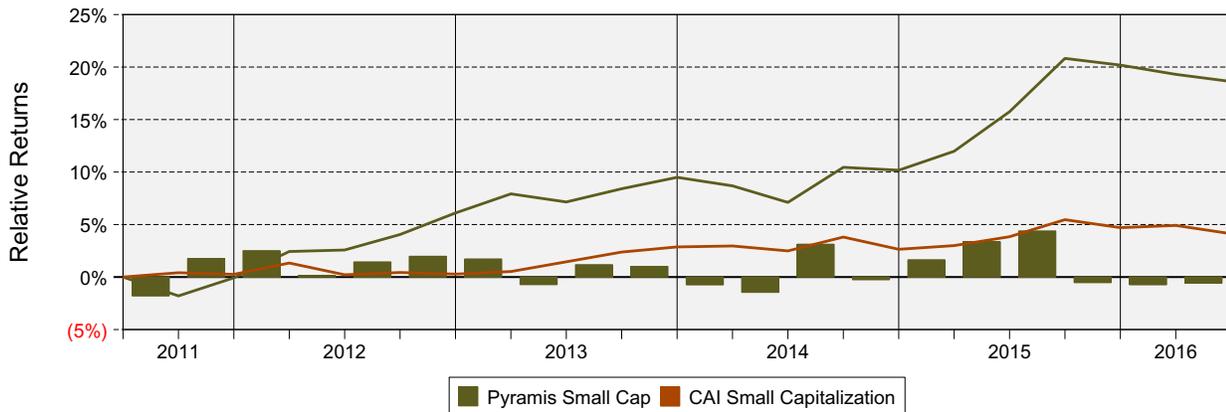
Return Analysis

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

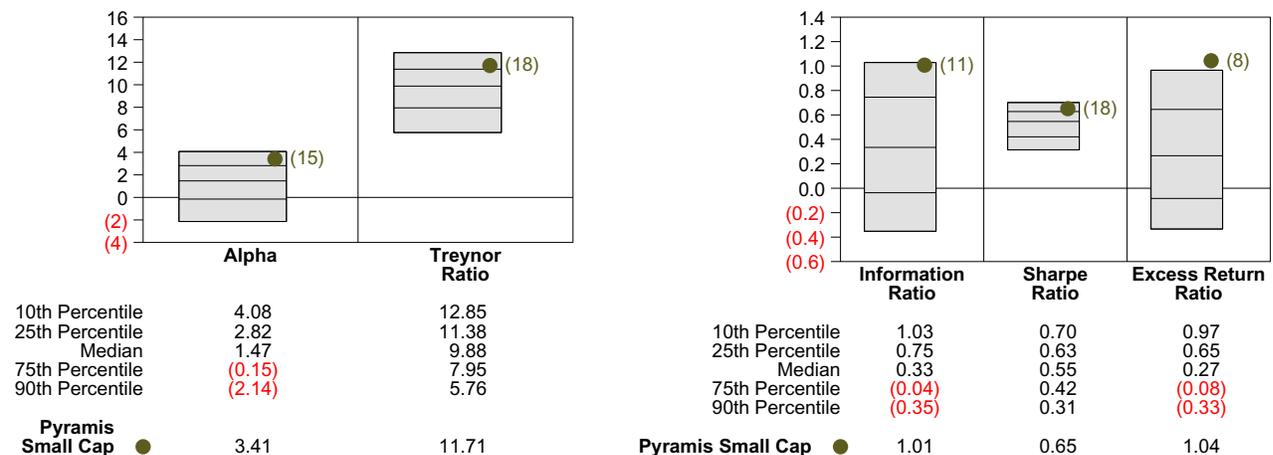
Performance vs CAI Small Capitalization (Gross)



Cumulative and Quarterly Relative Return vs Russell 2000 Index



Risk Adjusted Return Measures vs Russell 2000 Index Rankings Against CAI Small Capitalization (Gross) Five Years Ended June 30, 2016

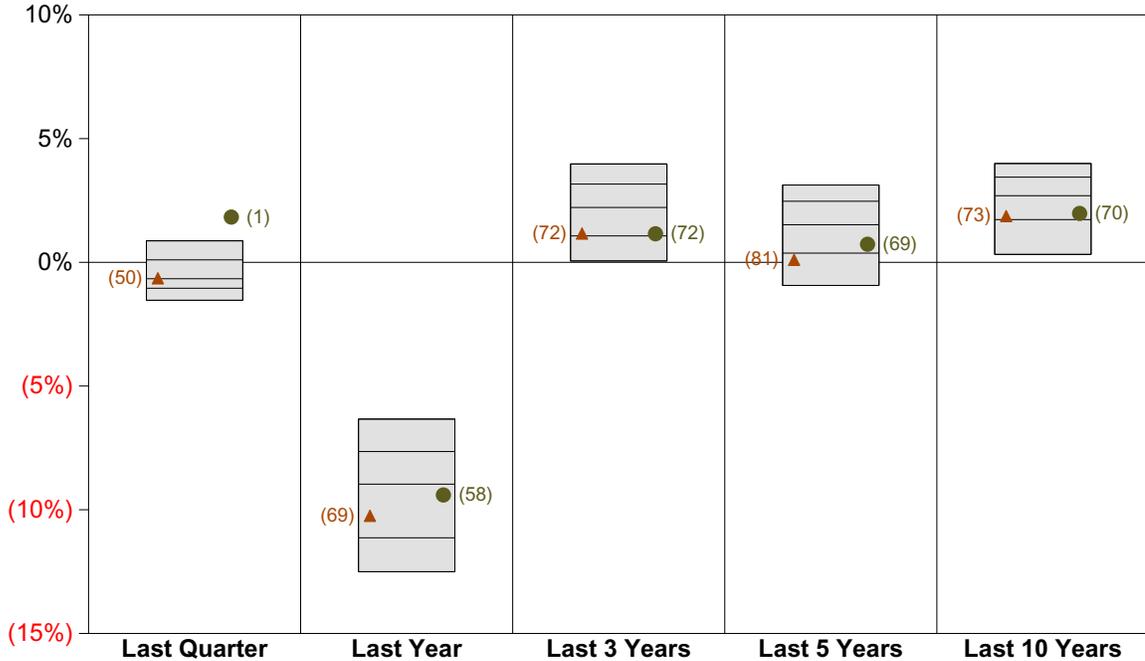


International Equity Period Ended June 30, 2016

Quarterly Summary and Highlights

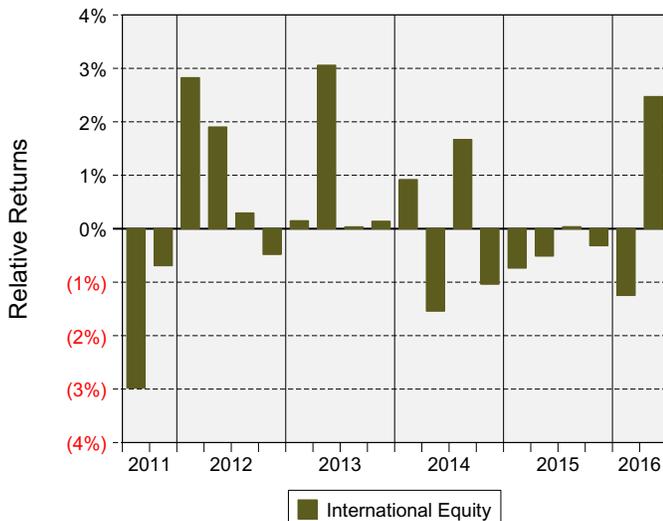
- International Equity's portfolio posted a 1.83% return for the quarter placing it in the 1 percentile of the Pub Pln- International Equity group for the quarter and in the 58 percentile for the last year.
- International Equity's portfolio outperformed the MSCI ACWI ex US by 2.47% for the quarter and outperformed the MSCI ACWI ex US for the year by 0.84%.

Performance vs Pub Pln- International Equity (Gross)

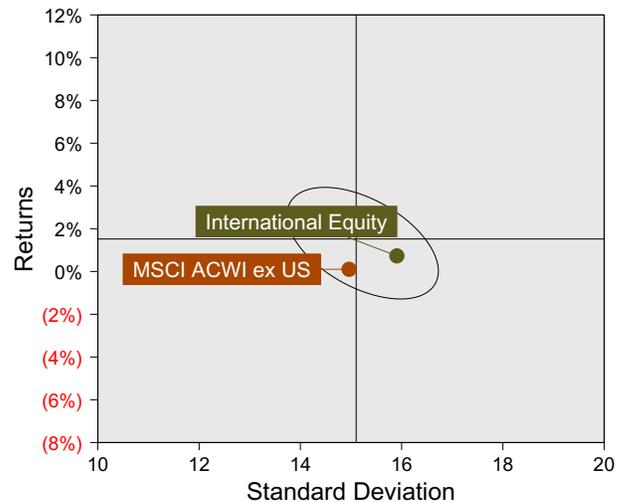


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	0.87	(6.34)	3.98	3.12	3.99
25th Percentile	0.10	(7.65)	3.16	2.47	3.44
Median	(0.66)	(8.97)	2.22	1.52	2.69
75th Percentile	(1.05)	(11.13)	1.07	0.37	1.73
90th Percentile	(1.53)	(12.50)	0.05	(0.93)	0.32
International Equity	1.83	(9.40)	1.15	0.73	1.98
MSCI ACWI ex US	(0.64)	(10.24)	1.16	0.10	1.87

Relative Return vs MSCI ACWI ex US



Pub Pln- International Equity (Gross) Annualized Five Year Risk vs Return

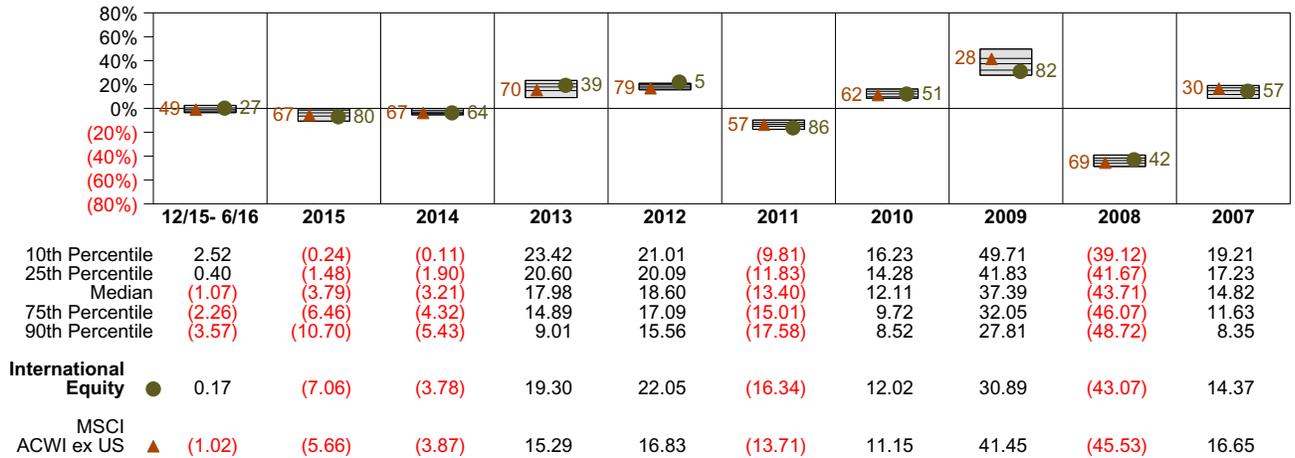


International Equity Return Analysis Summary

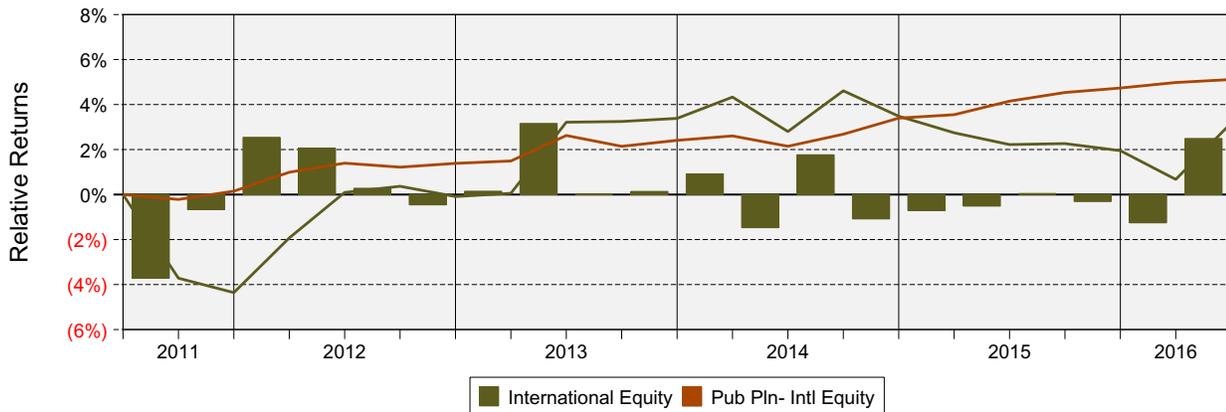
Return Analysis

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

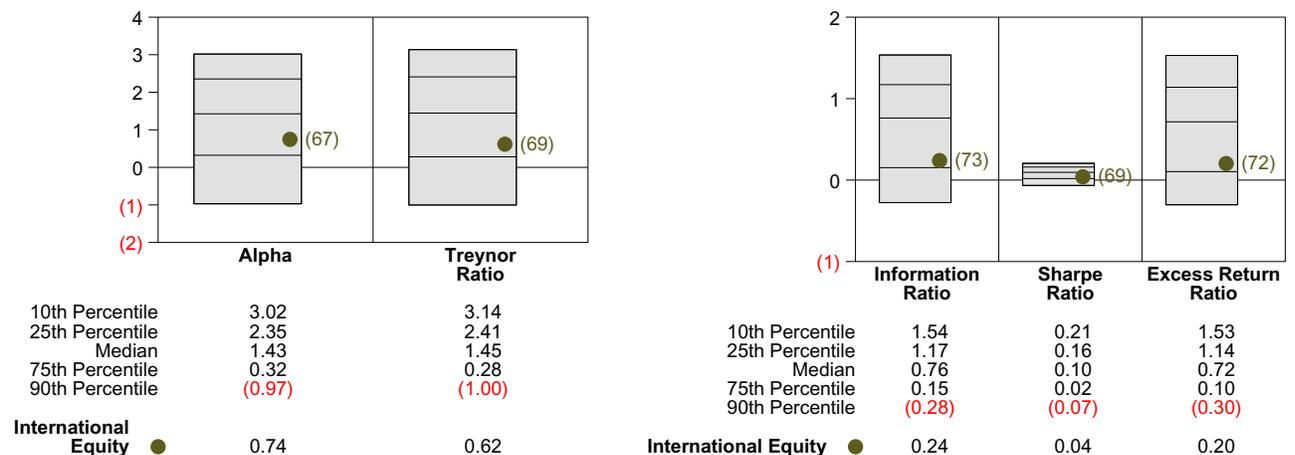
Performance vs Pub Pln- International Equity (Gross)



Cumulative and Quarterly Relative Return vs MSCI ACWI ex US



Risk Adjusted Return Measures vs MSCI ACWI ex US Rankings Against Pub Pln- International Equity (Gross) Five Years Ended June 30, 2016



Causeway International Opportunities

Period Ended June 30, 2016

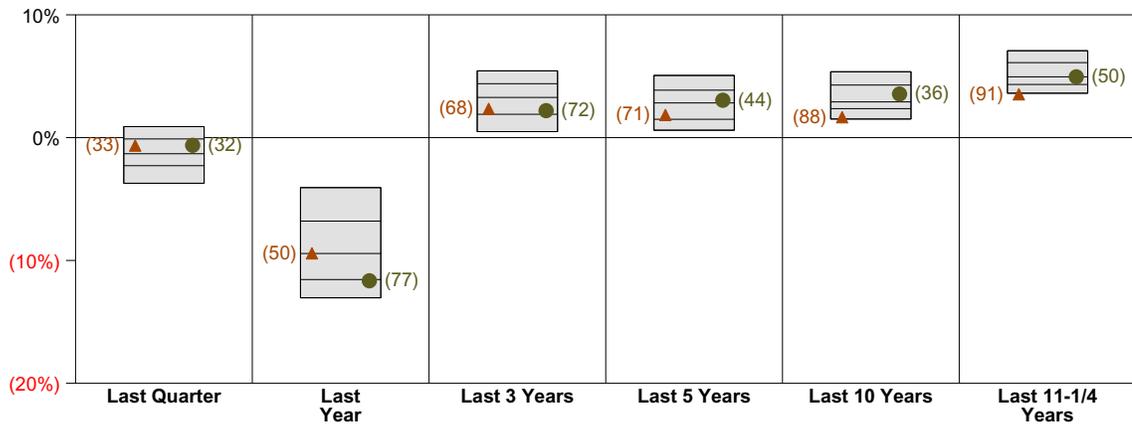
Investment Philosophy

Causeway's strategy consists of a three step process: 1) The International Value piece (developed markets only) utilizes bottom-up selection of undervalued stocks as well as the compounding of dividend returns; 2) The Emerging Markets portion implements through the use of proprietary quantitative models that are a combination of bottom-up and top-down factors; 3) The team also utilizes quantitative allocation models to tactically allocate (within specified ranges) between Emerging Markets and Developed Markets based on their relative attractiveness. The product was funded during the first quarter of 2005. In May 2016 the strategy transitioned from International Value to International Opportunities. As such, the index has been updated accordingly from EAFE to ACWI ex-US (Net Div).

Quarterly Summary and Highlights

- Causeway International Opportunities's portfolio posted a (0.62)% return for the quarter placing it in the 32 percentile of the CAI Non-U.S. Equity Style group for the quarter and in the 77 percentile for the last year.
- Causeway International Opportunities's portfolio outperformed the Causeway Linked Index by 0.02% for the quarter and underperformed the Causeway Linked Index for the year by 2.24%.

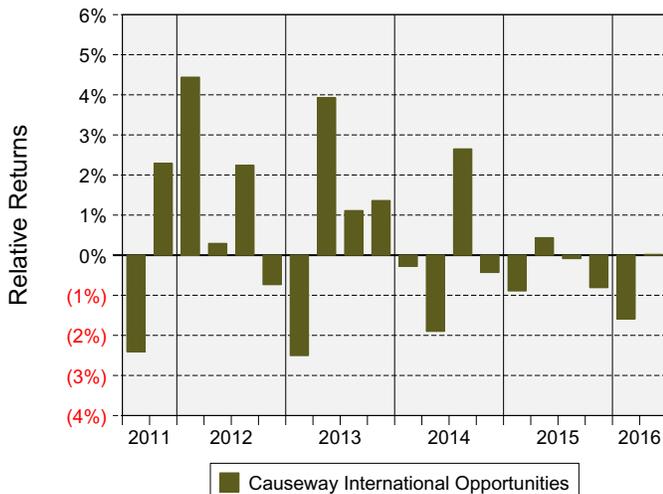
Performance vs CAI Non-U.S. Equity Style (Gross)



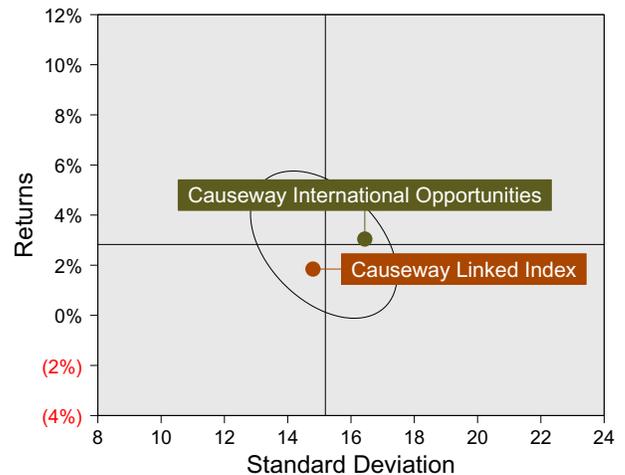
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 11-1/4 Years
10th Percentile	0.90	(4.07)	5.44	5.06	5.37	7.08
25th Percentile	(0.10)	(6.80)	4.39	3.86	4.28	6.11
Median	(1.31)	(9.43)	3.27	2.83	2.91	4.95
75th Percentile	(2.29)	(11.56)	1.90	1.49	2.36	4.33
90th Percentile	(3.72)	(13.04)	0.49	0.60	1.52	3.62

Causeway International Opportunities	●	(0.62)	(11.66)	2.20	3.04	3.55	4.95
Causeway Linked Index	▲	(0.64)	(9.42)	2.35	1.85	1.66	3.53

Relative Return vs Causeway Linked Index



CAI Non-U.S. Equity Style (Gross) Annualized Five Year Risk vs Return

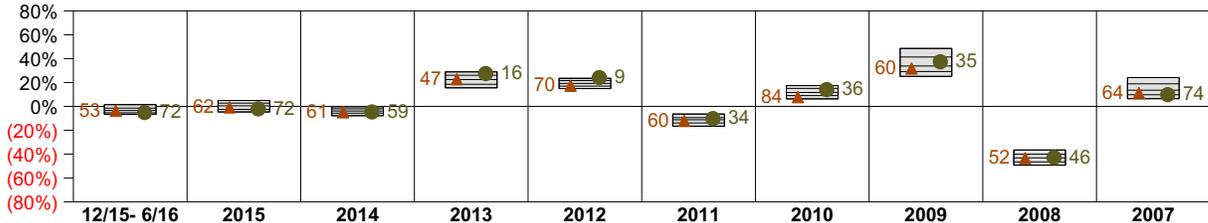


Causeway International Opportunities Return Analysis Summary

Return Analysis

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

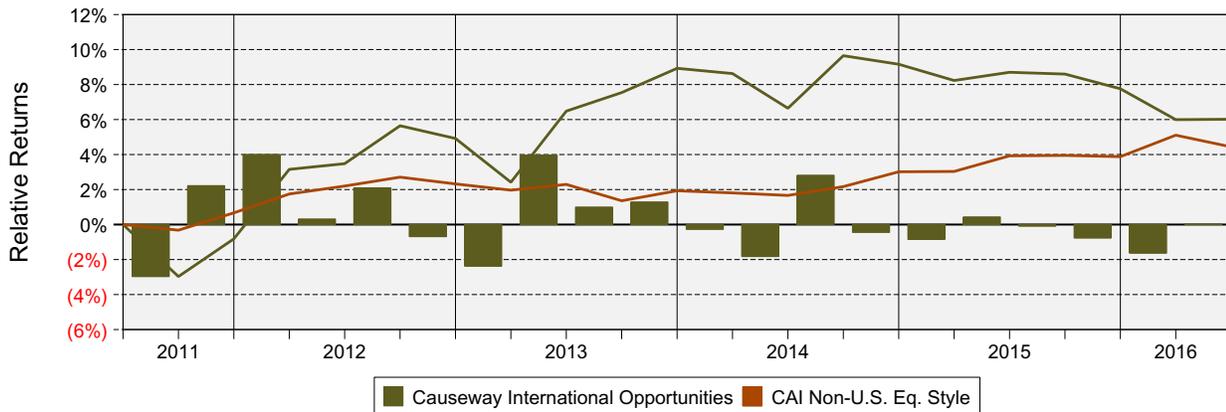
Performance vs CAI Non-U.S. Equity Style (Gross)



