



ND STATE INVESTMENT BOARD MEETING

Friday, November 17, 2017, 8:30 a.m.
Peace Garden Room, State Capitol
600 E Blvd, Bismarck, ND

AGENDA

I. CALL TO ORDER AND ACCEPTANCE OF AGENDA

II. ACCEPTANCE OF MINUTES (October 27, 2017)

III. INVESTMENTS

- A. Asset and Performance Overview - Mr. Hunter (enclosed) (10 min) *Informational*
- B. Fixed Income Update - Mr. Schulz
 - 1. Manager Interview: Prudential - Mr. Taggart and Mr. Piccirillo (enclosed) (40 min)
 - 2. Staff Recommendation - Mr. Schulz (enclosed) (10 min) **Board Action**
- C. Infrastructure Update - Mr. Hunter
 - 1. Consultant Interview: Mercer - Mr. Dabrowski and Mr. McGowan (enclosed) (30 min)
 - 2. Staff Recommendation - Mr. Hunter (enclosed) (10 min) **Board Action**

===== Break from 10:15 to 10:25 am =====

- D. Callan Investment Review - Mr. Erlendson and Mr. Browning (enclosed) (30 min) **Board Acceptance**
 - 1. Pension Trust
 - 2. Insurance Trust
 - 3. Legacy Fund

IV. GOVERNANCE

- A. RIO Financial Audit Report for June 30, 2017 (enclosed)
 - 1. SIB Audit Committee Agenda and Minutes - Mr. Hunter (enclosed) (10 min) **Board Acceptance**
- B. Securities Litigation Monitoring - Mr. Hunter, Mr. Menard, Ms. Fortin (enclosed) (20 min) **Board Action**
Possible Executive Session pursuant to NDCC §44-04-18.4(1), §44-04-19.1(9), & §44-04-19.2- to discuss confidential commercial and financial information and provide contract negotiating instructions to its attorney or negotiator.
- C. SIB Governance - Mr. Hunter, Ms. Murtha (enclosed) (1 hour) **Board Action**

V. OTHER

Next Meetings: SIB meeting - January 26, 2018, 8:30 a.m. - State Capitol, Peace Garden Room
SIB Audit Committee meeting - February 22, 2018, 3:00 p.m. - RIO Conference Room

VI. ADJOURNMENT

**NORTH DAKOTA STATE INVESTMENT BOARD
MINUTES OF THE
OCTOBER 27, 2017, BOARD MEETING**

MEMBERS PRESENT: Brent Sanford, Lt. Governor, Chair
Rob Lech, TFFR Board, Vice Chair
Jon Godfread, Insurance Commissioner
Lance Gaebe, Commissioner of Trust Lands
Mike Gessner, TFFR Board
Adam Miller, PERS Board
Mel Olson, TFFR Board
Kelly Schmidt, State Treasurer
Troy Seibel, PERS Board
Yvonne Smith, PERS Board
Cindy Ternes, WSI Designee

STAFF PRESENT: Eric Chin, Senior Investment Officer
Connie Flanagan, Fiscal & Invt Ops Mgr
Bonnie Heit, Assist to the SIB
David Hunter, ED/CIO
Terra Miller Bowley, Supvr Audit Services
Cody Schmidt, Compliance Officer
Darren Schulz, Dep CIO
Susan Walcker, Invt Acct

OTHERS PRESENT: Paul Erlendson, Callan Associates
Bryan Klipfel, WSI
Jan Murtha, Attorney General's Office
Ron Peyton, Callan Associates

CALL TO ORDER:

Lt. Governor Sanford, Chair, called the State Investment Board (SIB) regular meeting to order at 8:30 a.m. on Friday, October 27, 2017, at the State Capitol, Peace Garden Room, Bismarck, ND.

AGENDA:

IT WAS MOVED BY MR. LECH AND SECONDED BY MS. SMITH AND CARRIED BY A VOICE VOTE TO ACCEPT THE AGENDA FOR THE OCTOBER 27, 2017, MEETING.

AYES: MS. TERNES, MR. OLSON, TREASURER SCHMIDT, COMMISSIONER GAEBE, MR. SEIBEL, MR. LECH, MR. MILLER, MS. SMITH, MR. GESSNER, AND LT. GOVERNOR SANFORD

NAYS: NONE

MOTION CARRIED

ABSENT: COMMISSIONER GODFREED

MINUTES:

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. TERNES AND CARRIED BY A VOICE VOTE TO ACCEPT THE MINUTES OF THE SEPTEMBER 22, 2017, MEETING AS DISTRIBUTED.

AYES: MS. TERNES, MR. OLSON, MR. MILLER, TREASURER SCHMIDT, MR. GESSNER, MS. SMITH, COMMISSIONER GAEBE, MR. LECH, MR. SEIBEL, AND LT. GOVERNOR SANFORD

NAYS: NONE

MOTION CARRIED

ABSENT: COMMISSIONER GODFREED

GOVERNANCE AND EDUCATION:

RIO vs Ends - Mr. Hunter highlighted RIO's adherence to policy "Ends" for the periods ended June 30, 2017. Mr. Hunter stated every SIB client generated positive excess returns for the 5-years ended June 30, 2017, with two exceptions (PERS Retiree Health Insurance Credit Fund and PERS Group Insurance). Management fees declined from 0.65% in fiscal year 2013 to approximately 0.47% in fiscal year 2017.

Pension Trust clients posted positive excess returns over the last 5-years, while adhering to approved risk levels and generating at least 0.50% of positive risk adjusted excess return (over the last 5-years).

Non-Pension Trust clients generated positive excess returns and positive risk adjusted excess returns for the 5-years ended June 30, 2017 with two exceptions previously noted.

Risk, as measured by standard deviation, was within approved levels for all SIB clients for the 5-years ended June 30, 2017.

IT WAS MOVED BY MR. OLSON AND SECONDED BY MS. SMITH AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE RIO VS ENDS REPORT FOR THE PERIOD OF JULY 1, 2016 - JUNE 30, 2017.

AYES: MR. LECH, TREASURER SCHMIDT, MR. OLSON, COMMISSIONER GAEBE, MR. SEIBEL, MR. MILLER, MR. GESSNER, MS. SMITH, MS. TERNES, AND LT. GOVERNOR SANFORD

NAYS: NONE

MOTION CARRIED

ABSENT: COMMISSIONER GODFREAD

Infrastructure - Mr. Hunter requested authorization to proceed with an infrastructure consultant search to assist staff in identifying at least one additional infrastructure manager to complement existing infrastructure mandates with JP Morgan and Grosvenor. The Legacy Fund and Workforce Safety & Insurance are considering asset allocation studies in 2018 so the timing is right for diversification purposes.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. SMITH AND CARRIED BY A ROLL CALL VOTE TO INSTRUCT STAFF TO CONDUCT AN INFRASTRUCTURE CONSULTANT SEARCH WITHIN THE NEXT THREE TO SIX MONTHS.

AYES: MS. TERNES, COMMISSIONER GAEBE, MR. GESSNER, MS. SMITH, MR. SEIBEL, MR. MILLER, MR. LECH, MR. OLSON, TREASURER SCHMIDT, AND LT. GOVERNOR SANFORD

NAYS: NONE

MOTION CARRIED

ABSENT: COMMISSIONER GODFREAD

Bank of North Dakota - Mr. Hunter informed the board that the Bank of North Dakota has expressed an interest in expanding the existing CD program with the SIB from \$200 million to \$400 million. Mr. Hunter stated he would review this request with the Legacy and Budget Stabilization Fund Advisory Board when they address possibly conducting an asset allocation study in 2018 and will follow-up with the SIB.

Fixed Income - Mr. Hunter informed the board on recent developments with the Wells Capital - Montgomery U.S. Core Fixed Income mandate. Mr. Troy Ludgood, Managing Director, Senior Portfolio Manager and Co-Head, Montgomery Fixed Income has had to step down to take care of family. RIO personnel are looking at options at this point and will follow-up with the SIB.

Mr. Schulz stated the transition of the PIMCO accounts, Agency Mortgage Backed Securities and Unconstrained Bond Fund into the Core Mandate, are proceeding as planned and will be in place December 1.

Callan - Callan Associates, Mr. Ron Peyton and Mr. Paul Erlendson, provided board education on "Government Trends in the Public Sector."

Lt. Governor Sanford exited the meeting and Mr. Lech presided over the remainder of the meeting.

Client Satisfaction Survey - Ms. Miller Bowley stated RIO's Audit Services Division conducted a SIB "client satisfaction" survey for the period of July 1, 2016 - June 30, 2017. All clients responded to the survey. The SIB received a 3.6 overall rating, which is comparable to prior years. The vast majority of client responses were positive and encouraging.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. SMITH AND CARRIED BY A VOICE VOTE TO ACCEPT THE 2017 SIB CLIENT SATISFACTION SURVEY.

AYES: MR. GESSNER, COMMISSIONER GAEBE, MS. SMITH, TREASURER SCHMIDT, MR. LECH, COMMISSIONER GODFREAD, MR. OLSON, MR. SEIBEL, MR. MILLER, AND MS. TERNES

NAYS: NONE

MOTION CARRIED

ABSENT LT. GOVERNOR SANFORD

The Board recessed at 9:51 a.m. and reconvened at 10:05 a.m.

Governance Manual - Mr. Hunter presented the changes to the Governance Manual that were previously approved at the SIB's September 22, 2017, meeting, for the second reading requirements.

IT WAS MOVED BY MR. SEIBEL AND SECONDED BY COMMISSIONER GAEBE AND CARRIED BY A VOICE VOTE TO ACCEPT THE CHANGES TO THE GOVERNANCE MANUAL, PREVIOUSLY APPROVED AT THE SEPTEMBER 22, 2017, MEETING, IN ORDER TO SATISFY THE SECOND READING REQUIREMENTS FOR GOVERNANCE PROCESS - POLICY INTRODUCTION/AMENDMENT/PASSAGE.

AYES: MR. OLSON, MR. GESSNER, MR. MILLER, MS. SMITH, MR. SEIBEL, MS. TERNES, COMMISSIONER GODFREAD, COMMISSIONER GAEBE, MR. LECH, AND TREASURER SCHMIDT

NAYS: NONE

MOTION CARRIED

ABSENT: LT. GOVERNOR SANFORD

RIO Background/Budget Guidelines - Information was provided to the board which covered RIO's background and budget guidelines as the oversight agency for the Teachers' Fund for Retirement and the SIB.

Treasurer Schmidt requested average travel expenses, on a fiscal year basis, for due diligence work by RIO personnel. Mr. Hunter will provide the information at the next meeting.

Continuing Board Education - Mr. Hunter requested authorization to engage Aon Hewitt to provide continuing board education on "Governance Trends in the Public Sector."

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MS. SMITH AND CARRIED BY A VOICE VOTE TO ACCEPT STAFF RECOMMENDATION AND ENGAGE AON HEWITT TO PROVIDE CONTINUING BOARD EDUCATION ON GOVERNANCE TRENDS IN THE PUBLIC SECTOR.

AYES: TREASURER SCHMIDT, MR. GESSNER, COMMISSIONER GODFREAD, MS. TERNES, COMMISSIONER GAEBE, MS. SMITH, MR. LECH, MR. MILLER, MR. SEIBEL, AND MR. OLSON

NAYS: NONE

MOTION CARRIED

ABSENT: LT. GOVERNOR SANFORD

State Survey - Mr. Hunter stated the Governor's Office has initiated a survey to cabinet and non-cabinet agencies to survey state employees to evaluate how they feel about various aspects of their workplace. The survey is administered through the state Human Resource Management Services Division via survey monkey. Mr. Hunter stated he is considering RIO's participation in the survey. The information would be shared with the Governor's Office, individual agencies, and the public. The Board requested Mr. Hunter provide the survey to them.

INVESTMENTS:

ND Parks & Recreation - Ms. Flanagan reviewed the processes staff completed to proceed with securing the ND Parks and Recreation Department/Lewis and Clark Interpretive Center Endowment Fund as a client of the SIB. Once finalized, the Investment Policy Statement will be presented for the board's consideration.

IT WAS MOVED BY MS. SMITH AND SECONDED BY MR. OLSON AND CARRIED BY A ROLL CALL VOTE TO ACCEPT STAFF RECOMMENDATION AND ACCEPT THE ND PARKS AND RECREATION DEPARTMENT AS A CLIENT AND INVEST THE LEWIS AND CLARK INTERPRETIVE CENTER ENDOWMENT FUND WITHIN THE INSURANCE TRUST POOL, CONTINGENT UPON THE ND PARKS AND RECREATION DEPARTMENT MAKING THE NECESSARY CHANGES TO THE TRUST AGREEMENT TO MEET LEGAL REQUIREMENTS UNDER NDCC 21-10-06 (3).

AYES: MS.. SMITH, MR. MILLER, MR. OLSON, MR. GESSNER, MR. LECH, MR. SEIBEL, MS. TERNES, COMMISSIONER GODFREAD, COMMISSIONER GAEBE, AND TREASURER SCHMIDT

NAYS: NONE

MOTION CARRIED

ABSENT: LT. GOVERNOR SANFORD

Employee Benefits Program Committee - Included in the board's meeting materials was the October 26, 2017, presentation given to the Employee Benefits Program Committee by Mr. Hunter. Mr. Hunter provided comments in regards to the meeting.

PERS Investment - The board was provided PERS' investment update as of June 30, 2017, which was presented to the PERS board at their October 19, 2017. Staff recommended changes to the Global Fixed Income Investment Grade and Non-Investment Grade allocation. Once approved by PERS, staff will present a revised Investment Policy Statement for the SIB's consideration.

Tobacco Prevention and Control - Ms. Flanagan presented a revised Investment Policy Statement for the Tobacco Prevention and Control Fund. The Investment Policy Statement was revised to reflect the Office of Management and Budget as the administrative authority of the fund effective July 1, 2017.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. SMITH AND CARRIED BY A ROLL CALL VOTE TO ACCEPT STAFF RECOMMENDATION AND APPROVE THE INVESTMENT POLICY STATEMENT CHANGES FOR THE TOBACCO PREVENTION AND CONTROL FUND.

AYES: TREASURER SCHMIDT, MR. SEIBEL, MR. OLSON, COMMISSIONER GAEBE, MR. LECH, MR. MILLER, COMMISSIONER GODFREAD, MR. GESSNER, MS. SMITH, AND MS. TERNES

NAYS: NONE

MOTION CARRIED

ABSENT: LT. GOVERNOR SANFORD

North Dakota Association of Counties - Ms. Flanagan also presented a revised Investment Policy Statement for the North Dakota Association of Counties. The Investment Policy Statement was revised to reflect changes to the asset allocation and proposed language commonly used by the SIB's other non-pension trust clients.

The Board requested RIO personnel reaffirm the Board's actions when the North Dakota Association of Counties was initially accepted as a client.

MONITORING:

Per Governance Policy, Board/Staff Relationship/Monitoring Executive Performance C-4, the following monitoring reports for the quarter ending September 30, 2017, were provided to the SIB for their consideration: Budget/Financial Conditions, Executive Limitations/Staff Relations, Investment Program, and Retirement Program.

Mr. Hunter previously notified the SIB that Ms. Miller Bowley had accepted another position within the State. Mr. Hunter thanked Ms. Terra Miller Bowley for all of her contributions to RIO.

Mr. Lech, on behalf of the SIB, thanked Ms. Miller Bowley for all of her excellent work on behalf of the SIB and the organization.

Mr. Hunter stated the office will be posting job vacancies for the Auditor and Administrative Assistant positions very soon.

The following reports were also included under monitoring, Watch List and the Audit Committee's fiscal year-end activities report for the period of July 1, 2016 - June 30, 2017.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY TREASURER SCHMIDT AND CARRIED BY A VOICE VOTE TO ACCEPT THE MONITORING REPORTS FOR THE QUARTER ENDING SEPTEMBER 30, 2017.

AYES: MR. OLSON, MR. SEIBEL, COMMISSIONER GAABE, MR. GESSNER, COMMISSIONER GODFREED, MS. SMITH, MR. MILLER, TREASURER SCHMIDT, MS. TERNES, AND MR. LECH

NAYS: NONE

MOTION CARRIED

ABSENT: LT. GOVERNOR SANFORD

OTHER:

Ms. Murtha informed the board she has accepted a position with the City of Dickinson as their City Attorney. Ms. Murtha stated it has been a pleasure to work with the SIB and RIO.

Mr. Lech, on behalf of the SIB, thanked Ms. Murtha for her service to the SIB, to all of its entities, her leadership, and support.

The next meeting of the SIB is scheduled for November 17, 2017, at 8:30 a.m. at the State Capitol, Peace Garden Room.

The next meeting of the SIB Audit Committee is scheduled for November 16, 2017, at 3:00 p.m. at the Retirement and Investment Office.

ADJOURNMENT:

With no further business to come before the SIB, Mr. Lech adjourned the meeting at 10:43 a.m.

Mr. Rob Lech, Vice Chairman
State Investment Board

Bonnie Heit
Assistant to the Board

Board Acceptance Requested

Asset and Performance Overview

November 17, 2017

Dave Hunter, Executive Director / CIO

Darren Schulz, Deputy Chief Investment Officer

Eric Chin, Senior Investment Analyst

ND Retirement & Investment Office (RIO)

State Investment Board (SIB)

State Investment Board – Client Assets Under Management

| Fund Name | Market Values as of 9/30/17 ⁽¹⁾ | Market Values as of 6/30/17 ⁽¹⁾ | Market Values as of 9/30/16 ⁽¹⁾ |
|--|---|---|---|
| Pension Trust Fund | | | |
| Public Employees Retirement System (PERS) | 2,882,780,029 | 2,781,347,058 | 2,548,430,036 |
| Teachers' Fund for Retirement (TFFR) | 2,387,906,588 | 2,318,214,334 | 2,144,533,865 |
| City of Bismarck Employees Pension | 95,026,968 | 91,954,165 | 85,179,534 |
| City of Grand Forks Employees Pension | 64,381,330 | 63,392,384 | 58,778,547 |
| City of Bismarck Police Pension | 39,465,200 | 38,136,784 | 35,180,238 |
| Grand Forks Park District | 6,374,760 | 6,160,568 | 5,834,315 |
| Subtotal Pension Trust Fund | 5,475,934,876 | 5,299,205,292 | 4,877,936,536 |
| Insurance Trust Fund | | | |
| Workforce Safety & Insurance (WSI) | 1,923,540,134 | 1,894,614,791 | 1,860,023,835 |
| City of Fargo FargoDome Permanent Fund | 43,138,744 | 41,634,918 | 35,386,219 |
| Budget Stabilization Fund | 38,450,912 | 6,127,844 | 578,309,532 |
| PERS Group Insurance Account | 35,409,719 | 37,500,315 | 37,239,691 |
| State Fire and Tornado Fund | 22,024,834 | 22,008,326 | 24,853,937 |
| Petroleum Tank Release Compensation Fund | 6,453,583 | 6,396,410 | 7,214,431 |
| State Risk Management Fund | 5,418,039 | 5,781,003 | 6,208,850 |
| State Risk Management Workers Comp Fund | 5,187,082 | 5,534,628 | 5,680,663 |
| ND Association of Counties (NDACo) Fund | 5,108,131 | 4,383,920 | 4,167,501 |
| State Bonding Fund | 3,406,523 | 3,374,399 | 3,329,117 |
| ND Board of Medicine | 2,215,578 | 2,179,911 | 2,248,565 |
| Insurance Regulatory Trust Fund | 1,209,577 | 5,289,164 | 1,232,868 |
| Bismarck Deferred Sick Leave Account | 717,066 | 698,131 | 661,908 |
| Cultural Endowment Fund | 443,012 | 431,470 | 398,147 |
| Subtotal Insurance Trust Fund | 2,092,722,934 | 2,035,955,230 | 2,566,955,264 |
| Legacy Trust Fund | | | |
| Legacy Fund | 4,960,721,538 | 4,687,963,729 | 4,070,189,950 |
| PERS Retiree Insurance Credit Fund | 120,668,531 | 116,150,947 | 105,505,466 |
| Job Service of North Dakota Pension | 97,583,404 | 97,332,820 | 96,325,192 |
| ND Tobacco Prevention and Control Trust Fund | 57,850,830 | 57,462,736 | 52,785,217 |
| Total Assets Under SIB Management | 12,805,482,113 | 12,294,070,754 | 11,769,697,625 |

- ▶ SIB client assets grew by approximately 8.8% (or \$1.04 billion) for the 1-year ended September 30, 2017, due to Legacy Fund and Pension Trust asset growth of \$891 million and \$598 million, respectively.
- ▶ The Pension Trust posted a net return of 13% in the last year. During the last 5-years, the Pension Trust generated a net annualized return of 9%, exceeding the performance benchmark of less than 8%.
- ▶ The Insurance Trust generated a net return of 7.9% in the last year. During the last 5-years, the Insurance Trust posted a net annualized return of 5.3%, exceeding the performance benchmark of 3.9%.
- ▶ Legacy Fund generated a net return of 11.4% last year, exceeding its policy benchmark. During the last 5-years, Legacy Fund earned a net annualized return of 5.3%, exceeding the performance benchmark of 4.3%.
- ▶ SIB client assets totaled approximately \$12.8 billion as of September 30, 2017, based on unaudited valuations.

⁽¹⁾ Market values are unaudited and subject to change.

Investment Performance Evaluation – Sep. 30, 2017

Investment Performance Criteria :

SIB clients should receive investment returns consistent with their investment policies and market variables (pursuant to Section D.3 of the SIB Governance Manual). The “Ends” for investment performance is evaluated based on comparison of each client’s actual rate of return (net of fees), risk levels and risk adjusted returns, versus the client’s policy benchmark over 5 years.

Pension Trust:

Every Pension Trust client posted positive Excess Returns over the last 5-years, while adhering to approved risk levels and generating at least 0.50% of positive Risk Adjusted Excess Return (over the last 5-years).

TFFR and PERS each earned over 9% for the 5-years ended September 30, 2017. Global equities were the primary performance driver and gained 11% over the last 5-years with U.S. Equities up 14.5% and International Equity up 9%. Private equity returns were disappointing at less than 1% the last 5-year. Fixed Income was our #1 generator of excess return and earned 4.1% per annum over the last 5-years with U.S. Fixed Income up 5.1% and International Debt down 0.7%. Global Real Assets also performed well and gained over 8% per annum for the 5-years ended September 30, 2017, with Real Estate up 12% and Infrastructure up 6%, while Timber returns were disappointing at less than 1% per annum the last 5-years.

Non-Pension Trust:

Every Non-Pension Trust client generated positive Excess Return and positive Risk Adjusted Excess Returns for the 5-years ended September 30, 2017, with two exception for the PERS Retiree Health Insurance Credit Fund and PERS Group Insurance.

Legacy Fund earned over 11% for the 1-year ended Sep. 30, 2017, which translates into \$490 million of net investment income (including unrealized gains). Legacy Fund’s U.S. Equity portfolio earned nearly 19% last year, while International Equities earned nearly 22%. U.S. Fixed Income also performed well with a 3.2% return versus 0.07% for the Bloomberg Aggregate Index. Diversified Real Assets and Real Estate returns exceeded their performance benchmarks and earned approximately 1% and 7%, respectively, in the last year. Our second largest non-Pension Trust client, WSI, also generated strong returns by earning approximately 7.9% and 6.7% for the 1- and 5-years ended September 30, 2017, respectively.

Risk, as measured by standard deviation, was within approved levels for all SIB clients for the 5-years ended Sep. 30, 2017.

Actual asset allocations are within Target ranges and guidelines as confirmed by Callan Associates as of Sep. 30, 2017.

Pension Trust Return & Risk Summary – Sep. 30, 2017

Returns and Risk: Every Pension Trust client portfolio generated positive “Excess Return” for the 3- and 5-year periods ended September 30, 2017, while adhering to prescribed risk levels (e.g. within 115% of the Policy Benchmark for the 5-years ended 9/30/2017).

| | Current FYTD 9/30/2017 | 1 Yr Ended 9/30/2017 | 3 Yrs Ended 9/30/2017 | 5 Yrs Ended 9/30/2017 | Risk 5 Yrs Ended 9/30/2017 | Risk Adj Excess Return 5 Yrs Ended 9/30/2017 |
|---------------------------|------------------------------|-------------------------|--------------------------|--------------------------|-------------------------------------|--|
| PERS | | | | | | |
| Total Fund Return - Net | 3.87% | 13.26% | 7.23% | 9.04% | 4.8% | 0.55% |
| Policy Benchmark Return | 3.06% | 11.29% | 6.27% | 7.98% | 4.5% | |
| Excess Return | 0.80% | 1.97% | 0.96% | 1.06% | 106% | |
| TFFR | | | | | | |
| Total Fund Return - Net | 3.80% | 13.05% | 7.17% | 9.05% | 4.8% | 0.57% |
| Policy Benchmark Return | 3.10% | 11.18% | 6.23% | 7.98% | 4.5% | |
| Excess Return | 0.70% | 1.87% | 0.94% | 1.07% | 106% | |
| BISMARCK EMPLOYEES | | | | | | |
| Total Fund Return - Net | 3.35% | 11.58% | 6.75% | 8.27% | 4.1% | 0.59% |
| Policy Benchmark Return | 2.77% | 9.51% | 5.86% | 7.11% | 3.9% | |
| Excess Return | 0.58% | 2.08% | 0.89% | 1.15% | 108% | |

Pension Trust Return & Risk Summary – Sep. 30, 2017

| | Current FYTD 9/30/2017 | 1 Yr Ended 9/30/2017 | 3 Yrs Ended 9/30/2017 | 5 Yrs Ended 9/30/2017 | Risk 5 Yrs Ended 9/30/2017 | Risk Adj Excess Return 5 Yrs Ended 9/30/2017 |
|----------------------------------|------------------------------|-------------------------|--------------------------|--------------------------|-------------------------------------|--|
| BISMARCK POLICE | | | | | | |
| Total Fund Return - Net | 3.49% | 12.19% | 6.86% | 8.51% | 4.5% | 0.54% |
| Policy Benchmark Return | 2.93% | 10.39% | 6.04% | 7.45% | 4.2% | |
| Excess Return | 0.56% | 1.81% | 0.81% | 1.06% | 107% | |
| JOB SERVICE | | | | | | |
| Total Fund Return - Net | 1.45% | 6.19% | 5.54% | 7.20% | 3.7% | 0.68% |
| Policy Benchmark Return | 1.77% | 7.42% | 4.87% | 5.99% | 3.4% | |
| Excess Return | -0.32% | -1.23% | 0.67% | 1.21% | 108% | |
| GRAND FORKS | | | | | | |
| Total Fund Return - Net | 3.69% | 12.94% | 6.99% | 8.97% | 4.9% | 0.54% |
| Policy Benchmark Return | 3.19% | 11.58% | 6.40% | 8.13% | 4.7% | |
| Excess Return | 0.50% | 1.36% | 0.59% | 0.85% | 104% | |
| GRAND FORKS PARK DISTRICT | | | | | | |
| Total Fund Return - Net | 3.75% | 13.01% | 7.10% | 9.26% | 4.9% | 0.76% |
| Policy Benchmark Return | 3.13% | 11.67% | 6.34% | 8.29% | 4.7% | |
| Excess Return | 0.62% | 1.34% | 0.75% | 0.97% | 102% | |

Risk Adjusted Excess Returns for the 5-years ended June 30, 2017, were positive for all Pension Trust clients ranging from 0.55% for PERS to 0.76% for City of Grand Forks Park District.

Job Service is 140+% funded & significantly de-risked its investment portfolio over the last year.

Risk Adjusted Excess Return measures actual portfolio results versus a benchmark adjusted by its risk relative to a benchmark portfolio. This metric is positive if excess returns are due to “smart” investment decisions or negative if driven by excess risk.

Non-Pension Trust Return & Risk Summary – Sep. 30, 2017

| | Current FYTD 9/30/2017 | 1 Yr Ended 9/30/2017 | 3 Yrs Ended 9/30/2017 | 5 Yrs Ended 9/30/2017 | Risk 5 Yrs Ended 9/30/2017 | Risk Adj Excess Return 5 Yrs Ended 9/30/2017 |
|--------------------------------|------------------------------|-------------------------|--------------------------|--------------------------|-------------------------------------|--|
| WSI | | | | | | |
| Total Fund Return - Net | 2.44% | 7.89% | 6.02% | 6.69% | 3.16% | 1.38% |
| Policy Benchmark Return | 2.04% | 5.26% | 4.67% | 4.83% | 2.92% | |
| Excess Return | 0.40% | 2.64% | 1.36% | 1.86% | OK | |
| LEGACY FUND | | | | | | |
| Total Fund Return - Net | 3.64% | 11.42% | 7.26% | 5.34% | 4.03% | 0.50% |
| Policy Benchmark Return | 3.14% | 9.69% | 6.01% | 4.34% | 3.64% | |
| Excess Return | 0.51% | 1.73% | 1.25% | 1.00% | OK | |
| BUDGET STABILIZATION | | | | | | |
| Total Fund Return - Net | 0.38% | 0.76% | 1.58% | 1.56% | 0.64% | 0.53% |
| Policy Benchmark Return | 0.33% | 0.69% | 0.98% | 0.73% | 0.50% | |
| Excess Return | 0.06% | 0.07% | 0.61% | 0.83% | OK | |
| FIRE & TORNADO FUND | | | | | | |
| Total Fund Return - Net | 2.86% | 8.98% | 6.31% | 7.28% | 3.57% | 0.84% |
| Policy Benchmark Return | 2.25% | 6.53% | 4.90% | 5.57% | 3.13% | |
| Excess Return | 0.60% | 2.45% | 1.41% | 1.70% | OK | |

Returns and Risk: All but two Non-Pension Trust clients generated positive Excess Return and Risk Adjusted Excess Return for the 5-year period ended September 30, 2017 (if applicable). These returns were achieved while adhering to reasonable risk levels which were generally within 1% of policy levels.

Risk Adjusted Excess Return measures a portfolio's excess return adjusted by its risk relative to a benchmark portfolio. This metric is positive if returns are due to "smart" investment decisions or negative if driven by excess risk.

Non-Pension Trust Return & Risk Summary – Sep. 30, 2017

| | Current FYTD 9/30/2017 | 1 Yr Ended 9/30/2017 | 3 Yrs Ended 9/30/2017 | 5 Yrs Ended 9/30/2017 | Risk 5 Yrs Ended 9/30/2017 | Risk Adj Excess Return 5 Yrs Ended 9/30/2017 |
|-----------------------------|------------------------------|-------------------------|--------------------------|--------------------------|-------------------------------------|--|
| STATE BONDING FUND | | | | | | |
| Total Fund Return - Net | 0.95% | 2.35% | 2.67% | 2.53% | 1.84% | 1.11% |
| Policy Benchmark Return | 0.59% | 0.36% | 1.64% | 1.24% | 1.70% | |
| Excess Return | 0.36% | 1.99% | 1.03% | 1.28% | OK | |
| INSURANCE REG.TRUST | | | | | | |
| Total Fund Return - Net | 2.32% | 7.16% | 4.69% | 5.56% | 2.93% | 0.43% |
| Policy Benchmark Return | 1.91% | 5.74% | 3.86% | 4.49% | 2.58% | |
| Excess Return | 0.41% | 1.43% | 0.84% | 1.07% | OK | |
| PETROL.TANK RELEASE | | | | | | |
| Total Fund Return - Net | 0.90% | 2.22% | 2.46% | 2.32% | 1.68% | 1.01% |
| Policy Benchmark Return | 0.56% | 0.37% | 1.52% | 1.15% | 1.55% | |
| Excess Return | 0.34% | 1.85% | 0.94% | 1.17% | OK | |
| RISK MANAGEMENT FUND | | | | | | |
| Total Fund Return - Net | 2.51% | 8.05% | 6.56% | 7.41% | 3.23% | 1.10% |
| Policy Benchmark Return | 2.00% | 5.60% | 5.18% | 5.61% | 2.92% | |
| Excess Return | 0.50% | 2.45% | 1.38% | 1.80% | OK | |

SIB Client Commentary:

The State Bonding Fund, Insurance Regulatory Trust Fund, Petroleum Tank Release Compensation Fund, and State Risk Management Fund have all posted positive Risk Adjusted Excess Returns for the 5-years ended September 30, 2017, including Excess Returns of 1.07% or more.

Non-Pension Trust Return & Risk Summary – Sep. 30, 2017

| | Current FYTD 9/30/2017 | 1 Yr Ended 9/30/2017 | 3 Yrs Ended 9/30/2017 | 5 Yrs Ended 9/30/2017 | Risk 5 Yrs Ended 9/30/2017 | Risk Adj Excess Return 5 Yrs Ended 9/30/2017 |
|-------------------------------------|------------------------------|-------------------------|--------------------------|--------------------------|-------------------------------------|--|
| RISK MGMT. WORKERS COMP | | | | | | |
| Total Fund Return - Net | 2.76% | 9.16% | 7.13% | 8.23% | 3.60% | 1.07% |
| Policy Benchmark Return | 2.29% | 6.91% | 5.84% | 6.50% | 3.31% | |
| Excess Return | 0.46% | 2.26% | 1.30% | 1.72% | OK | |
| NDAC | | | | | | |
| Total Fund Return - Net | 2.62% | 7.96% | 5.77% | 6.57% | 3.30% | 0.79% |
| Policy Benchmark Return | 2.04% | 5.61% | 4.40% | 4.91% | 2.84% | |
| Excess Return | 0.58% | 2.35% | 1.37% | 1.66% | OK | |
| BISMARCK DEFERRED SICK LEAVE | | | | | | |
| Total Fund Return - Net | 2.75% | 8.48% | 6.23% | 7.00% | 3.47% | 0.98% |
| Policy Benchmark Return | 2.08% | 5.56% | 4.60% | 5.06% | 2.98% | |
| Excess Return | 0.66% | 2.92% | 1.63% | 1.94% | OK | |
| FARGODOME | | | | | | |
| Total Fund Return - Net | 3.62% | 11.61% | 7.35% | 8.84% | 4.78% | 0.94% |
| Policy Benchmark Return | 3.04% | 9.46% | 6.03% | 7.25% | 4.42% | |
| Excess Return | 0.57% | 2.15% | 1.32% | 1.59% | OK | |

SIB Client Commentary:

The State Risk Management Workers Compensation Fund, North Dakota Association of Counties, City of Bismarck Deferred Sick Leave Account and Fargo Dome Permanent Fund have all posted positive Risk Adjusted Excess Returns for the 5-years ended Sep. 30, 2017, including Excess Returns of 1.59% or more.

Non-Pension Trust Return & Risk Summary – Sep. 30, 2017

| | Current FYTD 9/30/2017 | 1 Yr Ended 9/30/2017 | 3 Yrs Ended 9/30/2017 | 5 Yrs Ended 9/30/2017 | Risk 5 Yrs Ended 9/30/2017 | Risk Adj Excess Return 5 Yrs Ended 9/30/2017 |
|---|------------------------------|-------------------------|--------------------------|--------------------------|-------------------------------------|--|
| CULTURAL ENDOWMENT | | | | | | |
| Total Fund Return - Net | 3.56% | 12.30% | 8.27% | 10.04% | 4.77% | 0.84% |
| Policy Benchmark Return | 3.13% | 10.66% | 7.11% | 8.55% | 4.46% | |
| Excess Return | 0.43% | 1.65% | 1.17% | 1.49% | OK | |
| BOARD OF MEDICINE | | | | | | |
| Total Fund Return - Net | 1.65% | 5.11% | 3.95% | | | |
| Policy Benchmark Return | 1.41% | 4.30% | 3.04% | | | |
| Excess Return | 0.24% | 0.81% | 0.92% | | | |
| PERS RETIREE HEALTH | | | | | | |
| Total Fund Return - Net | 3.50% | 11.68% | 6.71% | 8.52% | 5.18% | -0.63% |
| Policy Benchmark Return | 3.27% | 11.21% | 6.98% | 8.59% | 4.83% | |
| Excess Return | 0.23% | 0.47% | -0.27% | -0.06% | OK | |
| PERS GROUP INSURANCE | | | | | | |
| Total Fund Return - Net | 0.39% | 0.41% | 0.65% | 0.44% | 0.59% | -0.06% |
| Policy Benchmark Return | 0.35% | 0.69% | 0.76% | 0.49% | 0.54% | |
| Excess Return | 0.05% | -0.28% | -0.11% | -0.05% | OK | |
| TOBACCO CONTROL & PREVENTION | | | | | | |
| Total Fund Return - Net | 0.67% | 2.01% | | | | |
| Policy Benchmark Return | 0.69% | 2.02% | | | | |
| Excess Return | -0.02% | -0.01% | | | | |

SIB Client Specific Commentary:

The Cultural Endowment Fund has generated the highest absolute level of net investment returns (of 10.04%) over the last 5-years.

The Board of Medicine became an SIB client three years ago noting they were previously investing in Certificates of Deposit.

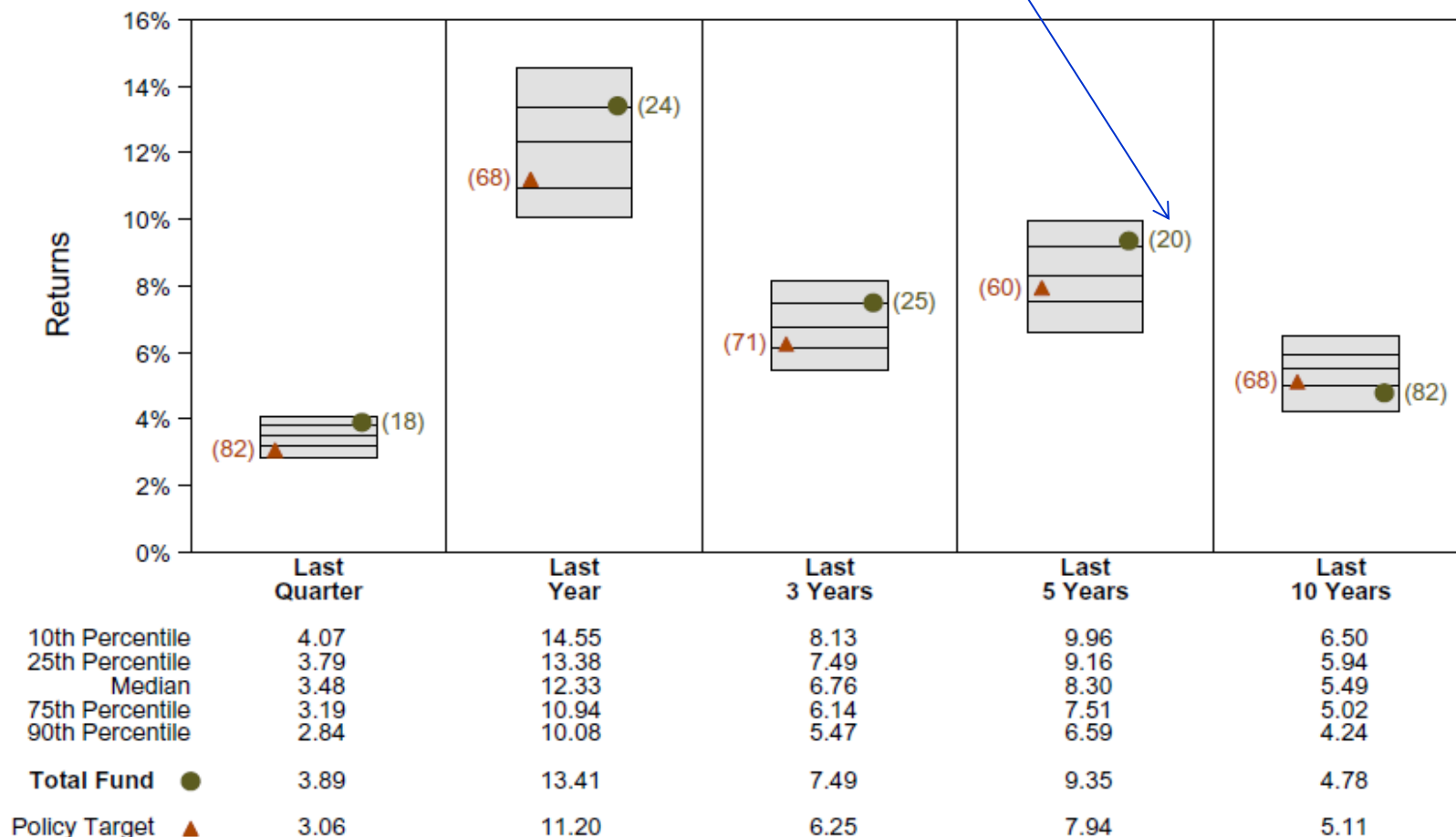
PERS Retiree Health absolute returns have been reasonable the last 5-years (8.52%) but disappointing on a risk adjusted basis.(-0.63%). We are re-examining SEI's benchmarks and risk and return profile.

PERS Group Insurance performance for the fiscal year ended Sep. 30, 2017 is disappointing but within -0.05% to -0.06% of the Policy Benchmark Return over the last 5-years.

The Tobacco Prevention and Control Trust Fund was transferred to OMB regulatory oversight on July 1, 2017.

Pension Trust “gross” returns were ranked in the 20th percentile for the 5-years ended September 30, 2017, based on Callan’s “Public Fund Sponsor Database”.

Callan Public Fund Sponsor Database



* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

Investment Fees and Expenses – Summary

During the last three-years, investment management fees and expenses as a % of average assets under management declined from **0.65% in fiscal 2013** to **0.42% in fiscal 2016** before increasing to **approximately 0.46% in fiscal 2017**.

| <u>All State Investment Board Clients</u> | <u>Investment Fees and Expenses</u> | <u>Average "Assets Under Management"</u> | <u>% of AUM</u> |
|---|---|--|---------------------|
| | a | b | a / b |
| Fiscal Year Ended June 30, 2013 | \$45 million | \$6.9 billion | 0.65% |
| Fiscal Year Ended June 30, 2014 | \$44 million | \$8.6 billion | 0.51% |
| Fiscal Year Ended June 30, 2015 | \$48 million | \$10.1 billion | 0.48% |
| Fiscal Year Ended June 30, 2016 | \$46 million | \$10.9 billion | 0.42% |
| Fiscal Year Ended June 30, 2017 | \$54.5 million | \$11.8 billion | 0.46% |

Key Point: Based on over \$10 billion of AUM, this 19 bps decline between fiscal 2013 and 2017 translates into over \$19 million of annual savings.

➤ RIO will diligently work to prudently manage all SIB client investment fees and expenses, but acknowledges it is challenging to keep fees and expenses at or below 45 bps (0.45%) per annum in future years. Current fiscal years results were materially impacted by high incentive performance fees.

A basis point (or "bp") is equal to one one-hundredth of one percent (or 0.01%) such that 100 basis points ("bps") is equivalent to 1%.

Legacy Fund – Investment Fees and Expenses

Fiscal 2017 vs Fiscal 2016

| | FY 2017 | | | FY 2016 | | |
|--|------------------------|-----------------------|----------------|------------------------|-----------------------|----------------|
| | Average Market Value | Fees in \$ | Fees in % | Average Market Value | Fees in \$ | Fees in % |
| Investment managers' fees: | | | | | | |
| Domestic large cap equity managers | 965,570,487 | 1,922,415 | 0.20% | 778,006,246 | 2,095,229 | 0.27% |
| Domestic small cap equity managers | 364,557,307 | 630,814 | 0.17% | 279,004,042 | 1,204,775 | 0.43% |
| International equity managers | 859,092,053 | 3,553,654 | 0.41% | 686,819,896 | 2,752,321 | 0.40% |
| Domestic fixed income managers | 1,481,415,976 | 4,987,591 | 0.34% | 1,261,572,841 | 3,376,076 | 0.27% |
| Diversified real assets managers | 406,004,165 | 1,368,397 | 0.34% | 355,643,550 | 1,485,125 | 0.42% |
| Real estate managers | 255,143,146 | 1,514,247 | 0.59% | 208,482,344 | 1,347,554 | 0.65% |
| Short-term fixed income managers | - | - | 0.00% | - | - | 0.00% |
| Cash & equivalents managers | 12,637,988 | 9,758 | 0.08% | 14,048,537 | 20,951 | 0.15% |
| Total investment managers' fees | 3 4,344,421,122 | 13,986,877 | 4 0.32% | 6 3,583,577,456 | 12,282,031 | 0.34% |
| Custodian fees | | 355,376 | 0.01% | | 355,571 | 0.01% |
| Investment consultant fees | | 222,477 | 0.01% | | 198,884 | 0.01% |
| Total investment expenses | 2 | 14,564,731 | 0.34% | 1 | 12,836,486 | 0.36% |
| Performance Fees Paid (included in totals above) | | | | | | |
| Total Performance Fees Paid | | 2,167,158 | 0.05% | | 1,988,561 | 0.06% |
| Actual Investment Performance (Net of Fees) | | | 12.03% | | | 1.06% |
| Policy Benchmark | | | 9.91% | | | 1.01% |
| | | Outperformance | 5 2.12% | | Outperformance | 5 0.05% |

- Investment fees and expenses decreased slightly to **0.34%** in fiscal 2017 from **0.36%** in fiscal 2016 despite a significant increase in manager outperformance (increasing to **2.12%** in fiscal 2017 versus **0.05%** in fiscal 2016).
- The use of active management paid significant returns for the Legacy Fund in Fiscal 2017 as we paid \$14.6 million in fees to earn over 12% (or \$480 million) in fiscal 2017, a significant improvement from last year.

Asset and Investment Performance Highlights

- SIB client assets approximated \$12.8 billion as of September 30, 2017.
- Investment returns exceeded policy benchmarks for 99% of SIB client assets under management for the 5-years ended Sep. 30, 2017, while noting that prescribed risk levels (as measured by standard deviation) were adhered to for all client portfolios without exception.
- PERS and TFFR earned over 13% for the 1-year period ended Sep. 30, 2017, exceeding their policy benchmarks by over 1% and generating over \$50 million of excess return in the last year. For the 5-years ended Sep. 30, 2017, PERS and TFFR each earned over 9% per annum including over 0.65% of excess return which translates into \$100+ million of incremental income (the last 5 years).
- Legacy Fund earned over 11% and 7% for the 1- and 3-year periods ended September 30, 2017, respectively, surpassing its policy benchmark by over 1% which translates into over \$50 million of incremental income for the Legacy Fund during the last year (and over \$100 million of incremental income for the Legacy Fund since inception).
- Workforce Safety & Insurance earned 7.8% and 6.7% for the 1- and 5-year periods ended September 30, 2017, beating its policy benchmarks by at least 1% which translates into over \$100 million of incremental income for WSI over the last 5-years.
- RIO will provide an investment update to the Legacy Fund Advisory Board on Tuesday, November 28, 2017, from 1:10 to 1:40 pm. Legislative Council is expected to provide an update on oil and gas tax revenues from 1:00 to 1:10 pm, while Bank of North Dakota will request an increase in its matching loan program from 1:40 to 2:15 p.m. , on this same date.

The above amounts are based on unaudited data that is deemed to be materially accurate but subject to change.

RIO Agency Staffing Update and Due Diligence Travel

- **RIO Staffing Update:** RIO will be down three staff including a Supervisor of Audit Services, Employee Benefits Program Specialist and Administrative Assistant as of November 16, 2017. RIO management has worked with HRMS to post vacancy announcements for each of these three positions earlier this month. We look forward to identifying quality candidates for each one of these important positions in the near future. RIO notes that the Department of Transportation hired RIO's former Supervisor of Audit Services and Employee Benefits Program Specialist in November.

RIO Due Diligence Travel Expenses by Year Last Six Fiscal Years

| Fiscal Year Ended 6/30 | Total Expenses | Average AUM during year | Cost as % of AUM |
|---------------------------|-------------------|----------------------------|------------------------|
| 2012 | 19,161 | 6,071,721,996 | 0.00032% |
| 2013 | 8,148 | 6,905,312,561 | 0.00012% |
| 2014 | 20,034 | 8,632,237,726 | 0.00023% |
| 2015 | 19,134 | 7,011,550,394 | 0.00027% |
| 2016 | 24,997 | 10,896,823,143 | 0.00023% |
| 2017 | 20,589 | 11,782,432,860 | 0.00017% |

- SIB client assets under management have nearly doubled from \$6.1 billion in fiscal 2012 to \$11.8 billion in fiscal 2017 (and \$12.8 billion at 9/30/17). During this period, due diligence travel expenses have generally ranged between \$19,000 and \$25,000 per year (with one exception in 2013 due to the former CIO resigning in May of 2012.) **Due diligence travel expenses have steadily declined as a % of assets under management the last three fiscal years as a result of staff initiatives to combine due diligence trips whenever possible in a prudent and cost effective manner.**

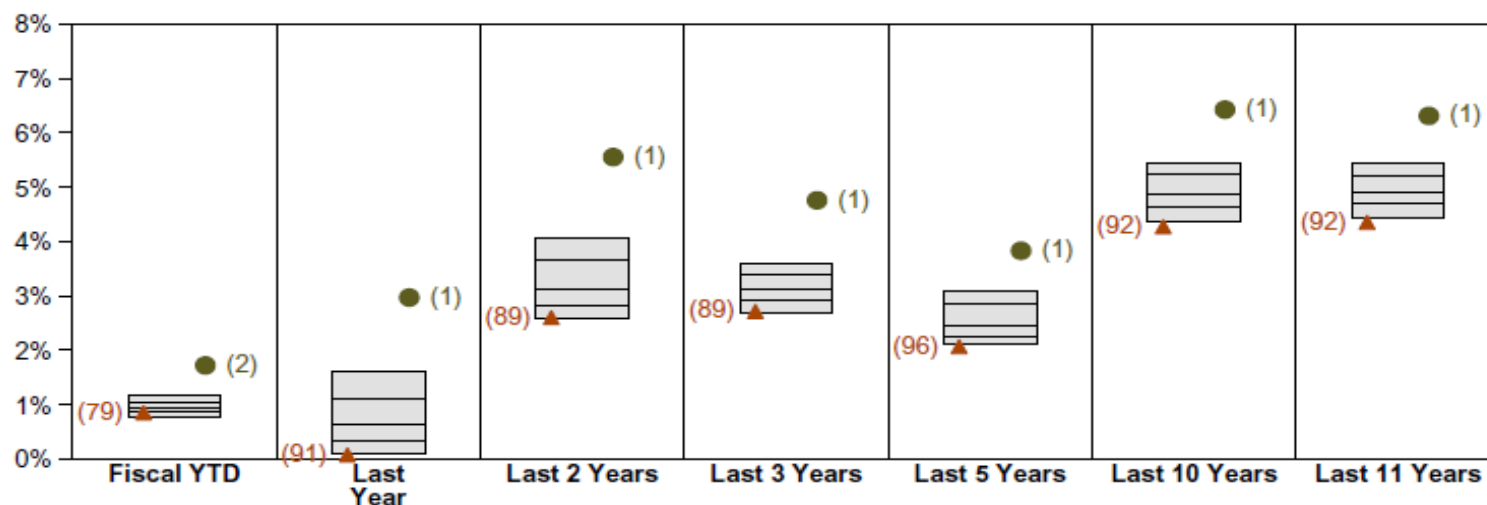
Prudential has managed fixed income in the Insurance Trust for 11 years (and in the Legacy Fund for 4 years) with strong above benchmark returns.

Prudential
Period Ended September 30, 2017

Investment Philosophy

The core plus fixed income account is a multi-sector strategy that is diversified across a broad range of fixed income sectors, including Treasuries, agencies, mortgage-backed securities, structured product (asset-backed securities, commercial mortgage-backed securities), investment grade corporate bonds, high yield bonds, bank loans and international debt. The primary sources of excess return are sector allocation and security selection, with duration and yield curve less of a focus.

Performance vs Callan Core Bond Fixed Income (Gross)



| | | | | | | | |
|------------------------|------|------|------|------|------|------|------|
| 10th Percentile | 1.16 | 1.60 | 4.06 | 3.60 | 3.09 | 5.43 | 5.44 |
| 25th Percentile | 1.03 | 1.09 | 3.65 | 3.40 | 2.85 | 5.23 | 5.22 |
| Median | 0.92 | 0.64 | 3.12 | 3.12 | 2.46 | 4.87 | 4.89 |
| 75th Percentile | 0.86 | 0.34 | 2.81 | 2.91 | 2.24 | 4.62 | 4.70 |
| 90th Percentile | 0.76 | 0.08 | 2.59 | 2.67 | 2.12 | 4.36 | 4.42 |
| Prudential | 1.72 | 2.97 | 5.55 | 4.76 | 3.83 | 6.43 | 6.31 |
| Blmbg Aggregate | 0.85 | 0.07 | 2.60 | 2.71 | 2.06 | 4.27 | 4.35 |

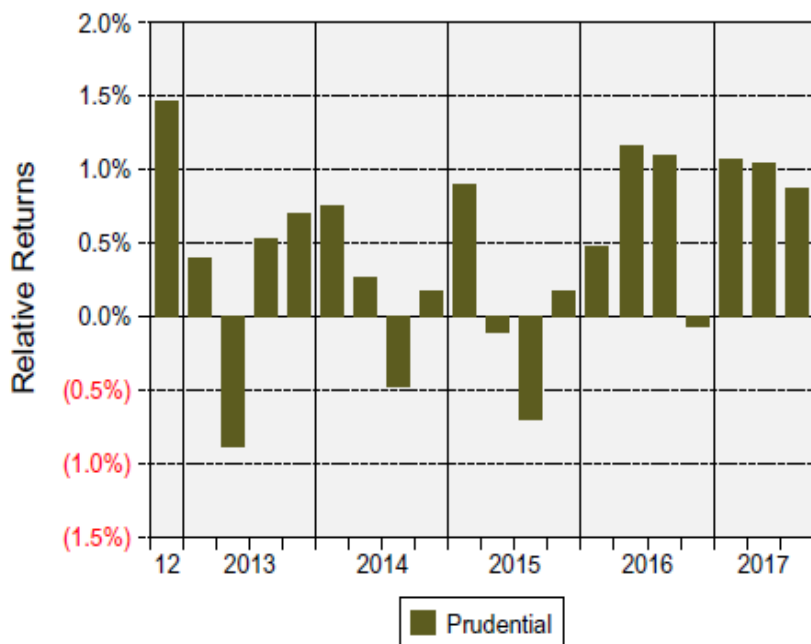
Insurance Trust - Prudential

Market Valuations as of Sep. 30, 2017

Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$115,288,216 |
| Net New Investment | \$-75,322 |
| Investment Gains/(Losses) | \$1,981,984 |
| Ending Market Value | \$117,194,878 |

Relative Return vs Blmbg Aggregate



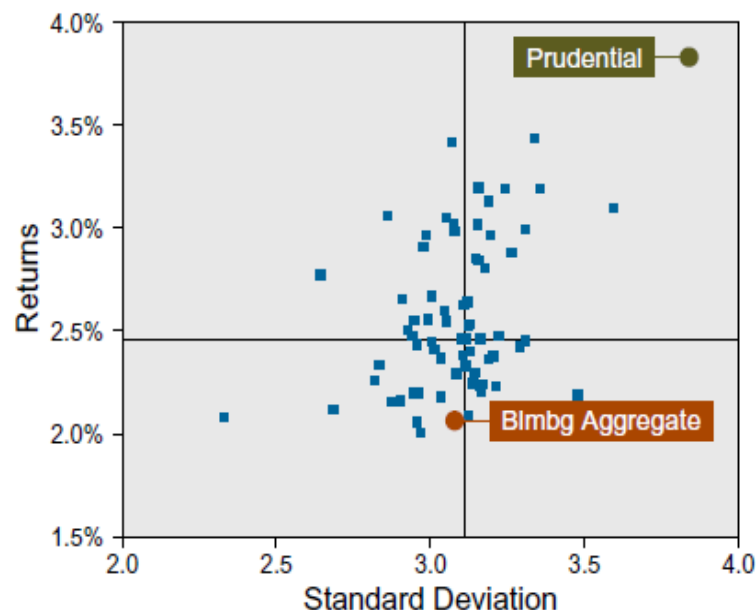
Legacy Fund – Prudential

Market Valuations as of Sep. 30, 2017

Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$178,188,628 |
| Net New Investment | \$-116,417 |
| Investment Gains/(Losses) | \$2,992,732 |
| Ending Market Value | \$181,064,943 |

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



North Dakota State Investment Board

Core Fixed Income



November 2017



PGIM FIXED INCOME

The Global Fixed Income Business of Prudential Financial, Inc.
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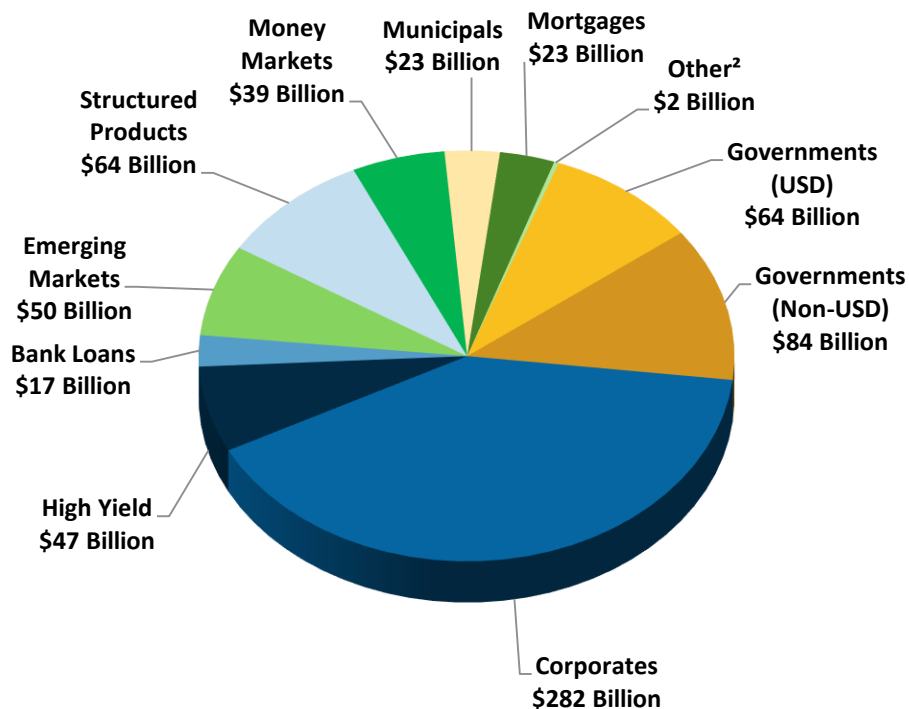
- 1** **Firm Overview**
- 2** **Core Fixed Income Strategy**
- 3** **Reference**

1

Firm Overview



\$695 Billion in Assets Under Management¹



One of the Largest Fixed Income Managers³

- \$404 billion of third party assets
 - \$284 billion in institutional assets
 - \$120 billion in retail assets
- \$291 billion in proprietary assets

A Global Presence

- Managing assets for:
 - 574 clients worldwide
 - 99 Fortune 500 companies⁴
 - 38 of the 100 largest U.S. Pension Funds⁵
 - 14 Sovereign Wealth Funds/Central Banks
- Headquartered in U.S. (Newark, NJ) with offices in London, Tokyo, and Singapore⁶
- 282 investment professionals worldwide⁷

Assets under management (AUM) are based on company estimates and are subject to change. PGIM Fixed Income's AUM includes the following businesses: (i) the public fixed income unit within PGIM Limited, located in London; (ii) locally managed assets of PGIM Japan Co., Ltd. ("PGIM Japan"), located in Tokyo; and (iii) the public fixed income unit within PGIM (Singapore) Pte. Ltd., located in Singapore.