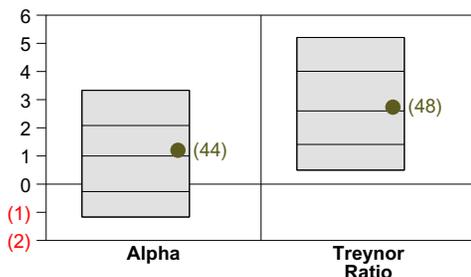
	12/15- 6/16	2015	2014	2013	2012	2011	2010	2009	2008	2007
10th Percentile	1.44	4.92	(0.30)	28.92	23.51	(6.44)	17.43	48.53	(36.56)	24.12
25th Percentile	(1.48)	2.71	(2.06)	26.07	21.64	(9.49)	15.06	41.35	(40.10)	18.89
Median	(3.49)	0.48	(3.88)	22.49	19.25	(11.24)	11.62	33.82	(43.20)	13.55
75th Percentile	(5.41)	(2.53)	(5.71)	18.50	16.97	(13.94)	9.02	29.20	(46.54)	9.73
90th Percentile	(6.68)	(4.70)	(7.81)	15.53	14.91	(16.62)	6.27	25.12	(49.29)	6.45

Causeway International Opportunities	● (5.19)	(2.09)	(4.70)	27.47	24.10	(10.24)	14.06	37.35	(42.83)	9.82
Causeway Linked Index	▲ (3.63)	(0.81)	(4.90)	22.78	17.32	(12.14)	7.75	31.78	(43.38)	11.17

Cumulative and Quarterly Relative Return vs Causeway Linked Index

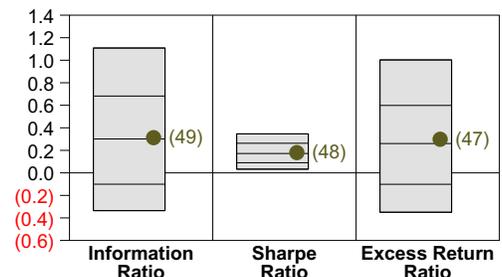


Risk Adjusted Return Measures vs Causeway Linked Index Rankings Against CAI Non-U.S. Equity Style (Gross) Five Years Ended June 30, 2016



	Alpha	Treynor Ratio
10th Percentile	3.33	5.21
25th Percentile	2.08	4.01
Median	1.00	2.60
75th Percentile	(0.26)	1.41
90th Percentile	(1.17)	0.50

Causeway International Opportunities	● 1.20	2.73
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	Information Ratio	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.11	0.35	1.00
25th Percentile	0.68	0.26	0.60
Median	0.30	0.17	0.26
75th Percentile	(0.10)	0.09	(0.10)
90th Percentile	(0.34)	0.03	(0.35)

Causeway International Opportunities	● 0.31	0.18	0.30
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Aberdeen EAFE Plus Period Ended June 30, 2016

Investment Philosophy

Aberdeen believes that given the inefficiency of markets, superior long-term returns are achieved by identifying high quality stocks, buying them at reasonable/cheap prices, and ultimately investing in those securities for the long term. Absolute return is held to be of the utmost importance. The strategy is benchmark aware, but not benchmark driven. This benchmark stance is born from their belief that indices do not provide meaningful guidance to the prospects of a company or its inherent worth.

Quarterly Summary and Highlights

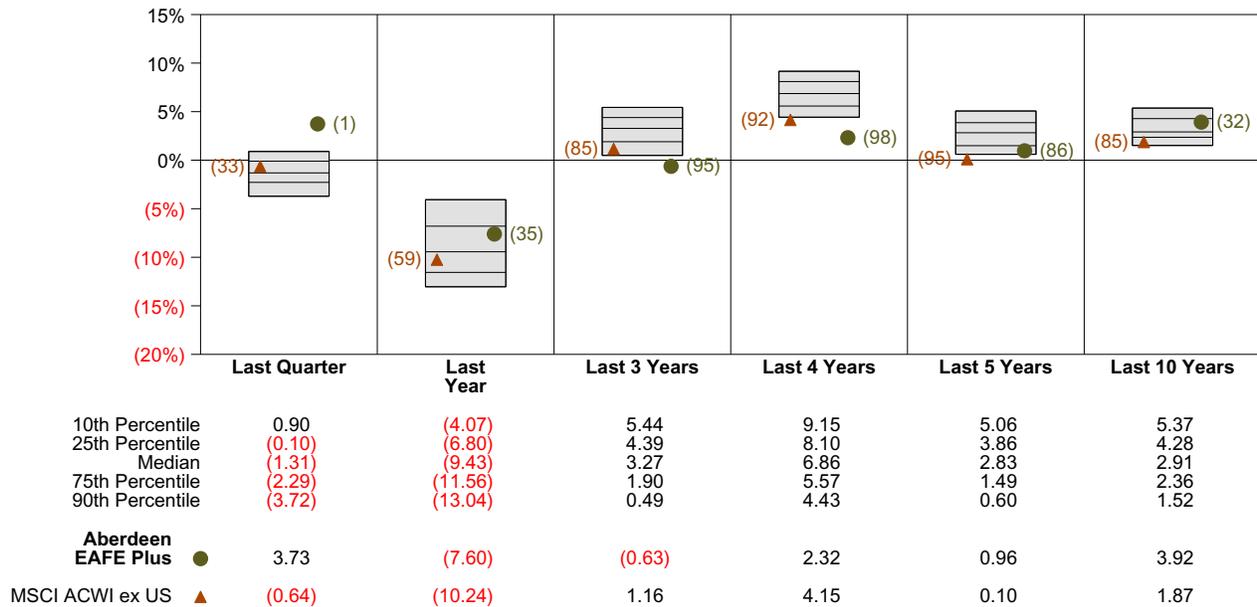
- Aberdeen EAFE Plus's portfolio posted a 3.73% return for the quarter placing it in the 1 percentile of the CAI Non-U.S. Equity Style group for the quarter and in the 35 percentile for the last year.
- Aberdeen EAFE Plus's portfolio outperformed the MSCI ACWI ex US by 4.38% for the quarter and outperformed the MSCI ACWI ex US for the year by 2.64%.

Quarterly Asset Growth

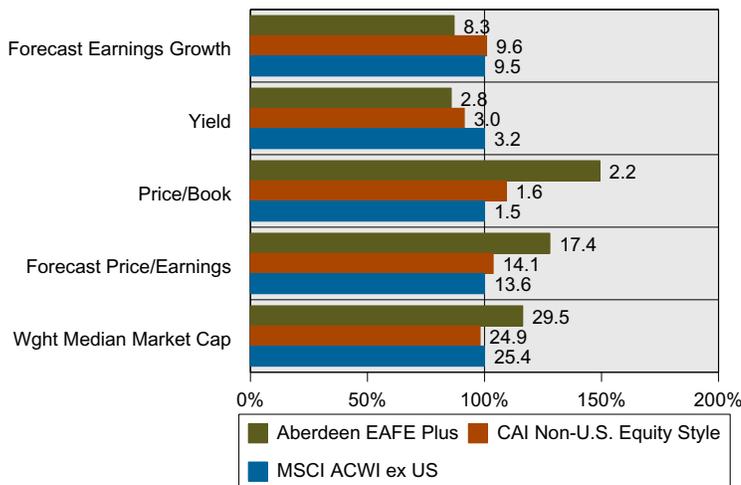
Beginning Market Value	\$36,530,351
Net New Investment	\$31,032,917
Investment Gains/(Losses)	\$2,561,867
Ending Market Value	\$70,125,135

Percent Cash: 0.0%

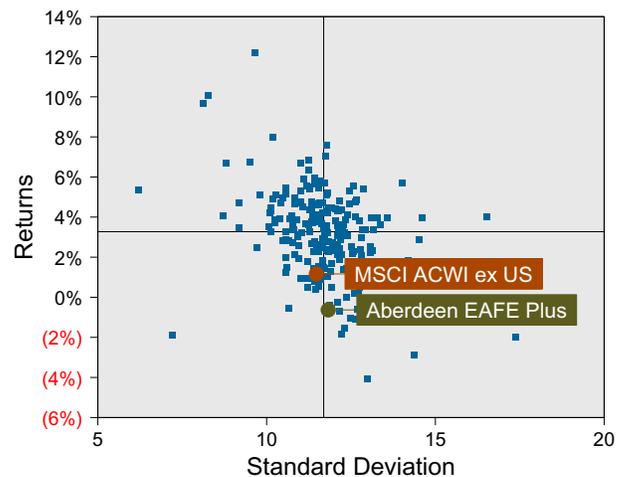
Performance vs CAI Non-U.S. Equity Style (Gross)



Portfolio Characteristics as a Percentage of the MSCI ACWI ex US



CAI Non-U.S. Equity Style (Gross) Annualized Three Year Risk vs Return

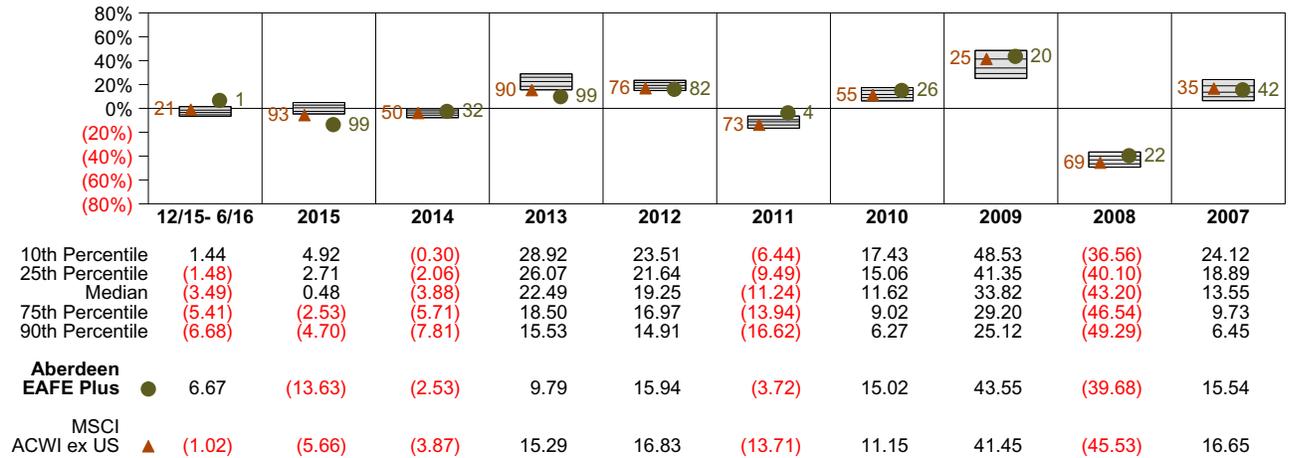


Aberdeen EAFE Plus Return Analysis Summary

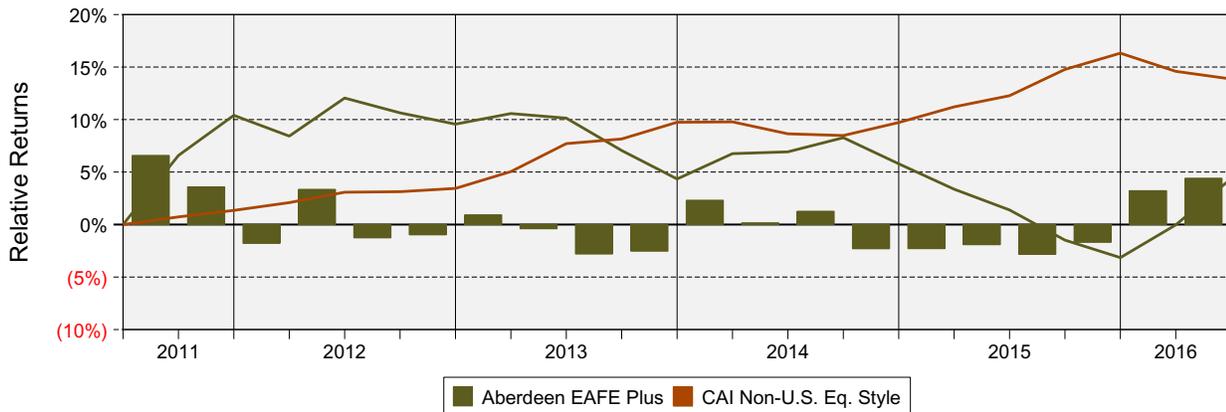
Return Analysis

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

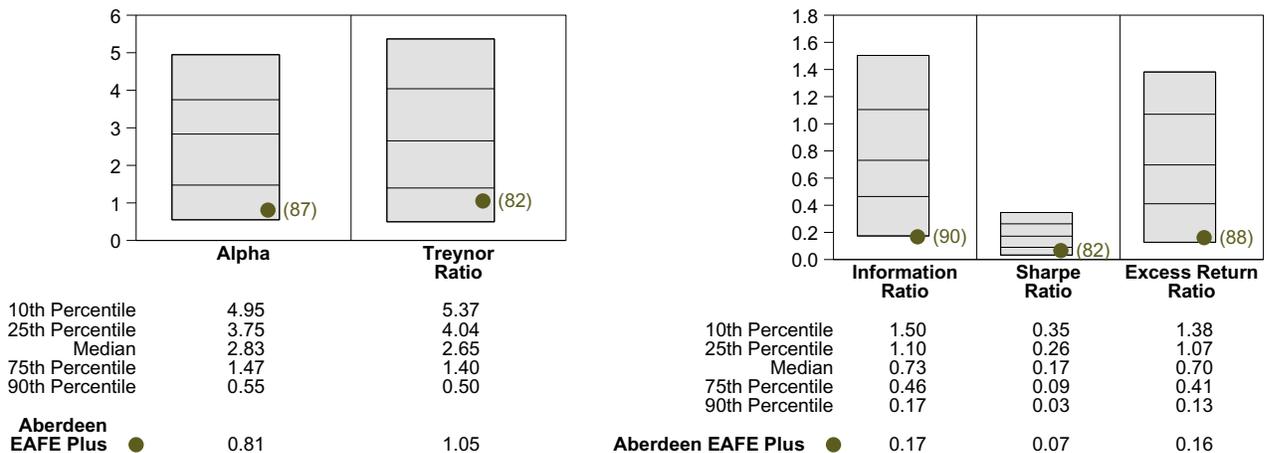
Performance vs CAI Non-U.S. Equity Style (Gross)



Cumulative and Quarterly Relative Return vs MSCI ACWI ex US



Risk Adjusted Return Measures vs MSCI ACWI ex US Rankings Against CAI Non-U.S. Equity Style (Gross) Five Years Ended June 30, 2016

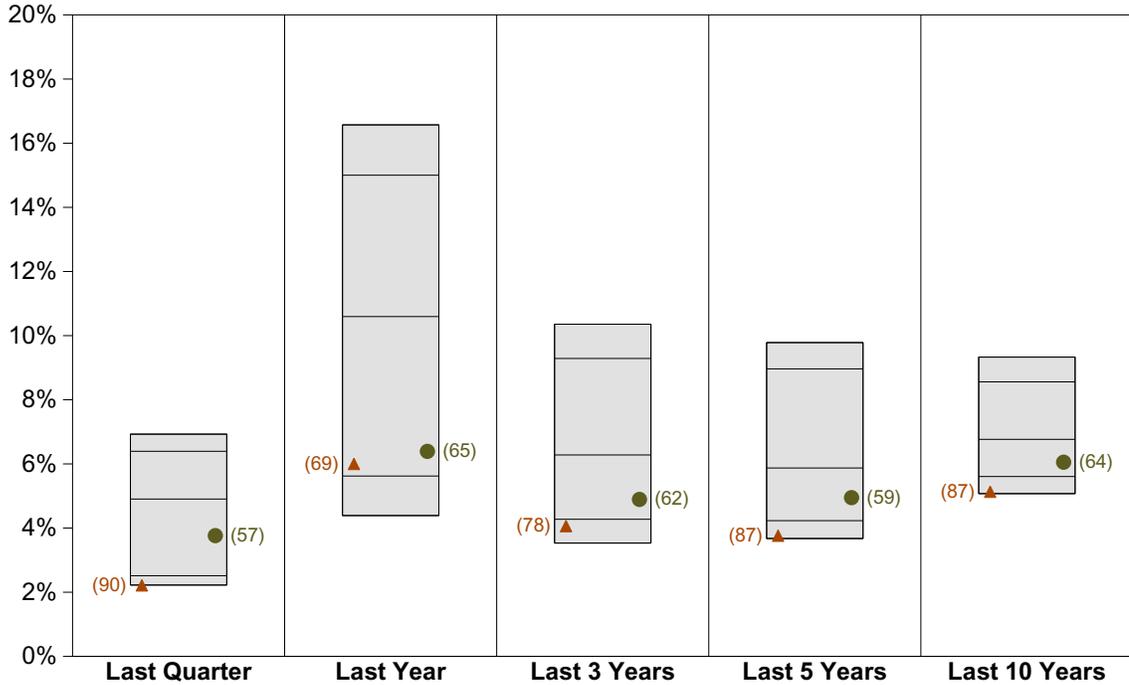


Fixed Income Period Ended June 30, 2016

Quarterly Summary and Highlights

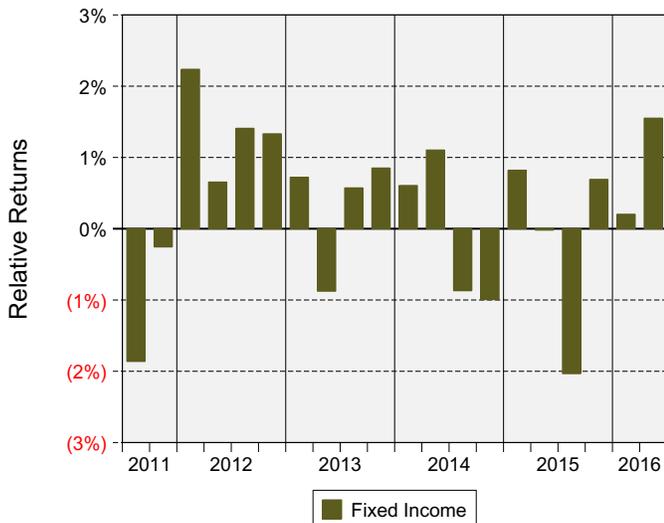
- Fixed Income's portfolio posted a 3.76% return for the quarter placing it in the 57 percentile of the Corp Pln- Domestic Fixed group for the quarter and in the 65 percentile for the last year.
- Fixed Income's portfolio outperformed the Barclays Aggregate Index by 1.55% for the quarter and outperformed the Barclays Aggregate Index for the year by 0.39%.