¹ Assets for PGIM Fixed Income as of September 30, 2017. Asset class breakdown based on company estimates and is subject to change.

² Other includes Japanese equities and Japanese real estate equities.

³ Pensions & Investments, based on U.S. institutional tax-exempt assets under management as of December 31, 2016.

⁴ As of September 30, 2017. Source of Fortune 500 list: Fortune issued June 9, 2017.

⁵ As of September 30, 2017. Source of U.S. Pension Fund data: Pensions & Investments Top 1000 US Pension Funds, published February 6, 2017, and S&P's MMD Top 100 U.S. Pensions.

⁶ Affiliate offices of PGIM Fixed Income.

⁷ Staffing as of September 30, 2017



Dedicated Specialist, Balanced Organization, Integrated Process

- 801 Employees Based Globally
 - 282 Investment Professionals
 - 115 Client Advisory Group Professionals
 - 270 Operations, Technology and Data Professionals
 - 84 Business Management, Finance and Administrative Staff
 - 50 Legal and Compliance Professionals





Continuity and Expertise

| Team | Average Firm Tenure | Average Investment Experience |
|--|---------------------|-------------------------------|
| Portfolio Management ¹ | 18 Years | 24 Years |
| Fundamental Research | 13 Years | 23 Years |
| Investment Risk Management & Quantitative Research | 17 Years | 24 Years |

How This Benefits Our Clients...Stable Investment Teams Lead to Stable Processes Which Can Lead to Solid Performance

- Many of our investment professionals have over 20 years with the firm
- Long-standing relationships
- A collegial but challenging environment

Staff as of September 30, 2017. Principal and above.

¹Includes senior executives and product managers.

2

Core Fixed Income Strategy



Derive Returns from Consistent and Sustainable Sources

1 Resources and Presence to Source Ideas

- Our global presence provides a broad perspective of credit markets and our expertise spans multiple strategies
- 105 career analysts with senior analysts averaging 23 years investment experience

2 Broadly Diversified Portfolios Across Fixed Income Sectors, Industries, and Issuers

- We nimbly extract multiple sources of alpha through active allocations across spread sectors
- Intense focus on industry and issuer credit research
- A collaborative bottom-up, research-driven security selection process where managers and analysts make joint decisions

3 Emphasis on Quantitative Research and Risk Management

- Feedback and monitoring of active risk positions daily
- 51-member team focused on proprietary quantitative analytics, risk management, and performance attribution
- A quantitative modeling and risk management infrastructure and proprietary tools aid in alpha generation



Overview of Core and Core Plus Strategies

| | Core | Core Plus |
|-------------------------------------|---|---|
| Objective¹ | +60 bps over Bloomberg Barclays U.S. Aggregate Index | +150 bps over Bloomberg Barclays U.S. Aggregate Index |
| Tracking Error vs. Benchmark | 100 bps | 250 bps |
| Sources of Excess Return | <p>Security Selection 25 bps Duration/Curve/Currency 5 bps Sector Allocation 30 bps</p> | <p>Security Selection 60 bps Duration/Curve 15 bps Sector Allocation 75 bps</p> |
| Strategy Inception Date | January 1, 1991 | January 1, 1996 |
| Investable Universe | Benchmark sectors only; if permitted, limited opportunistic allocations and derivatives | Benchmark sectors plus opportunistic allocation to non-benchmark sectors and derivatives. |
| Approach | Maximize excess return opportunities from diversified alpha sources across the full maturity spectrum | Maximize excess return opportunities from diversified alpha sources across the full maturity spectrum |

For illustrative purposes only. ¹There is no guarantee that these objectives will be met.



Experienced and Stable Team

- Team averages 21 years investment experience and 19 years tenure with the firm
- Approach leverages firm's full resources
- \$92.7 billion in multi sector strategy assets

Senior Portfolio Managers

Michael Collins, CFA / Gregory Peters / Richard Piccirillo

Portfolio Construction

Sector Allocation

Michael Collins, CFA / Gregory Peters / Richard Piccirillo
Lindsay Rosner, CFA

Duration/Yield Curve/Currency

Robert Tipp, CFA

Security Selection

Governments/Agencies

Erik Schiller, CFA
Matthew Angelucci, CFA
Gary Wu, CFA

Agency Mortgages

Stewart Wong
David Brown
Andrew Harnischfeger, CFA

Investment Grade Corp

Malcolm Dalrymple (U.S.)
David Del Vecchio (U.S.)
Filippo Arcieri (Non-Dollar)

Structured Product

Peter Freitag, CFA
Thomas Chang, CFA
Edwin Wilches, CFA

Municipals

Susan Courtney
Lee Friedman, CFA

Emerging Market Debt

David Bessey
Johnny Mak

Global High Yield/Bank Loans

Terence Wheat, CFA
Daniel Thorogood, CFA



Extensive Resources Contribute to Strategy





Seek Sustainable Excess Returns with Manageable Downside Risk

Objective

- 60 bps over Bloomberg Barclays U.S. Aggregate Index¹

Approach

- Maximize excess return opportunities in your portfolio from sustainable sources
 - Sector allocation
 - Security selection
 - Duration and curve
- Monitor and manage risks daily
 - Well defined risk budget
 - Daily portfolio risk reporting and evaluation

Sources of Excess Return²

| Sector Allocation | Subsector and Security Selection | Duration/Curve |
|-------------------|----------------------------------|----------------|
| 30 bps | 25 bps | 5 bps |

1. There can be no guarantee that this objective will be achieved.

2. On average, over a full market cycle defined as three to five years.



Rigorous, Structured Approach Has Led to Consistent Results

1

Senior investment team assesses global market environment

- Economic Research
- Sector Analysis

2

Senior portfolio managers constructs portfolio with sector specialist and analysts

Risk Budgeting

Establish risk targets within client's risk budget

Capture thresholds for systematic and idiosyncratic risks



Asset Allocation

Determine risk, sector, and term structure positioning

Incorporate themes given current market dynamics

Ideas from sector specialists are emphasized



Security Selection

Sector specialists and research analysts aligned by industry determine individual securities

Research-based approach

3

Senior portfolio managers and risk manager oversee risk positions



Step 1—Experienced Teams Assess Global Market Environment

Global Macroeconomic Assessment

Economics: Monitor evolving expectations and data surprises by analyzing underlying trends across countries and economies globally

Policy: Analyze fiscal and monetary policies for potential economic and market impact

- Chief Economist
- G10 Economist
- Latam Economist
- European Economist
- Asia Economist



Fixed Income Market Assessment

Global backdrop: Track global equities, commodities, currencies, and interest rates for leading indications of trends that may impact fixed income market

Current market environment: Investment themes, market opportunities, and key risks

- CIO
- Investment Strategist
- Research Heads
- Desk Heads
- Sr. PMs
- Economists
- Risk Manager





Step 2—Effectively Establishes Thresholds for Active Risk Versus the Benchmark

- Focuses risk in areas of highest potential reward
- Helps ensure diversified set of strategies
- Seeks to limit idiosyncratic issuer-specific risk

Core Fixed Income Strategy Risk Budget

Alpha Objective: 60 bps

| Tracking Error Threshold: 100 bps ¹ | | | |
|--|--------|--|--------|
| Curve/Currency/Sector/Quality 75 bps | | Industry/Issuer 66 bps | |
| Systematic Risk Thresholds ² | | “Tail” Risk Thresholds ³ | |
| Yield Curve Exposure | 25 bps | Industry Stress Exposure: | 66 bps |
| Currency Exposure | 0 bps | Country Stress Exposure: | 40 bps |
| Sector/Quality Exposure | 75 bps | Liquidity Stress Exposure ⁴ : | 99 bps |
| | | Issuer Exposure: ⁵ | |
| | | AAA/AA | 2.00% |
| | | A | 1.75% |
| | | BBB | 1.50% |

For illustrative purposes only. Note that the risk thresholds shown here are intended as a basis for discussion between the risk management and portfolio management teams. They are not intended to be absolute limits in a portfolio. All risk thresholds are subject to change. There can be no guarantee that this objective will be achieved. Please see the Reference section for important disclosures regarding the information contained herein.

1. Total tracking error is less than the sum of the systematic and non-systematic tracking error because these two major sources of tracking error tend to diversify with each other, thus lowering total tracking error: $\sqrt{75^2 + 66^2} = 100$

2. Under most market conditions, returns associated with these market risk factors tend to undergo small and independent day-to-day fluctuations, implying that mean and variance measures explain most of the distribution of returns therefore we manage these risks via tracking error measures.

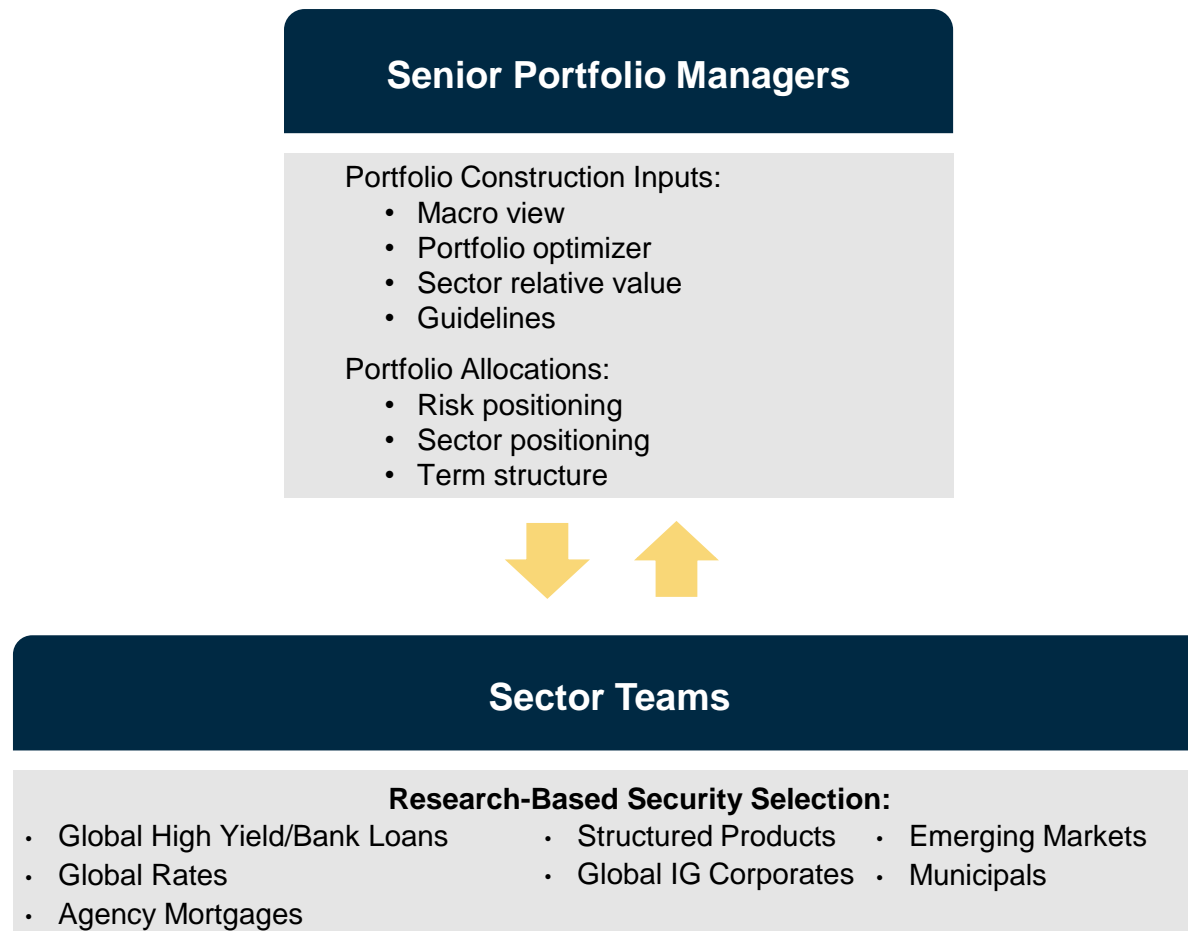
3. These risk factors generally carry substantial skew or tail risk. Because returns from these items are not adequately described by mean and variance, we supplement tracking error measures with industry stress tests and issuer risk thresholds to monitor and manage the tail risk.

4. Stress testing Bid/Ask spreads measures the potential Impact of Liquidity Stress Events on portfolio returns

5. Issuer exposure is based on market implied ratings.



Step 2—Evaluate Allocations from Quantitative and Qualitative Relative Value Perspective



All Portfolios Overseen Daily By Dedicated Risk Management Organization



Step 2—Research-Based Security Selection Is a Major Source of Value-Added

US Treasuries/ Agencies/Mortgages

Our Approach

- Quantitative
- Proprietary models identify relative value
- Portfolio managers provide technical view and implement relative value ideas

Corporate Bonds

Our Approach

- Fundamental
- Analysts cover all high grade industries and 800 issuers globally
- Portfolio managers provide relative value and technical views on same issuers
- A joint recommendations list from which securities are selected

Structured Product (ABS, CMBS, CLOs)

Our Approach

- Fundamental + quantitative
- Two decades analyzing and managing structured product
- Higher quality, short-to-intermediate securities and credit-enhanced structures
- Views based on extensive collateral, structural and servicer analysis



Step 3—Daily Verification That Risk Exposures Are Consistent With Client's Risk/Return Objectives

Core Fixed Income Representative Portfolio As of September 30, 2017

| | | Curve | | | | Currency | | | Spread | | | | Total Systematic | | Issuer | Industry | Total Non-System. | Total | Scenarios | | | | |
|-----------|--------------|--------------|----|-----|-----|-------------|----|-----|---------------|----|-----|------|----------------------|----|--------|----------|-------------------|-------|-----------|---------------|----------------|-----------|-----------|
| | Alpha Target | Curve Thres. | TE | PC1 | PC2 | Curr Thres. | TE | PC1 | Spread Thres. | TE | PC1 | STSR | Total System. Thres. | TE | TE | TE | TE | TE | LTCM | Credit Crunch | Sept. 11, 2001 | Recession | EMG Shock |
| Portfolio | 60 | 25 | 14 | -14 | 2 | 0 | 0 | 0 | 75 | 65 | -59 | -57 | 75 | 66 | 17 | 31 | 36 | 75 | -109 | -1056 | -40 | -95 | -1 |

Spread PCI Further Decomposed by Sector and Quality

| | Diff Spread PC1 | TSY | AGY | MBS | CMBS | ABS | AAA/AA | A | BBB | BB | B | <=CCC | EMG |
|-----------|-----------------|-----|-----|-----|------|-----|--------|----|-----|----|---|-------|-----|
| Portfolio | -59 | -4 | 0 | 2 | -26 | -8 | 3 | -6 | -22 | 3 | 0 | 0 | -2 |

Spread PC1 concentrated in structured products and corporates

- **Risk Thresholds (Thres.):** Risk thresholds, as fully outlined in each portfolio's risk budget, address each significant dimension of risk. Thresholds are intended as a basis for discussion between risk management and portfolio management. Examples of discussion "triggers" would be if a portfolio's tracking error exceeded its risk threshold, approached its threshold, or was significantly under-risked versus its threshold.
- **Tracking Error (TE):** Measures the expected variation (tracking error) of the portfolio's return versus its benchmark due to active positioning.
- **Principal Components (PC):** While tracking error reflects the total portfolio versus benchmark volatility, principal components provide a decomposition of the total risk into independent "scenarios" or "factors" of risk. The first principal component represents the most statistically significant factor for each tracking error measure.
- **Short Term Spread Risk (STSR):** While we view our tracking errors and principal components as "long-horizon" risk measures, we complement our long term risk measures with a "short term" spread risk measure. That is, for each security in the portfolio versus benchmark, we calculate the spread duration contribution multiplied by a measure of short-term volatility, namely, 35% of the current option-adjusted spread (OAS) level or [spread duration contribution x 35% x OAS].

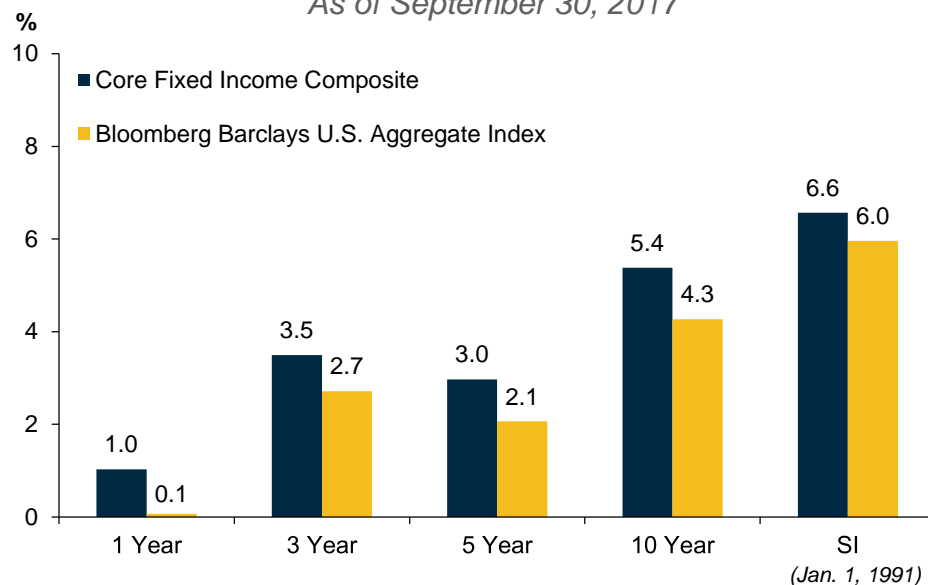
Source: PGIM Fixed Income, Supplemental Information. The above tables compare characteristics of the representative portfolio within the Core Fixed Income Composite relative to its benchmark. The data shown is subject to change and may not be indicative of future portfolio characteristics. Actual results may vary for each client due to specific client guidelines and other factors and should not be construed as investment advice. Please see the Reference section for important disclosures, including net returns and benchmark descriptions.



Investment Performance

Annualized Gross Returns

As of September 30, 2017

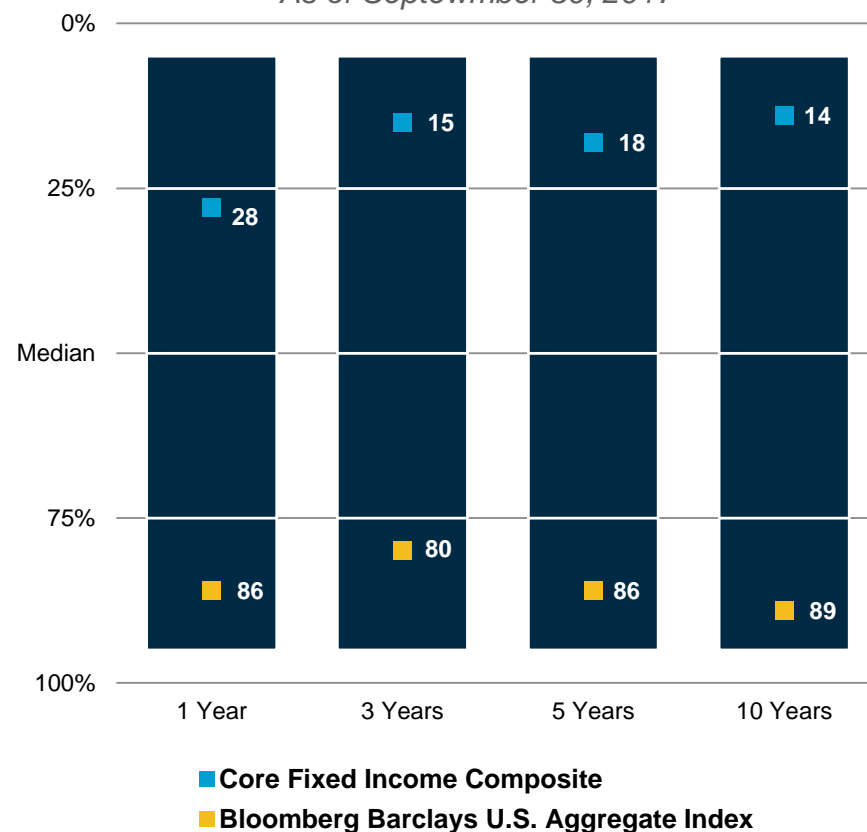


| Gross Performance Statistics ² | 1 Year | 3 Years | 5 Years | 10 Year | SI |
|---|--------|---------|---------|---------|------|
| Excess Return (bps) | +96 | +78 | +91 | +111 | +61 |
| Tracking Error (bps) | NM | 33 | 38 | 133 | 92 |
| Information Ratio | NM | 2.27 | 2.30 | 0.80 | 0.63 |

Return Rankings vs. Peers¹

eVestment U.S. Core Fixed Income Universe

As of September 30, 2017



Source: PGIM Fixed Income. Source of benchmark: Bloomberg Barclays Indices. Past performance is not a guarantee or a reliable indicator of future results. By applying the highest standard advisory fee in effect over the life of the composite, the annualized since inception return ending September 30, 2017 would be reduced from 6.57% to 6.24%. Currently, the highest standard advisory fee is 0.28% and may have been higher or lower historically. Please see the Reference section for important disclosures, including net returns and benchmark descriptions. ¹Source of Peer Performance Data: eVestment. ²Periods ended September 30, 2017. Excess returns based on gross returns. Information ratio and tracking error are not meaningful (NM) for periods less than three years.



Attribution is Critical Step of Investment Process

Performance Attribution Summary

Core Fixed Income Composite vs. Bloomberg Barclays U.S. Aggregate Index
As of September 30, 2017

| Contribution (BP) | YTD 2017 | 2016 | 2015 | 2014 | 2013 | 2012 |
|--------------------------------|------------|-------------|------------|------------|-------------|-------------|
| Duration | +6 | +15 | -1 | 0 | +5 | +3 |
| Curve | +7 | -15 | -3 | +13 | -9 | +7 |
| Sector Allocation | +26 | +72 | -17 | +9 | +47 | +109 |
| Treasury | 0 | 0 | 0 | 0 | 0 | 0 |
| Sovereign | 0 | 0 | 0 | 0 | -1 | 0 |
| Agency | 0 | 0 | 0 | -1 | 0 | -3 |
| MBS/CMO | 0 | +2 | +2 | -2 | -1 | 0 |
| CMBS | +10 | +26 | -6 | +12 | +12 | +63 |
| ABS | +3 | +3 | +1 | +1 | +1 | +4 |
| Municipals | +4 | +1 | -1 | 0 | +1 | 0 |
| Investment Grade Corporate | +3 | +7 | -12 | -5 | +14 | +30 |
| High Yield | +7 | +13 | -4 | +2 | +18 | +19 |
| Bank Loans | 0 | +1 | 0 | 0 | +1 | +2 |
| Emerging Market | 0 | -1 | +3 | +1 | +2 | -6 |
| Security Selection | +41 | +39 | +47 | +35 | +54 | +149 |
| Cash | +3 | +3 | +1 | +4 | +6 | +18 |
| Treasury | +6 | +6 | 0 | -8 | -6 | +7 |
| Sovereign | 0 | 0 | 0 | 0 | 0 | 0 |
| Interest Rate Swaps | +3 | +4 | -11 | +2 | +2 | 0 |
| Agency | +2 | +3 | +1 | +1 | 0 | 0 |
| MBS/CMO | +4 | +9 | +2 | +14 | +5 | +25 |
| CMBS | -2 | -2 | +10 | +4 | -5 | -12 |
| Non-Agency RMBS | +11 | +6 | +4 | +5 | +10 | +32 |
| CDO ¹ | +4 | +7 | +3 | -- | -- | -- |
| Other ABS | +4 | +2 | +3 | +3 | +1 | +4 |
| Municipals | -3 | +1 | +1 | 0 | +3 | 0 |
| Investment Grade Corporate | +8 | +7 | +26 | +11 | +36 | +72 |
| High Yield | 0 | -7 | +6 | 0 | -2 | +2 |
| Bank Loans | 0 | 0 | 0 | 0 | 0 | 0 |
| Emerging Market | +3 | 0 | +1 | -2 | +5 | +2 |
| Securities Lending | +2 | +2 | +4 | +6 | +9 | +28 |
| Total Alpha² | +83 | +115 | +30 | +63 | +106 | +296 |

Source: PGIM Fixed Income. Supplemental information. The table above compares performance attribution of the Core Fixed Income Composite relative to its benchmark. Attribution is based on gross returns. May not sum due to rounding. Past performance is not a guarantee or a reliable indicator of future results. Please see the Reference section for important disclosures, including net returns and benchmark descriptions. ¹ Prior to June 2015, "CDO" was bucketed in "Other ABS". ² Reported alpha differs from internally calculated attribution primarily due to differences between internal and external pricing sources.



Portfolio Positioning

Current Themes

Corporates

- U.S. economic growth is on a solid footing
- Credit fundamentals continue to be sound
- Remain favorable on U.S. financials
- Economic and political reforms should be supportive for financial markets

Mortgages

- Favor 30-year middle of the coupon stack

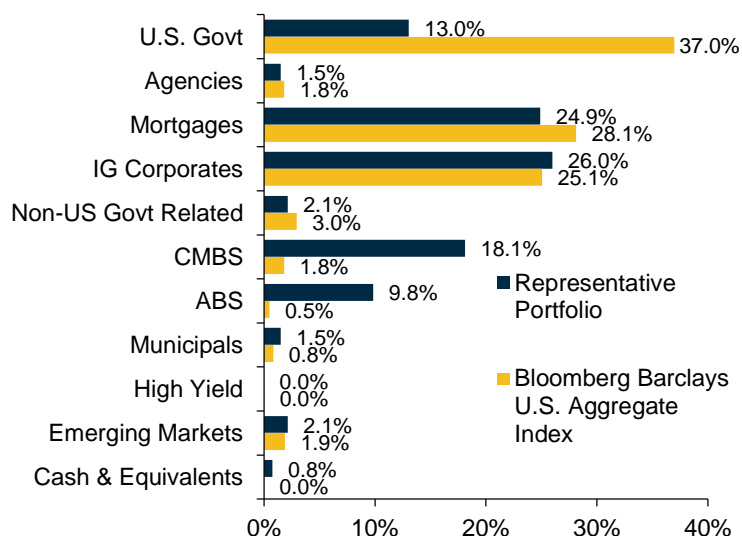
Structured Products

- Favor new production, AAA, private label CMBS and agency-backed CMBS
- Favor select AAA/AA CLOs and seasoned subprime

Representative Characteristics

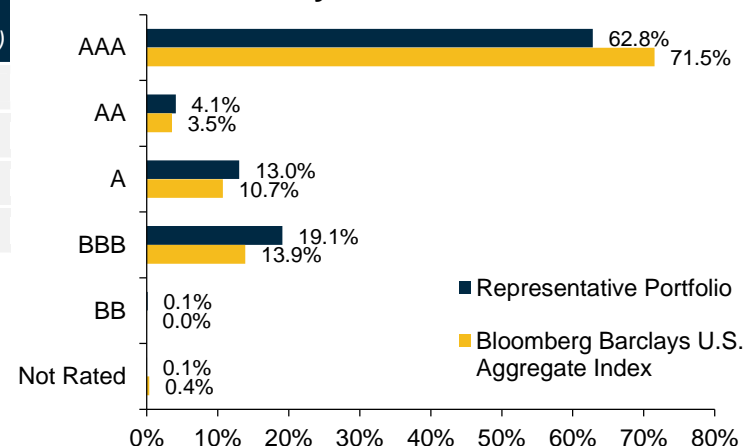
| | Representative Portfolio | Bloomberg Barclays U.S. Aggregate Index |
|------------------------------|--------------------------|---|
| Effective Duration (years) | 5.92 | 5.81 |
| Effective Yield (%) | 2.86 | 2.54 |
| Average Quality (Moody's) | Aa2 | Aa2 |
| Option Adjusted Spread (bps) | 64 | 38 |
| Number of Issuers | 277 | 1381 |

Sector Distribution¹



| | Active Exposure (%) |
|-------------|---------------------|
| Industrials | -2.5 |
| Financials | +2.3 |
| Utilities | +1.0 |
| Non-Corp | -0.4 |

Quality Distribution²



As of September 30, 2017. Source: PGIM Fixed Income. Source of Benchmark: Bloomberg Barclays Indices. The above table and graph compare characteristics of the representative portfolio within the Core Fixed Income composite relative to its benchmark. The data shown is subject to change and may not be indicative of future portfolio characteristics. Actual results may vary for each client due to specific client guidelines and other factors and should not be construed as investment advice. Please see the Reference section for important disclosures, including net returns and benchmark descriptions. Current themes provided for discussion purposes only. Does not constitute a recommendation regarding the merits of any investments. Does not constitute investment advice and should not be used as the basis for any investment decision. Does not constitute a representation that the firm has purchased or would purchase any of the investments referenced or that any such investments would be profitable. ¹Excludes swaps. ²Quality ratings exclude cash, FX hedges and swaps and are reported as the middle of Moody's, S&P, and Fitch.

3

Reference

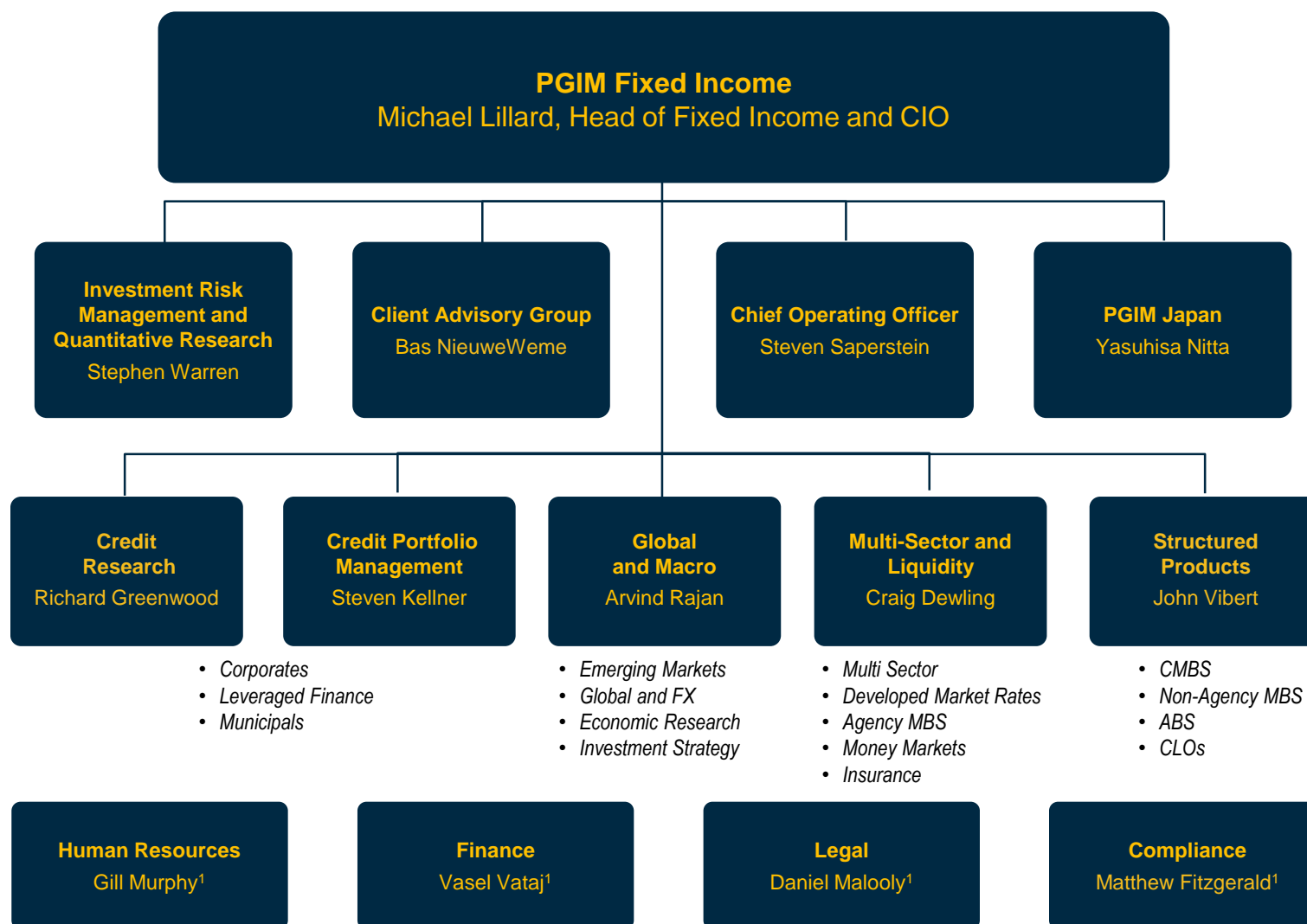


Richard Piccirillo is a Managing Director and senior portfolio manager for PGIM Fixed Income's Core, Long Government/Credit, Core Plus, Absolute Return, and other multi-sector Fixed Income strategies. Mr. Piccirillo has specialized in mortgage-and asset- backed securities since joining the Firm in 1993. Before joining the Firm, Mr. Piccirillo was a fixed income analyst with Fischer Francis Trees & Watts. Mr. Piccirillo started his career as a financial analyst at Smith Barney. He received a BBA in Finance from George Washington University and an MBA in Finance and International Business from New York University.

Peter Taggart is Principal, Client Advisory for PGIM Fixed Income. Mr. Taggart works with our largest institutional investors in developing fixed income solutions to meet their needs. Mr. Taggart has more than 20 years of experience in the investment management business, structuring and managing portfolios for U.S. and international institutions. Prior to joining the Firm, Mr. Taggart was Executive Director of Marketing with WestAM. Previously, Mr. Taggart was Managing Director with Forstmann-Leff, where he was responsible for marketing equity, fixed income and private equity investment services to institutions. Prior to Forstmann-Leff, Mr. Taggart was with Salomon Brothers Asset Management for nine years, in both bond portfolio management and client relations positions and at First Boston Asset Management, where he was a bond portfolio manager. Mr. Taggart received a BA in Computer Science from Colgate University.



Deeply Resourced To Specialize



¹Dedicated functional teams that have a direct, independent reporting relationship to corporate senior management of the company.
As of October 2017.



November 2017

- US economic growth has accelerated over the last couple of quarters. European and Global economic growth also experiencing an uptick.
- Fed hikes have not dampened positive market sentiment. Lower inflation provides a cushion against aggressive Fed tightening.
- Foreign central banks have been successful holding rates low causing foreign investors to be large buyers of spread product; ECB is likely to further curtail purchases beginning in 2018.
- 2nd quarter revenue and earnings growth were strong and 3rd quarter has been promising.
- New issuance of investment grade corporates continues at a record pace, holding back even greater spread tightening.
- Tax cuts, if enacted, would provide additional stimulus for credit spreads to tighten. “Watered down” tax reform is still the base case. Repatriation would be a strong technical for corporate spreads
- We continue to overweight long maturity corporate bonds, BBBs, utilities and financials because we believe these sectors could have the greatest potential for outperformance.
- Select high yield credits offer value.
- Reduced liquidity and geopolitical risks pose the biggest dangers to continued spread tightening. Negotiations for BREXIT will likely not meet the aggressive proposed timeline potentially causing volatility.

Source: PGIM Fixed Income. Provided for discussion purposes only. The comments, opinions, and estimates contained herein are based on and/or derived from publicly available information from sources that PGIM Fixed Income believes to be reliable. We do not guarantee the accuracy of such sources or information. This outlook, which is for informational purposes only, sets forth our views as of this date. The underlying assumptions and our views are subject to change. Does not constitute a recommendation regarding the merits of any investments. Does not constitute investment advice and should not be used as the basis for any investment decision. Does not constitute a representation that PGIM Fixed Income has purchased or would purchase any of the investments referenced or that any such investments would be profitable. Past performance is not a guarantee or a reliable indicator of future results.



Our Best Ideas In Today's Market

November 2017 Views

| Current Overweight Views | Current Underweight Views |
|--|---|
| Developed Market Sovereigns and Agencies | |
| <ul style="list-style-type: none"> • U.S. Agency CMBS | <ul style="list-style-type: none"> • Developed Market Sovereigns • U.S. Agencies • U.S. Mortgage Backed Securities • U.S. Interest Rate Swaps |
| Developed Market Corporates | |
| <ul style="list-style-type: none"> • IG Corporates (U.S. Banks) | <ul style="list-style-type: none"> • Long Duration Single A and Above Industrials • HY Energy and Commodity Corporates • Bank Loans |
| Municipals | |
| <ul style="list-style-type: none"> • High Quality Taxable Municipal Bonds (emphasizing revenue bonds over GO credits) | |
| Structured Products | |
| <ul style="list-style-type: none"> • AAA CLOs (USD and EUR denominated) • AAA CMBS | <ul style="list-style-type: none"> • Lower-Rated CLOs • Lower-Rated CMBS |
| Emerging Markets | |
| <ul style="list-style-type: none"> • Select EM Sovereigns • Select EM Local Currency Bonds • Select EM Corporates • Select EM FX | |

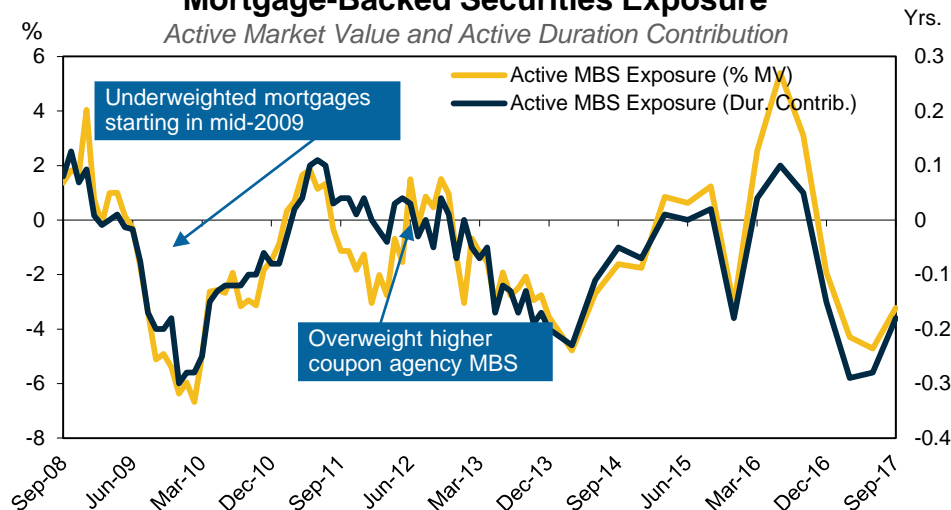
The views expressed above represent an assessment of the market environment at a specific time and is not intended to be a forecast of future events or a guarantee of future results. This information is strictly for illustrative and educational purposes and is subject to change. Does not constitute a recommendation regarding the merits of any investments. Does not constitute investment advice and should not be used as the basis for any investment decision. Does not constitute a representation that PGIM Fixed Income has purchased or would purchase any of the investments referenced or that any such investments would be profitable. Past performance is not a guarantee or a reliable indicator of future results. Source: PGIM Fixed Income.



Sector Allocations Actively Managed Throughout 2008 Crisis and Recovery

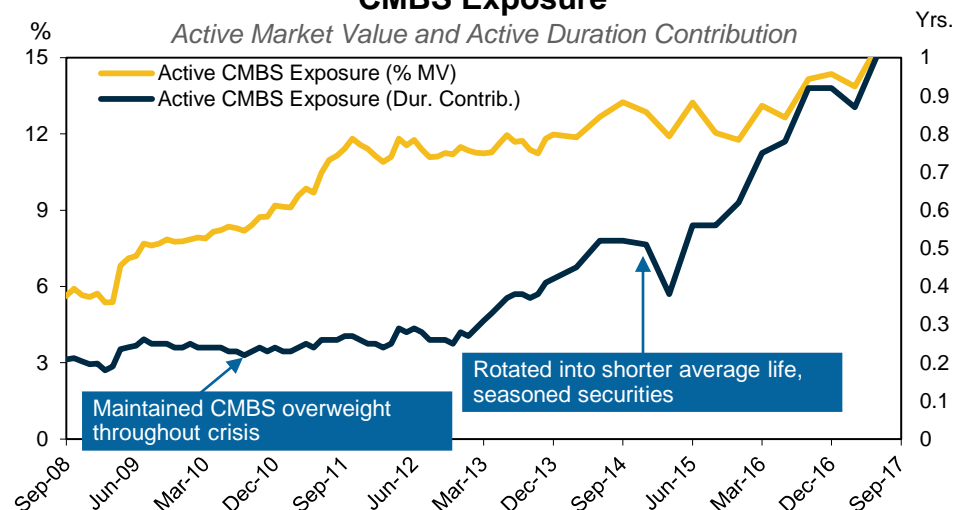
Mortgage-Backed Securities Exposure

Active Market Value and Active Duration Contribution



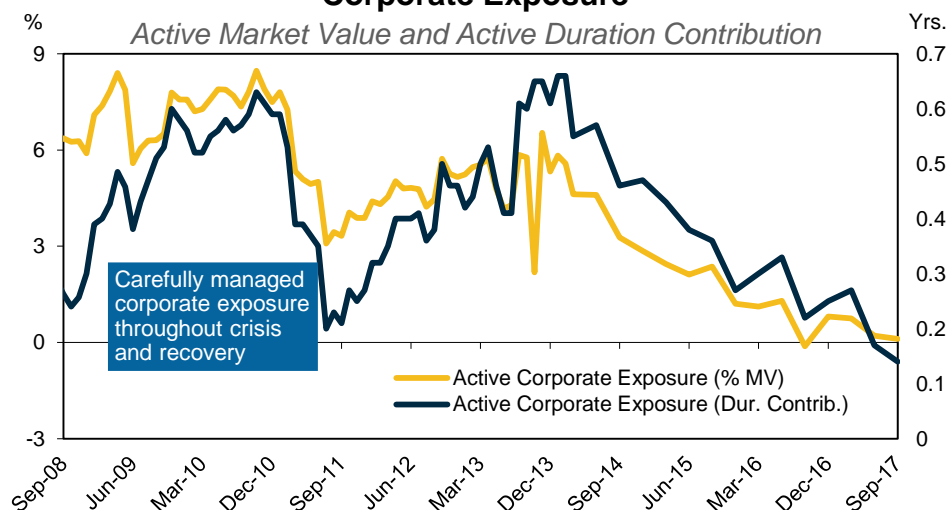
CMBS Exposure

Active Market Value and Active Duration Contribution



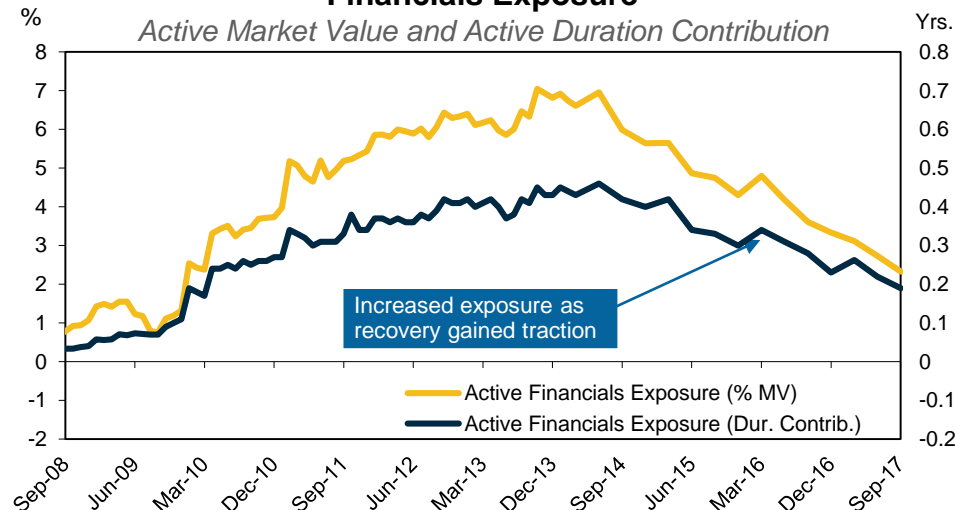
Corporate Exposure

Active Market Value and Active Duration Contribution



Financials Exposure

Active Market Value and Active Duration Contribution

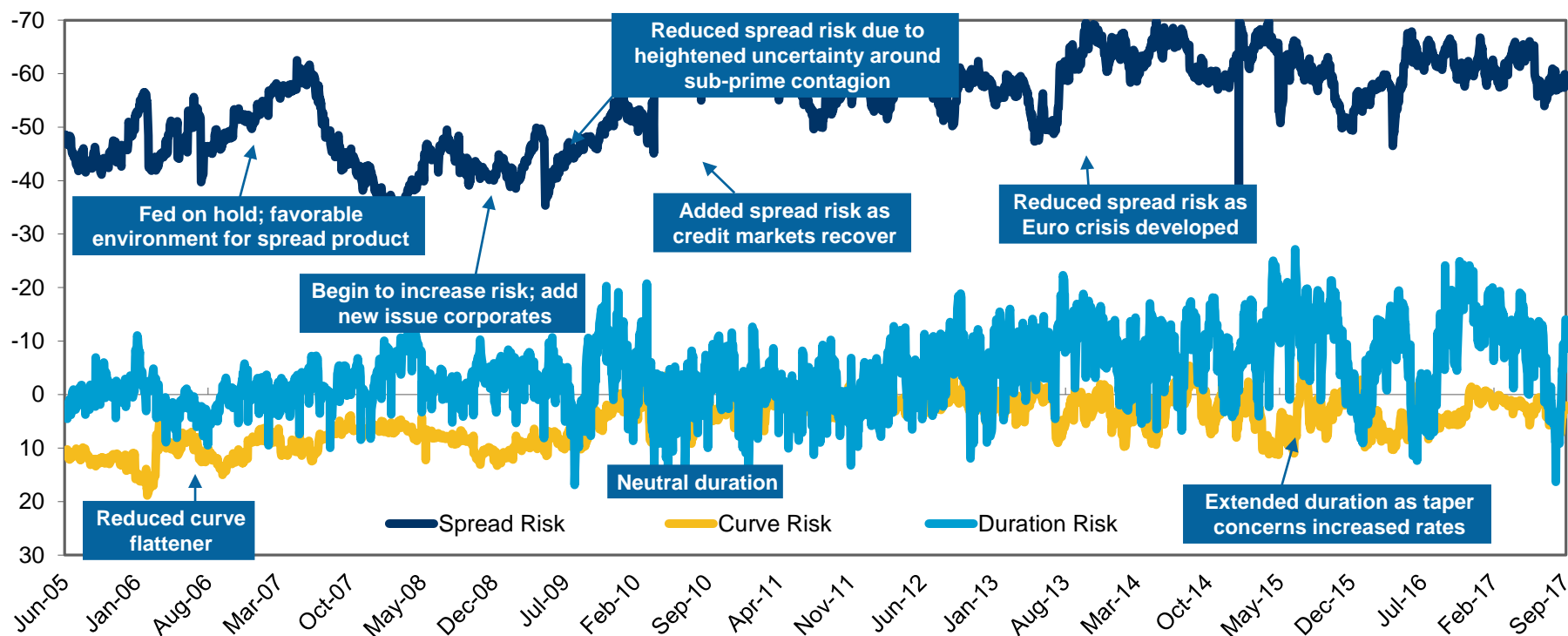


Source: PGIM Fixed Income. Supplemental Information. Active market value and duration contribution for the representative Core Fixed Income Portfolio (September 30, 2008 – September 30, 2017). Shown for illustrative purposes only. The data shown is subject to change and may not be indicative of future portfolio characteristics. Actual results may vary for each client due to specific client guidelines and other factors and should not be construed as investment advice. Please see the Reference section for important disclosures, including net returns and benchmark descriptions.



Portfolio Construction Decisions Affect Positioning Along Risk Spectrum

Evolution of Risk Over Time
Representative Broad Market Portfolio
(Spread, Yield Curve, and Duration)¹



As of September 30, 2017. Source: PGIM Fixed Income. Representative Core Fixed Income portfolio vs. Bloomberg Barclays U.S. Aggregate Index. Shown for illustrative purposes only. Please see the Reference section for important disclosures, including net returns and benchmark descriptions. ¹ Represents the principal component risk of tracking error.



Portfolio Management

| Name. | Role/Sector | Years Experience |
|---|--|------------------|
| Steven Kellner, CFA | Head of Investment Grade Corporate Bonds, Investment Oversight | 31 |
| Portfolio Managers | | |
| Malcolm Dalrymple | Retail, Airlines, Consumer Products, Supermarkets, Food/Beverage | 34 |
| Edward Blaha, CFA | Packaging, REITs, Paper/Forest, Tobacco, Mets./Min | 31 |
| James Herbst | Foreign Banks | 31 |
| Philip Huson | Utilities, Power, Energy | 29 |
| Raymond Ditzel | Railroads, Sovs., Capt. Goods, Autos, Health, Homebuilders, Aero/Defense | 27 |
| Steven Tanz, CFA | U.S. & Foreign Banks, Insurance, Brokers | 25 |
| Hugo Barth | Pharmaceuticals, Credit Derivatives | 22 |
| David Del Vecchio | Energy | 22 |
| Donna Cabral, CFA ² | European non-Financials | 20 |
| Gary Kobernick | Telecom | 18 |
| Filippo Arcieri | Foreign Banks & Chemicals | 18 |
| Rajat Shah, CFA | Technology, Media, Cable | 18 |
| Michael Marinelli | Electric Utilities | 18 |
| Alyssa Davis | Consumer Products, Food/Bev., Supermarkets | 17 |
| Edward Farley ² | European Financials | 15 |
| Robert White ² | European non-Financials; Insurance; REITs | 10 |
| Junior Portfolio Managers/Trader | | |
| Paul Zetterstrom, CFA | Industrials | 9 |
| Danielle Navarro, CFA | Energy | 7 |
| Christopher Alquiza, CFA | Insurance | 7 |
| Ashley Wieseltier, CFA | Industrials | 6 |
| Matthew Csontos | Pharmaceuticals | 6 |
| Bill McManus | Corporate Bond Trader | 20 |

Research

| Name | Role/Sector | Years Experience |
|--|--|------------------|
| Rich Greenwood, CFA | Head of Global Credit Research | 33 |
| Temple Houston, ¹ CFA | Head of U.S. Corporate Bond Credit Research, U.S. and Non-U.S. Commodities | 23 |
| Nick Ivanov, CFA | Head of EM Corporate Bond Research | 23 |
| Michiel Von Saher ^{2,3} | Head of European Credit Research | 23 |
| U.S. Corporate Bond Analysts | | |
| Cheryl Akawie, CFA | U.S. & Non-U.S. Telecom, Media & Technology | 24 |
| Peter Cody, CFA | U.S. Utilities | 24 |
| David Jiang | U.S. & Non-U.S. Financials | 22 |
| Pinto Suri | U.S. & Non-U.S. Insurance | 20 |
| Elitza Fleischman, CPA | U.S. & Non-U.S. Consumer, Retail | 17 |
| David Winans | U.S. and Non-U.S. Energy | 14 |
| John Smigelsky, CFA | U.S. Chemicals, REITs | 11 |
| Henry Balbirer, CFA | U.S. Pharmaceutical, U.S. Capital Goods | 10 |
| European Corporate Bond Analysts | | |
| Bruce Hamilton ² | European Consumer and Industrials | 34 |
| James Hyde ² | European Banks | 30 |
| Caroline Reffell ⁴ | European Building Materials | 27 |
| Tatiana Spineanu ² , CFA | European Utilities | 18 |
| Michael Roper ² , CFA | European Non-Bank Finance | 7 |
| Eastern European and LATAM Bond Analysts | | |
| Elizabeth Gunning | Eastern European and LATAM Corporates | 18 |
| Omari Douglas-Hall | Eastern European and LATAM Corporates | 8 |
| Michael Pettit, CFA | Eastern European and LATAM Corporates | 5 |
| Asian Bond Analysts | | |
| Mark Thurgood ⁵ | Asian Corporates | 19 |
| Yanru Chen ⁵ | Asian Corporates | 12 |
| Juan Otero ⁵ | Asian Corporates | 11 |
| Supported by 13 U.S. and European junior analysts | | |

Staffing as of September 30, 2017. ¹Also covers Tobacco for high yield and bank loans. ²European Corporate Bond Team members are employees of an indirect subsidiary of PGIM, Inc. who have been providing services to PGIM Limited, a UK subsidiary that is authorized and regulated by the Financial Conduct Authority. ³Also supports high yield and bank loans. ⁴Also covers high yield issuers.

⁵Employee of a wholly-owned subsidiary of PGIM, Inc., PGIM (Singapore) Pte. Ltd.



Analyst and PMs Jointly Determine Relative Value

Sample Issuer Evaluation Process: Telecom Industry (as of May 2017)

| Fund'l Rank ¹ | Issuer | Spreads ² | CDS Spreads | MDY | | S&P | | Internal | | Rel Value Rank ³ | Rel Val Wgt | Comments |
|--------------------------|--------------------|----------------------|-------------|-----------|---------|-----------|---------|-----------|---------|-----------------------------|-------------|--|
| | | | | LT-Rating | Outlook | LT-Rating | Outlook | LT-Rating | Outlook | | | |
| 1 | Telstra | 103 | 49 | A2 | SBL | A | NEG | A | NEG | 5 | UL | UL on rel value and mgmt current evaluation of change to finl policies - expect ratings target to be revised to A- from mid-A - co. stated decision expected in 6-12 months (current net leverage target is 1.3x-1.8x; recent \$3B increase in capex program over next 3 years; cont medium term uncertainty surrounding ultimate financial impact of Australia's NBN plan - ie. were the assumptions TLS used in determining NBN pymts correct; Coalition Govt ordered review of NBN, with network now slated to include a mix of technologies (26% FTTP, 44% FTTN, 30% HFC) vs. all FTTP under Labor plan and an accelerated timeline (finish in 2019 vs 2024 in Labor plan); importantly pricing of new NBN plan preserves the A\$11B NPV of previous NBN plan; slight negative that new plan will require the transfer of TLS existing copper plant to NBN co. if that plant is not being replaced by fiber |
| 2 | Verizon | 150 | 77 | Baa1 | SBL | BBB+ | SBL | BBB+ | SBL | 2 | UL | Maintain UL on rel value; given pending acquisition Yahoo (\$4.8B) and recently completed acq's of Fleetmatics (\$2.2B) and XO Communications (\$1.8B); 2016 was not a de-leveraging year for VZ - and on 5/5/17 VZ abandoned its publically stated goal of achieving pre-VOD credit metrics in the 2018/2019 timeframe - blaming the rating agencies for changing the goal posts (S&P tightened the upgrade threshold for VZ to 2.5x from 2.75x); leverage 2.7x at 3/31/17 (or 2.5x ex. ABS) vs 1.8x on a proportionate basis pre-VOD deal; at recent analyst meeting VZ stressed their preference for organic growth, but this is likely due at least in part to lack of viable acquisition targets |
| 3 | America Movil | 130 | 138 | A3 | SBL | A- | SBL | BBB+ | SBL | 3 | UL | Maintain at UL on rel value; despite operating well above previous 1.5x ND/EBITDA target, co. reiterated this as a medium term target as recently as the 4Q16 earnings call, with mgmt stating that they expect to reduce debt by approx. \$2.5B in 2017 (mostly back half of the year) and will end the year very close to the 1.5x target; as of 3/31/17 TD/EBITDA 2.4x, ND/EBITDA 2.2x (co. cites 2.1x ND/EBITDA adjusting FX hedges); need to monitor future actions with regards to M&A closely; also watching negative regulatory rulings in Mexico have negatively impacted AMX's business, co. hoped to be granted authority to sell TV in exchange, however authority not yet granted, AMX intends to "manage down" market share naturally vs. selling Mexican assets as originally proposed (to no longer be considered "preponderant"); more recently issued AMX bonds do not have guarantee of Radio Movil (Mexican Wireless) subsidiary |
| 4 | Deutsche Telecom | 116 | 43 | Baa1 | SBL | BBB+ | SBL | BBB+ | SBL | 10 | U | Maintain at U on relative value; fully adjusted leverage in relatively high but combination of TEF Germany & EPlus, should improve the competitive environment, although will need to watch VOD's competitive position post Kabel Deutschland deal; DT continues to own 65% of T-Mobile US and consolidates the asset, recent business performance much improved although financial metrics pressured given strength of gross/net adds; speculation continues regarding whether DT is a long term holder of TMUS (DT stake worth approx. \$35B at current prices + repayment of inter-company debt) - possible bidders include DISH, a cable company (although CMCSA/CHTR must agree to M&A for period of 1 year - May 2018), or Sprint; German govt retains 32% stake in DT, with co's Baa1 rating at Moody's benefitting from 1-notch GRI uplift |
| 5 | Orange SA | 114 | 55 | Baa1 | SBL | BBB+ | SBL | BBB+ | SBL | 11 | U | Maintain at U on relative value, gradually improving trends in the French business in 2016 (approx. 46% revenue, 56% of EBITDA from France), with 2015 the "low point" for total company EBITDA, with mgmt guiding that 2018 EBITDA will be higher than 2014; sale of the 50% stake in EE to BT for €4.6B of cash proceeds (plus a 4% equity stake in BT) provides flexibility for some M&A; while mgmt says they are not contemplating any transformational M&A deals and the latest attempt at French consolidation failed, we are somewhat concerned attention could turn to EM or previously rumored Telecom Italia; coupon step bonds remain valuable; French govt retains 23% stake in ORA, with the Moody's Baa1 rating benefitting from 1-notch GRI uplift, (Florange law will allow increased voting rights in event of a share sale) |
| 6 from 7 | Vodafone Group PLC | 135 | 67 | Baa1 | SBL | BBB+ | SBL | BBB+ | SBL | 9 | U | U on relative value; revised outlook to SBL from NEG on expected deleveraging post India merger/deconsolidation; India not acctd for as Disc Ops - leverage declined to 3.25x TD/EBITDA (2.35x ND/EBITDA) at 3/31/17 vs. 3.86x/2.97x at 9/30/16; VOD targets 2x ND/EBITDA vs. a specific "rating" - although at meeting with CFO (11/12/15) co. stated 2-2.5x net leverage target; India Tax case remains unresolved - \$2.5B tax dispute, rumors re: Liberty Global acquisition - believe a deal would make strategic sense although recently announced jv w/ LG only involved the Netherlands |

Source: PGIM Fixed Income based on publicly available information. ¹Fundamental Ranking is based on PGIM Fixed Income's Long Term Rating. ²Spreads are calculated internally based on a hypothetical 10-year bond for each issuer. ³Relative Value Ranking is based on a combination of systematic outputs and internal analysis and opinions. Provided for discussion purposes solely as an illustration of our issuer evaluation process and of the output of PGIM Fixed Income's proprietary models. Does not constitute a recommendation regarding the merits of investing in securities of any of the issuers referenced therein or a complete listing of issuers analyzed. The sample model output provided above may not be representative of PGIM Fixed Income's current views regarding the issuers discussed, shall not constitute investment advice, and should not be used as the basis of any investment decision. Does not constitute a representation that PGIM Fixed Income would purchase any securities of the issuers referenced or that an investment in any securities of such issuers would be profitable. An investment cannot be made in a model. There can be no assurance that the model will be effective in evaluating issuers or that opportunities identified by the model can be effectively implemented.