Performance vs Corp Pln- Domestic Fixed (Gross)

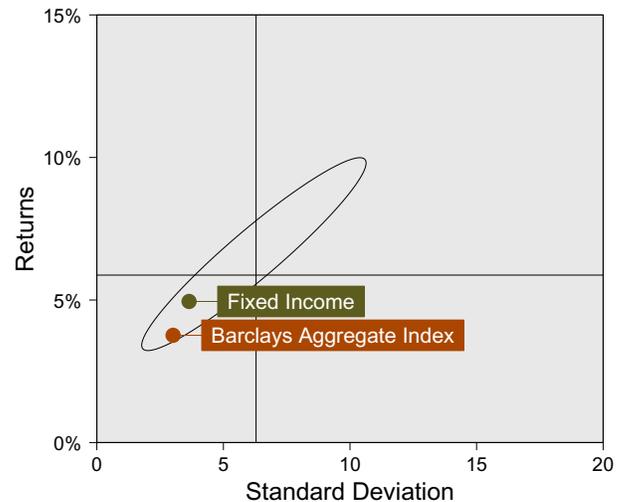


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	6.93	16.57	10.36	9.78	9.33
25th Percentile	6.39	15.00	9.29	8.96	8.56
Median	4.91	10.59	6.28	5.87	6.77
75th Percentile	2.51	5.62	4.27	4.23	5.61
90th Percentile	2.22	4.39	3.53	3.67	5.07
Fixed Income ●	3.76	6.39	4.89	4.95	6.05
Barclays Aggregate Index ▲	2.21	6.00	4.06	3.76	5.13

Relative Return vs Barclays Aggregate Index



Corp Pln- Domestic Fixed (Gross) Annualized Five Year Risk vs Return

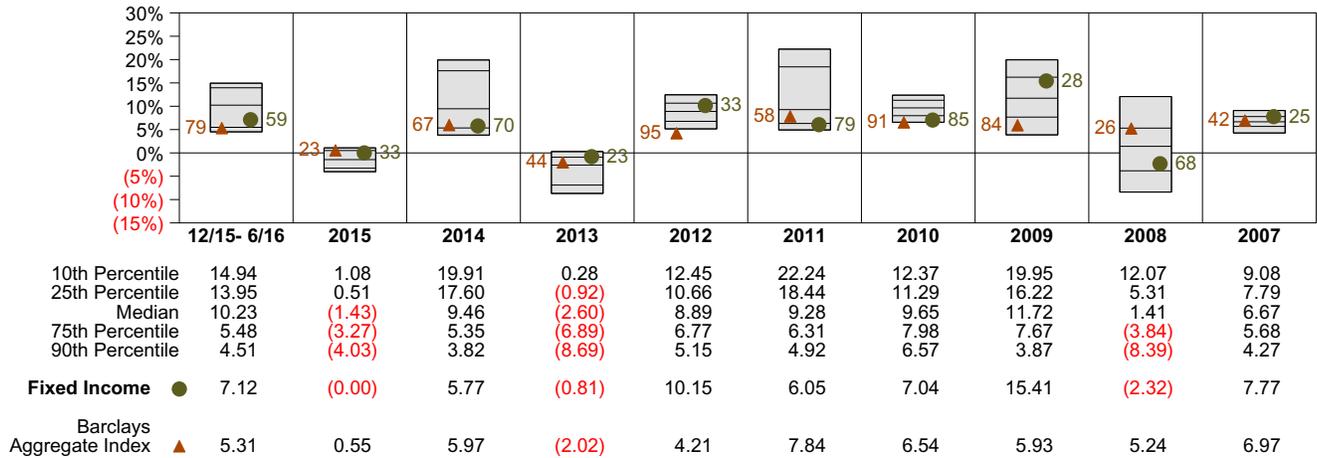


Fixed Income Return Analysis Summary

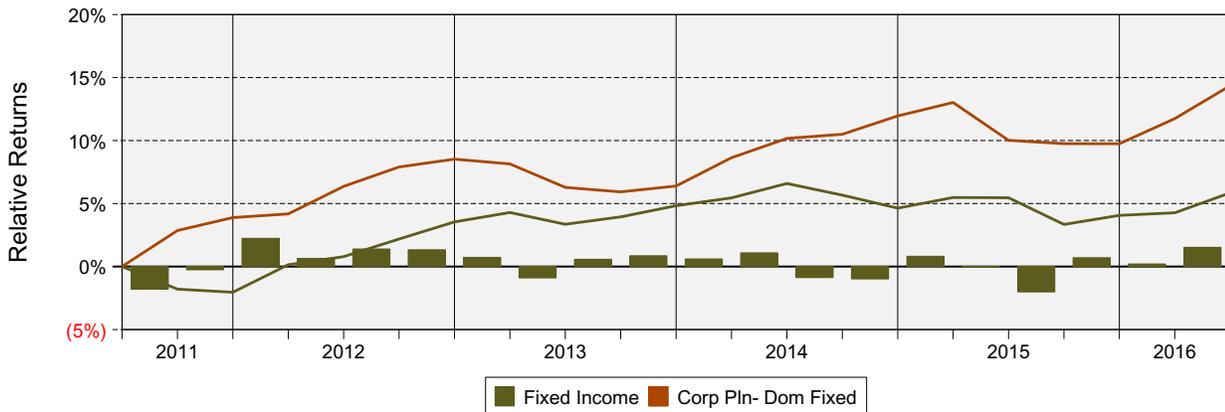
Return Analysis

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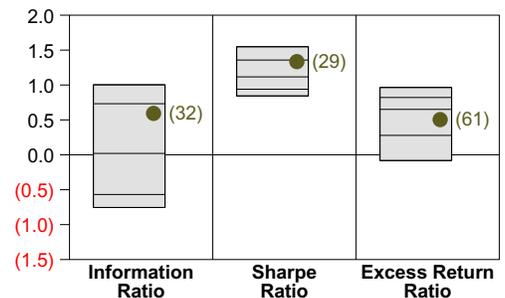
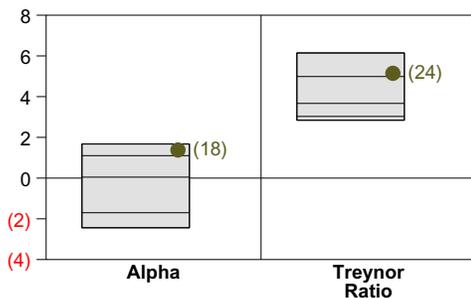
Performance vs Corp Pln- Domestic Fixed (Gross)



Cumulative and Quarterly Relative Return vs Barclays Aggregate Index



Risk Adjusted Return Measures vs Barclays Aggregate Index Rankings Against Corp Pln- Domestic Fixed (Gross) Five Years Ended June 30, 2016



BlackRock U.S. Debt Fund Period Ended June 30, 2016

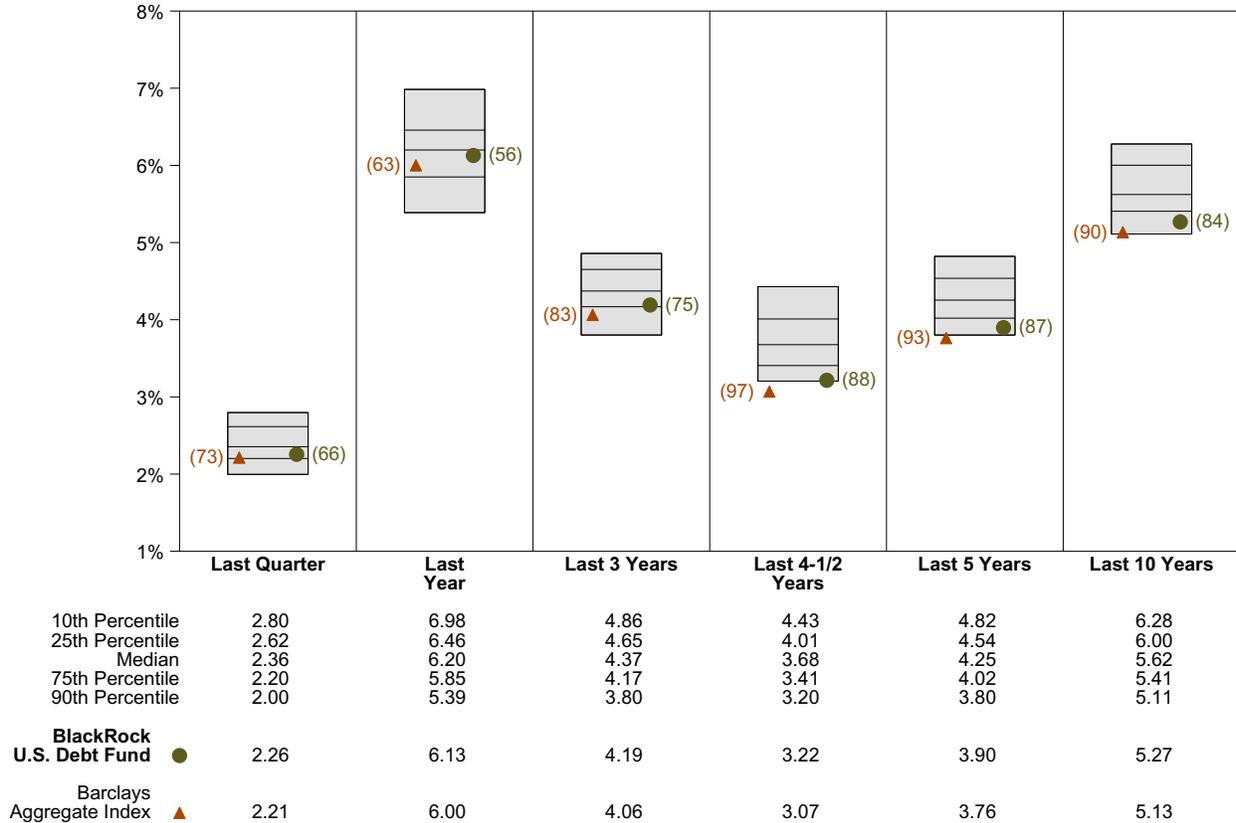
Investment Philosophy

The product was funded during the fourth quarter of 2011. Performance prior is that of the composite.

Quarterly Summary and Highlights

- BlackRock U.S. Debt Fund's portfolio posted a 2.26% return for the quarter placing it in the 66 percentile of the CAI Core Bond Fixed Income group for the quarter and in the 56 percentile for the last year.
- BlackRock U.S. Debt Fund's portfolio outperformed the Barclays Aggregate Index by 0.04% for the quarter and outperformed the Barclays Aggregate Index for the year by 0.13%.

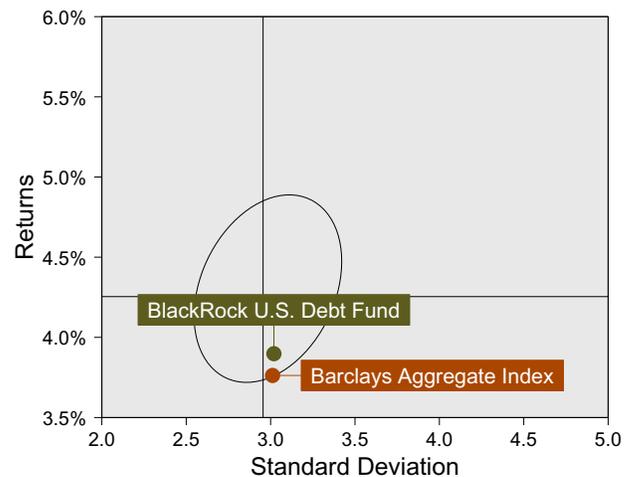
Performance vs CAI Core Bond Fixed Income (Gross)



Relative Return vs Barclays Aggregate Index



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

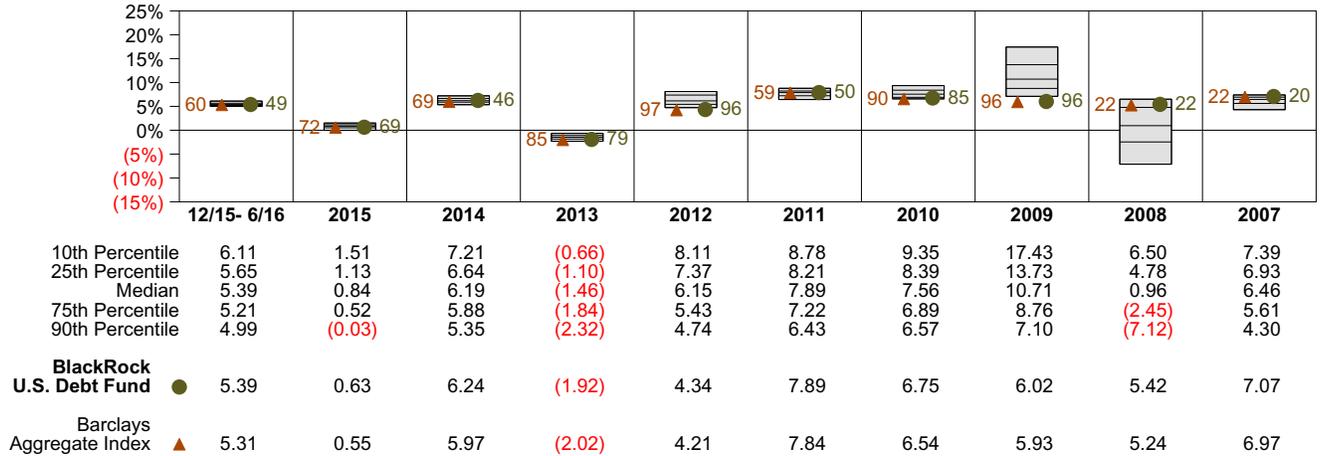


BlackRock U.S. Debt Fund Return Analysis Summary

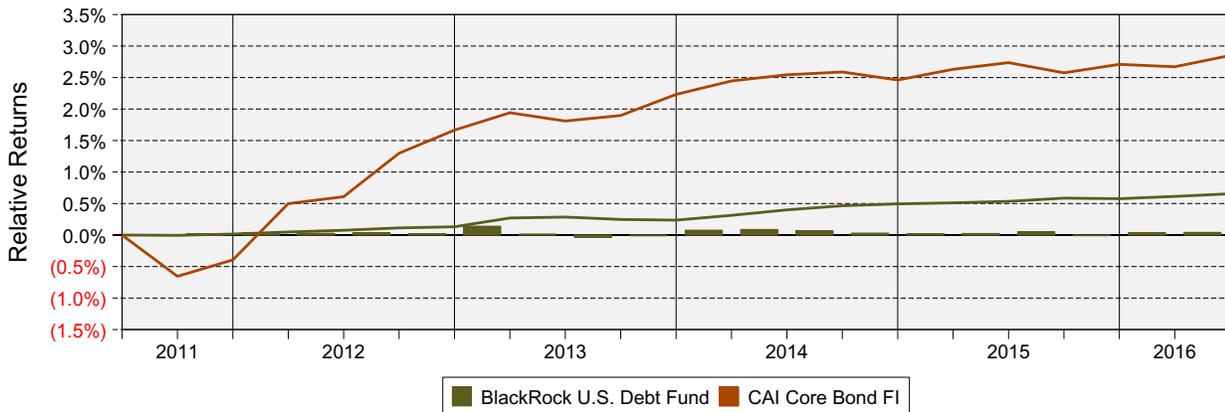
Return Analysis

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

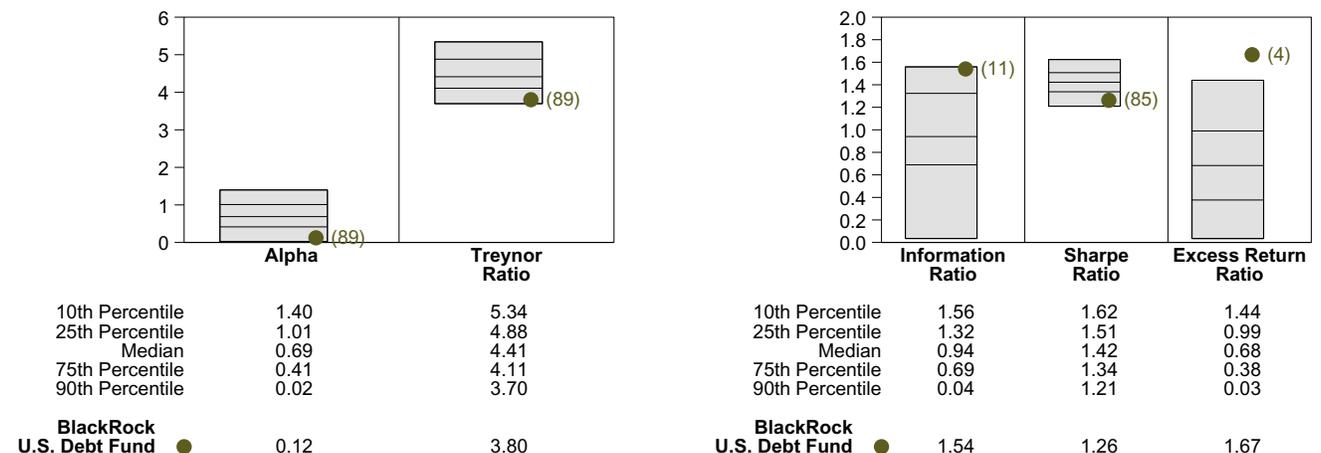
Performance vs CAI Core Bond Fixed Income (Gross)



Cumulative and Quarterly Relative Return vs Barclays Aggregate Index



Risk Adjusted Return Measures vs Barclays Aggregate Index Rankings Against CAI Core Bond Fixed Income (Gross) Five Years Ended June 30, 2016



PIMCO Fixed Income Period Ended June 30, 2016

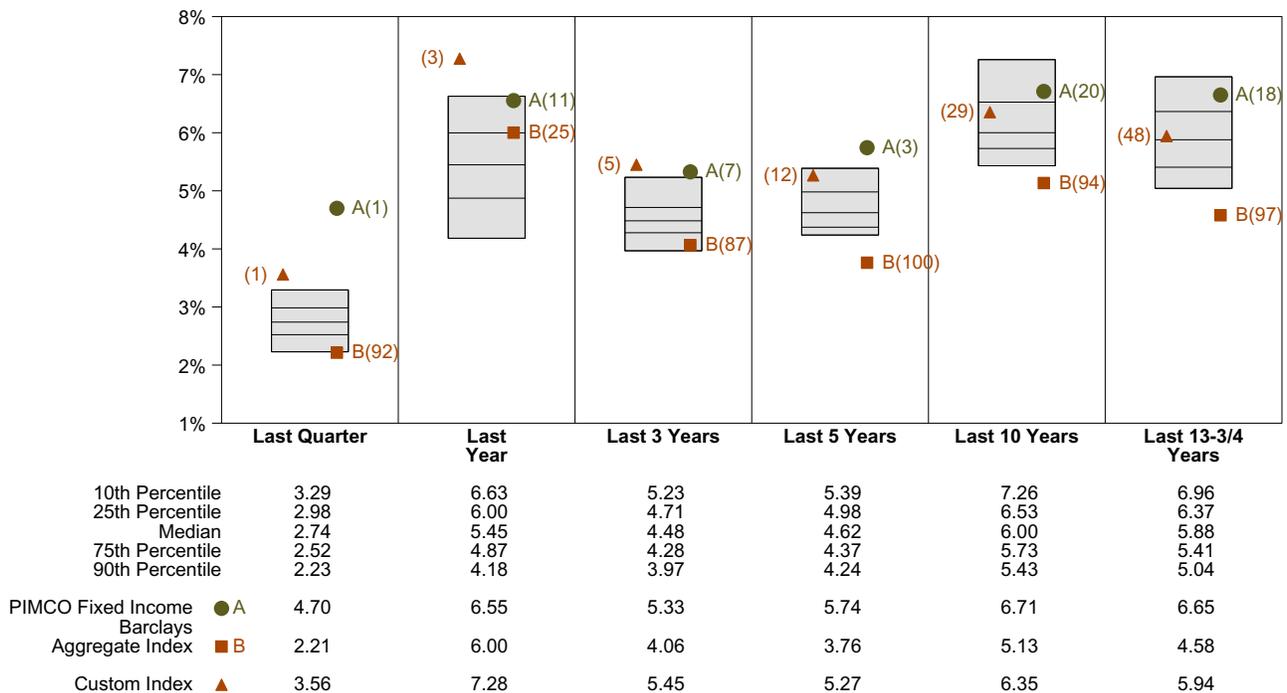
Investment Philosophy

PIMCO emphasizes adding value by rotating through the major sectors of the domestic and international bond markets. They also seek to enhance returns through duration management. The product was funded during the third quarter of 2002. The custom index is currently composed of 25% Barclays Mortgage, 25% Barclays Credit, 25% Barclays High Yield, and 25% JP Morgan EMBI Global. Prior to 2/1/2012, the custom index was composed of 70% Barclays Mortgage, 15% Barclays Credit, and 15% Barclays High Yield.

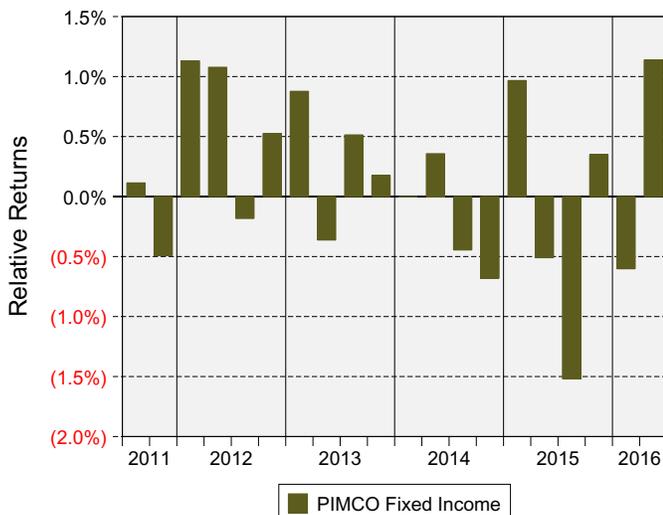
Quarterly Summary and Highlights

- PIMCO Fixed Income's portfolio posted a 4.70% return for the quarter placing it in the 1 percentile of the CAI Core Plus Fixed Income group for the quarter and in the 11 percentile for the last year.
- PIMCO Fixed Income's portfolio outperformed the Custom Index by 1.14% for the quarter and underperformed the Custom Index for the year by 0.72%.