Analyst and PMs Jointly Determine Relative Value

Sample Issuer Evaluation Process: Telecom Industry (as of May 2017)

| Fund'l Rank ¹ | Issuer | Spreads ² | CDS Spreads | MDY | | S&P | | Internal | | Rel Value Rank ³ | Rel Val Wgt | Comments |
|--------------------------|----------------------------|----------------------|-------------|------------|---------|------------|---------|------------|---------|-----------------------------|-------------|--|
| | | | | LT- Rating | Outlook | LT- Rating | Outlook | LT- Rating | Outlook | | | |
| 7 from 6 | British Telecom | 133 | 67 | Baa1 | NEG | BBB+ | NEG | BBB+ | NEG | 4 | UL | Maintain at UL following Italian business fraud/writedown, public sector business warning which combined have led to a material guidance reduction; while we believe BT has the ability to manage through these challenges if it maintains fiscal conservatism, these items add incremental uncertainty to the story and could have an impact on the upcoming triennial pension review and OFCOM review of Openreach; Everything Everywhere deal closed 1Q16 BP 2.4B cash component; while the acquisition of EE was leveraging, it was funded conservatively (65% equity, 35% assumed/new debt or cash) and improves BT's business profile; BT's underfunded pension and spending on content still bear careful monitoring (upcoming Champions league rights auction); OFCOM continues w/ Openreach review - threat of legal separation remains an overhang, OFCOM may refer case to EC; post EE purchase DT and Orange own 12% and 4% of BT respectively |
| 8 | AT&T Inc. | 172 | 81 | Baa1 | CWNEG | BBB+ | CWNEG | BBB+ | NEG | 1 | OL | OL on rel value although we expect supply; 10/22/16 T agreed to acquire TWX in a cash (50%) & stock (50%) deal valued at approx. \$85B + almost \$25B in assumed debt, LTM combined leverage 3x - T expects net leverage of 2.5x 1 year post transaction close, 1.8x 4 year post close, we believe asset sales will be required to meet these targets; believe TWX deal is largely a defensive move intended to diversify T's business mix and reduce wireless churn; the acquisition will increase leverage, pressure ratings, and require issuance; agencies stated downgrades if any limited to one notch, expect Pru BBB rating, absent more clarity on debt reduction path |
| 9 | Rogers Communications | 119 | 79 | Baa1 | SBL | BBB+ | SBL | BBB | SBL | 12 | U | Maintain at U on rel value; leverage that is too high for rating (3x) although mgmt stated commitment to deleveraging; co recently released new organizational structure and go-to-market strategy; believe company will continue to target a return to 2-2.5x net leverage over time following aggressive spending in spectrum auction; wireless represented 58% of revenue and 65% Adj Op Profit for the LTM period ending 12/31/16 |
| 10 | Crown Castle International | 140 | 239 | Baa3 | SBL | BBB- | SBL | BBB- | SBL | 6 | UL | Maintain UL on rel value; announced \$1.5B acquisition of FiberNet from NextEra Energy on 11/1/16 - funded in a leverage neutral manner with \$1B of new equity; in addition announced \$600M acquisition of Wilcon on 4/17/17 (expected close 3Q17) - partially funded with approx. \$450M of new equity; leverage at CCI parent (leverage target 4-5x) more than AMT (with target of 3-5x) however we view CCI as less aggressive from a business perspective, with a focus on US tower assets/expansion of small cell network vs. certain intl (riskier) geographies; wireless consolidation - b/t TMUS and Sprint negative for towers |
| 11 | American Tower | 149 | 173 | Baa3 | SBL | BBB- | SBL | BBB- | SBL | 7 | UL | UL on rel value; \$5.1B acquisition of VZ tower portfolio - closed in March 15, deal included an equity component; AMT has brought leverage down - ending 1Q17A with net leverage of 4.6x, towards the very high end of their stated leverage target band of 3x-5x; major claim of 2013's Muddy Waters report - fraud in accounting for Brazilian acquisition - denied by CFO (in 8K) and CEO in CNBC interview; wireless consolidation - b/t TMUS and Sprint negative for towers |
| 12 | Telefonica | 150 | 82 | Baa3 | SBL | BBB | SBL | BB+ | POS | 8 | U from UL | Move to U on rel val; 1Q17 results reflect continued growth in Latam, offset by weaker performance in Germany and Spain; in Spain performance was weaker than more recent stable trends - reflecting lower handset sales and timing factors related to tariffs, mgmt stated stabilization should return going into Q2 and Q3 17; after failed attempts to IPO Telexius (infrastructure unit) and O2 UK (following Brexit vote) TEF mgmt abandoned their proactive deleveraging plan in favor of an organic deleveraging approach, which resulted in a Moody's downgrade to Baa3; on a stand-alone basis, view TEF as BBB-, SBL; positive outlook on external BB+ TEF rating reflects the POS Pru outlook on BB rated Spain |

Source: PGIM Fixed Income based on publicly available information. ¹Fundamental Ranking is based on PGIM Fixed Income's Long Term Rating. ² Spreads are calculated internally based on a hypothetical 10-year bond for each issuer. ³Relative Value Ranking is based on a combination of systematic outputs and internal analysis and opinions. Provided for discussion purposes solely as an illustration of our issuer evaluation process and of the output of PGIM Fixed Income's proprietary models. Does not constitute a recommendation regarding the merits of investing in securities of any of the issuers referenced therein or a complete listing of issuers analyzed. The sample model output provided above may not be representative of PGIM Fixed Income's current views regarding the issuers discussed, shall not constitute investment advice, and should not be used as the basis of any investment decision. Does not constitute a representation that PGIM Fixed Income would purchase any securities of the issuers referenced or that an investment in any securities of such issuers would be profitable. An investment cannot be made in a model. There can be no assurance that the model will be effective in evaluating issuers or that opportunities identified by the model can be effectively implemented.



PGIM Fixed Income operates primarily through PGIM, Inc., a registered investment adviser under the U.S. Investment Advisers Act of 1940, as amended, and a Prudential Financial, Inc. ("PFI") company. PGIM Fixed Income is headquartered in Newark, New Jersey and also includes the following businesses globally: (i) the public fixed income unit within PGIM Limited, located in London; (ii) PGIM Japan Co., Ltd. ("PGIM Japan"), located in Tokyo; and (iii) the public fixed income unit within PGIM (Singapore) Pte. Ltd., located in Singapore ("PGIM Singapore"). PFI of the United States is not affiliated with Prudential plc, which is headquartered in the United Kingdom. Prudential, PGIM, their respective logos and the Rock symbol are service marks of PFI and its related entities, registered in many jurisdictions worldwide.

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Any projections or forecasts presented herein are as of the date of this presentation and are subject to change without notice. Actual data will vary and may not be reflected here. Projections and forecasts are subject to high levels of uncertainty. Accordingly, any projections or forecasts should be viewed as merely representative of a broad range of possible outcomes. Projections or forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. PGIM Fixed Income has no obligation to provide updates or changes to any projections or forecasts.

Any performance targets contained herein are subject to revision by PGIM Fixed Income and are provided solely as a guide to current expectations. There can be no assurance that any product or strategy described herein will achieve any targets or that there will be any return of capital. Past performance is not a guarantee or a reliable indicator of future results and an investment could lose value.



Risk Definitions

Systematic Risk Definitions

- **Risk Thresholds (Thres.):** Risk thresholds, as fully outlined in each portfolio's risk budget, address each significant dimension of risk. Thresholds are intended as a basis for discussion between risk management and portfolio management. Examples of discussion "triggers" would be if a portfolio's tracking error exceeded its risk threshold, approached its threshold, or was significantly under-risked versus its threshold.
- **Curve TE:** measures the expected variation (tracking error) of the portfolio's return versus its benchmark due to changes in the term structure of interest rates. This measure includes the expected results of all curve effects.
- **Curve PC 1:** The first principal component of curve risk represents the variation of the portfolio versus its benchmark from the most statistically significant change in yield curve shape. It is analogous to, but not equal to, duration in traditional fixed income analytics.
- **Curve PC 2:** The second principal component of curve risk represents the variation of the portfolio versus its benchmark from the next most statistically significant change in yield curve shape.
- **Currency TE:** Measures the expected variation (tracking error) of the portfolio's return versus its benchmark due to changes in currency exchange rates.
- **Currency PC1:** The first principal component of currency risk represents the variation of the portfolio versus its benchmark from the most statistically significant change in foreign exchange rates.
- **Option adjusted spread (OAS):** Option-adjusted spread (OAS) is the yield spread which has to be added to a benchmark yield curve to discount a security's payments to match its market price, using a dynamic pricing model that accounts for embedded options.
- **Spread TE:** Measures the expected variation (tracking error) of the portfolio's return versus its benchmark due to changes in the term structure for spreads (credit spread, mortgage OAS, swap spreads, etc.).
- **Spread PC1:** The first principal component of spread risk represents the variation of the portfolio versus its benchmark from the most statistically significant change in the shape of the spread curve. It is analogous to, but not equal to, spread duration in traditional fixed income analytics.
- **Short Term Spread Risk (STSR):** While we view our tracking errors and principal components as "long-horizon" risk measures, we complement our long term risk measures with a "short term" spread risk measure. That is, for each security in the portfolio versus benchmark, we calculate the spread duration contribution multiplied by a measure of short-term volatility, namely, 35% of the current option-adjusted spread (OAS) level or [spread duration contribution x 35% x OAS].
- **Total Systematic TE:** Measures the expected variation (tracking error) of the portfolio's return versus its benchmark due to the combined effects of yield curve, currency and spread risks.

Non-Systematic Risk Definitions

- **Issuer TE:** Measures the expected variation (tracking error) of the portfolio's return versus its benchmark due to issuer exposure.
- **Industry TE:** Measures the expected variation (tracking error) of the portfolio's return versus its benchmark due to industry concentration.
- **Total Non-Systematic TE:** Measures the expected variation (tracking error) of the portfolio return versus its benchmark due the combined effects of issuer, industry and emerging market country exposure.

Total Risk Definition

- **Total TE:** Measures the expected variation (tracking error) of the portfolio's return versus its benchmark from both systematic and non-systematic sources
- **Scenarios:** Estimates performance of the portfolio versus its benchmark under a set of specific scenarios. Each scenario represents a possible outcome in the market and is defined by a shock in the yield curve, currency exchange rates and the term structure of spreads.



As of December 31, 2016

| Year | Composite (Gross) | Composite (Net) | Benchmark | Composite 3 Year St Dev | Benchmark 3 Year St Dev | # of Portfolios | Internal Dispersion | Composite Market Value (000s) | Firm Assets Under Management (in billions) |
|------|-------------------|-----------------|-----------|-------------------------|-------------------------|-----------------|---------------------|-------------------------------|--|
| 2016 | 3.80% | 3.51% | 2.65% | 3.01% | 2.98% | 14 | 0.18 | \$11,973,704 | \$637.20 |
| 2015 | 0.85% | 0.57% | 0.55% | 3.00% | 2.88% | 15 | 0.13 | \$12,107,985 | \$574.77 |
| 2014 | 6.56% | 6.27% | 5.97% | 2.81% | 2.63% | 15 | 0.31 | \$11,547,961 | \$543.29 |
| 2013 | -0.96% | -1.24% | -2.02% | 2.80% | 2.71% | 14 | 0.23 | \$8,577,281 | \$405.16 |
| 2012 | 7.17% | 6.87% | 4.21% | 2.35% | 2.38% | 16 | 0.41 | \$9,298,960 | \$394.75 |
| 2011 | 8.11% | 7.80% | 7.84% | 2.99% | 2.78% | 15 | 0.20 | \$8,934,663 | \$335.31 |
| 2010 | 8.87% | 8.57% | 6.54% | 4.76% | 4.17% | 15 | 0.72 | \$8,162,229 | \$269.74 |
| 2009 | 14.22% | 13.90% | 5.93% | 4.66% | 4.11% | 15 | 2.29 | \$8,192,618 | \$231.88 |
| 2008 | -0.43% | -0.71% | 5.24% | 4.24% | 3.97% | 11 | 2.31 | \$4,053,410 | \$188.16 |
| 2007 | 6.07% | 5.77% | 6.97% | 2.77% | 2.77% | 11 | 0.34 | \$5,694,671 | \$201.78 |
| 2006 | 4.65% | 4.35% | 4.33% | 3.28% | 3.21% | 11 | 0.12 | \$5,006,832 | \$187.45 |
| 2005 | 2.86% | 2.58% | 2.43% | 4.16% | 4.07% | 10 | 0.04 | \$3,411,837 | \$170.28 |
| 2004 | 4.93% | 4.64% | 4.34% | 4.26% | 4.28% | 8 | 0.10 | \$3,063,625 | \$143.77 |
| 2003 | 5.29% | 4.99% | 4.10% | 4.15% | 4.20% | 8 | 0.16 | \$2,741,126 | \$150.79 |
| 2002 | 10.43% | 10.13% | 10.26% | 3.34% | 3.35% | 8 | 0.17 | \$2,909,321 | \$150.45 |
| 2001 | 8.71% | 8.34% | 8.44% | 3.42% | 3.34% | 8 | 0.17 | \$2,939,103 | \$140.04 |
| 2000 | 11.19% | 10.75% | 11.63% | 3.11% | 3.01% | 9 | 0.29 | \$3,252,499 | \$129.31 |
| 1999 | -0.28% | -0.65% | -0.82% | 3.27% | 3.20% | 7 | 0.18 | \$2,774,504 | \$185.30 |
| 1998 | 8.57% | 8.19% | 8.69% | 3.59% | 3.52% | 7 | NM | \$1,959,243 | \$130.90 |
| 1997 | 9.94% | 9.55% | 9.65% | 4.06% | 4.00% | 5 | NM | \$1,975,222 | \$119.50 |
| 1996 | 3.83% | 3.46% | 3.63% | 4.62% | 4.59% | 5 | NM | \$1,913,732 | \$105.60 |
| 1995 | 18.88% | 18.47% | 18.47% | 4.31% | 4.24% | 7 | NM | \$1,843,739 | \$100.80 |
| 1994 | -3.06% | -3.40% | -2.92% | 4.18% | 3.99% | fewer than 5 | NM | \$1,428,647 | \$87.70 |
| 1993 | 10.30% | 9.92% | 9.75% | 3.61% | 3.31% | fewer than 5 | NM | \$1,455,248 | \$93.70 |
| 1992 | 7.92% | 7.55% | 7.40% | | | fewer than 5 | NM | \$1,377,754 | \$76.30 |
| 1991 | 16.63% | 16.23% | 16.00% | | | fewer than 5 | NM | \$441,053 | \$73.00 |

| Period Ending | Composite (Gross) | Composite (Net) | Benchmark |
|-----------------------|-------------------|-----------------|-----------|
| 12/31/2016 | | | |
| 1 Year | 3.80% | 3.51% | 2.65% |
| 3 Year | 3.71% | 3.42% | 3.03% |
| 5 Year | 3.44% | 3.15% | 2.23% |
| 10 Year | 5.33% | 5.04% | 4.34% |
| Since January 1, 1991 | 6.61% | 6.27% | 6.02% |

The inception date of the composite is January 1, 1991.

PGIM Fixed Income claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. PGIM Fixed Income has been independently verified for the periods January 1, 1993 through December 31, 2016.

Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The Core Fixed Income composite has been examined for the periods January 1, 1993 through December 31, 2016. The verification and performance examination reports are available upon request.

Notes

1. PGIM Fixed Income (the "Firm") is a global asset manager primarily focused on public fixed income investments whose U.S. business operates as a unit of PGIM, Inc. PGIM, Inc. is an investment adviser registered with the United States Securities and Exchange Commission. The Firm is headquartered in Newark, New Jersey and also includes the following businesses: (i) the public fixed income unit within PGIM Limited, located in London; (ii) locally managed assets of PGIM Japan Co., Ltd ("PGIM Japan"), located in Tokyo; and (iii) the public fixed income unit within PGIM (Singapore) Pte. Ltd., located in Singapore. PGIM Japan has been included



As of December 31, 2016

within the Firm as of June 30, 2014, resulting in an increase in assets under management (AUM) of approximately \$105 billion. The Firm's list of composite descriptions is available upon request.

2. The Core Fixed Income Composite includes all portfolios managed with similar investment objectives and risk profiles that are indexed against the Bloomberg Barclays US Aggregate Bond Index, and that focus their strategies on sector allocation and subsector/security selection. Portfolios will primarily hold benchmark securities, although they can also hold limited amounts of non-benchmark securities. The portfolios are managed duration-constrained against the benchmark and seek to outperform the benchmark by approximately 60 bps. Composite returns may include securities lending income. This composite was created on December 31, 1998.
3. Performance results are stated gross and net of model fees. Gross returns do not reflect the deduction of investment advisory fees or any other expenses that may be incurred in the management of the account. Model net returns are calculated monthly by geometrically linking 1/12th of the highest standard advisory fee in effect for the respective period to the gross composite return. The standard advisory fee schedule currently in effect is as follows: 0.28% on the first \$50 million, 0.22% on the next \$100 million, 0.20% on the next \$100 million and 0.15% thereafter. Actual client fees may vary depending on, among other things, the applicable fee schedule and portfolio size. Returns for each client will be reduced by such fees and expenses as described in their individual contract. The Firm's advisory fees (other than fees related to PIMJ) are disclosed in PGIM Fixed Income's SEC Form ADV Part 2A, which is available upon request. Fees related to PIMJ are also available upon request. Fees may be higher for commingled accounts, insurance company separate accounts, and trust, corporate, or bank-owned life insurance products. The composite shown may include accounts that are group annuity or life insurance products issued by The Prudential Insurance Company of America and/or its affiliated insurance subsidiaries. Performance has been calculated in US dollars and reflects the deduction of transaction costs and withholding taxes, if any, and the reinvestment of income. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request. Past performance is not a guarantee or a reliable indicator of future results.
4. The internal dispersion of annual returns is measured by the standard deviation across the asset-weighted returns of portfolios represented in the composite for a full year. For periods where 5 or fewer accounts were included in the composite for the full year, internal dispersion is not disclosed, as it is not considered meaningful (NM). The three-year annualized standard deviation is calculated using monthly returns and measures the variability of the gross composite and benchmark returns over the preceding 36-month period.
5. The benchmark for this composite is the Bloomberg Barclays US Aggregate Bond Index. The index covers the USD-denominated, investment-grade, fixed-rate or step ups, taxable bond market of SEC-registered securities and includes bonds from the Treasury, Government-Related, Corporate, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS, and CMBS sectors. Securities included in the index must have at least 1 year until final maturity and be rated investment-grade (Baa3/BBB-/BBB-) or better using the middle rating of Moody's, S&P, and Fitch. Source of the index: Bloomberg Barclays. The financial indices referenced herein are provided for informational purposes only. The manager's holdings and portfolio characteristics may differ from those of the benchmark(s). Additional factors impacting the performance displayed herein may include portfolio-rebalancing, the timing of cash flows, and differences in volatility, none of which impact the performance of the financial indices. Financial indices reflect the reinvestment of income, if any, but do not reflect the impact of fees, applicable taxes or trading costs which may reduce the returns shown. You cannot invest directly in an index. The statistical data regarding such indices has been obtained from sources believed to be reliable. Benchmark returns are not covered by the report of independent verifiers.

BOARD ACTION

TO: State Investment Board
FROM: Dave Hunter, Darren Schulz and Eric Chin
DATE: November 14, 2017
SUBJECT: Prudential Core Fixed Income Recommendation

Summary:

At the September SIB meeting, the Board approved the selection of Wells Capital's Montgomery subsidiary to manage a U.S. Core Fixed Income mandate of up to \$300 million on behalf of the Pension Trust. Due to several recently announced investment staff departures at Montgomery, however, including that of a co-head senior portfolio manager, Staff is recommending the substitution of Prudential Global Investment Management (PGIM) and its Core Fixed Income Strategy as a complement to PIMCO's Core Plus Constrained mandate, the selection of whom the Board approved in August. PGIM currently manages Core Plus mandates on behalf of the Insurance Trust and Legacy Fund, a relationship that dates back to 2006.

Board Action:

Staff recommends to the Board the selection of PGIM to manage up to a \$300 million US Core Fixed Income mandates on behalf of the Pension Trust. Staff recommends that the Board award the mandate to PGIM for the following reasons:

1. The PGIM Core Strategy's emphasis on research-based security selection, relative-value sector allocation and modest duration and yield curve positioning is complementary with PIMCO's top-down approach.
2. PGIM possesses decades of experience of experience managing credit-related strategies and the firm maintains significant research and risk management infrastructures that add value to their investment process.
3. The Strategy has a track record of consistently generating risk adjusted excess returns in the top quartile of the Callan Core Bond peer group.
4. SIB has an existing relationship with the firm dating back to 2006 through Core Plus mandates within the Insurance Trust and Legacy Fund.

Core Fixed Income Manager Recommendation

November 17, 2017

Dave Hunter, Darren Schulz and Eric Chin

Investment Recommendation

- ▶ Staff recommends that the NDSIB engage PGIM, Inc. “PGIM” to manage up to a \$300 million Core Bond Strategy for the Pension Trust
- ▶ PGIM’s Core Fixed Income Strategy is an actively managed, multi-sector, investment grade strategy that targets +60 bps excess return over the Bloomberg Barclays U.S. Aggregate Bond Index
- ▶ Pairing PGIM’s bottom-up driven strategy with PIMCO’s top-down strategy offers valuable diversification

Investment Recommendation

Competitive Advantages

- ▶ PGIM is a “boring” fixed income manager when “boring” is attractive
 - Global fixed income manager with \$694 billion AUM
 - Deep fixed income team: 282 investment professionals with 173 focused on core bond strategies
 - Generates excess returns through multiple alpha drivers
 - Strong quantitative research and risk platform
 - Long track record of investing, composite dates back to 1991

Manager Search Process

Recap

- ▶ Began with over 200 core bond managers that manage separate account products
- ▶ Screened for managers with:
 - AUM greater than \$5.0 billion
 - Positive gross of fee excess returns against the Bloomberg Aggregate Bond Index for the 10 year period (ending Dec. 31, 2016)
- ▶ Evaluated traditional metrics, and put heavier weight on downside protection, preservation of capital, and low correlation to equities
- ▶ Distributed an RFI, performed onsite diligence, and conducted stringent qualitative and quantitative analyses

Manager Search Process

Staff collaborated with Callan to create a short list of managers (below):

| Fund Name ¹ | Inception Date | Total Product Assets (\$M) ² | Returns for 40 Quarters | Excess Return vs. Blmbg:Aggregate for 40 Quarters | Correlation vs. S&P:500 for 40 Quarters | Standard Deviation for 40 Quarters |
|-------------------------|----------------|---|-------------------------|---|---|------------------------------------|
| Baird Core | October-00 | 20,429.71 | 5.04% | 0.76% | 0.22 | 3.50% |
| Barings Core | January-91 | 10,547.12 | 5.05% | 0.77% | 0.18 | 3.37% |
| IncomeR&M Core | January-92 | 8,607.31 | 5.08% | 0.81% | 0.24 | 3.76% |
| MacKay Core | October-86 | 5,261.40 | 5.29% | 1.02% | 0.14 | 3.30% |
| Manulife Core | January-96 | 10,968.96 | 5.91% | 1.64% | 0.37 | 3.83% |
| PGIM Core | January-91 | 34,667.77 | 5.38% | 1.10% | 0.24 | 3.53% |
| PIMCO Total Return Core | December-89 | 31,904.02 | 5.44% | 1.17% | 0.16 | 3.69% |
| TCW Core Fixed Income | October-96 | 10,588.49 | 5.40% | 1.13% | 0.29 | 3.49% |
| Wells Montgomery Core | July-90 | 28,629.13 | 5.53% | 1.26% | 0.1 | 3.39% |
| CAI Core | October-73 | 2,068.69 | 4.88% | 0.60% | 0.14 | 3.41% |
| Blmbg:Aggregate | N/A | N/A | 4.27% | 0.00% | 0.03 | 3.27% |
| S&P:500 | N/A | N/A | 7.44% | 3.16% | 1 | 15.14% |

¹ Data as of September 30, 2017. Numbers are unaudited. Source: Statistics are from Callan's PeP database

² Data as of June 30, 2017. Numbers are unaudited. Source: Statistics are from Callan's PeP database

Manager Search Process

- ▶ Staff grouped candidate managers into a top-down group and a bottom-up group
- ▶ PIMCO and PGIM pair well quantitatively and qualitatively

| Excess Correlation Table Benchmark: Bloomberg Aggregate (10 Years Ending Sep. 30, 2017)* | | | | | | | | | | |
|--|------------|--------------|-----------------|---------------|-----------|-------------------------|----------|-----------------------|-------------|-----------------|
| | Baird Core | Barings Core | Income R&M Core | Manulife Core | PGIM Core | PIMCO Total Return Core | TCW Core | Wells Montgomery Core | Callan Core | Blmbg Aggregate |
| Baird Core | 1.00 | | | | | | | | | |
| Barings Core | 0.88 | 1.00 | | | | | | | | |
| Income R&M Core | 0.79 | 0.83 | 1.00 | | | | | | | |
| Manulife Core | 0.93 | 0.92 | 0.79 | 1.00 | | | | | | |
| PGIM Core | 0.94 | 0.93 | 0.80 | 0.97 | 1.00 | | | | | |
| PIMCO Total Return Core | 0.50 | 0.71 | 0.75 | 0.67 | 0.60 | 1.00 | | | | |
| TCW Core | 0.92 | 0.86 | 0.72 | 0.98 | 0.94 | 0.61 | 1.00 | | | |
| Wells Montgomery Core | 0.69 | 0.83 | 0.64 | 0.77 | 0.85 | 0.57 | 0.72 | 1.00 | | |
| Callan Core | 0.96 | 0.94 | 0.85 | 0.97 | 0.99 | 0.63 | 0.93 | 0.81 | 1.00 | |
| Blmbg Aggregate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 |

*Numbers are unaudited. Source: Statistics are from Callan's PeP database

PGIM Manager Evaluation

Organizational Overview

- ▶ PGIM is the largest investment advisor within Prudential Financial Inc. (NYSE:PRU)
- ▶ PGIM or its predecessors have been managing proprietary fixed income portfolios for institutional clients since 1928
- ▶ Headquartered in Newark, NJ
- ▶ \$694 billion of assets under management, \$82.6 billion of which is in core bond strategies
- ▶ 282 person Investment Team

PGIM Manager Evaluation

Investment Strategy/Process

- ▶ PGIM's philosophy: research-driven security selection is the most consistent strategy to add alpha
- ▶ Investment process begins with the "Market Outlook" — an assessment of likely economic, interest rate and fixed income scenarios
- ▶ Leveraging input from sector teams and the Market Outlook, Senior PMs establish risk exposures across sectors, industry, interest rate, and yield curve positions

PGIM Manager Evaluation

Investment Strategy/Process

- ▶ Sector teams select individual securities in their respective sectors
 - IG Corporate Credit Team conducts fundamental research and screens the market to identify 600 issuers across 38 industries—primary focus is on the largest issuers
 - Structured Products Team utilizes a combination of fundamental and quantitative research—focus on short to intermediate securities
 - The Government and Mortgage Teams' security selection process is driven by proprietary quantitative tools with a focus on identifying relative value

PGIM Manager Evaluation

Investment Strategy/Process

- ▶ PGIM employs a dedicated Quantitative Research and Risk Management Team
 - Distinct from the Investment Team, the Risk Team reports directly to Michael Lillard, Head of PGIM Fixed Income
 - Risk and Investment Teams are separate to engender different perspectives
 - Deep team with 94 professionals
 - Risk Team creates a risk budget to supplement client guidelines and proactively monitor portfolio exposures
 - PGIM utilizes both BlackRock's Aladdin Risk System and a proprietary system called ARMS (Attribution and Risk Management System)

PGIM Manager Evaluation

Performance and Risk Statistics

Common Period Returns and Risk Statistics (Gross)*

10 Years as of 9/30/17

| | PGIM Core | Baird | Barings | Income R&M | Manulife | TCW | Wells Montgomery | Callan Core Bond FI | Bloomberg Agg. |
|--------------------------------------|-----------|---------|---------|---------------|----------|---------|---------------------|------------------------|-------------------|
| Returns (Gross) | 5.38% | 5.04% | 5.05% | 5.08% | 5.91% | 5.40% | 5.53% | 4.88% | 4.27% |
| Excess Return (Bloomberg Agg.) | 1.10% | 0.76% | 0.77% | 0.81% | 1.64% | 1.13% | 1.26% | 0.60% | 0.00% |
| Excess Return Ratio (Bloomberg Agg.) | 0.83 | 0.53 | 0.73 | 0.46 | 0.64 | 0.52 | 1.58 | 0.61 | -- |
| Standard Deviation | 3.53% | 3.50% | 3.37% | 3.76% | 3.83% | 3.49% | 3.39% | 3.41% | 3.27% |
| Sharpe Ratio (3 month T-bill) | 1.39 | 1.3 | 1.36 | 1.23 | 1.42 | 1.42 | 1.49 | 1.29 | 1.16 |
| Tracking Error (Bloomberg Agg.) | 1.33% | 1.43% | 1.06% | 1.74% | 2.55% | 2.19% | 0.80% | 1.14% | 0.00% |
| Information Ratio (Bloomberg Agg.) | 0.77 | 0.54 | 0.76 | 0.38 | 0.78 | 0.77 | 1.46 | 0.67 | 0.00 |
| Maximum Drawdown (Monthly) | -6.61% | -7.74% | -5.35% | -7.38% | -9.15% | -7.71% | -4.61% | -4.83% | -3.83% |
| Downside Risk (Bloomberg Agg.) | 0.88% | 1.05% | 0.72% | 1.18% | 1.78% | 1.52% | 0.42% | 0.71% | 0.00% |
| Up Market Capture (Bloomberg Agg.) | 120.23% | 115.12% | 111.83% | 117.14% | 128.21% | 113.24% | 118.16% | 108.53% | 100.00% |
| Down Market Capture (Bloomberg Agg.) | 95.81% | 99.25% | 93.48% | 101.01% | 89.84% | 83.23% | 86.92% | 95.33% | 100.00% |