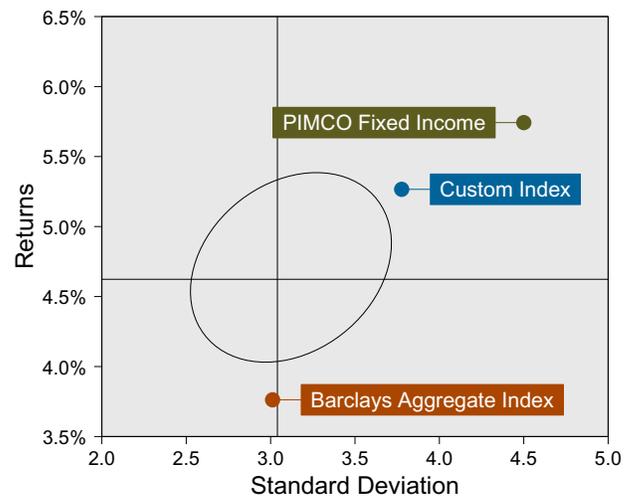
Performance vs CAI Core Plus Fixed Income (Gross)



Relative Return vs Custom Index



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

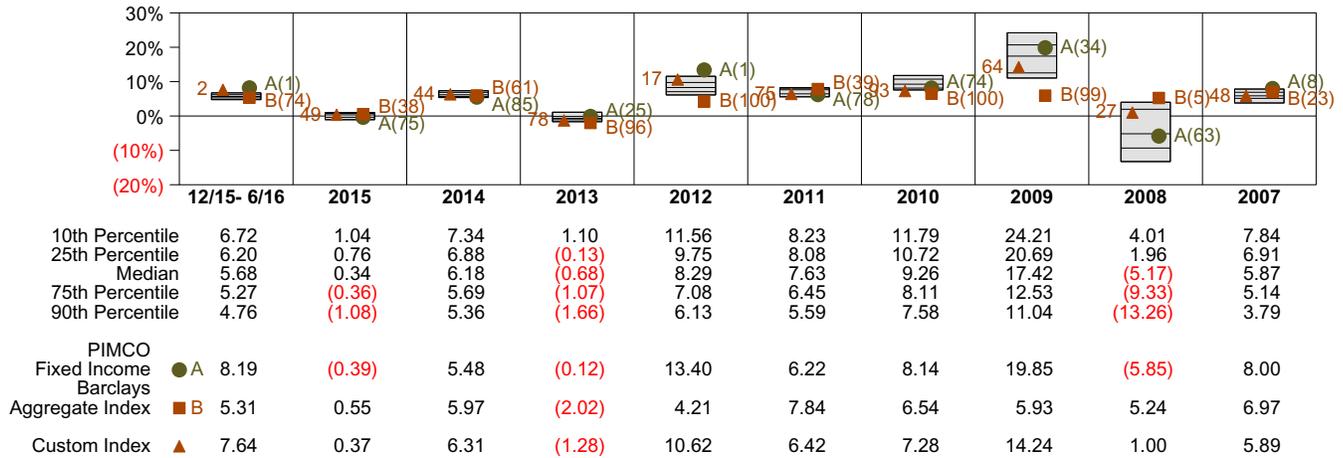


PIMCO Fixed Income Return Analysis Summary

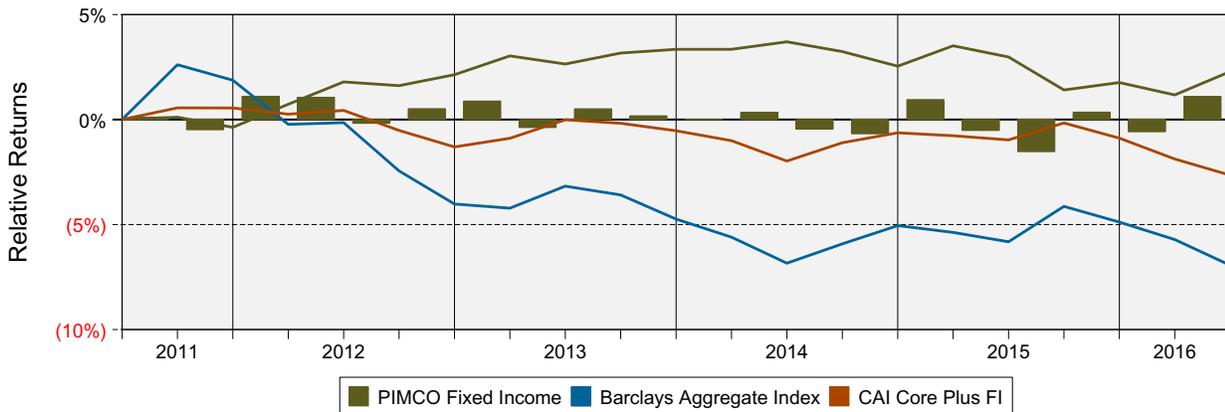
Return Analysis

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

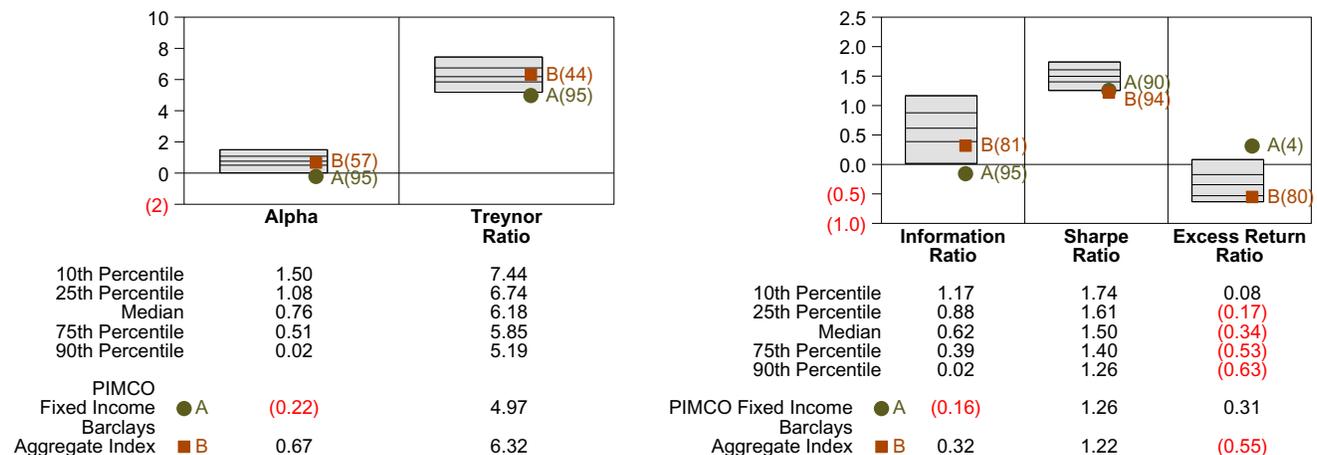
Performance vs CAI Core Plus Fixed Income (Gross)



Cumulative and Quarterly Relative Return vs Custom Index



Risk Adjusted Return Measures vs Custom Index Rankings Against CAI Core Plus Fixed Income (Gross) Five Years Ended June 30, 2016



Real Estate Period Ended June 30, 2016

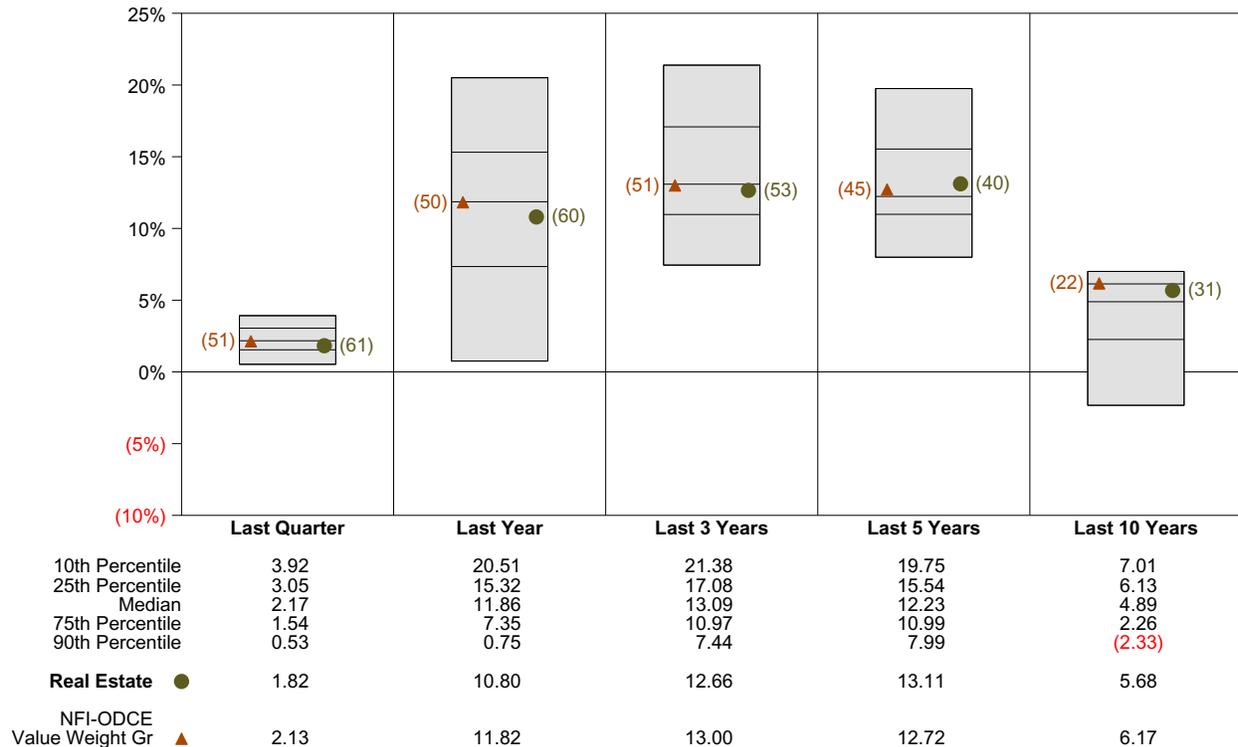
Investment Philosophy

The Total Real Estate Funds Database consists of both open and closed-end commingled funds as well as separate accounts managed by real estate firms. The returns represent the overall performance of institutional capital invested in real estate properties.

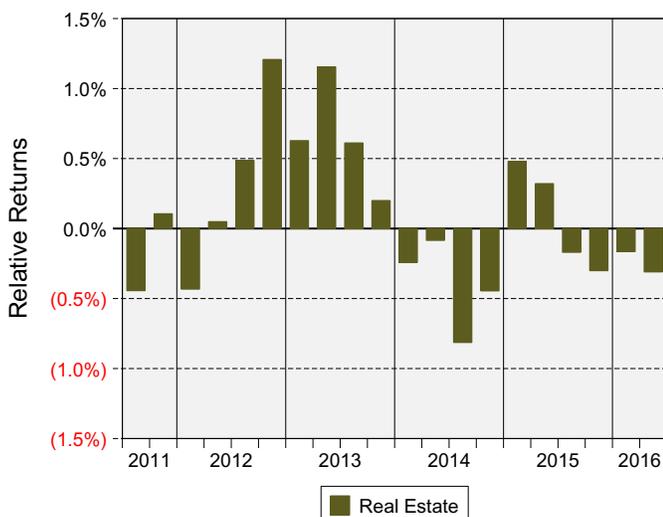
Quarterly Summary and Highlights

- Real Estate's portfolio posted a 1.82% return for the quarter placing it in the 61 percentile of the CAI Total Domestic Real Estate Database group for the quarter and in the 60 percentile for the last year.
- Real Estate's portfolio underperformed the NFI-ODCE Value Weight Gr by 0.31% for the quarter and underperformed the NFI-ODCE Value Weight Gr for the year by 1.02%.

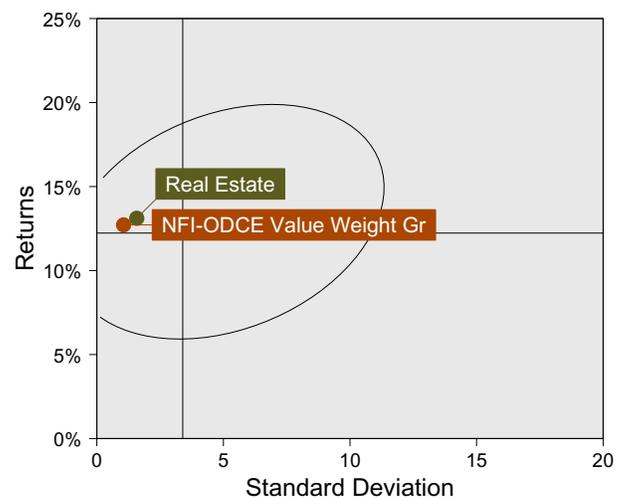
Performance vs CAI Total Domestic Real Estate Database (Net)



Relative Return vs NFI-ODCE Value Weight Gr



CAI Total Domestic Real Estate Database (Net) Annualized Five Year Risk vs Return

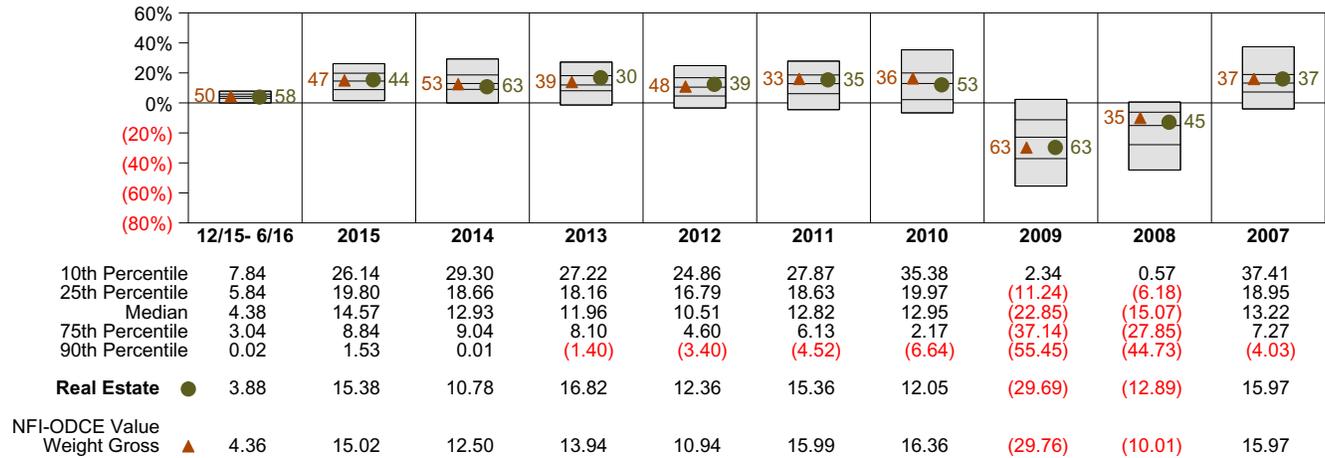


Real Estate Return Analysis Summary

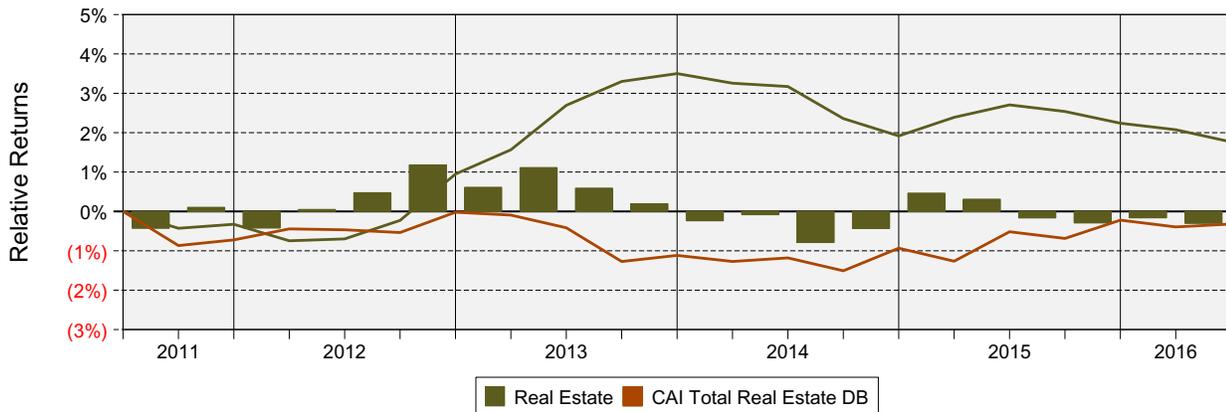
Return Analysis

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

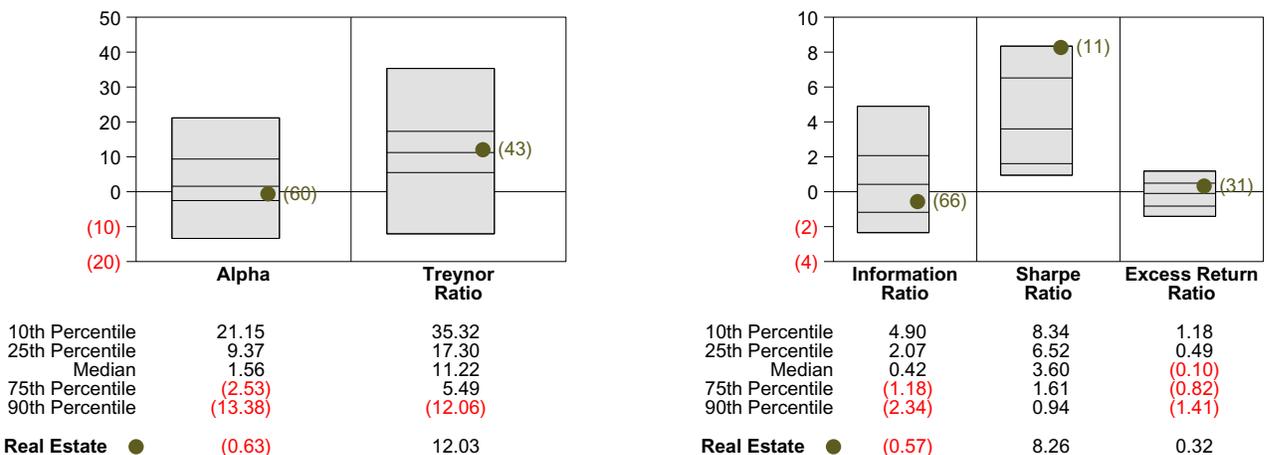
Performance vs CAI Total Domestic Real Estate Database (Net)



Cumulative and Quarterly Relative Return vs NFI-ODCE Value Weight Gross



Risk Adjusted Return Measures vs NFI-ODCE Value Weight Gross Rankings Against CAI Total Domestic Real Estate Database (Net) Five Years Ended June 30, 2016



JP Morgan Strategic Property Fund

Period Ended June 30, 2016

Investment Philosophy

J.P. Morgan's Strategic Property Fund is an actively managed diversified, core, open-end commingled pension trust fund. It seeks an income-driven rate of return of 100 basis points over the NFI-ODCE Equal Weight Net Index over a full market cycle (three to five year horizon) through asset, geographic and sector selection and active asset management. The Fund invests in high quality stabilized assets with dominant competitive characteristics in markets with attractive demographics throughout the United States. The product was funded in the fourth quarter of 2008.

Quarterly Summary and Highlights

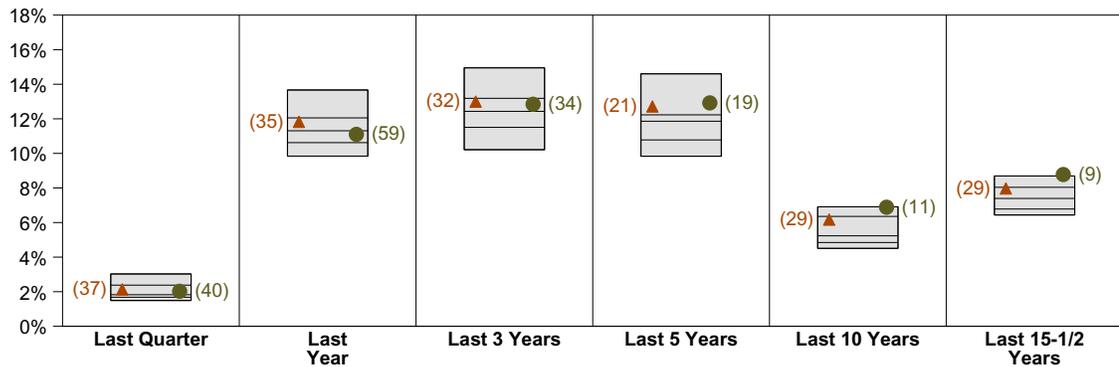
- JP Morgan Strategic Property Fund's portfolio posted a 2.02% return for the quarter placing it in the 40 percentile of the CAI Open End Core Commingled Real Estate group for the quarter and in the 59 percentile for the last year.
- JP Morgan Strategic Property Fund's portfolio underperformed the NFI-ODCE Value Weight Gross by 0.11% for the quarter and underperformed the NFI-ODCE Value Weight Gross for the year by 0.73%.

Quarterly Asset Growth

Beginning Market Value	\$45,700,763
Net New Investment	\$-112,422
Investment Gains/(Losses)	\$921,706
Ending Market Value	\$46,510,048

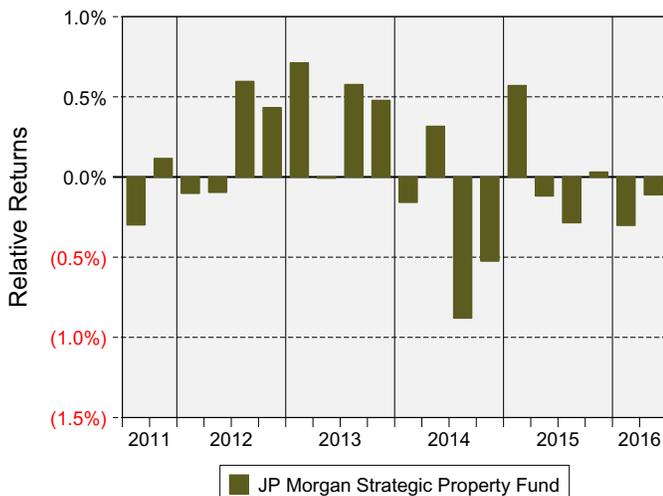
Percent Cash: 0.0%

Performance vs CAI Open End Core Commingled Real Estate (Net)

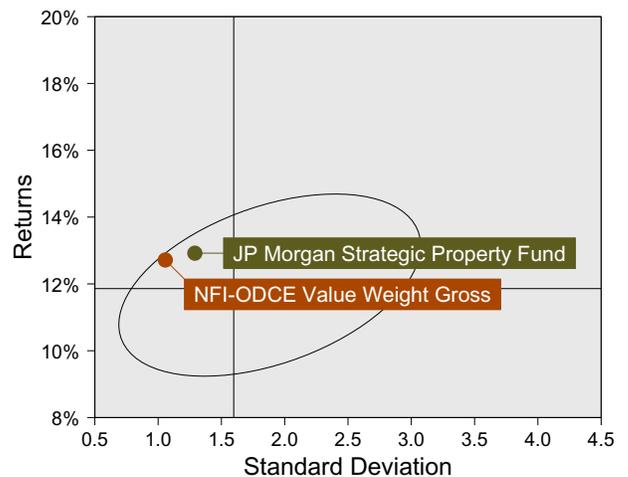


JP Morgan Strategic Property Fund ●
NFI-ODCE Value Weight Gross ▲

Relative Returns vs NFI-ODCE Value Weight Gross



CAI Open End Core Commingled Real Estate (Net) Annualized Five Year Risk vs Return

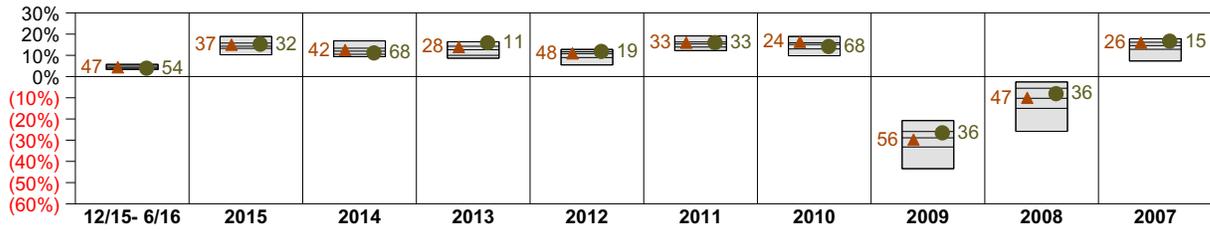


JP Morgan Strategic Property Fund Return Analysis Summary

Return Analysis

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

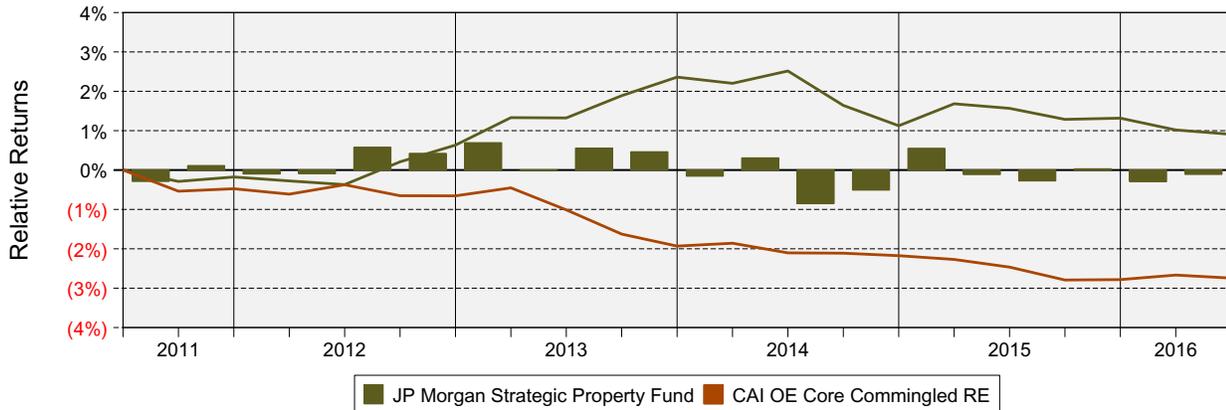
Performance vs CAI Open End Core Commingled Real Estate (Net)



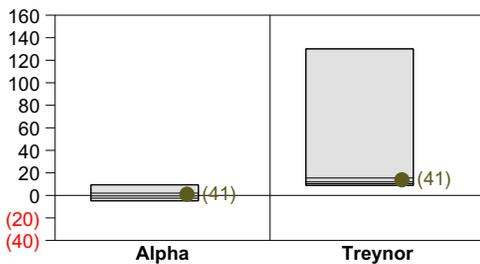
	12/15- 6/16	2015	2014	2013	2012	2011	2010	2009	2008	2007
10th Percentile	5.75	18.90	16.81	16.41	12.79	19.15	18.90	(20.77)	(2.54)	17.80
25th Percentile	4.88	15.77	13.36	14.28	11.67	16.29	15.94	(25.92)	(5.51)	16.15
Median	4.07	14.30	11.99	12.66	10.80	15.33	15.09	(28.89)	(10.25)	14.59
75th Percentile	3.60	13.27	10.52	10.02	8.95	13.91	13.02	(33.22)	(14.99)	12.84
90th Percentile	3.25	10.26	9.38	8.65	5.49	12.22	9.80	(43.44)	(25.83)	7.34

	12/15- 6/16	2015	2014	2013	2012	2011	2010	2009	2008	2007
JP Morgan Strategic Property Fund	3.94	15.24	11.14	15.90	11.84	15.99	14.16	(26.53)	(8.09)	16.67
NFI-ODCE Value Weight Gross	4.36	15.02	12.50	13.94	10.94	15.99	16.36	(29.76)	(10.01)	15.97

Cumulative and Quarterly Relative Return vs NFI-ODCE Value Weight Gross

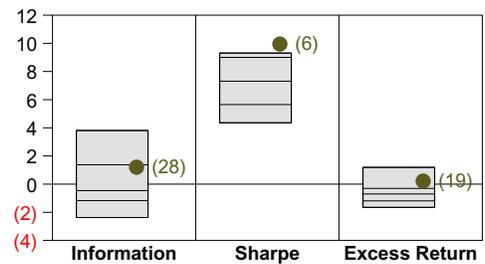


Risk Adjusted Return Measures vs NFI-ODCE Value Weight Gross Rankings Against CAI Open End Core Commingled Real Estate (Net) Five Years Ended June 30, 2016



	Alpha	Treynor Ratio
10th Percentile	9.36	130.10
25th Percentile	2.01	15.46
Median	(0.43)	12.01
75th Percentile	(2.46)	10.37
90th Percentile	(4.82)	8.89

JP Morgan Strategic Property Fund	1.04	13.80
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	Information Ratio	Sharpe Ratio	Excess Return Ratio
10th Percentile	3.81	9.31	1.19
25th Percentile	1.37	9.00	(0.30)
Median	(0.46)	7.31	(0.70)
75th Percentile	(1.17)	5.65	(1.19)
90th Percentile	(2.37)	4.36	(1.65)

JP Morgan Strategic Property Fund	1.20	9.95	0.21
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JP Morgan Income and Growth Fund Period Ended June 30, 2016

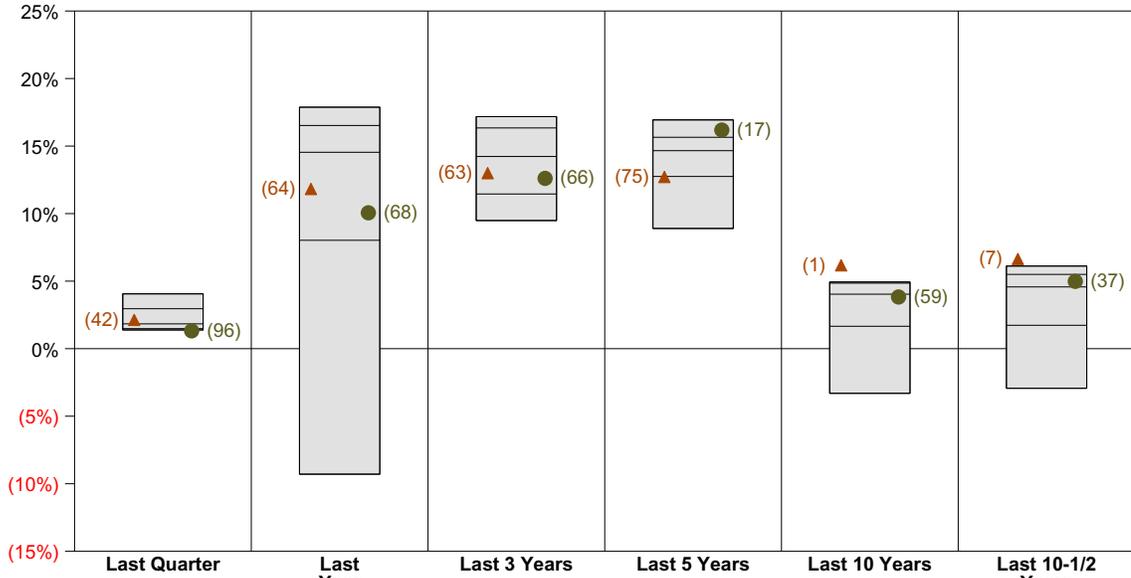
Investment Philosophy

The product was funded in the fourth quarter of 2005.

Quarterly Summary and Highlights

- JP Morgan Income and Growth Fund's portfolio posted a 1.32% return for the quarter placing it in the 96 percentile of the CAI Real Estate Val Added Open End Fds group for the quarter and in the 68 percentile for the last year.
- JP Morgan Income and Growth Fund's portfolio underperformed the NFI-ODCE Value Weight Gross by 0.82% for the quarter and underperformed the NFI-ODCE Value Weight Gross for the year by 1.77%.

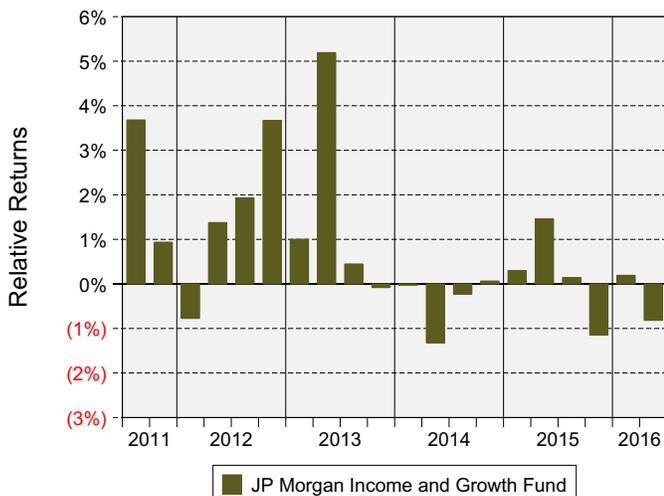
Performance vs CAI Real Estate Val Added Open End Fds (Net)



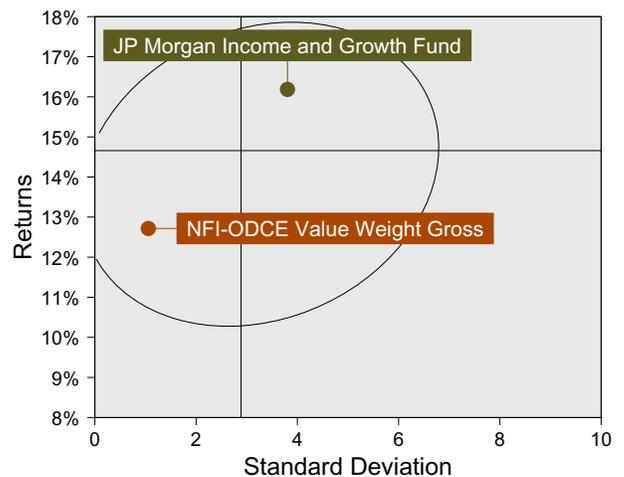
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 10-1/2 Years
10th Percentile	4.06	17.88	17.18	16.94	4.94	6.12
25th Percentile	2.96	16.52	16.34	15.65	4.85	5.50
Median	1.84	14.54	14.23	14.66	4.03	4.57
75th Percentile	1.48	8.02	11.45	12.75	1.66	1.73
90th Percentile	1.39	(9.29)	9.49	8.90	(3.31)	(2.93)

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 10-1/2 Years
JP Morgan Income and Growth Fund ●	1.32	10.06	12.61	16.19	3.83	4.98
NFI-ODCE Value Weight Gross ▲	2.13	11.82	13.00	12.72	6.17	6.64

Relative Returns vs NFI-ODCE Value Weight Gross



CAI Real Estate Val Added Open End Fds (Net) Annualized Five Year Risk vs Return

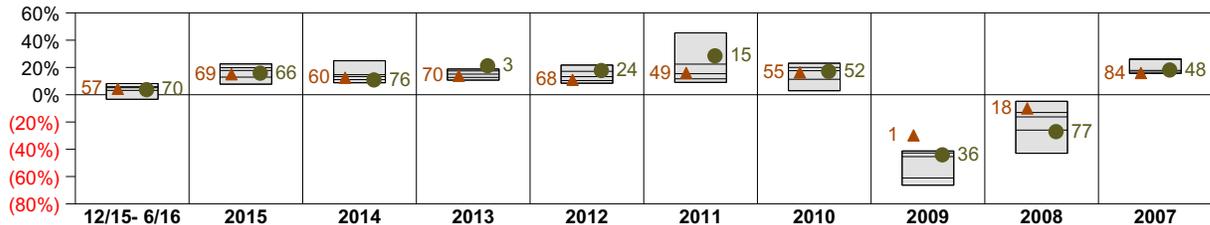


JPM Income and Growth Fund Return Analysis Summary

Return Analysis

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

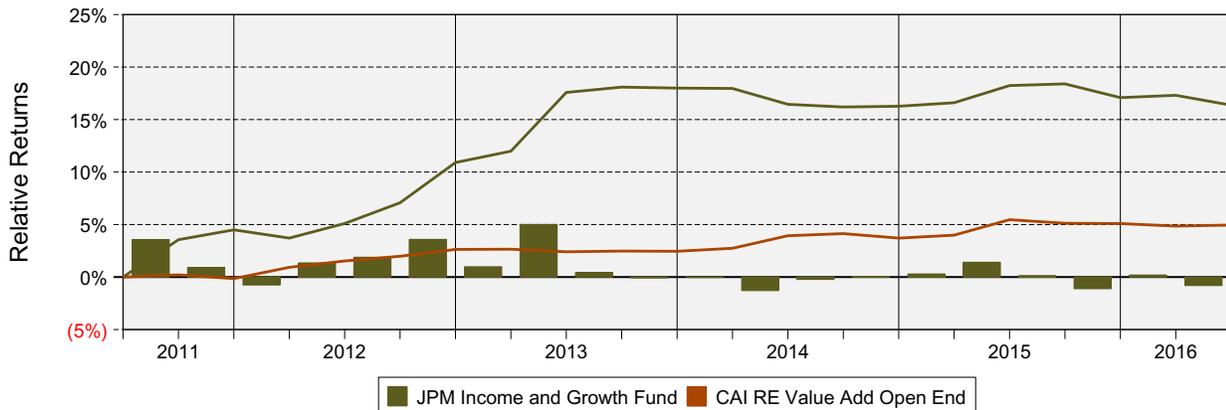
Performance vs CAI Real Estate Val Added Open End Fds (Net)



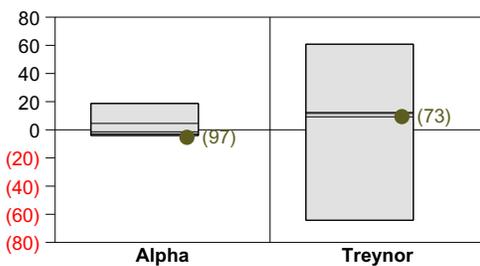
10th Percentile	8.20	22.58	24.91	18.81	21.75	45.34	23.11	(41.24)	(4.81)	26.17
25th Percentile	5.89	19.83	14.68	17.45	17.17	22.42	20.00	(42.72)	(13.03)	25.97
Median	5.15	17.79	13.32	15.13	13.28	15.42	17.62	(45.40)	(16.25)	17.80
75th Percentile	3.19	12.91	11.07	12.70	10.39	11.66	11.32	(61.06)	(25.95)	16.47
90th Percentile	(3.35)	7.73	8.77	10.70	8.43	9.06	2.94	(66.35)	(42.95)	15.61

JPM Income and Growth Fund	●	3.72	15.83	10.85	21.23	17.74	28.52	17.11	(44.09)	(27.07)	18.11
NFI-ODCE Value Weight Gross	▲	4.36	15.02	12.50	13.94	10.94	15.99	16.36	(29.76)	(10.01)	15.97

Cumulative and Quarterly Relative Return vs NFI-ODCE Value Weight Gross

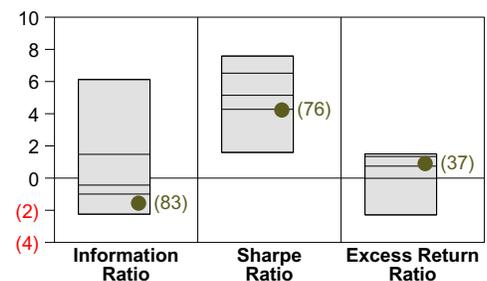


Risk Adjusted Return Measures vs NFI-ODCE Value Weight Gross Rankings Against CAI Real Estate Val Added Open End Fds (Net) Five Years Ended June 30, 2016



10th Percentile	18.71	60.81
25th Percentile	4.55	12.34
Median	(1.43)	11.62
75th Percentile	(2.90)	9.23
90th Percentile	(4.03)	(64.24)

JPM Income and Growth Fund	●	(5.33)	9.38
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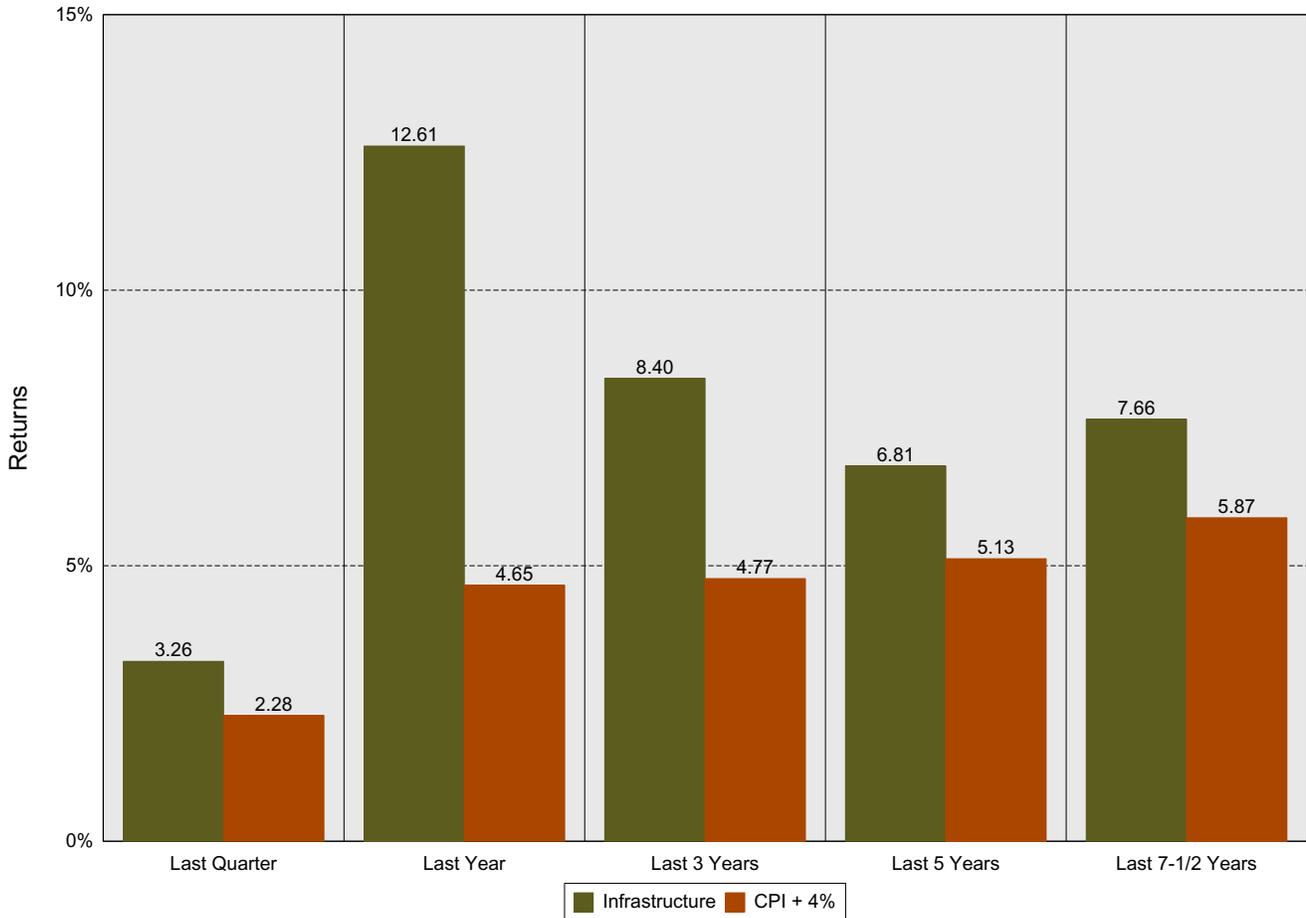
10th Percentile	6.13	7.58	1.50
25th Percentile	1.48	6.52	1.34
Median	(0.44)	5.15	0.74
75th Percentile	(0.99)	4.27	(0.01)
90th Percentile	(2.24)	1.59	(2.29)

JPM Income and Growth Fund	●	(1.56)	4.23	0.90
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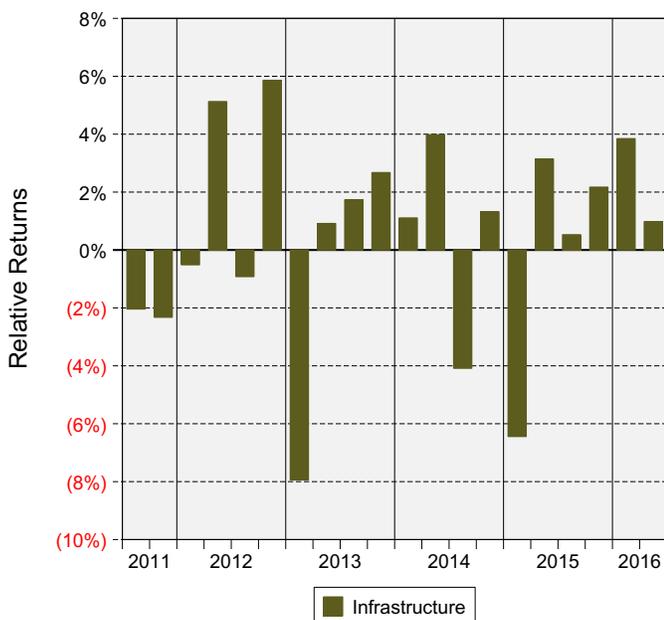
Infrastructure Period Ended June 30, 2016

Quarterly Summary and Highlights

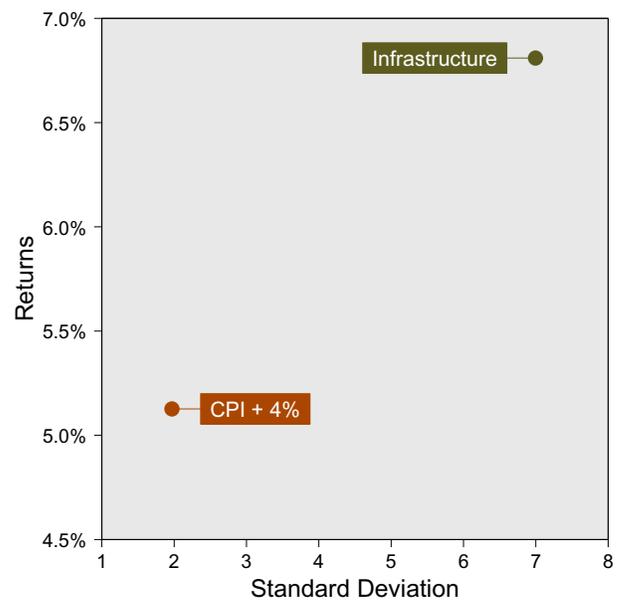
- Infrastructure's portfolio outperformed the CPI + 4% by 0.98% for the quarter and outperformed the CPI + 4% for the year by 7.97%.