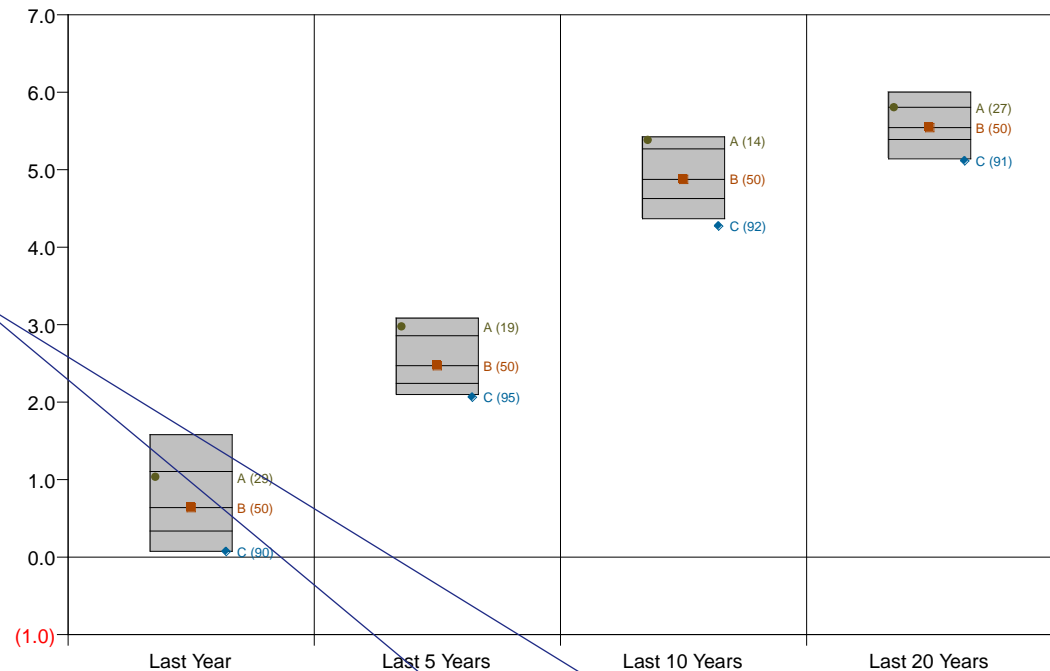
*Numbers are unaudited. Source: Statistics are from Callan's PeP database

- ▶ PGIM has generated attractive downside and excess return statistics
- ▶ All seven bottom-up candidates produce attractive excess returns

PGIM Manager Evaluation

Gross Returns (Periods Ended September 30, 2017)*

PGIM has
outperformed over the
long term



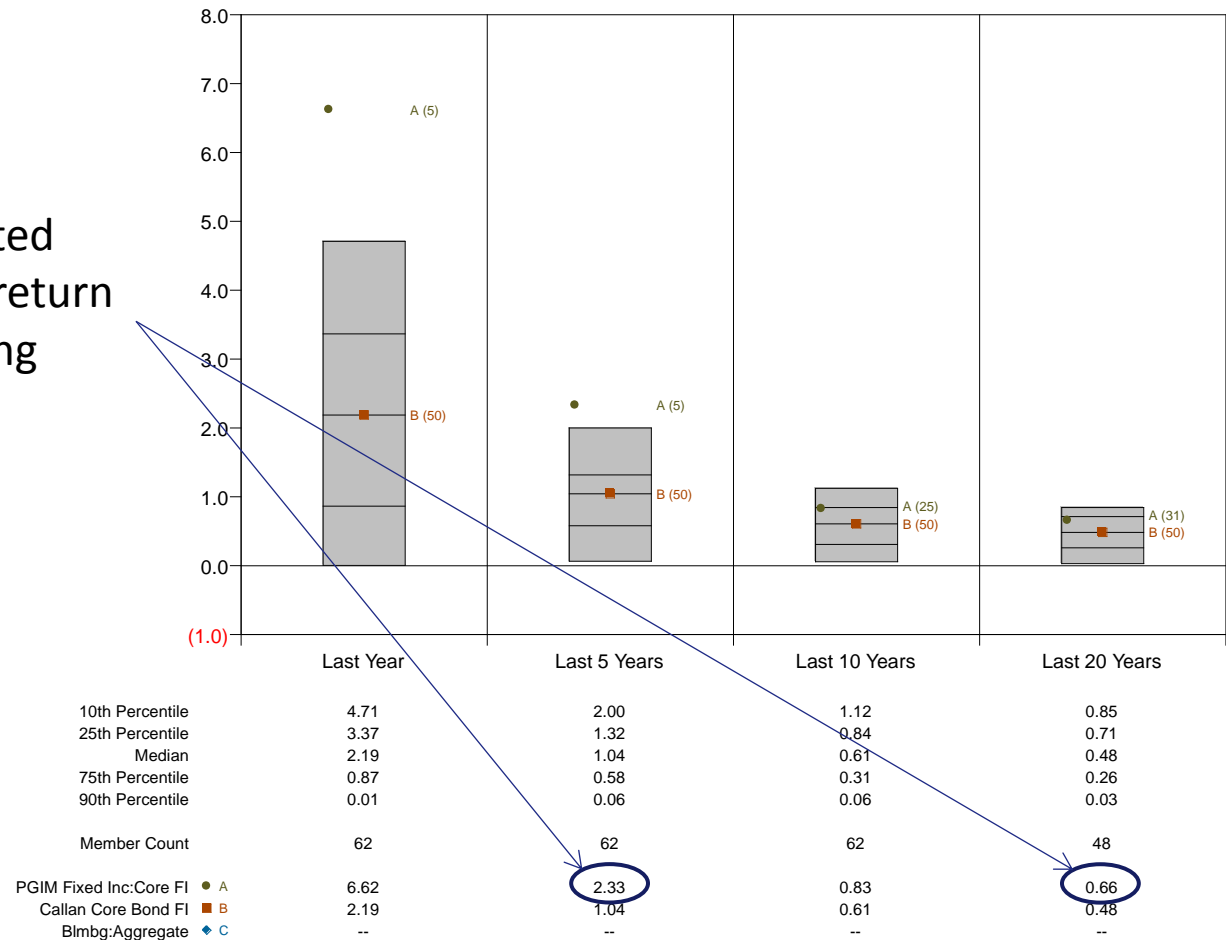
| | | | | |
|------------------------|------|------|------|------|
| 10th Percentile | 1.58 | 3.09 | 5.42 | 6.00 |
| 25th Percentile | 1.11 | 2.86 | 5.27 | 5.81 |
| Median | 0.64 | 2.47 | 4.88 | 5.54 |
| 75th Percentile | 0.34 | 2.24 | 4.63 | 5.39 |
| 90th Percentile | 0.08 | 2.10 | 4.37 | 5.14 |
| Member Count | 62 | 62 | 62 | 48 |
| PGIM Fixed Inc:Core FI | 1.03 | 2.97 | 5.38 | 5.80 |
| Callan Core Bond FI | 0.64 | 2.47 | 4.88 | 5.54 |
| Bimbg:Aggregate | 0.07 | 2.06 | 4.27 | 5.12 |

*Numbers are unaudited. Source: Statistics are from Callan's PeP database

PGIM Manager Evaluation

Excess Return Ratio (Periods Ended September 30, 2017)*

PGIM has generated attractive excess return ratios over the long and short term



*Numbers are unaudited. Source: Statistics are from Callan's PeP database

PGIM Manager Evaluation

Concerns

Staff does not have any significant concerns with PGIM's Core Fixed Income Strategy but would note:

- ▶ PGIM's fee proposal is marginally higher than Wells Montgomery's
- ▶ While strong, PGIM's historical track record scored slightly lower than Wells Montgomery's

Conclusion

The PGIM Core Fixed Income Strategy can serve as the bottom-up anchor for the Pension Trust's high quality fixed income barbell

- PGIM's bottom-up investment process pairs well with PIMCO's top-down strategy
- PGIM is the “boring” fixed income manager
 - Large, deep, stable Investment and Risk Teams
 - Long compelling track record investing in core fixed income—composite dates back to 1991
 - Strong infrastructure with minimal organizational risk
- Diverse set of alpha drivers: generates alpha through sector rotation and security selection across asset classes

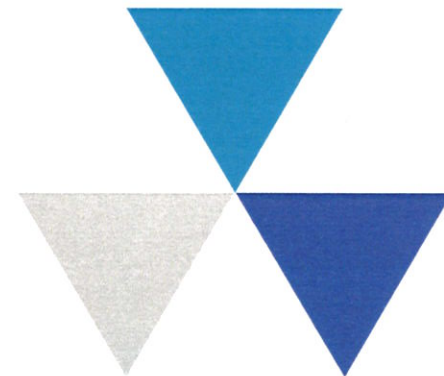
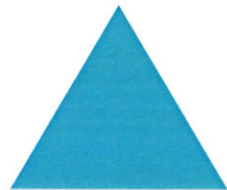
HEALTH WEALTH CAREER

MERCER PRIVATE MARKETS

INFRASTRUCTURE

PREPARED FOR THE
NORTH DAKOTA RETIREMENT &
INVESTMENT OFFICE

NOVEMBER 17, 2017



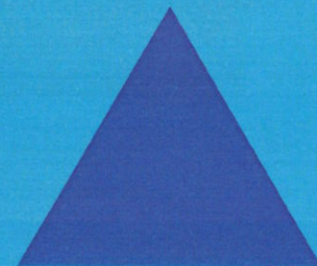
MAKE TOMORROW, TODAY  MERCER

MEETING WITH NORTH DAKOTA RETIREMENT & INVESTMENT OFFICE

AGENDA-

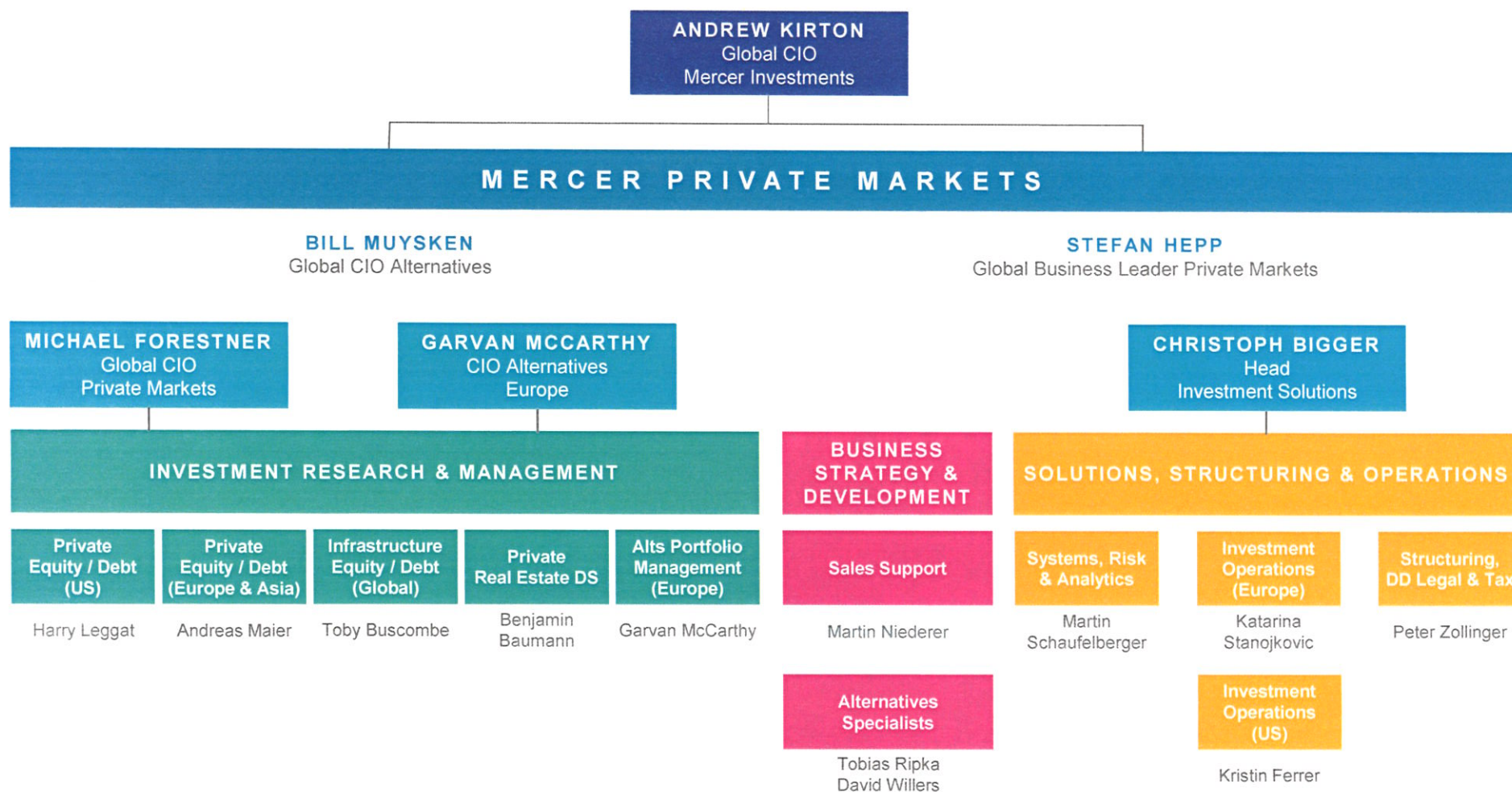
1. Mercer Private Markets overview
2. Market trends and observations
3. The case for infrastructure investing
4. Effective private market infrastructure investing
5. Observations on existing NDR&IO portfolio and build-out options

MERCER PRIVATE MARKETS



MERCER PRIVATE MARKETS

A DEDICATED TEAM – INVESTMENTS AND OPERATIONAL CAPABILITIES



GLOBAL PRESENCE OF MERCER PRIVATE MARKETS

STRONG RESOURCES

Over 30 MPM investment professionals service >60 mandates through 9 offices (incl. 3 operations centers).

WIDE NETWORK

MPM maintains data on >1300 active funds (~1000 private equity/debt, 140 infrastructure and 210 opportunistic/value-added real estate).

INTEGRATED APPROACH

Direct, secondary and primary investment capabilities across private markets. One process and one investment philosophy.

TESTED RISK MANAGEMENT

Dedicated team of analysts and systems that focus on risk management, portfolio analytics and continuous development of our proprietary tools.

CLIENT FOCUSED STRUCTURING

In-house team offering customized structuring, legal and tax services including in-depth reviews of fund documents.



AMERICAS

- Atlanta
- Norwalk
- **St. Louis**
- Toronto



EUROPE

- London
- **Luxembourg**
- **Zurich**



ASIA / PACIFIC

- Hong Kong
- Sydney

Investment office
Operations center
Investment office & operations center

WE COVER THE MANAGER UNIVERSE WITH A GLOBAL TEAM AND LOCAL PRESENCE



~90
EMPLOYEES



9
OFFICES



20
YEAR
EXPERIENCE



\$22_{bn}
COMMITTED
ASSETS



132
CLIENTS

>6,000
PRIVATE MARKET
FUND OFFERINGS
SCREENED

**BROAD AND GLOBAL NETWORK NEEDED TO ENSURE ACCESS TO
ESTABLISHED MANAGERS AND A ROBUST SELECTION OF FUNDS**

OUR INVESTMENT PHILOSOPHY



MANAGER SELECTION

Manager selection is a key differentiator, particularly in a young and emerging asset class (interesting trends do not compensate for a rigorous “bottom-up” analysis)



EXPERIENCE

Investment talent is rare – we back experienced teams whose investment capabilities are supported by a verifiable track record



ALIGNMENT OF INTEREST

MPM prefers directly aligned teams that can invest autonomously



DIVERSIFICATION

Diversification across vintage years, regions, sectors and investment types is a key element of MPM’s portfolio build-up

STABLE AND EXPERIENCED INFRASTRUCTURE TEAM

INVESTMENT COMMITTEE



**BILL
MUYSKEN**

Global CIO
Alternatives

With Mercer since 1996
Industry experience: 35 yrs



**DR. STEFAN
HEPP**

Global Business Leader
Private Markets

With Mercer since 1996
Industry experience: 27 yrs



**MICHAEL
FORESTNER**

Global CIO
Private Markets

With Mercer since 2003
Industry experience: 27 yrs



**GARVAN
MCCARTHY**

CIO Alternatives
Europe

With Mercer since 2003
Industry experience: 14 yrs



**TOBY
BUSCOMBE**

Global Head of
Infrastructure

With Mercer since 2011
Industry experience: 18 yrs

INFRASTRUCTURE TEAM



**BENJAMIN
BAUMANN**

Principal

With Mercer since 2004
Industry experience: 14 yrs



**MICHAEL
MCGOWAN**

Principal

With Mercer since 2014
Industry experience: 18 yrs



**MARK
MURRAY**

Principal

With Mercer since 2012
Industry experience: 19 yrs



**JULIA
SCHIFFER**

Principal

With Mercer since 2010
Industry experience: 9 yrs



**AMARIK
UBHI**

Principal

With Mercer since 2003
Industry experience: 14 yrs



**SID
VITTAL**

Senior Associate

With Mercer since 2015
Industry experience: 10 yrs








GLOBAL DIRECT TRANSACTION EXPERIENCE EXAMPLES

NORTH AMERICA

US

-  Duquesne Light Holdings
-  Energy North Natural Gas Inc. and Granite State Electric
-  Icon Parking Systems
-  ITS Technologies and Logistics
-  Path-15
-  Salem Harbor Natural Gas

CANADA




-  ATCO Power Cogen Project
-  Brookfield Renewable Energy Partners
-  Canadian Hydro Developers
-  Capital Power Corp.
-  CHUM Hospital
-  Innergex Renewable Energy Inc.
-  Pacific Trail Pipelines, LP
-  Sea to Sky Highway
-  Solar Farm Portfolio

-  Renewables
-  Rail
-  Ports

SOUTH AMERICA








-  GasValpo



-  Airport
-  Roads
-  Broadcasting

EUROPE

UK


-  Arqiva
-  Bristol Water
-  Landlord Port Business
-  M25 DBFO
-  Southern Water
-  Thames Water
-  Viridian



NORDICS

-  Copenhagen Airports
-  Regulated Electricity Distribution Utility (Scandinavia)
-  Regulated Electricity Distribution Utility (Scandinavia)
-  Värmevärden









CONTINENTAL EUROPE

-  DCT Gdansk
-  Eutelsat
-  LBC Tank Terminals
-  Oil Storage and Pipeline Business (Iberia)
-  Tank & Rast
-  Techem
-  Windfarm Portfolio (Iberia)

-  Power Generation
-  Social Infrastructure
-  Utilities/Gas

-  Car Parking
-  Water Management
-  Electricity Transmission

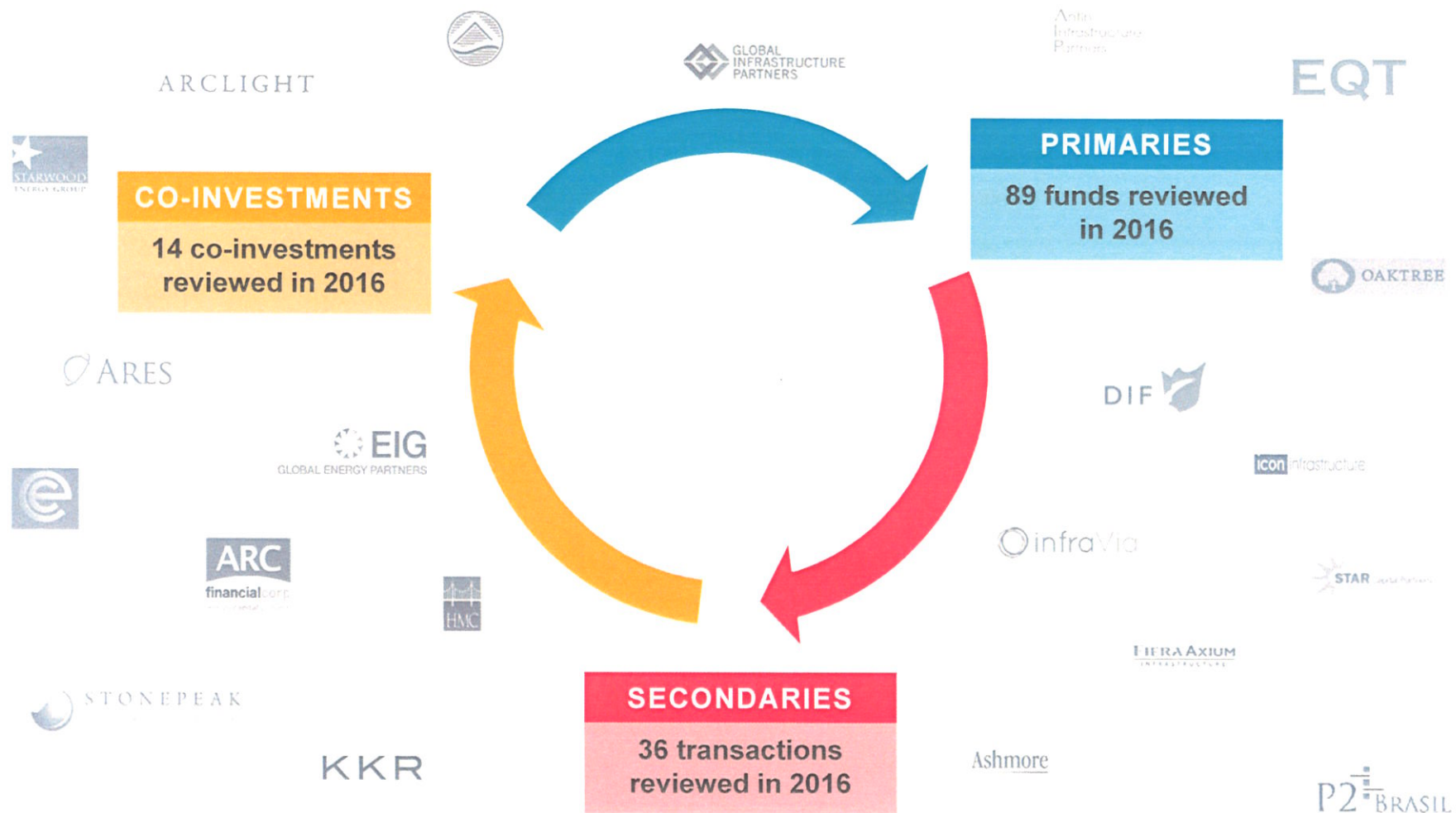
AUSTRALIA

-  Adelaide Airport
-  Brisbane Airport
-  GEAC
-  International-Parking Group
-  Macquarie Airports
-  Mildura Base Hospital
-  Perth Airport
-  Sydney Airport

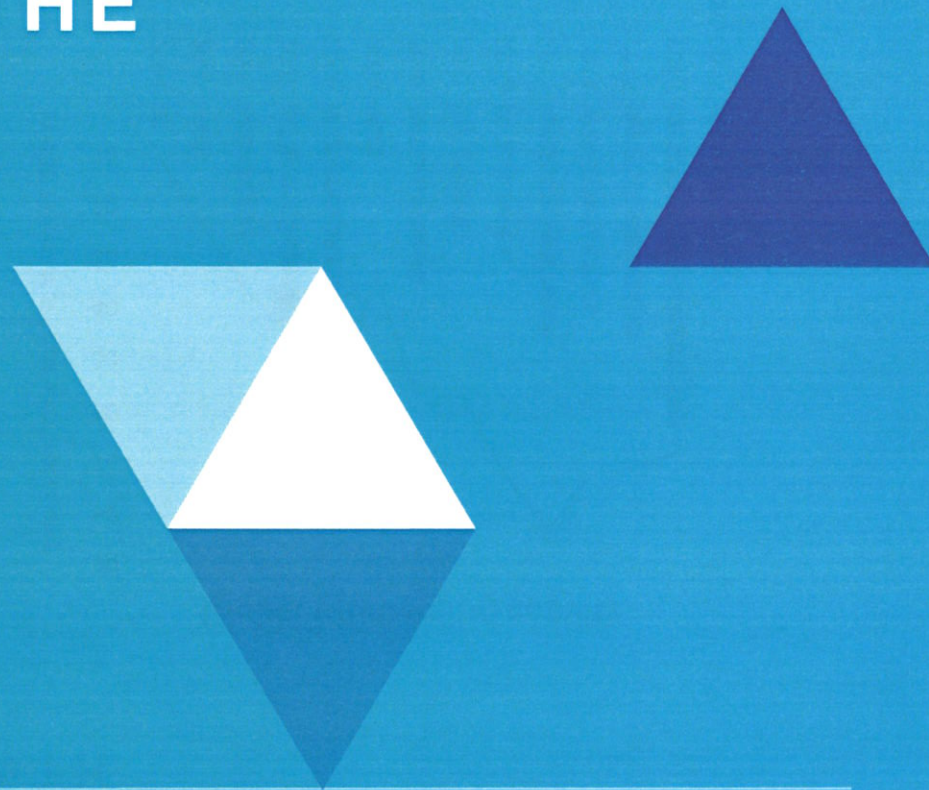


-  Gas Transmission
-  District Heating

INTEGRATED APPROACH SUPPORTED BY A BROAD NETWORK OF MANAGER RELATIONSHIPS



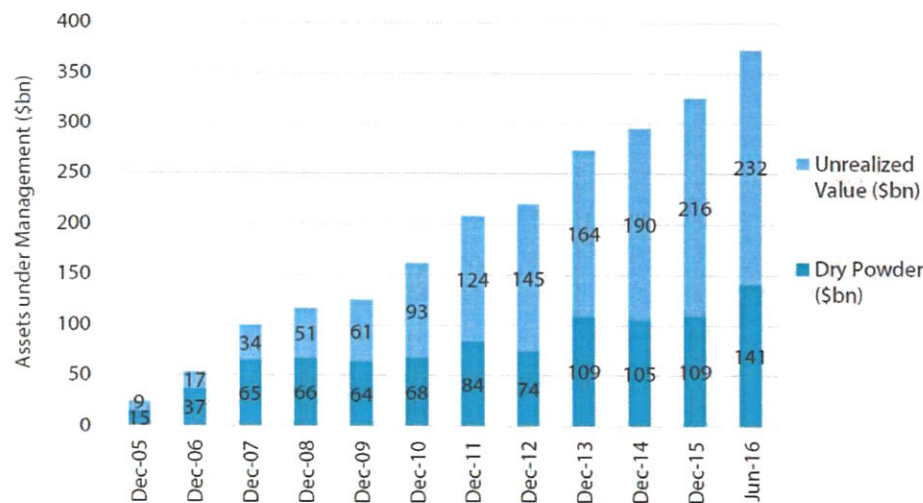
MARKET TRENDS, OBSERVATIONS AND THE INVESTMENT CASE



GLOBAL TRENDS

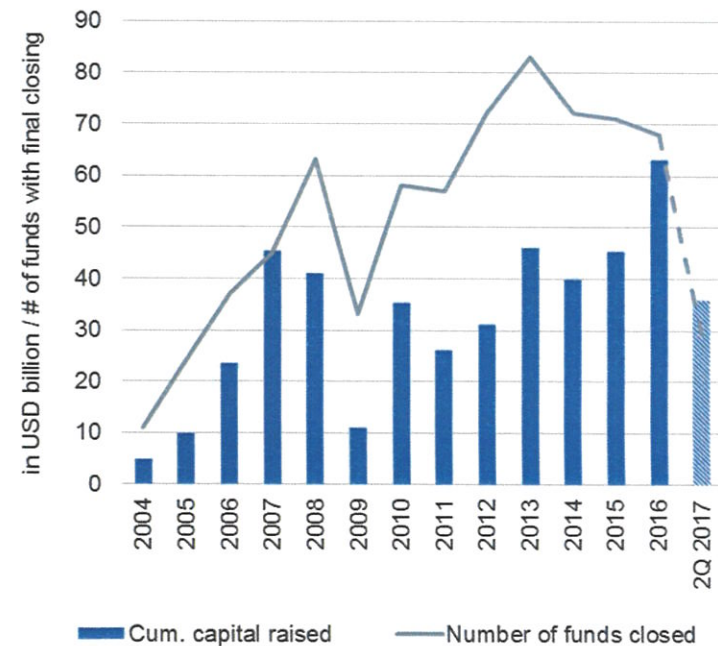
FUNDRAISING AND AUM GROWTH

Infrastructure assets under management



Source: Preqin

Global fundraising activity



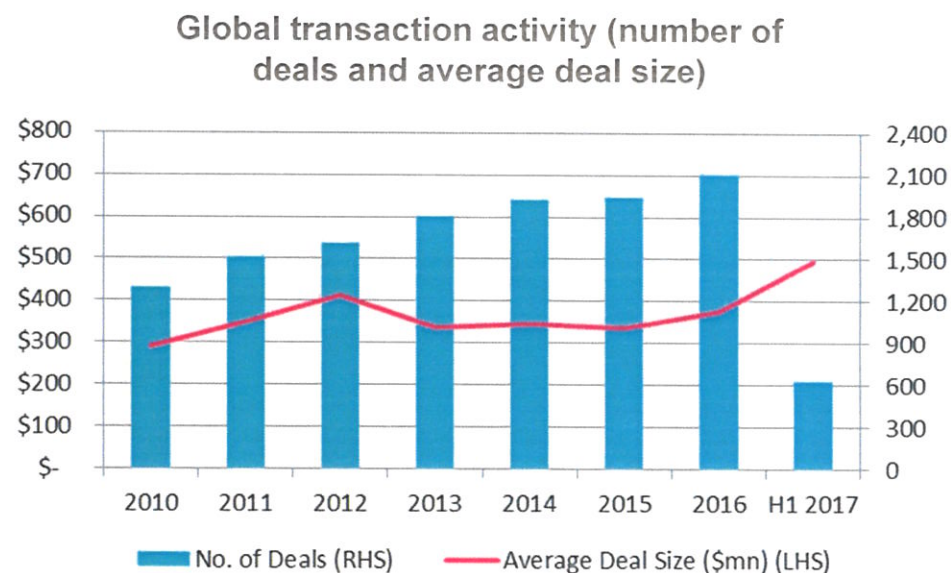
Source: Preqin

- Growth in assets invested in infrastructure has been extremely strong over several years, and capital available to invest in infrastructure has also grown substantially.
- A recent trend has been fewer funds raising greater amounts of capital on average.