Relative Return vs CPI + 4%



Annualized Five Year Risk vs Return



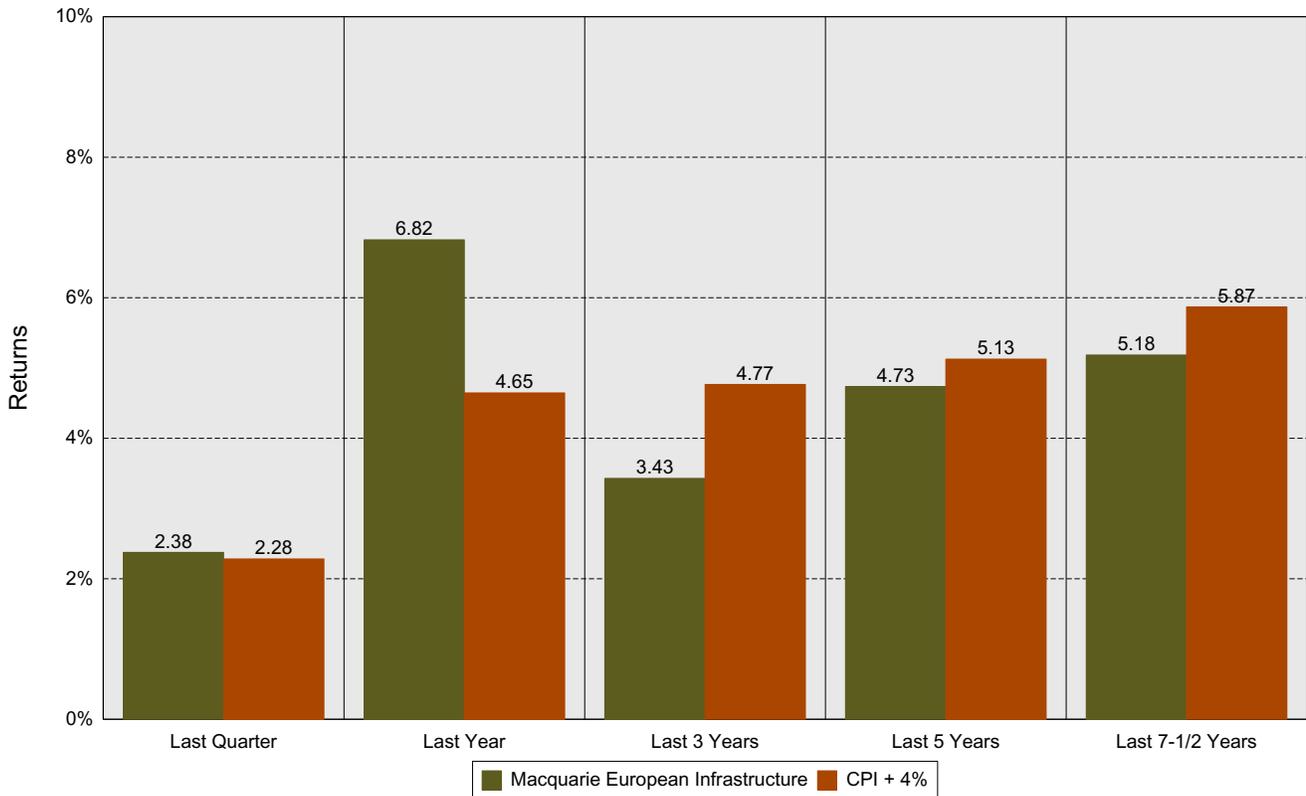
Macquarie European Infrastructure Period Ended June 30, 2016

Investment Philosophy

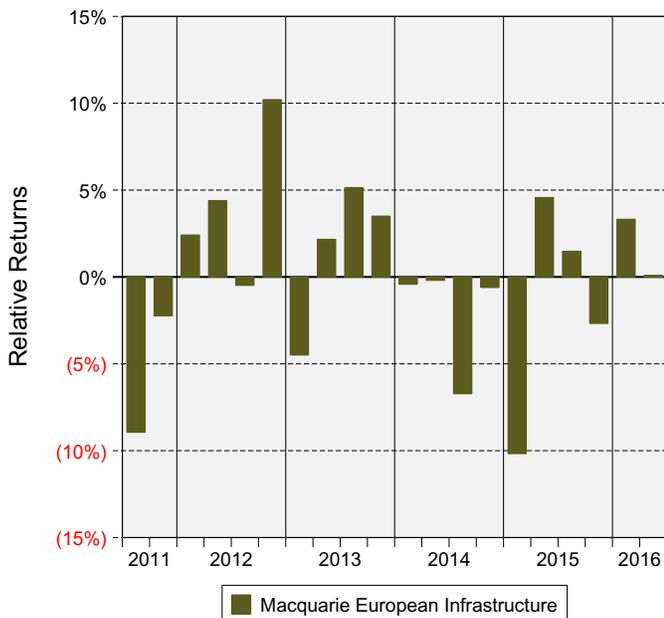
The product was funded in the fourth quarter of 2008.

Quarterly Summary and Highlights

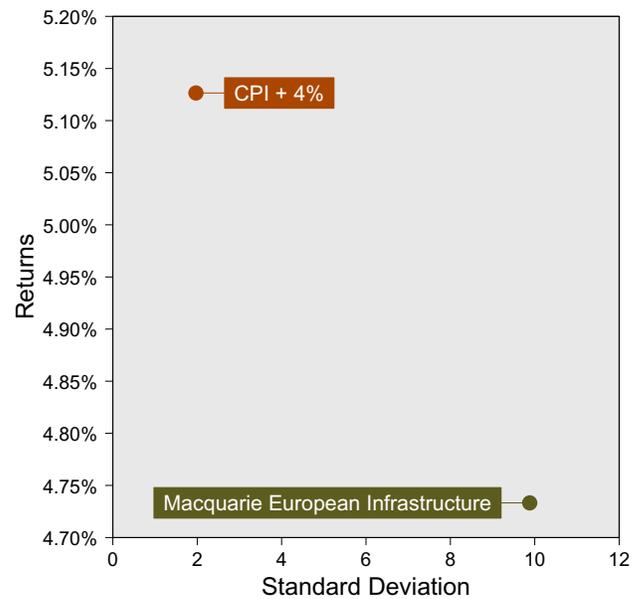
- Macquarie European Infrastructure's portfolio outperformed the CPI + 4% by 0.09% for the quarter and outperformed the CPI + 4% for the year by 2.18%.



Relative Return vs CPI + 4%



Annualized Five Year Risk vs Return



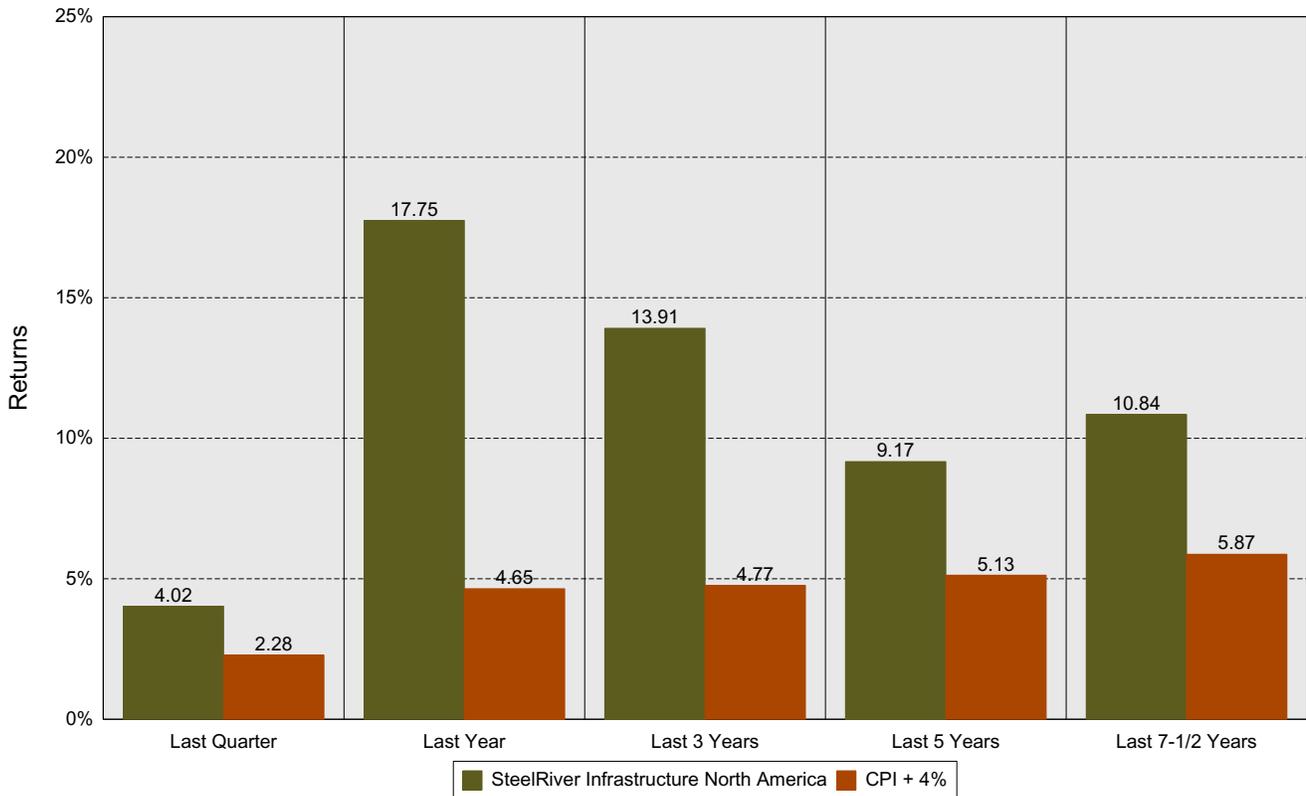
SteelRiver Infrastructure North America Period Ended June 30, 2016

Investment Philosophy

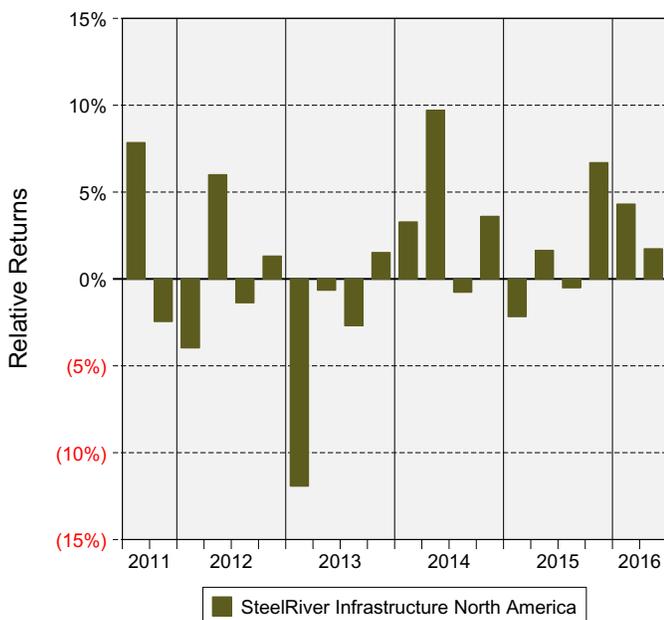
The product was funded in the fourth quarter of 2008.

Quarterly Summary and Highlights

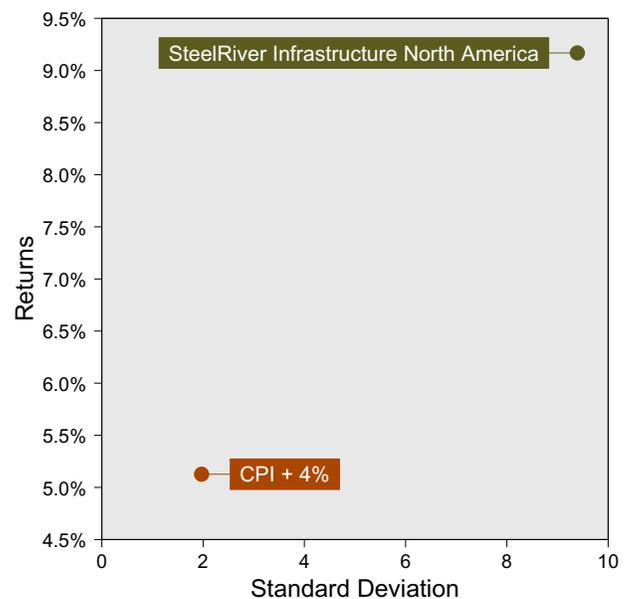
- SteelRiver Infrastructure North America's portfolio outperformed the CPI + 4% by 1.74% for the quarter and outperformed the CPI + 4% for the year by 13.10%.



Relative Return vs CPI + 4%



Annualized Five Year Risk vs Return



Research and Educational Programs

The Callan Institute provides research that updates clients on the latest industry trends while helping them learn through carefully structured educational programs. Visit www.callan.com/research to see all of our publications, or for more information contact Anna West at 415.974.5060 / institute@callan.com.

New Research from Callan's Experts



Aspiring Managers: Negotiating the Dual Realities Facing Diverse and Emerging Managers | Callan Chairman and CEO Ron Peyton and Callan Connects Manager Lauren Mathias, CFA, provide perspective on the diverse and emerging manager arenas and offer thoughts on how these managers can succeed.

Asset Managers and ESG: Sensing Opportunity, Bigger Firms Lead the Charge | In Callan's ESG survey of asset managers, author Mark Wood, CFA, reveals that the majority of large asset management firms have formal ESG policies, while smaller firms have yet to exhibit widespread adoption. Around one-third of managers with a formal ESG policy expect it will help them achieve higher risk-adjusted returns and improved risk profiles over the long term.

Video: Sustainability in Real Estate Investing | Sarah Angus, CAIA, a consultant in Callan's Real Assets Consulting group, discusses the benefits in using sustainable practices in managing real estate buildings, including higher tenant satisfaction and retention, greater occupancy, and increased values.

Considering Currency Hedging in an Equity Portfolio: 10 Charts to Help Frame a Policy | Callan recommends a measured approach to managing currency, including creating a policy to ensure short-term decisions made during painful times are in line with the long-term strategic goals of the plan. These 10 charts provide context for currency hedging discussions.

Video: The Costs of Closing: Nuclear Decommissioning Trusts | Julia Moriarty, CFA, of Callan's Capital Markets Research group discusses hedging costs, the impact of license extension, and more.



Emerging Markets: Opportunities and Challenges in Public Equity Investing | Callan's global equity investment experts (Andy Iseri, CFA, Ho Hwang, and Lyman Jung) write that despite risks, emerging market equities still can play an important role in well-diversified institutional portfolios.

Real Estate Indicators: Too Hot to Touch or Cool Enough to Handle? | Callan's Real Assets Consulting group identifies seven indicators that have helped signal when the institutional real estate market is overheated or has cooled down.

Periodicals

Private Markets Trends, Spring 2016 | The latest on private equity.

DC Observer, 1st Quarter 2016 | The PPA, 10 years later: DC assets have grown and target date funds have skyrocketed.

Hedge Fund Monitor, 1st Quarter 2016 | The latest on these funds, plus the challenges in the search for above-average managers.

Market Pulse Flipbook, 1st Quarter 2016 | A guide covering investment and fund sponsor trends, the U.S. economy, the capital markets, and Callan's proprietary DC Index.

Capital Market Review, 1st Quarter 2016 | Insights on the economy and recent performance in equities, fixed income, alternatives, real estate, and more.

Inside Callan's Database, 1st Quarter 2016 | A look at performance and risk data from Callan's proprietary database and relevant market indices.

Events

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: <https://www.callan.com/education/CII/>

Mark your calendars for our fall **Regional Workshop**, October 25 in New York and October 26 in Chicago, and our **National Conference**, January 23–25, 2017, at the Palace Hotel in San Francisco.

For more information about events, please contact Barb Gerraty: 415.274.3093 / gerraty@callan.com

The Center for Investment Training Educational Sessions

The Center for Investment Training, better known as the “Callan College,” provides a foundation of knowledge for industry professionals who are involved in the investment decision-making process. It was founded in 1994 to provide clients and non-clients alike with basic- to intermediate-level instruction. Our next session is:

Introduction to Investments

Chicago, October 18–19, 2016

This session familiarizes fund sponsor trustees, staff, and asset management advisors with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals who have less than two years of experience with asset-management oversight and/or support responsibilities. Tuition for the Introductory “Callan College” session is \$2,350 per person. Tuition includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Customized Sessions

The “Callan College” is equipped to customize a curriculum to meet the training and educational needs of a specific organization. These tailored sessions range from basic to advanced and can take place anywhere—even at your office.

Learn more at <https://www.callan.com/education/college/> or contact Kathleen Cunnie: 415.274.3029 / cunnie@callan.com

Education: By the Numbers

500 Attendees (on average) of the Institute's annual National Conference

50+ Unique pieces of research the Institute generates each year

3,500 Total attendees of the “Callan College” since 1994

1980 Year the Callan Institute was founded



“We think the best way to learn something is to teach it. Entrusting client education to our consultants and specialists ensures that they have a total command of their subject matter. This is one reason why education and research have been cornerstones of our firm for more than 40 years.”

Ron Peyton, Chairman and CEO

List of Callan's Investment Manager Clients

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Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor and disclose potential conflicts on an on-going basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance Department.

Manager Name
1607 Capital Partners, LLC
Aberdeen Asset Management PLC
Acadian Asset Management LLC
AEGON USA Investment Management
Affiliated Managers Group, Inc.
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
American Century Investment Management
Amundi Smith Breeden LLC
Analytic Investors
Angelo, Gordon & Co.
Apollo Global Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Artisan Holdings
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Babson Capital Management
Baillie Gifford Overseas Limited
Baird Advisors
Bank of America
Baring Asset Management
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Asset Management, Corp.
BNP Paribas Investment Partners
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
Brown Brothers Harriman & Company
Cambiar Investors, LLC

Manager Name
Capital Group
CastleArk Management, LLC
Causeway Capital Management
Chartwell Investment Partners
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Management Investment Advisers, LLC
Columbus Circle Investors
Corbin Capital Partners, L.P.
Cornerstone Capital Management
Cramer Rosenthal McGlynn, LLC
Crawford Investment Counsel, Inc.
Credit Suisse Asset Management
Crestline Investors, Inc.
DE Shaw Investment Management, LLC
Delaware Investments
DePrince, Race & Zollo, Inc.
Deutsche Asset Management
Diamond Hill Investments
Duff & Phelps Investment Mgmt. Co.
Eagle Asset Management, Inc.
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Investors
Fidelity Institutional Asset Management
Fiera Capital Global Asset Management
First Eagle Investment Management, LLC
First Hawaiian Bank Wealth Management Division
Fisher Investments
Fort Washington Investment Advisors, Inc.
Franklin Templeton Institutional
Fred Alger Management, Inc.
Fuller & Thaler Asset Management, Inc.
GAM (USA) Inc.
GE Asset Management

Manager Name
GMO
Goldman Sachs Asset Management
Grand-Jean Capital Management
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Funds
Hartford Investment Management Co.
Henderson Global Investors
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Income Research + Management, Inc.
Insight Investment Management Limited
Institutional Capital LLC
INTECH Investment Management, LLC
Invesco
Investec Asset Management
Janus Capital Management, LLC
Jensen Investment Management
J.P. Morgan Asset Management
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
LMCG Investments, LLC
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Man Investments Inc.
Manulife Asset Management
Martin Currie Inc.
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Lake Investment Management LLC
MUFG Union Bank, N.A.
Neuberger Berman
Newton Investment Management (fka Newton Capital Management)
Nikko Asset Management Co., Ltd.
Northern Trust Asset Management
Nuveen Investments, Inc.
OFI Global Asset Management
Old Mutual Asset Management
Opus Capital Management Inc.
Pacific Investment Management Company

Manager Name
Parametric Portfolio Associates
Peregrine Capital Management, Inc.
PGIM
PineBridge Investments
Pinnacle Asset Management L.P.
Pioneer Investments
PNC Capital Advisors, LLC
Principal Global Investors
Private Advisors, LLC
Putnam Investments, LLC
QMA (Quantitative Management Associates)
RBC Global Asset Management
Regions Financial Corporation
RidgeWorth Capital Management, Inc.
Rockefeller & Co., Inc.
Rothschild Asset Management, Inc.
Russell Investments
Santander Global Facilities
Schroder Investment Management North America Inc.
Scout Investments
SEI Investments
Smith, Graham & Co. Investment Advisors, L.P.
Smith Group Asset Management
Standard Life Investments Limited
Standish
State Street Global Advisors
Stone Harbor Investment Partners, L.P.
Systematic Financial Management
T. Rowe Price Associates, Inc.
Taplin, Canida & Habacht
The Boston Company Asset Management, LLC
The Hartford
The London Company
The TCW Group, Inc.
Tri-Star Trust Bank
UBS Asset Management
Van Eck Global
Versus Capital Group
Victory Capital Management Inc.
Vontobel Asset Management, Inc.
Voya Financial
Voya Investment Management (fka ING)
Waddell & Reed Asset Management Group
WCM Investment Management
WEDGE Capital Management
Wellington Management Company, LLP
Wells Capital Management
Western Asset Management Company
William Blair & Company

SHOULD WE INDEX THE WHOLE FUND & EVALUATION OF INVESTMENT MANAGERS

Purpose: An agenda item has been proposed by the Board to discuss whether or not it would be beneficial to index the entire TSRS Fund. Another item was proposed to discuss evaluation of investment managers with a proposal that 1.5% over benchmark be the barometer. These items together lead to the discussion as to whether the TSRS is deriving a benefit from employing an active management approach to the portfolio, and given that approach what is the most beneficial method to evaluate investment managers. This communication serves to educate the board on the Pro's and Con's of employing active management and considerations for manager evaluation.

To frame the discussion, asset allocation is the primary driver of risk and return of the TSRS portfolio. The TSRS Board selects an asset allocation policy as a result of an asset/liability study, which is conducted by the investment consultant. The TSRS implements asset allocation policy with a selection of active and passive investment strategies. At a minimum, active managers should outperform their respective indices after investment management fees over a full market cycle of perhaps 7-years. Otherwise, it makes sense to use index funds. It should be noted many large institutional investors employ a blend of active and passive strategies.

Pro's of Active Management:

- There is an opportunity to generate higher returns than index funds in the broader market. Please refer to the attached "Relative Attribution Effects for Quarter Ended June 30, 2016" provided by Callan which displays the return effects of active management. Active management has created an additional return of 110 basis points. When 40 basis points are deducted as a rough estimate for active manager fees the annualized five year return is a gain of 70 basis points from active management.
- A diversified portfolio of passive and active strategies can help protect against market risks, particularly in down cycles as there is an ability for active managers to adjust.
- Illiquid asset classes often do not have investable index strategies. The Board would not be able to access current investments like private infrastructure and private real estate via passive strategies.
- Active Management historically has added value in less efficient asset categories.

Con's of Active Management:

- There is a potential to generate a lower return than the broad markets, and active management may not keep pace with strong market rallies.
- Active management often requires a long term prospective to realize excess returns. Investors may have to be in patient during periods of relative underperformance.
- Active management comes at a higher cost and creates a fee hurdle that managers must overcome. Currently the Fund pays approximately \$3.3 million to these parties on an annual basis to employ active management. Active Management requires additional staff and Board time. Currently 35%-45% of TSRS staff time is spent on performing oversight, monitoring, reporting, and reviewing any contractual needs for active managers. The Board discusses the results of active management on a monthly basis and conducts manager reviews on a continuing basis. These items can comprise up to 75% of the agenda at times.