GLOBAL TRENDS

TRANSACTION ACTIVITY AND DEAL SIZE

- Deal activity for infrastructure assets remains robust, with the number of transactions remaining relatively consistent since 2013.
- After declining in 2013, the average deal size is beginning to increase again, which is likely to reflect at least in part robust valuations.
- Given continued investor interest in the sector, combined with the success many managers have had with fundraising and the current low interest rate environment, we anticipate continued strength in valuations, particularly for lower risk and larger core-style assets. This could be challenged by sustained rate rises in major markets.

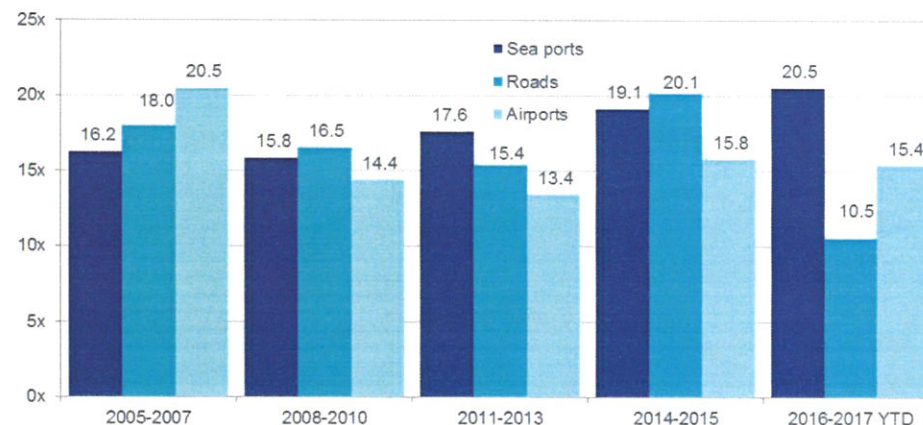


Source: Preqin

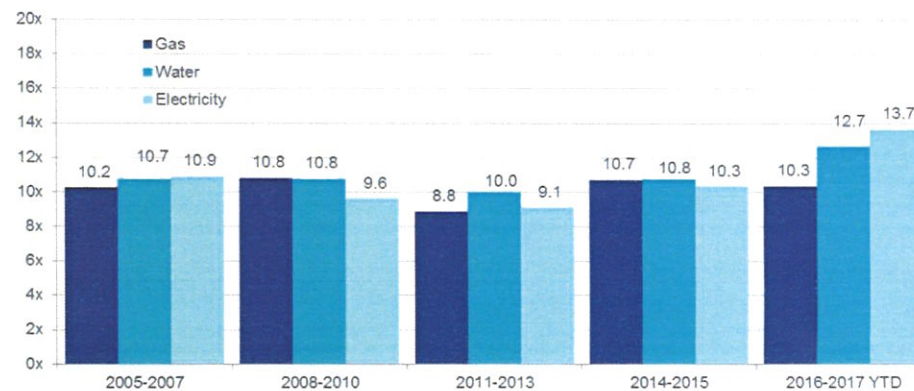
GLOBAL TRENDS VALUATION

- Due to a combination of investor demand, and continued low interest rates, valuation multiples continue to expand in some subsectors.
- However, we remain cautious about over-extrapolating from headline transaction multiples, which can disguise asset-specific factors at play in individual deals.
- Buy-side discipline will remain an important element of successful investing, as will the ability to protect and enhance value through effective post-acquisition asset management.

EV/EBITDA Multiples for OECD Transport Deals



EV/EBITDA Multiples for OECD Utility Deals



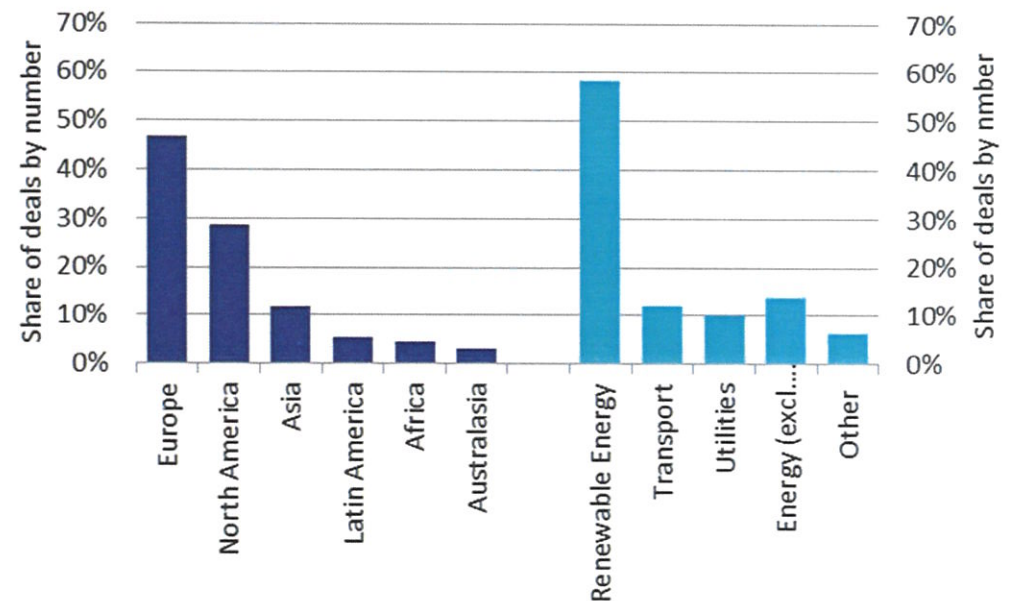
Source: Capital IQ, Morgan Stanley, Mercer Private Markets

GLOBAL TRENDS

DEAL ACTIVITY BY GEOGRAPHY AND SUBSECTOR

- Europe and North America remain the most active markets for infrastructure investing.
- Energy and power has remained the most active infrastructure subsector in recent years, albeit with an increasing prominence of renewable energy deals (which tend to be smaller in size than transportation infrastructure), the dislocation in commodity markets and the rise of other alternative energy sources (e.g. shale oil and shale gas).
- Preliminary data observed for 2017 indicate that these trends are continuing.

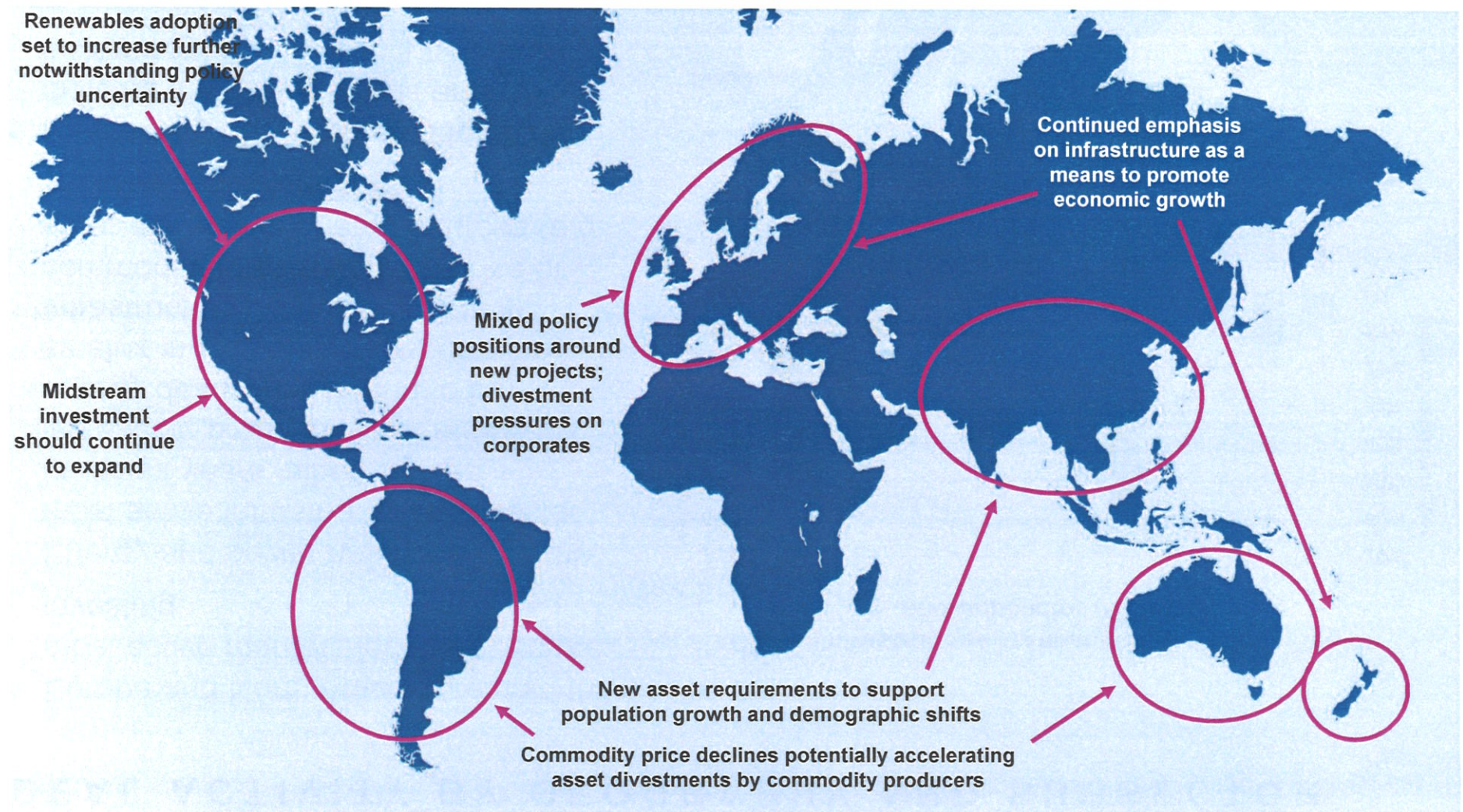
Global Infrastructure Transaction Activity by Region and Subsector (H1 2017)



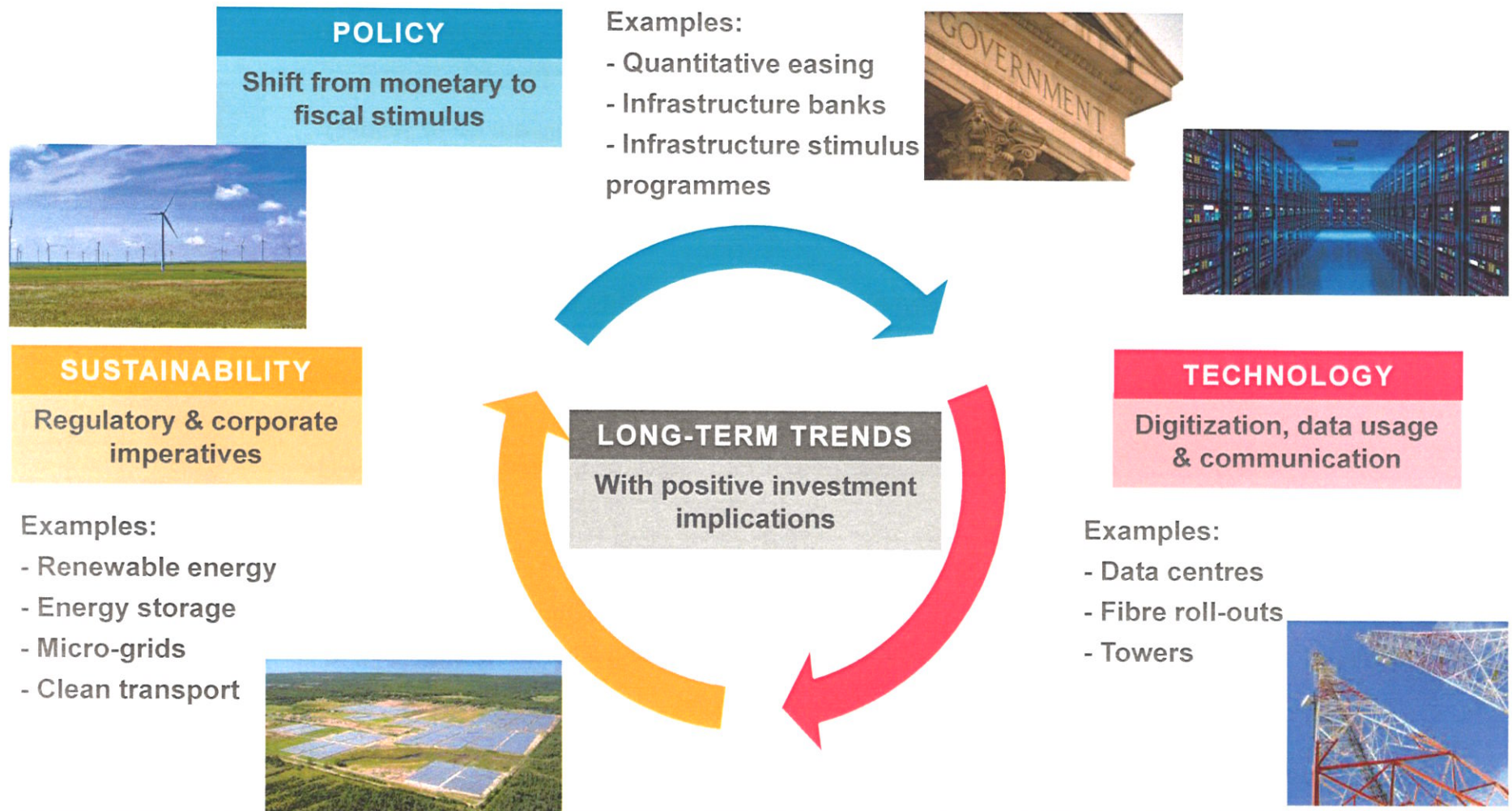
Source: Preqin

GLOBAL TRENDS

MARKET THEMES AND OBSERVATIONS



WHY NOW SECULAR TAILWINDS



WHY ALLOCATE TO PRIVATE MARKETS?

PORTFOLIO BENEFITS

GREATER
RETURN
POTENTIAL



Greater alpha potential through active management with best in class managers persistently demonstrating significant value-add.

DIVERSIFICATION
OF RISK



Diversifies risk away from listed public market performance

ACCESS



Access to investment opportunities that are not accessible through public markets

LONG TERM



Capitalize on the illiquidity premium available to the providers of long term capital

LESS LIQUID MARKETS RISKS

Risks include liquidity risk, valuation risk, risk of loss, implementation risk

INFRASTRUCTURE

THE HEADLINE CASE

Lower volatility of investment returns

- *Underlying asset level cash flow stability*
- *Mark to market insulation*

Diversification via alternative sources of return

- *Access to unique return drivers*
- *Limited linkages to traditional asset price drivers*

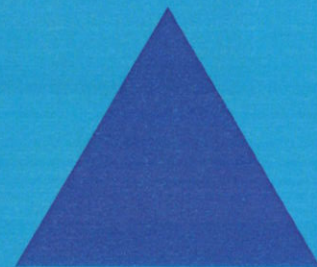
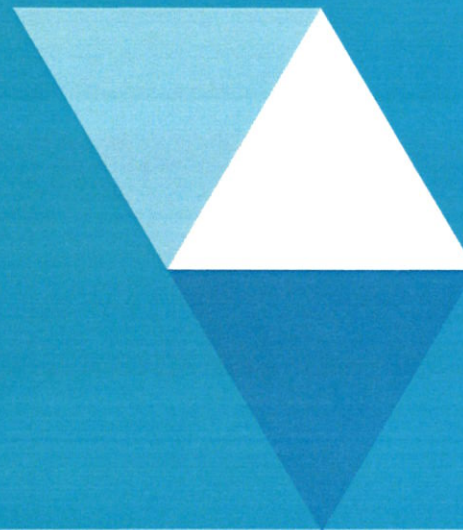
Inflation linked return component

- *Explicit indexation in many asset revenues*

Cash yield return component

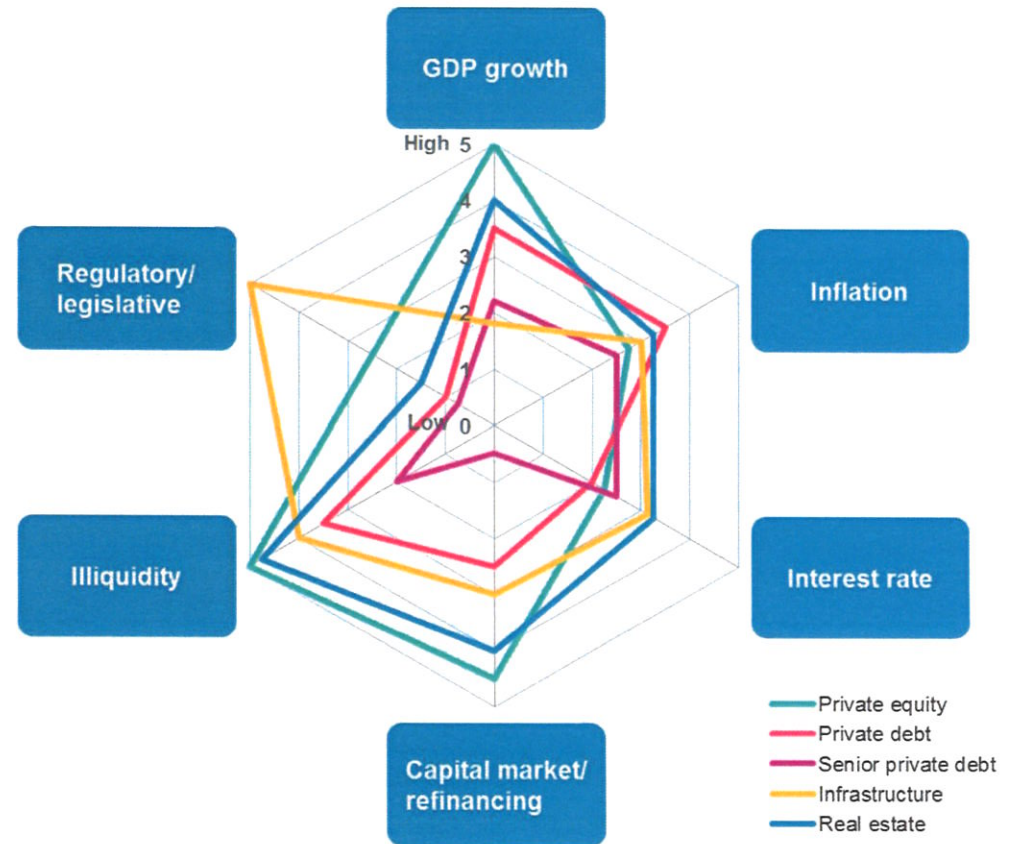
- *Mature assets in stable cash generation phase*

EFFECTIVE PRIVATE MARKET INFRASTRUCTURE INVESTING



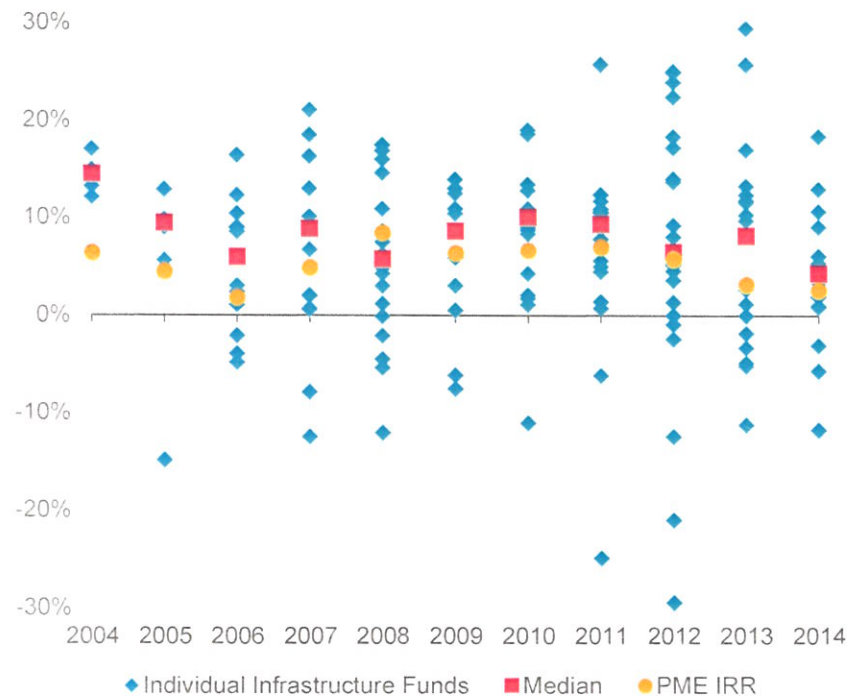
BUILDING A LESS LIQUID INFRASTRUCTURE PORTFOLIO

IMPORTANCE OF DIVERSIFICATION

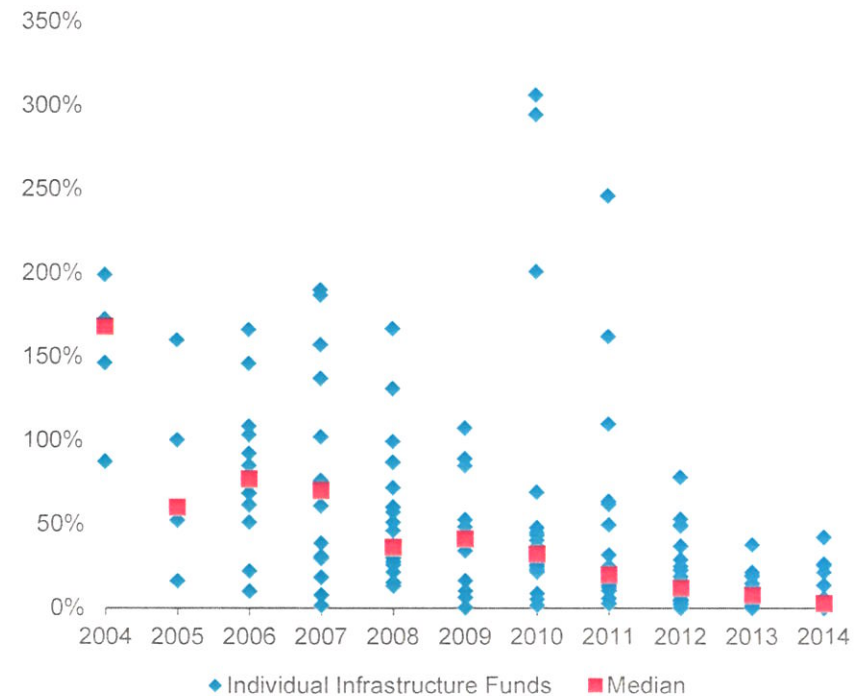


MANAGER SELECTION PLAYS A KEY ROLE EVEN IN A GENERALLY CONSIDERED SAFE ASSET CLASS

Benchmarking net IRR
Infrastructure funds, global



Benchmarking net DPI
Infrastructure funds, global



Fat tail risks, i.e. specific event-, counterparty- or asset specific-risks (unsystematic risks), become visible in track record history and demonstrate importance of investment management skills

Source: Preqin, MPM Research

Source: Preqin, MPM Research

NORTH DAKOTA RETIREMENT OFFICE OBSERVATIONS ON THE CURRENT PORTFOLIO



CURRENT PORTFOLIO MARKET VALUE AND WEIGHTS (Q3/17)

Pension Trust (Target Allocation 5%)

| Managers | Market Value (mm) | % of Total Assets |
|---|-------------------|-------------------|
| JP Morgan Asian Infrastructure | \$23.5 | 0.43% |
| JP Morgan Infrastructure Investments Fund | \$179.0 | 3.27% |
| Grosvenor Custom Infrastructure I | \$34.1 | 0.62% |
| Grosvenor Custom Infrastructure II | \$9.6 | 0.62% |
| Subtotal | \$246.2 | 4.50% |

Portfolio is underweight by approximately \$28 million.

Insurance Trust (Target Allocation 5%)

| Managers | Market Value (mm) | % of Total Assets |
|---|-------------------|-------------------|
| JP Morgan Infrastructure Investments Fund | \$85.3 | 3.89% |
| Grosvenor Custom Infrastructure I | \$17.0 | 0.78% |
| Subtotal | \$102.3 | 4.67% |

Portfolio is underweight by approximately \$7 million.

Legacy Fund (Target Allocation 5%)

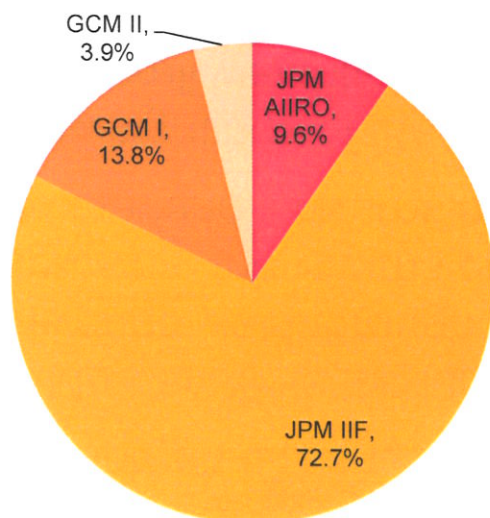
| Managers | Market Value (mm) | % of Total Assets |
|---|-------------------|-------------------|
| JP Morgan Infrastructure Investments Fund | \$113.2 | 2.28% |
| Grosvenor Custom Infrastructure I | \$24.1 | 0.49% |
| Subtotal | \$137.3 | 2.77% |

Portfolio is underweight by approximately \$110 million.

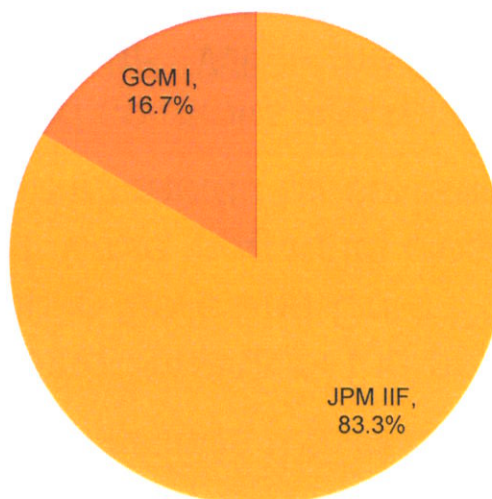
NORTH DAKOTA RETIREMENT & INVESTMENT OFFICE

CURRENT INFRASTRUCTURE PORTFOLIOS(Q3/17)

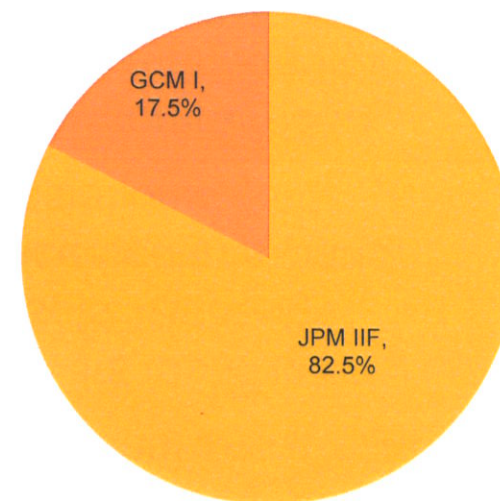
Pension Trust



Insurance Trust



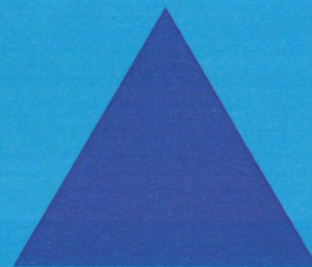
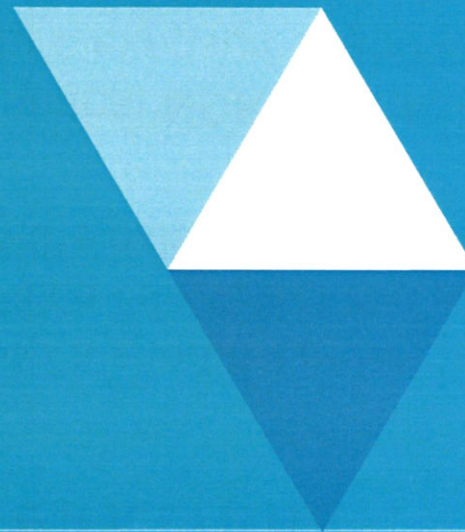
Legacy Fund



CURRENT PORTFOLIO OBSERVATIONS

- With the exception of the position in JP Morgan's Asian Infrastructure Fund, the infrastructure portfolios are currently a combination of open-ended funds (JP Morgan IIF) and fund-of-fund offerings (GCM Grosvenor Funds).
- JP Morgan IIF is the largest holding in each of the portfolios. Its focus is on delivering yield through investing in Core and Core Plus assets. Although improving, the returns of JPM IIF have lagged its closed-ended counterparts, and the fund's returns have been impacted by currency translations.
- The weightings of the fund-of-fund solutions are relatively low, compared to the overall weighting of JP Morgan IIF. While the fund-of-funds managed by Grosvenor should help diversify the infrastructure portfolios, in practice, the portfolios retain strong manager concentration to JP Morgan.
- Rebalancing the portfolio would provide an opportunity to reduce manager concentration and increase diversification by revenue drivers, geography, and subsectors, thereby potentially lowering overall risk.

NORTH DAKOTA RETIREMENT OFFICE FUTURE INVESTMENT CONSIDERATIONS



NORTH DAKOTA RETIREMENT & INVESTMENT OFFICE FUTURE INVESTMENT CONSIDERATIONS

- The purpose of the engagement is to develop a short list of funds from which the North Dakota Retirement and Investment Office can select two managers which would provide complementary exposures to the existing infrastructure portfolios.
- Manager selection will take into consideration that NDRIO portfolios currently have oil and gas, commodities, and agriculture exposures, and NDRIO Staff have expressed a preference towards funds that do not directly add to these exposures, which will feed into the filtering process.
- The manager selection process will focus predominantly on funds that primarily invest in Core/Core Plus and Value Added infrastructure assets located in OECD markets, as we are aware that the NDRIO is not seeking to add emerging markets infrastructure exposure to its portfolios and at this stage is seeking lower risk additions for the portfolio.