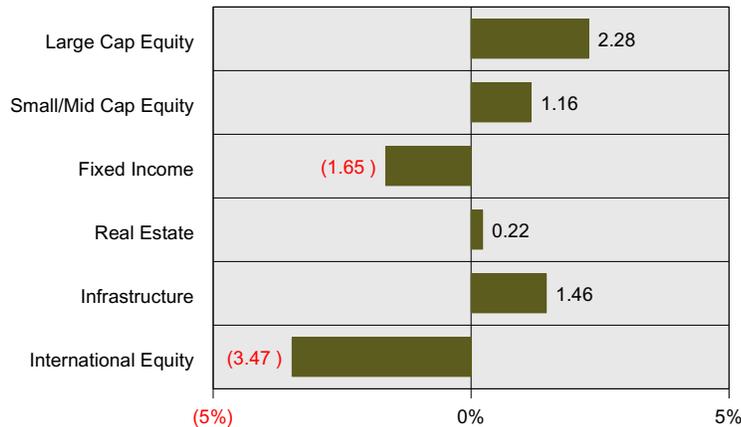
Manager Evaluation: Concurrently with active management comes manager evaluation by staff and the Board to ensure the managers are following their contractual obligations. The Board has a process in place to vet potential managers prior to contracting. In regards to monitoring, under our current framework, the Board reviews asset balances and returns on a monthly basis, and invites managers on a periodic basis to present and answer any questions regarding their performance and/or strategy. The Board has proposed that a return of 1.5% over the respective benchmark be a barometer for success of the respective manager. This will vary based on asset class and type of strategy. For example, this is a high hurdle for equity strategies that take less volatility than the benchmark and tend to protect more capital in declining markets. Also, fixed income is a less volatile asset class and expectations of active managers should be lessened accordingly. It should be noted that active managers perform differently in various market environments. An understanding of each manager and the market environment is paramount to interpret their performance record. The Board does retain the ability to hire and fire investment managers as needed.

Staff Comment: Some considerations in regards to employing an active investment strategy vs. an indexed strategy have been identified above. The Board should discuss their philosophy on active management and if they believe in its value proposition after investment management fees over time.

Quarterly Style Attribution - June 30, 2016

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

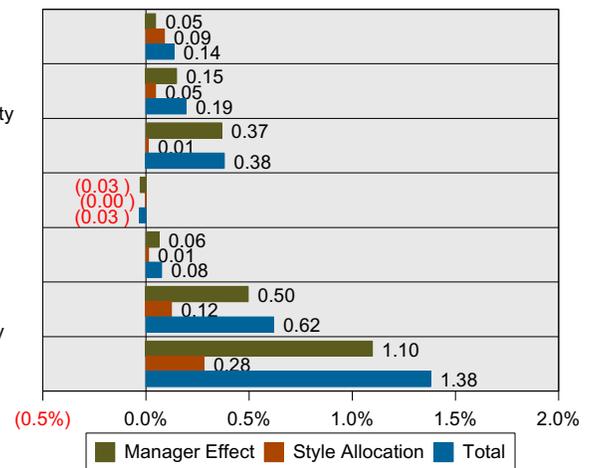
Style Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Style Class



Relative Attribution Effects for Quarter ended June 30, 2016

Style Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Style Allocation	Total Relative Return
Large Cap Equity	32%	29%	2.37%	2.46%	0.05%	0.09%	0.14%
Small/Mid Cap Equity	10%	9%	4.77%	3.57%	0.15%	0.05%	0.19%
Fixed Income	25%	27%	3.76%	2.21%	0.37%	0.01%	0.38%
Real Estate	9%	9%	1.82%	2.13%	(0.03%)	(0.00%)	(0.03%)
Infrastructure	6%	5%	3.26%	2.28%	0.06%	0.01%	0.08%
International Equity	18%	22%	1.83%	(0.70%)	0.50%	0.12%	0.62%

Total **2.84% = 1.46% + 1.10% + 0.28%** **1.38%**

* Current Quarter Target = 27.0% Barclays Aggregate Index, 26.0% S&P 500 Index, 25.0% MSCI ACWI ex US IMI, 9.0% NFI-ODCE Value Weight Gr, 8.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

**TUCSON SUPPLEMENTAL RETIREMENT SYSTEM
BOARD OF TRUSTEES
MEETING MINUTES**

DATE: Thursday, June 30, 2016
TIME: 8:30 a.m.
PLACE: Finance Department Conference Room, 5th floor
City Hall, 255 West Alameda
Tucson, Arizona 85701

Members Present: Michael Coffey, Acting Chairman
Kevin Larson, City Appointee
Rebecca Hill, HR Director
Jorge Hernández, Elected Representative
Karen Tenace, Deputy Director of Finance

Staff Present: Neil Galassi, Pension Administrator
Bob Szelewski, Pension Lead Analyst
Dmitriy Adamia, Administrative Assistant

Guests Present: Catherine Langford (via telephone)
Stephen J. Arnoldi, City of Tucson Employee

Absent/Excused: Robert Fleming, Chairman
John O'Hare, Elected Retiree Representative

Michael Coffey called the meeting to order at 8:35 AM.

A. Consent Agenda

1. Approval of May 26th, 2016 TSRS Board Meeting Minutes
2. Retirement ratifications for June 2016
3. May 2016 TSRS Budget Vs Actual Expenses

Chairman Coffey asked for a vote on the approval of the Consent Agenda. A motion to approve the Consent Agenda was made by Kevin Larson, 2nd by Jorge Hernandez and passed by a vote of 4-0 (Chairman Coffey did not vote, Robert Fleming and John O'Hare absent/excused).

B. Disability Applications *

1. Stephen J. Arnoldi

Kevin Larson stated the approval from the Social Security Administration was an important factor in the disability application.

Chairman Coffey stated the approval from Social Security Administration is not the deciding factor but it is an important factor the TSRS Board considers.

Rebecca Hill stated Mr. Arnoldi has submitted paperwork for long-term disability.

A motion to approve the disability retirement application of Stephen J. Arnoldi was made by Kevin Larson, 2nd by Rebecca Hill and passed by a vote of 4-0 (Chairman Coffey did not vote, Robert Fleming and John O'Hare absent/excused).

C. Investment Activity Report

1. TSRS Portfolio Composition, Transactions and Performance Review as of May 31st, 2016

Neil Galassi asked if the Board had questions about the reports presented.

Chairman Coffey asked if this reporting format is the new standard.

Mr. Galassi answered in the affirmative.

Mr. Galassi stated the executive summary was prepared before the Brexit and he focused on a few factors regarding the Brexit.

Mr. Galassi stated the United Kingdom voted to leave the Euro Zone. This topic was touched upon by Callan in the last Board meeting as a potential event. As the Market anticipated the vote to leave would fail, the market rallied the day before and the portfolio saw a 50 basis point increase equating to about a \$4.5M during the week leading up to the vote. Two days following the vote the portfolio declined approximately 1.7% from the balance as of the beginning of the week. Since Monday of this week the portfolio has gained back about 90 basis points. The initial losses were related to short term market reaction and correction from the previous rally. During discussions with Callan, they do not believe this is a Black Swan event, they would classify this as simply an event, as losses were not catastrophic and the market began to seemingly change trajectory from the events of the morning later in the day. Overall the largest one day market losses were around 3% - 3.5%

Chairman Coffey asked in terms of asset allocation he is interested in the effect on the Boards International Equity investments.

Mr. Galassi stated staff has received communication from all three of the Boards International Equity managers. All three managers have indicated they are focused on the best interests of their clients and are actively monitoring the negotiations. If the Euro Zone exit is done in an accommodative manner it may encourage other States to consider leaving. If the negotiations are punitive other States may look at it as a teachable moment and be more inclined to stay in the Euro Zone. Our recent increased exposure to international equity did not make a significant difference in the losses as the majority of domestic companies we have been invested in have international operations, therefore domestic equities saw similar losses. Going forward there is uncertainty, it will take years of negotiations for the exit to be finalized.

Mr. Galassi stated from an actuarial prospective this is an event that caused a loss near fiscal year end, which is the measurement date for our actuarial valuations. It appears as of June 30, 2016 the Portfolio could potentially be down somewhere in the 3% to 4% range from the June 30, 2015 Market value of \$735.6M. Although from a market basis prospective the returns may be near zero, the actuarial value of the assets may increase. This is due to the 5 year actuarial smoothing of investment gains/losses in order to lessen the impact of potential events like near fiscal year end like the Brexit, and have contribution rates remain more stable. As of June 30, 2015, the actuarial value was \$706.8M which was approximately \$28.8M different from the market value as of that date. With the 5 year smoothing only 1/5th of losses from this fiscal year would affect the portfolio on an actuarial basis. It appears the years representing the other 4/5th may potentially mitigate losses resulting from the Brexit in the 2016 valuation.

D. Administrative Discussions

1. Funding Policy Revision: Redline Version – Catherine E. Langford

Catherine Langford stated when the Board was working on the proposed code changes that we were putting together in connection with the IRS application last fall; the board reviewed and revised the funding policy in a fairly significant manner in connection with those proposed City Code changes. The Overall goals of that funding policy revision last year were to incorporate and lock in this concept of setting the City's contributions to the system at a floor of 27.5% and building in on a permanent basis our rounding policy. The goal for the Board at that time was to get the funding policy incorporated into the actual code language, so we could get rid of the distinction between the actuarially required contribution and the Board's recommended contribution. When the contributions were taken to Mayor and Council for approval along with code changes, we were able to accomplish some of the needed code changes but we were not able to accomplish having the funding policy changes written into City Code. The Mayor and Council retained our current structure, where we have a baseline required contribution which is based on the actuarial calculation, and that is what the city has required under the code to appropriate and pay over into the system. She suggested making the funding policy consistent with the code changes that were actually approved by Mayor and Council last year. What the Board has done in this draft is remove the provisions that anticipated code changes, and anticipated that we would be able to replace in the code the actuarially required contributions with the board recommended contributions. We have taken that language out of the funding policy that reflected code changes that were not made, but left in there the Board's goal to encourage and recommend additional funding until the system is fully funded.

Chairman Coffey asked are administrative expenses factored in the ARC.

Ms. Langford answered administrative expenses are not factored into the ARC. Historically administrative expenses have reduced our investment gain. That was discovered that last year and it was decided that we should add the administrative expenses as a separate item in the calculation of the required actual contribution recommendation. The intent is to recommend to the City that they pay the administrative expense cost for the year, and the contributions be rounded under the rounding policy upon adoption of the contribution rate for any particular fiscal year. In the past administrative expenses were not accounted for as a separate line item in the Annual Actuarial Evaluation; they were simply just an offset to investment gains. Administrative expenses are typically in the neighborhood of \$700,000 a year, they are part of the administrative budget, and that number is separately communicated to the actuary. This funding policy change last year with regards to administrative expenses was our effort to make that more transparent and to provide a more accurate reflection of the true investment results.

Karen Tenace stated the funding policy is a complicated read from a layperson's perspective. This policy will be published on our website, potentially plan members could be reading it, the public, and ward offices. Laced throughout this entire policy are terms like the ARC, ADC, calculated rate, and charged rate. The Board should consider not only tightening it up and reflecting what is actually occurred, but also tightening up the terminology. Additionally looking at other funding policies it is very clear and conspicuous in their policies the purpose is to fully fund the plan, to minimizing volatility for the employer and the employee, and to mitigate risk of intergenerational equity issue. Under our purpose we defined what the core elements of the ADC are. She believes this could be cleaned up to be an easier read.

Rebecca Hill stated most of the information is defined in the body of the document and there are visible attempts to be concise and to condense the document. It is a complex issue and most people probably are not going to understand it.

Kevin Larson asked do we tend to get a fair amount of questions on the funding policy and where is this policy posted.

Ms. Hill answered the Board has staff that can address those questions when they surface.

Mr. Larson stated he believes the funding policy is a legal document, which is why the Board has attorneys draft it to cover the legal bases. He believes it certainly could be better written in terms of being reader friendly. He asked do our employees or the public ever look at this to any extent and do we get follow-up questions.

Ms. Tenace stated this policy does get attached to Mayor-Council communications because we refer to it. We have the IAPC subcommittee looking at it and we will be answering questions regarding the funding policy when that committee meets. On occasion it does get reviewed and if we are starting from a confusing read versus something potentially clearer, we are starting off on better footing in terms of explaining something that is already complex.

Chairman Coffey stated he agrees it is a complex legal document and it may need to be complex to cover all of the legal bases. In parallel to this the Board could add documentation generated for our members that is easier to read but not necessarily change legal policy documents.

Chairman Coffey and Ms. Hill stated maybe a page that states "How to Understand the Funding Policy".

Ms. Langford stated the Board put the funding policy document together 4 or 5 years ago because we needed to fill the gaps. We had code provisions that were very basic, we had the actuary evaluation report, and we did not have in writing a policy that captured the assumptions that were being used and the methodology. The Funding Policy evolved from a very technical standpoint, she thinks that if the Board were comfortable with the substance of the policy, she would recommend that the Board adopt the Funding Policy document draft presented here. She would then bring back another draft of it that is intended to be a more plain English version, and she thinks it can be accomplished in this document. Even if we had a more readable purpose section and introduction we can ease people into the technical nature of what we are covering here. She would like to have the basic principles adopted before we close out our current fiscal year, so that this funding policy which gets wrapped into the evaluation is accurate. The one that we adopted last year simply does not correspond to the code any longer.

Ms. Tenace stated she is onboard with this idea and in the following days she will come up with a few suggestions on how to make the Funding Policy a little bit more readable.

Mr. Larson stated he would support approving the Funding Policy. Additionally he would prefer a summary page that is focused on what is really important to the reader. He does not believe it is worth the time to try and go through these five pages and make it reader friendly because it is a lot of detail.

Ms. Langford stated we could start the funding policy with an Executive Summary page and leave the funding policy technical.

Chairman Coffey asked for a vote on the approval of the Funding Policy Revision. A motion to approve the Funding Policy Revision was made by Kevin Larson, 2nd by Rebecca Hill and passed by a vote of 4-0 (Chairman Coffey did not vote, Robert Fleming and John O'Hare absent/excused).

2. Valeant Pharmaceuticals Litigation – Catherine E. Langford

Catherine Langford stated Valeant is an international pharmaceutical corporation that is under investigation and the subject of several lawsuits for major stock losses. The company has lost more than \$80B in market capitalization since inception of the investigation. Market losses were generated by what are alleged to be fraudulent pricing practices on certain drugs manufactured by Valeant. There is a large investor shareholder class action lawsuit that is pending in district court in New Jersey. The law firm that is doing the security monitoring for the Board, Robbins, Gellar, Rudman, & Dowd (RGRD) has identified a loss that the system suffered relating to Valeant securities purchased in March of 2015. The loss is estimated at half a million

dollars for the system. The class action lawsuit has been pending and it deals with securities that were purchased over a two year period of time. The reason the Board was contacted about it by RGRD is the fact that the securities the system purchased in March of 2015 were part of a separate offering in which RGRD was not able to identify any other investor in their database who purchased shares directly in that March 2015 offering. As a result, they did not have another plaintiff available to represent the class of investors that bought shares in that March 2015 offering. Therefore, they approached the city and the system about becoming a named plaintiff with respect to that March 2015 offering in the current class action lawsuit. The lead plaintiff for the class action lawsuit is TIAA-Cref, they have the largest overall losses but they did not buy any securities in that particular March 15 offering. Staff and legal counsel had a series of conversations with the attorneys who are working on the class action lawsuit, and the City Attorney took the matter to Mayor and Council. Mayor and Council agreed and approved the named plaintiff position for the City. Given provisions in the City's Charter, the suit is written to have the City, on behalf of the system, be the named plaintiff. Although the system's losses are approximately \$500,000, the losses for that entire class of investors from the March 2015 offering is about a billion dollars. It is significant because by bringing the System's claim into the suit as a named plaintiff, the attorneys are able to bring in a number of other parties as defendants for example, underwriters and insurance companies. The updated consolidated complaint was filed with the court last June 24, 2016, and that is the first time that the city or the system's name has appeared in any of the proceedings. RGRD is the main attorney on the case and we are going to be working with them on both the Volkswagen litigation and the Valeant litigation. The System is positioned differently in the Volkswagen litigation as the System is a class member, and is not expected to have anything to do in terms of work or participation in the active litigation. In the Valeant litigation it is different because the system, or rather the city on behalf of the system, is serving as a named plaintiff and it is likely that we will have to produce some discovery. However, we have been assured that will be minimal because discovery will be related to did you buy the securities and when and through which investment manager. The attorneys have already compiled all of that information; the securities were purchased through T. Rowe Price and RGRD is already working with T. Rowe Price. The other possibility is that the City or the System may have to make someone available for a deposition in the litigation with regard to the subject of the System's purchase of those shares. It is going to be done on a contingency basis so that the attorney's fees and all of the cost of the class action will be recovered only from any judgment or settlement that the attorneys achieve. This would all be subject to court approval. The litigation has a potential upside of recovering the losses to the System.

Kevin Larson stated he does not believe there is much of a downside to this litigation.

3. Disability Audit Results

Neil Galassi stated consistent with Tucson City Code Section 22-39(f), TSRS must complete a disability audit review of those members that have not reached the normal retirement age or 80 service credits. There are 151 retirees or beneficiary survivors receiving a disability type benefit, of the 151, there were 44 audits sent out in May of 2016 with a certified, return receipt requested. Responses had been received from 40 of the retirees audited. After attempts to locate the most recent information within the means of TSRS staff we were unable to locate 4 individuals. After consultation with legal counsel, Individuals who have failed to respond and/or have failed to ensure TSRS records contain their most recent information can be deemed to not be in compliance with TCC 22-39(f). We recommended discontinuing the benefits to the four non-compliant individuals as an attempt to garner their attention. This action is provided for in the Tucson Code. The audit responses required completion of a simple affidavit indicating whether the retiree had earned any income. The audited individuals were not new or recent retirees. If the Board approves the recommendation the action would affect with the July pension check of the non-compliant individuals. This action has been taken in the past for isolated cases and the reason for the audits was if the individual receiving disability benefits has another source of income, adjustments may be required on their pension checks. This action has been successful in the past.

Rebecca Hill asked if the pension check was discontinued, and the retiree contacts the pension office with the required affidavit than would their pension check be reinstated.

Mr. Galassi answered in the affirmative, once staff had an opportunity to evaluate the information provided in the affidavit.

Kevin Larson asked if the retiree does not contact the pension office for six months, would the retiree receive back pay for the six months.

Mr. Galassi answered in the affirmative. The retiree would be paid retroactively.

Chairman Coffey asked how the 44 retirees were selected out of the 151 in total.

Mr. Galassi stated the retirees that have not reached normal retirement age or attained the 80 service credits.

Chairman Coffey clarified that only 44 out of the 151 have not reached normal retirement age or 80 service credits.

Mr. Galassi answered in the affirmative, and all 44 were audited.

Chairman Coffey asked to clarify if the retiree's income needed to be verified.

Mr. Galassi answered per the City code if the retirees earned income exceeded 50% of their average final compensation than their benefit would need to be evaluated for adjustment.

Chairman Coffey asked in the audit communication sent to the 44 disability retirees, did staff inform the retirees that failure to comply would result in a termination of their benefits.

Mr. Galassi answered in the affirmative.

Catherine Langford stated the reason the income verification requirements may not be familiar to some of the Board members is because they only apply to employees that qualify for disability retirement prior to July of 2009. This is a requirement that is being carried over from an older version of the City code.

Mr. Larson asked what sort of documentation are the retirees required to provide.

Mr. Galassi answered the retirees are required to provide proof of income such as a W2 form and/or a tax return. Retirees also provided 1099R forms to show no earned income.

Chairman Coffey asked for a vote on the approval of discontinuing the benefits to the non-compliant individuals. A motion to approve discontinuing the benefits to the non-compliant individuals was made by Kevin Larson, 2nd by Karen Tenace and passed by a vote of 4-0 (Chairman Coffey did not vote, Robert Fleming and John O'Hare absent/excused).

Mr. Larson asked how does staff determine if a retiree has passed away.

Mr. Galassi stated staff uses a system called "Small World", it is how staff accesses the Social Security database. Bob Szelewski checks the database on a daily basis and we do rely on being contacted by the beneficiaries. Staff has been actively working with Small World, the ASRS, and other jurisdictions to improve the process even though we are at the very early stages of that process.

Bob Szelewski stated typically the population is really minimal. We have two groups of people, the ones that had left a survivor benefit, in that case we usually hear from them rapidly. It is the second group, the single life pensions that typically would be the ones that might go outside of a 30 day or 60 day window and then we have a process in place to recapture funds if there have been overpayments.

E. Articles for Board Member Education / Discussion

1. PIMCO – The Global Outlook: Stable But Not Secure

Neil Galassi stated the Global Outlook article was written and printed before the Brexit. PIMCO's outlook may have changed after the Brexit. The article discussed PIMCO's views of global economy, mainly in regards to China and the future of the global market. Mr. Galassi will be providing the Board members more educational articles in the future.

F. Call to Audience – None heard.

G. Future Agenda Items

1. Education Plan for New Staff and Trustees
2. Duties and Selection of Advisory Board
3. Hiring an Intern to Free Staff for Education
4. TSRS Board Annual Evaluation of Staff and Consultants
5. Formal Evaluation of Active Managers – 1.5% over benchmark over a given period
6. RFQ for Actuarial Services
7. Action Plan for Black Swan Events
8. Would It Be Better to Index the Whole Fund

Mr. Galassi stated Robert Fleming and staff will work together to prioritize and schedule future agenda items. He also indicated he will meet with Board members individually to gather their opinions about possible future agenda items.

H. Adjournment - 9:20 AM.

Chairman Coffey asked for a vote on the approval of the Adjournment. A motion to approve the Adjournment was made by Kevin Larson, 2nd by Rebecca Hill and passed by a vote of 4-0 (Chairman Coffey did not vote, Robert Fleming and John O'Hare absent/excused).

Approved:

Robert Fleming
Chairman of the Board

Date

Neil S. Galassi
Pension Administrator

Date



BlackRock's Michael Fredericks aims to deliver high income and minimize risk.

Brad Tennet for Barron's

Talking With Michael Fredericks

Portfolio Manager, BlackRock Multi-Asset Income

BlackRock's Fredericks Balances Risk and Income

by Amey Stone

Michael Fredericks, head of income investing for BlackRock's Multi-Asset Strategies group, learned about market risk at an impressionable age. He was a senior in a high school outside San Francisco, saving up to buy his first car by scrupulously adding to his stake in Fidelity Magellan. Then Black Monday hit.

Fredericks recalls hearing about the market's 20% plunge on that fateful day in October 1987 and running to a pay phone to call his discount-brokerage firm to see how much money he'd lost. "I didn't know the market could go down that much," he says. "It was my first experience. And it was a pretty extreme example."

Fredericks stayed invested and was able to buy a car later that year. But he never forgot the pain of seeing part of his nest egg evaporate in a matter of hours.

Fast forward 30 years and Fredericks, now 46, is a co-manager of the \$12.6 billion BlackRock Multi-Asset Income fund (ticker:

BAICX), a go-anywhere fund that seeks to limit downside risk while providing investors with high income. "In most cases, investors who want income are also really sensitive to capital losses," he says.

Fredericks worked in pension-advisory and money-management roles, most recently at JPMorgan Asset Management, before joining BlackRock in 2011 to create the firm's retail multi-asset investing team and devise its income strategy. Five years later, Multi-Asset Income has a 5% five-year average annual return and is in the top 10% of Morningstar's tactical allocation category over that period.

Fredericks leads a team of portfolio managers who invest in anything that produces income: dividend-paying stocks, corporate bonds, preferred stocks, bank loans, emerging-market debt. His team makes the asset-allocation calls but works with BlackRock

(over please)

BlackRock Multi-Asset Income

	Total Returns*		
	YTD	3-Yr	5-Yr
BAICX	1.51%	2.32%	4.99%
Ave Tactical Allocation Fund	0.63	-0.34	2.06

Top 10 Assets**	Portfolio Weighting
High Yield Debt	20%
Mortgage-Backed Securities	15
Covered Calls	13
Bank Loans	10
Investment Grade Debt	10
International Equity	9
Preferred Stock	5
Emerging Market Debt	4
Global REITs	4
United States Equity	3

*As of 5/19/2016. **As of 4/30/2016.

Sources: Morningstar, BlackRock

specialists in picking individual securities, sometimes using exchange-traded funds to make an easily traded, broader bet. The goal is to find markets around the world that are attractively valued with decent income.

Every morning, Fredericks says, one of the first things he does is check BlackRock's risk-management tools to make sure the fund isn't taking more risk than would a portfolio made up of 50% stocks and 50% bonds. "Risk models are critical," he says. Compared with a balanced fund, "we'll never take more risk, but we'll be able to generate considerably more yield."

A portfolio balanced between stocks and bonds currently would yield a little over 2%. The fund's 30-day yield is 4.5%.

Fredericks has lowered his stake in stocks, which he says are expensive, to 23%, near the fund's lowest-ever level. And he's adding more fixed-income exposure in high-quality high-yield bonds and preferreds, where coupons are safe and down-

side risks are more modest. "There are a lot of income asset classes that will likely have better total returns and much better risk-adjusted returns than the S&P 500 or Treasuries," he says.

Among corporate bonds, he's exiting some of the high-yield bonds that have rallied sharply since mid-February and now have yields below 5%. Instead, he's adding more securitized corporate loans, which are less volatile but also yield about 5% and often have coupons that adjust higher if interest rates move up. "That's attractive," he says. "We don't expect a big move higher in rates, but it's nice to have that option."

Fredericks says short-term rates could head higher in the next few years. That's why he's shortening the fund's duration by adding some interest-rate hedges that will protect the fund if that happens. He says long-term rates will stay low.

Fredericks is a big fan of writing covered calls as a way to profit from a stock market that is more volatile but unlikely to move much higher -- which Fredericks says is the situation we're in today. The fund writes calls on some of the stocks it owns, collecting the premiums the buyer pays. In return, the buyer gets the right to purchase the stock if it reaches a set price (the "strike price") within a certain period. If it doesn't reach that price, the call expires and the fund can sell another call option. With markets volatile, premiums paid for call options are higher, making this an ideal time for this strategy, he says.

Fredericks has lately been adding some preferred securities issued by large, stable U.S. banks. The fund cut back on preferreds when there was concern about the health of European banks late last year and earlier this year. Now, banks are healthier and preferreds are more attractive.

"We are really careful to avoid asset classes that get expensive because, when they sell off, they sell off hard," he says.

"Emerging-market debt and master limited partnerships are two examples of sectors that can have big drawdowns."

Fredericks learned in his first job after college -- working for two investment advisors in Los Angeles -- that individual investors, unlike institutional investors, don't really care how a fund does compared with its benchmark.

"They look to us to generate income and want to make sure our drawdown is shallow and losses tolerable," he says.

That's one reason that 2015 -- when the fund lost 1.6% -- was painful. It was the fund's only negative year so far, though the fund still beat 85% of funds in its category that year. But many investors, looking at positive total returns in the Standard & Poor's 500 index and Treasuries, were surprised. Fact is, "it was a lousy year for most income categories," Fredericks says. "We really hated being down." So far in 2016, the fund is up 1.5%, better than the average fund in its category.

Fredericks is confident that the strategy is working, but says his team spends a lot of time talking about what they can do better, risks they could have taken, or ones they should have avoided. "We're constantly making small changes that can create big shifts in the fund over time," he says.

He draws on his own early experience coping with a market crash, as well as other behavioral-finance lessons he's learned along the way.

Recently, Fredericks was traveling in Spain for work when he realized he was in the same spot where he'd gone backpacking after college. Now, though, he was in a suit and carrying a briefcase. "Talk about full circle," he jokes. And in many ways, he has come full circle from his time at that high-school pay phone in 1987 -- still focused on managing risk, generating income, and avoiding losses.

This is a reprint of an article published in Barron's on May 21, 2016. Reprinted with permission of Barron's.

Fund performance noted in the article is for Investor A shares without the maximum sales charge of 5.25%. Had the sales charge been deducted, returns would have been lower. Past performance does not guarantee future results.

Please see the latest [fact sheet](#) for more information.

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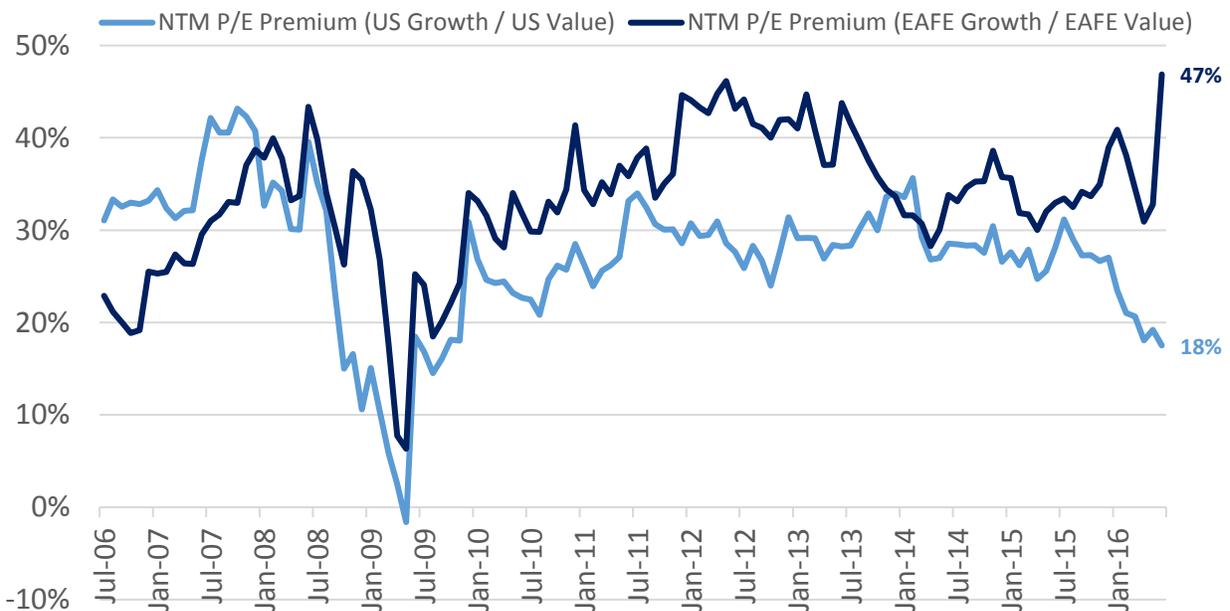
The Price of Popularity

Successful value managers are accustomed to taking unpopular positions. Their best investments frequently begin with unloved and underappreciated stocks that may face short-term challenges, either perceived or real. Over time, the issues are surmounted and the market’s discount fades. By the time those stocks become more universally embraced, it is probably time to sell. But sometimes entire regions gain or lose popularity. At Causeway, we approach the developed world as bottom-up analysts. Top-down considerations play a role in our investment process, but only insofar as they affect a specific company: How will macroeconomic conditions impact sales and profitability of an individual stock in the foreseeable future? After incorporating various scenarios and valuation methodologies, is this stock still undervalued? And based upon the answers to these types of questions, we may be drawn to or away from geographies that exhibit more or fewer attractive value opportunities.

Such has been the case for the past twelve months. Even before the Brexit vote on June 23, we witnessed a significant divergence in the relative performance of value stocks in the United States versus value stocks within Europe and Japan, the largest constituents of the MSCI EAFE Index (“EAFE Index”). In the US, value stocks have generally “re-rated” upward while growth stocks “de-rated” downward. However, in the EAFE Index, value stocks have struggled and are trading at a much larger (and widening) discount to growth stocks. Exhibit 1 reveals that from a forward price-to-earnings (“P/E”) perspective, as of June 30, 2016, growth stocks trade at an 18% premium to value stocks in the US, but growth stocks trade at a 47% premium to value stocks across the EAFE Index Universe.

In the last twelve months, value has performed much better in the US than in EAFE.

Exhibit 1. NTM P/E Premium (Growth vs. Value) in the US and EAFE (Last 10 years)

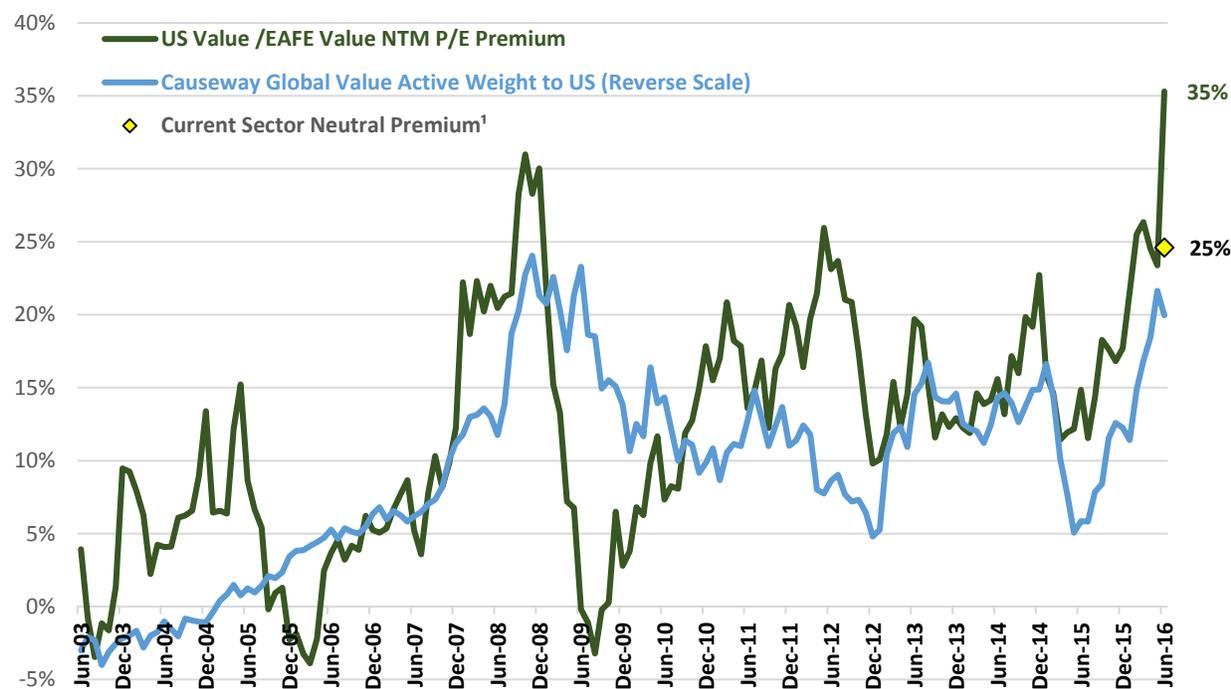


Note: The “NTM P/E” ratio of each index is its price divided by the consensus earnings per share (“EPS”) estimate for the next twelve months. The “Premium” percentage is the NTM P/E ratio of the MSCI USA Growth Index or MSCI EAFE Growth Index, as applicable, divided by the NTM P/E ratio of the MSCI USA Value Index or MSCI EAFE Value Index, as applicable, less 100%. Source: FactSet, MSCI

With a pure bottom-up approach to developed markets, we will naturally “follow” value to geographies in which it is most attractive. After the dramatic performance divergence in the past year, undervaluation is now much more prevalent in Europe and Japan than in the US. The dark green line in Exhibit 2 plots the valuation premium of the MSCI USA Value Index (“US Value Index”) relative to the MSCI EAFE Value Index (“EAFE Value Index”) over time. As of the end of June 2016, this premium stood at 35%. In the same chart, the blue line plots the active underweight of the US (versus the MSCI World Index) within a representative account using Causeway’s Global Value Equity strategy. A high correlation of 0.56 between the two lines demonstrates that, the more richly valued the US market, the lower our exposure. We actively seek to fill the portfolio with the best absolute value opportunities wherever they arise, and in the current environment, we are finding more attractive valuations outside of the US. Previous points in time when the US valuation premium exceeded 20% were quickly followed by reversions to premiums much closer to the long-term average of 12% (Note: Inception of the MSCI forward P/E data series is 2003).

In terms of forward P/E, the US Value Index trades at the highest premium to the EAFE Value Index in recent history, even after removing sector composition effects.

Exhibit 2. Causeway Global Value representative account Active US weight, NTM P/E Premium of US Value Index relative to EAFE Value Index, and P/E Premium assuming a neutral sector composition¹



¹ Applies the sector weights of the MSCI World Index to the float-weighted sector aggregate NTM P/E ratios within USA Value Index and EAFE Value Index.

Note: The “NTM P/E” ratio of each index is its price divided by the consensus EPS estimate for the next twelve months. The “Premium” percentage is the NTM P/E ratio of the USA Value Index divided by the NTM P/E ratio of the EAFE Value Index, less 100%. Source: FactSet, MSCI, Causeway Analytics

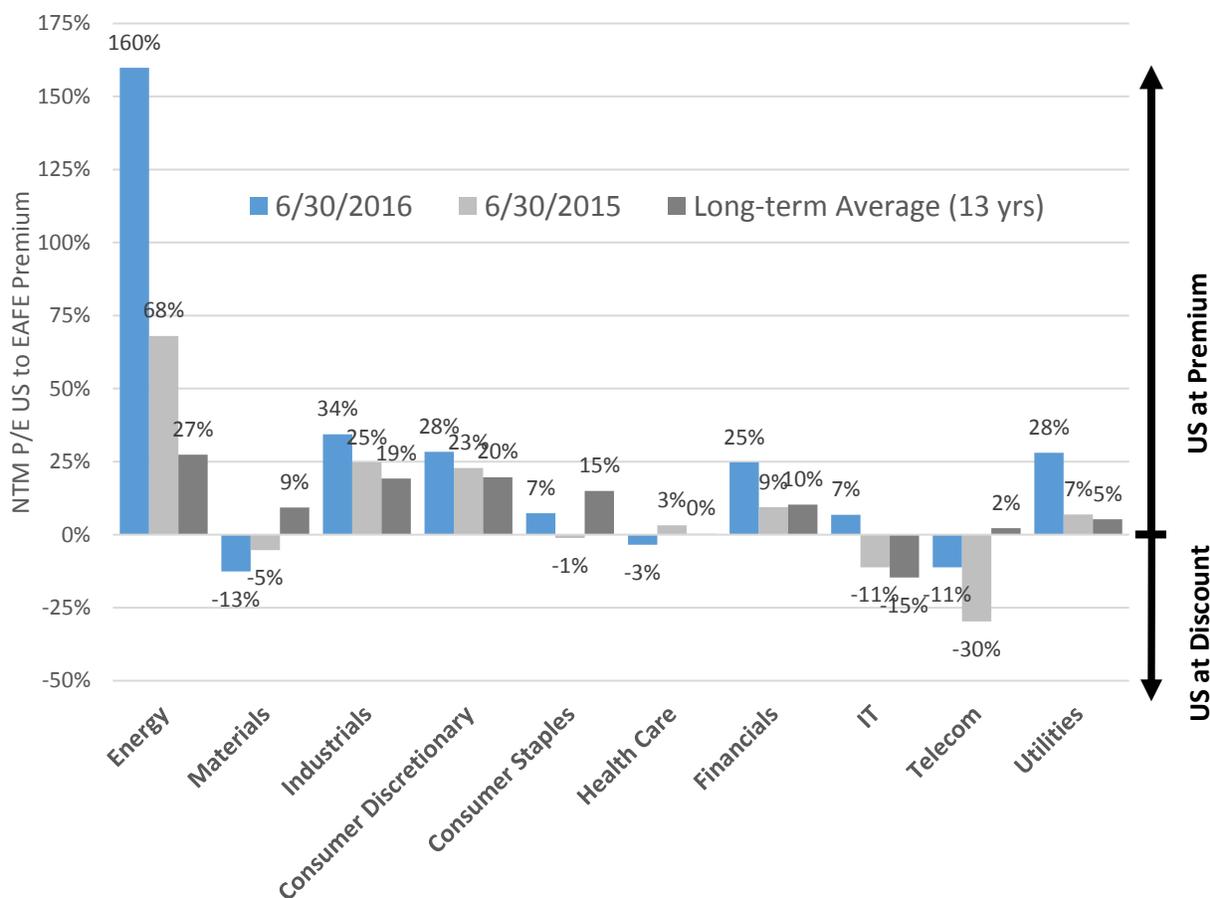
What about differences in sector composition? Relative to the EAFE Value Index, the US Value Index has more weight in Information Technology and Consumer Staples, while it has less weight in Financials. If we apply the sector weights of the MSCI World Index to both the US Value Index and EAFE Value Index, we find that composition explains only part of the premium. The yellow diamond in the chart above

represents this “sector neutral” premium. At 25%, it also sits at an all-time high (matched once before in December 2003) and compares to an average of 7% since 2003. We believe that this sector-neutral premium may likely be even closer to zero over a longer period of history.

For those curious about which sectors trade with the largest valuation disconnect, Exhibit 3 plots the forward P/E multiple premium for each sector in the US Value index relative to the EAFE Value Index. The current premium is displayed relative to the premium as of June 30, 2015 and the long-term average since 2003. In 8 out of the 10 sectors, this premium has increased from June 2015. Energy stands out from the others and is largely explained by the high proportion of Exploration & Production (“E&P”) companies in the US Energy sector and the larger presence of upstream activities within the largest stocks (Exxon Mobil and Chevron). Earnings for these stocks have collapsed in the past couple of years leading to much higher P/E multiples. Aside from the energy sector, the largest regional valuation premiums currently reside in the Industrials, Consumer Discretionary, Utilities, and Financials sectors.

Beyond the anomalous effects of Energy, EAFE Value offers the best relative valuation discounts in Industrials, Consumer Discretionary, Utilities, and Financials compared to US Value

Exhibit 3. Float-weighted Sector NTM P/E Premiums (USA Value Index vs. EAFE Value Index)



Note: The “NTM P/E” ratio of is a stock’s price divided by the consensus EPS estimate for the next twelve months. On a sector-by-sector basis, the NTM P/E is aggregated on a float-weighted basis within each geography. The “Premium” percentage is the float-weighted NTM P/E ratio of each sector in the USA Value Index divided by the NTM P/E ratio of the same sector in the EAFE Value Index, less 100%. Source: FactSet, MSCI, Causeway Analytics

If sector composition does not explain all of the current valuation differential between the US Value and EAFE Value Indices, then what does? Most arguments gravitate around perceived differences in stability, growth potential or returns on equity. Investors may deem the US to be a “safer” place to invest to avoid any “tail” risks in Europe or Japan. A gap in the expected earnings growth rates may also explain part of the differential. According to MSCI, the long-term earnings growth (LTG) estimate for stocks in the US Value Index was 8.0% as of June 30, 2016 while the same estimate for stocks in the EAFE Value Index was 5.1%. Finally, the trailing 12-month return on equity (ROE) for stocks in the US Value Index was 9.9% compared to 6.8% for stocks in the EAFE Value Index. Despite the allure of these explanations, however, regression analysis fails to uncover consistent and statistically significant relationships among these variables historically.

While some differential may be appropriate, active managers have a chance to prove their worth when the market indiscriminately becomes excessively optimistic or pessimistic about a geographic region without considering the unique prospects for individual companies. Causeway seeks out stocks that we believe have been unfairly penalized by market reaction and that deserve to trade at higher valuations, even after discounting their growth, earnings, and risk profiles. Stocks that ultimately make it through our in-depth investment process represent the investments we believe have the highest risk-adjusted return potential. Currently, we believe the historically wide discount assigned to non-US international markets is not supported by fundamentals, and provides a compelling opportunity for clients in our value strategies.

Solely for the use of institutional investors and professional advisers.

This presentation expresses the authors' views as of July 29, 2016 and should not be relied on as research or investment advice regarding any investment. These views and any portfolio characteristics are subject to change. There is no guarantee that any forecasts made will come to pass.

“Correlation” ranges between -1 and +1. Perfect positive correlation (+1) implies that as the index moves up or down, the strategy will move in the same direction. Perfect negative correlation (-1) means the strategy will move in the opposite direction. A correlation of 0 means the index and strategy have no correlation.

The MSCI EAFE Index (Europe, Australasia, Far East) is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The MSCI USA Index is designed to measure the performance of the large and mid-cap segments of the US market. With 622 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US.

The MSCI EAFE Value and MSCI USA Value Indices are subsets of these indices, and target 50% coverage of the MSCI EAFE Index and MSCI USA Index, respectively, with value investment style characteristics for index construction using three variables: book value to price, 12-month forward earnings to price, and dividend yield. The MSCI EAFE Growth Index and MSCI USA Growth Index are also subsets of these indices, with growth investment style characteristics for index construction using five variables: long-term forward earnings per share growth rate, short-term forward earnings per share growth rate, current internal growth rate and long-term historical earnings per share growth trend and long-term historical sales per share growth trend.

The MSCI World Index is a free float-adjusted market capitalization index, designed to measure developed market equity performance, consisting of 23 developed country indices, including the US

The Indices are gross of withholding taxes, assume reinvestment of dividends and capital gains, and assume no management, custody, transaction or other expenses.

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It is not possible to invest directly in an index.