APPENDIX

MERCER PRIVATE MARKETS ADDITIONAL DETAIL

MERCER'S INVESTMENTS BUSINESS BREADTH OF OUR CAPABILITIES



21

COUNTRIES

2,200+

STAFF

62

CITIES



40+

YEARS EXPERIENCE

ADVICE

- Investment strategy
- Asset allocation
- Portfolio construction
- Manager selection
- Responsible investment
- Transitions, custody, FX



USD 6trn

Subscriber Assets

2,800+

Consulting Clients

USD 10.2trn¹
under advice

1,000+

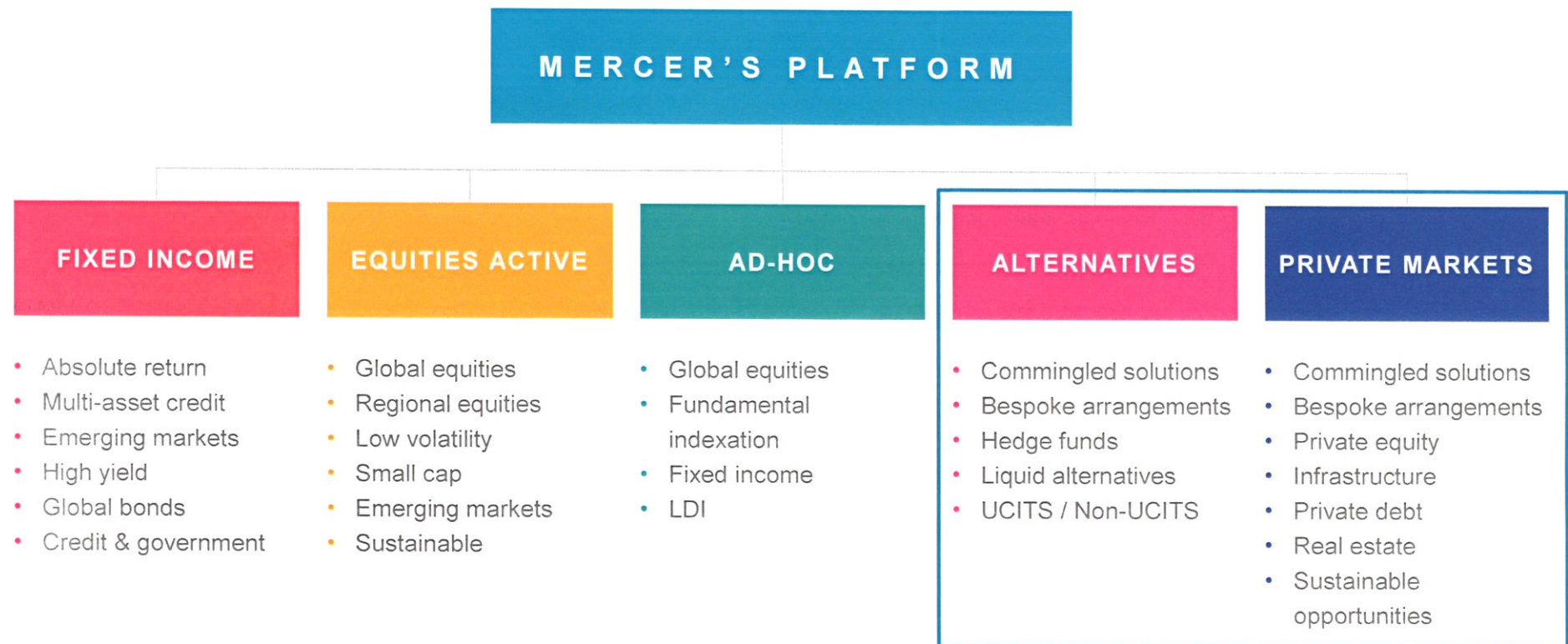
Discretionary Clients

USD 157bn²
under implementation

1) Assets under advisement includes aggregated data for Mercer Investment Consulting LLC and its affiliated companies globally ("Mercer") as of June 2016. Data is derived from a variety of sources, including, but not limited to, third-party custodians or investment managers, regulatory filings, and client self-reported data. Mercer has not independently verified the data. Where available, data is provided as of 30 June 2016 ("Reporting Date"). If data was not available as of the Reporting Date, information from a date closest in time to the Reporting Date, which may be of a more recent date than the Reporting Date, was included. Data includes assets of clients that have engaged Mercer to provide project-based services within the 12-month period ending on the Reporting Date, and assets of clients that subscribe to Mercer's Manager Research database.

2) The assets under management data reported here include aggregate data for Mercer Investment Management, Inc. and its affiliated fiduciary management businesses globally as of December 2016.

MERCER'S IMPLEMENTATION PLATFORM



OUR FUND SELECTION FOLLOWS A RIGOROUS PROCESS

GLOBAL SOURCING (Global Research View Database)

In aggregate MPM has reviewed more than 6'000 fund offerings over the last decade (400-500 primary fund offerings reviewed each year)

PRIORITIZE CANDIDATES

Production of Research Views
(Factsheets) within investment team
Quality of fund offering
Investment needs of active programs

DUE DILIGENCE

Production of Due Diligence
Report (Investment DD)
Team/organization
Track record & value creation
Investment strategy

RATINGS

Ratings assigned by
MPM Investment
Committee



RECOMMENDATION
FOR INVESTMENT



LEGAL & TAX
REVIEW



RECOMMENDATION
FOR SUBSCRIPTION

RATINGS

- A** Above-average prospects of outperformance
- B+** Above-average prospects of outperformance, but with some reservations
- B** Average prospects of outperformance
- C** Below-average prospects of outperformance
- N** Not rated
- R** Early-stage research /research no longer maintained

INVESTMENT DECISION PROCESS TRANSPARENCY AND COMPARABILITY

MERCER RESEARCH VIEW

2 page factsheet



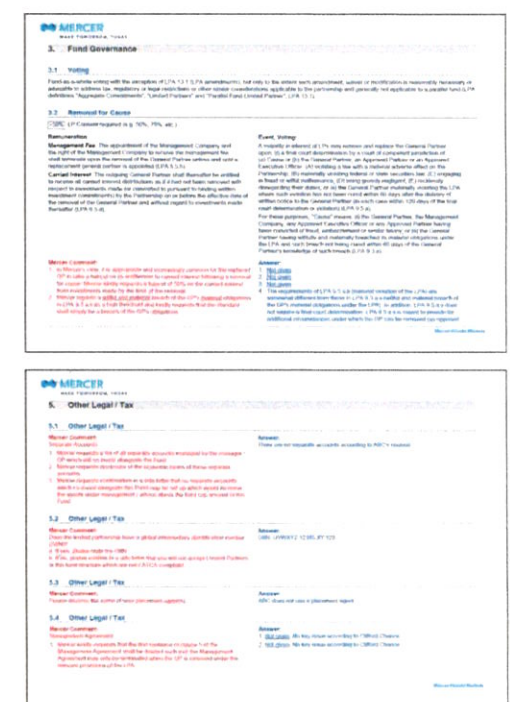
MERCER DUE DILIGENCE REPORT

~40 page report



LEGAL & TAX REVIEW

~20 page report



Important Notices

References to Mercer shall be construed to include all associated companies.

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For the most recent approved ratings of an investment strategy, and a fuller explanation of their meanings, contact your Mercer representative.

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Mercer's universes are intended to provide collective samples of strategies that best allow for robust peer group comparisons over a chosen timeframe. Mercer does not assert that the peer groups are wholly representative of and applicable to all strategies available to investors.

MAKE
TOMORROW,
TODAY



Board Action

TO: State Investment Board

FROM: Dave Hunter

DATE: November 17, 2017

SUBJECT: Infrastructure Consultant Recommendation

Background:

The Legacy Fund, Pension Trust and Insurance Trust have dedicated asset allocations to Diversified Real Assets which includes Infrastructure such as toll roads, airports and regulated utilities (including electric and gas distribution, water management and renewable energy) and global inflation linked debt securities. At our last board meeting, the SIB approved an infrastructure consultant search to identify two new infrastructure managers in 2018. RIO recommended this action in order to: 1) enhance investment diversification; 2) improve risk adjusted returns; and 3) eliminate our underweight position within infrastructure. Based on current market valuations, SIB clients are approximately \$150 million underweight to a target 5% allocation to infrastructure. RIO believes this underweight position may increase to \$250 million or more over the next 12 to 18 months in connection with the Legacy Fund and WSI reviewing their asset allocation policies during the first half of 2018 and continuing asset growth. Given the importance of asset allocation, RIO deemed it prudent to engage an experienced infrastructure consultant to assist staff in building out and further diversifying our infrastructure portfolio in the upcoming year.

SIB clients have over \$1 billion invested in Diversified Real Assets including \$400 million with JPMorgan (infrastructure), \$85 million with Grosvenor (infrastructure), \$185 million with Timber Investment Resources and \$450 million with Western Asset Management (global inflation linked debt). RIO notes that our infrastructure weighting within Diversified Real Assets will increase over the next five years as we harvest our timber portfolio.

Recent Infrastructure Consultant Search Activity:

During the past six months, RIO has completed due diligence on over a dozen investment consulting firms with significant infrastructure experience including Aon Hewitt, Callan, Mercer and StepStone. During the past month, RIO also received written proposals from Caledon, Hamilton Lane (Real Assets Portfolio Management), Pension Consulting Alliance and Torrey Cove in addition to inquiries from many other infrastructure consulting and/or private market management firms.

Mercer Background:

Mercer is a wholly owned subsidiary of Marsh & McLennan (NYSE: MMC), one of the world's leading professional services firm in the areas of risk, strategy and people. The company's more than 60,000 colleagues advise clients in over 130 countries. With annual revenue over \$13 billion, Marsh & McLennan helps clients navigate an increasingly dynamic and complex environment through four market-leading firms.

Mercer's investment business operates in 21 countries with 2,200 staff providing consulting services to over 2,800 clients with over \$10 trillion of assets under management. Mercer also provides discretionary investment solutions to over 1,000 clients (with over \$150 billion in AUM).

Mercer has been researching, advising on, and executing on alternative investments for over 20 years. Although Mercer focuses in providing research, guidance and execution of an alternative investment strategy, they work with clients to put together a holistic plan – one that seeks to reduce risk while maximizing returns. Mercer currently tracks more than 2,000 different alternative investments across the world.

Board Action:

RIO recommends the SIB engage Mercer to assist Staff in conducting a search to identify two infrastructure managers which would provide complementary exposures to our existing investment portfolios. RIO intends to leverage Mercer's strengths in the infrastructure sector to improve our overall risk adjusted returns within diversified real assets in order to offset the equity volatility inherent in our portfolios while seeking a cost effective hedge against inflation.

Mercer's competitive advantages include:

1. Strong Resources - Over 30 private market professionals including seven investment professionals dedicated to infrastructure;
2. Wide Network – Mercer maintains data on over 1,300 funds in the private markets including 140 infrastructure investment vehicles/firms;
3. Tested Risk Management – Mercer has a dedicated team of analysts and systems that focus on risk management and portfolio analytics with a uniquely in-depth review of legal and tax factors.
4. Client Focused Structuring – RIO rated Mercer's approach to be the highest from a client focused structuring perspective, while providing high level manager research (two page fact sheets) supported by extensive due diligence (40 page manager reports) and extensive legal analysis (20 page legal and tax review).
5. Investment Philosophy – Mercer uses one investment philosophy to identify investment opportunities in the primary, secondary and co-investment markets. This investment philosophy is focused on rigorous manager due diligence using experienced professionals with a keen focus on diversification across vintage years, regions and sectors.

Core Fixed Income Manager Recommendation

November 17, 2017

Dave Hunter, Darren Schulz and Eric Chin

Investment Recommendation

- ▶ Staff recommends that the NDSIB engage PGIM, Inc. “PGIM” to manage up to a \$300 million Core Bond Strategy for the Pension Trust
- ▶ PGIM’s Core Fixed Income Strategy is an actively managed, multi-sector, investment grade strategy that targets +60 bps excess return over the Bloomberg Barclays U.S. Aggregate Bond Index
- ▶ Pairing PGIM’s bottom-up driven strategy with PIMCO’s top-down strategy offers valuable diversification

Investment Recommendation

Competitive Advantages

- ▶ PGIM is a “boring” fixed income manager when “boring” is attractive
 - Global fixed income manager with \$694 billion AUM
 - Deep fixed income team: 282 investment professionals with 173 focused on core bond strategies
 - Generates excess returns through multiple alpha drivers
 - Strong quantitative research and risk platform
 - Long track record of investing, composite dates back to 1991

Manager Search Process

Recap

- ▶ Began with over 200 core bond managers that manage separate account products
- ▶ Screened for managers with:
 - AUM greater than \$5.0 billion
 - Positive gross of fee excess returns against the Bloomberg Aggregate Bond Index for the 10 year period (ending Dec. 31, 2016)
- ▶ Evaluated traditional metrics, and put heavier weight on downside protection, preservation of capital, and low correlation to equities
- ▶ Distributed an RFI, performed onsite diligence, and conducted stringent qualitative and quantitative analyses

Manager Search Process

Staff collaborated with Callan to create a short list of managers (below):

| Fund Name ¹ | Inception Date | Total Product Assets (\$M) ² | Returns for 40 Quarters | Excess Return vs. Blmbg:Aggregate for 40 Quarters | Correlation vs. S&P:500 for 40 Quarters | Standard Deviation for 40 Quarters |
|-------------------------|----------------|---|-------------------------|---|---|------------------------------------|
| Baird Core | October-00 | 20,429.71 | 5.04% | 0.76% | 0.22 | 3.50% |
| Barings Core | January-91 | 10,547.12 | 5.05% | 0.77% | 0.18 | 3.37% |
| IncomeR&M Core | January-92 | 8,607.31 | 5.08% | 0.81% | 0.24 | 3.76% |
| MacKay Core | October-86 | 5,261.40 | 5.29% | 1.02% | 0.14 | 3.30% |
| Manulife Core | January-96 | 10,968.96 | 5.91% | 1.64% | 0.37 | 3.83% |
| PGIM Core | January-91 | 34,667.77 | 5.38% | 1.10% | 0.24 | 3.53% |
| PIMCO Total Return Core | December-89 | 31,904.02 | 5.44% | 1.17% | 0.16 | 3.69% |
| TCW Core Fixed Income | October-96 | 10,588.49 | 5.40% | 1.13% | 0.29 | 3.49% |
| Wells Montgomery Core | July-90 | 28,629.13 | 5.53% | 1.26% | 0.1 | 3.39% |
| CAI Core | October-73 | 2,068.69 | 4.88% | 0.60% | 0.14 | 3.41% |
| Blmbg:Aggregate | N/A | N/A | 4.27% | 0.00% | 0.03 | 3.27% |
| S&P:500 | N/A | N/A | 7.44% | 3.16% | 1 | 15.14% |

¹ Data as of September 30, 2017. Numbers are unaudited. Source: Statistics are from Callan's PeP database

² Data as of June 30, 2017. Numbers are unaudited. Source: Statistics are from Callan's PeP database

Manager Search Process

- ▶ Staff grouped candidate managers into a top-down group and a bottom-up group
- ▶ PIMCO and PGIM pair well quantitatively and qualitatively

| Excess Correlation Table Benchmark: Bloomberg Aggregate (10 Years Ending Sep. 30, 2017)* | | | | | | | | | | |
|--|------------|--------------|-----------------|---------------|-----------|-------------------------|----------|-----------------------|-------------|-----------------|
| | Baird Core | Barings Core | Income R&M Core | Manulife Core | PGIM Core | PIMCO Total Return Core | TCW Core | Wells Montgomery Core | Callan Core | BImbg Aggregate |
| Baird Core | 1.00 | | | | | | | | | |
| Barings Core | 0.88 | 1.00 | | | | | | | | |
| Income R&M Core | 0.79 | 0.83 | 1.00 | | | | | | | |
| Manulife Core | 0.93 | 0.92 | 0.79 | 1.00 | | | | | | |
| PGIM Core | 0.94 | 0.93 | 0.80 | 0.97 | 1.00 | | | | | |
| PIMCO Total Return Core | 0.50 | 0.71 | 0.75 | 0.67 | 0.60 | 1.00 | | | | |
| TCW Core | 0.92 | 0.86 | 0.72 | 0.98 | 0.94 | 0.61 | 1.00 | | | |
| Wells Montgomery Core | 0.69 | 0.83 | 0.64 | 0.77 | 0.85 | 0.57 | 0.72 | 1.00 | | |
| Callan Core | 0.96 | 0.94 | 0.85 | 0.97 | 0.99 | 0.63 | 0.93 | 0.81 | 1.00 | |
| BImbg Aggregate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 |

*Numbers are unaudited. Source: Statistics are from Callan's PeP database

PGIM Manager Evaluation

Organizational Overview

- ▶ PGIM is the largest investment advisor within Prudential Financial Inc. (NYSE:PRU)
- ▶ PGIM or its predecessors have been managing proprietary fixed income portfolios for institutional clients since 1928
- ▶ Headquartered in Newark, NJ
- ▶ \$694 billion of assets under management, \$82.6 billion of which is in core bond strategies
- ▶ 282 person Investment Team

PGIM Manager Evaluation

Investment Strategy/Process

- ▶ PGIM's philosophy: research-driven security selection is the most consistent strategy to add alpha
- ▶ Investment process begins with the "Market Outlook" — an assessment of likely economic, interest rate and fixed income scenarios
- ▶ Leveraging input from sector teams and the Market Outlook, Senior PMs establish risk exposures across sectors, industry, interest rate, and yield curve positions

PGIM Manager Evaluation

Investment Strategy/Process

- ▶ Sector teams select individual securities in their respective sectors
 - IG Corporate Credit Team conducts fundamental research and screens the market to identify 600 issuers across 38 industries—primary focus is on the largest issuers
 - Structured Products Team utilizes a combination of fundamental and quantitative research—focus on short to intermediate securities
 - The Government and Mortgage Teams' security selection process is driven by proprietary quantitative tools with a focus on identifying relative value

PGIM Manager Evaluation

Investment Strategy/Process

- ▶ PGIM employs a dedicated Quantitative Research and Risk Management Team
 - Distinct from the Investment Team, the Risk Team reports directly to Michael Lillard, Head of PGIM Fixed Income
 - Risk and Investment Teams are separate to engender different perspectives
 - Deep team with 94 professionals
 - Risk Team creates a risk budget to supplement client guidelines and proactively monitor portfolio exposures
 - PGIM utilizes both BlackRock's Aladdin Risk System and a proprietary system called ARMS (Attribution and Risk Management System)

PGIM Manager Evaluation

Performance and Risk Statistics

Common Period Returns and Risk Statistics (Gross)*

10 Years as of 9/30/17

| | PGIM Core | Baird | Barings | Income R&M | Manulife | TCW | Wells Montgomery | Callan Core Bond FI | Bloomberg Agg. |
|--------------------------------------|-----------|---------|---------|---------------|----------|---------|---------------------|------------------------|-------------------|
| Returns (Gross) | 5.38% | 5.04% | 5.05% | 5.08% | 5.91% | 5.40% | 5.53% | 4.88% | 4.27% |
| Excess Return (Bloomberg Agg.) | 1.10% | 0.76% | 0.77% | 0.81% | 1.64% | 1.13% | 1.26% | 0.60% | 0.00% |
| Excess Return Ratio (Bloomberg Agg.) | 0.83 | 0.53 | 0.73 | 0.46 | 0.64 | 0.52 | 1.58 | 0.61 | -- |
| Standard Deviation | 3.53% | 3.50% | 3.37% | 3.76% | 3.83% | 3.49% | 3.39% | 3.41% | 3.27% |
| Sharpe Ratio (3 month T-bill) | 1.39 | 1.3 | 1.36 | 1.23 | 1.42 | 1.42 | 1.49 | 1.29 | 1.16 |
| Tracking Error (Bloomberg Agg.) | 1.33% | 1.43% | 1.06% | 1.74% | 2.55% | 2.19% | 0.80% | 1.14% | 0.00% |
| Information Ratio (Bloomberg Agg.) | 0.77 | 0.54 | 0.76 | 0.38 | 0.78 | 0.77 | 1.46 | 0.67 | 0.00 |
| Maximum Drawdown (Monthly) | -6.61% | -7.74% | -5.35% | -7.38% | -9.15% | -7.71% | -4.61% | -4.83% | -3.83% |
| Downside Risk (Bloomberg Agg.) | 0.88% | 1.05% | 0.72% | 1.18% | 1.78% | 1.52% | 0.42% | 0.71% | 0.00% |
| Up Market Capture (Bloomberg Agg.) | 120.23% | 115.12% | 111.83% | 117.14% | 128.21% | 113.24% | 118.16% | 108.53% | 100.00% |
| Down Market Capture (Bloomberg Agg.) | 95.81% | 99.25% | 93.48% | 101.01% | 89.84% | 83.23% | 86.92% | 95.33% | 100.00% |

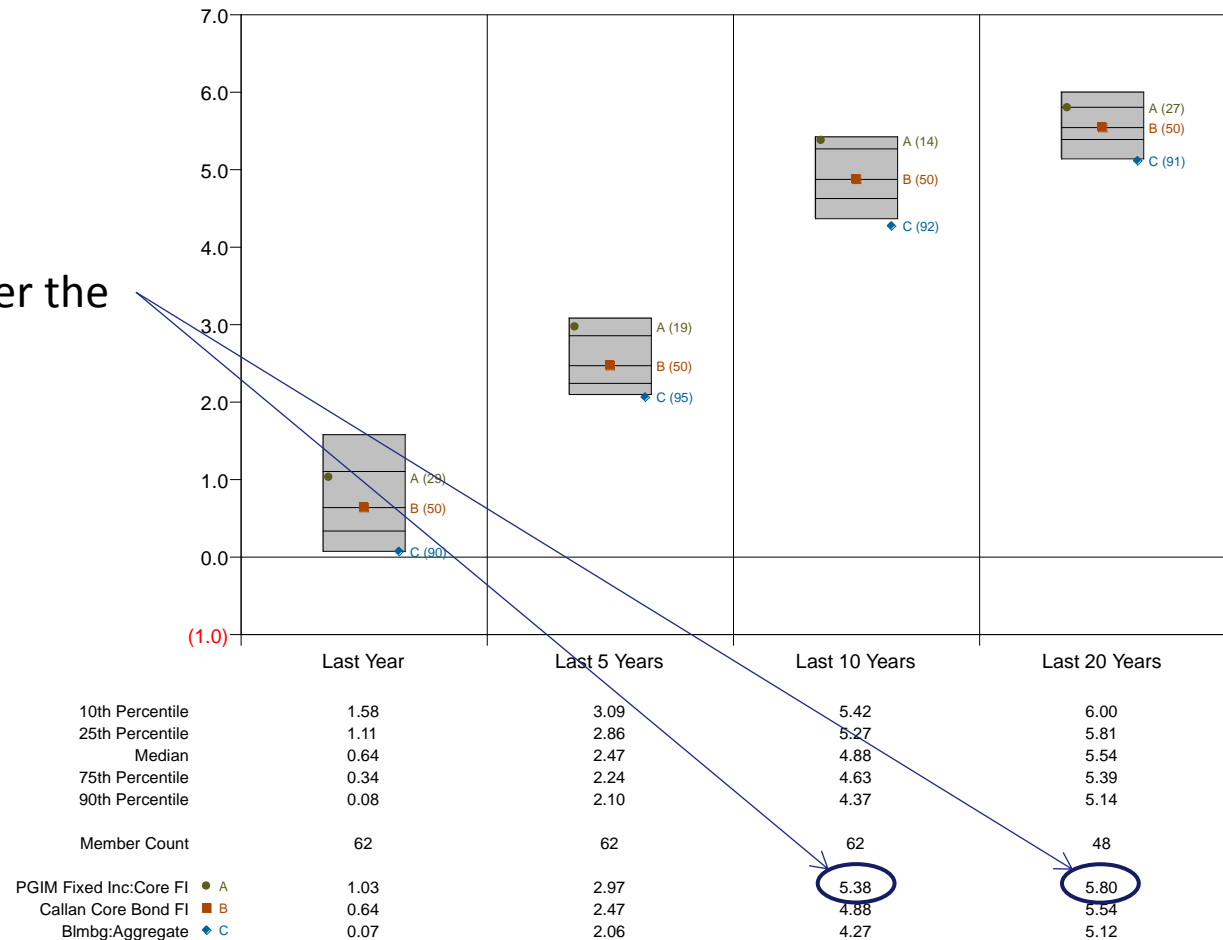
*Numbers are unaudited. Source: Statistics are from Callan's PeP database

- ▶ PGIM has generated attractive downside and excess return statistics
- ▶ All seven bottom-up candidates produce attractive excess returns

PGIM Manager Evaluation

Gross Returns (Periods Ended September 30, 2017)*

PGIM has
outperformed over the
long term

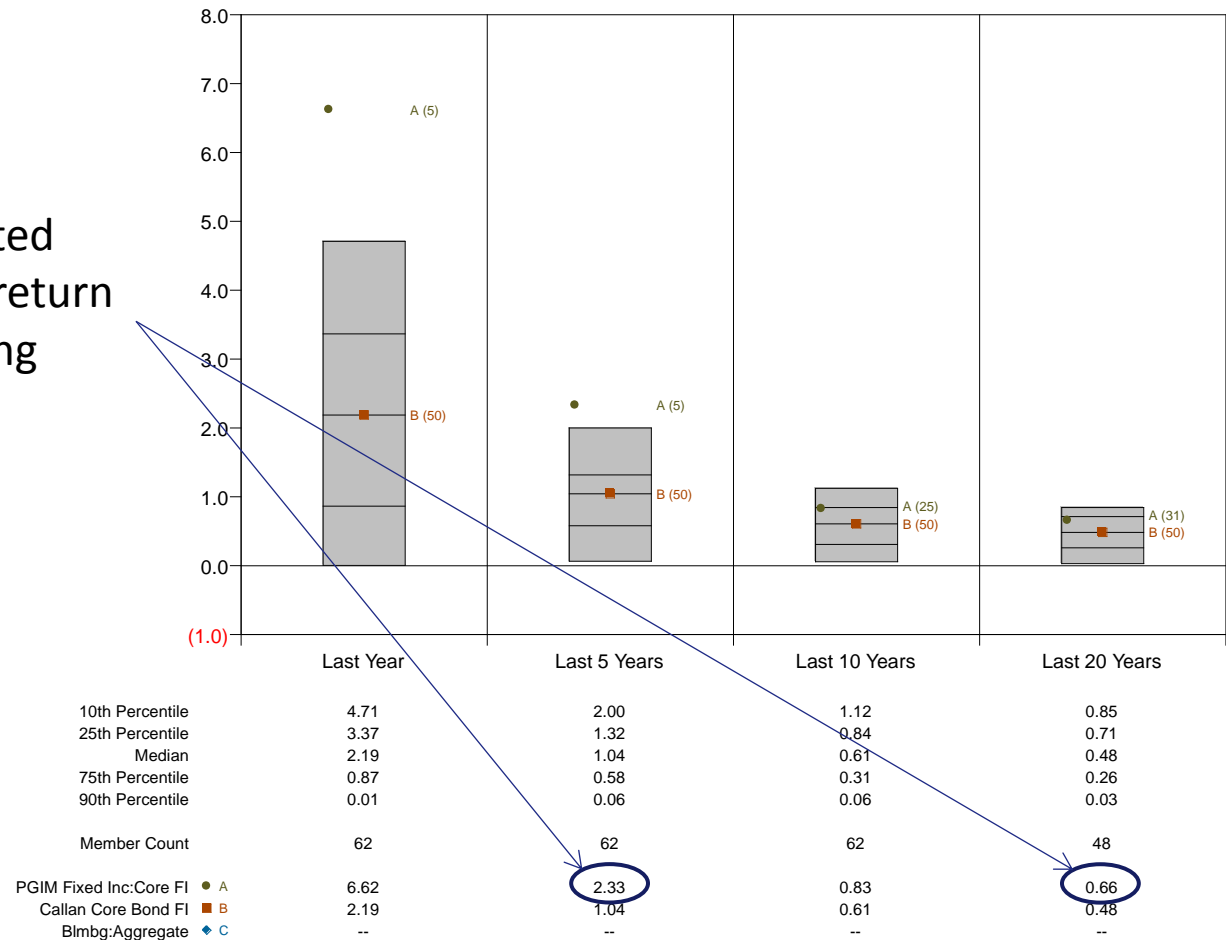


*Numbers are unaudited. Source: Statistics are from Callan's PeP database

PGIM Manager Evaluation

Excess Return Ratio (Periods Ended September 30, 2017)*

PGIM has generated attractive excess return ratios over the long and short term



*Numbers are unaudited. Source: Statistics are from Callan's PeP database

PGIM Manager Evaluation

Concerns

Staff does not have any significant concerns with PGIM's Core Fixed Income Strategy but would note:

- ▶ PGIM's fee proposal is marginally higher than Wells Montgomery's
- ▶ While strong, PGIM's historical track record scored slightly lower than Wells Montgomery's

Conclusion

The PGIM Core Fixed Income Strategy can serve as the bottom-up anchor for the Pension Trust's high quality fixed income barbell

- PGIM's bottom-up investment process pairs well with PIMCO's top-down strategy
- PGIM is the “boring” fixed income manager
 - Large, deep, stable Investment and Risk Teams
 - Long compelling track record investing in core fixed income—composite dates back to 1991
 - Strong infrastructure with minimal organizational risk
- Diverse set of alpha drivers: generates alpha through sector rotation and security selection across asset classes



November 17, 2017

**North Dakota
State Investment Board**

Performance Evaluation
as of September 30, 2017

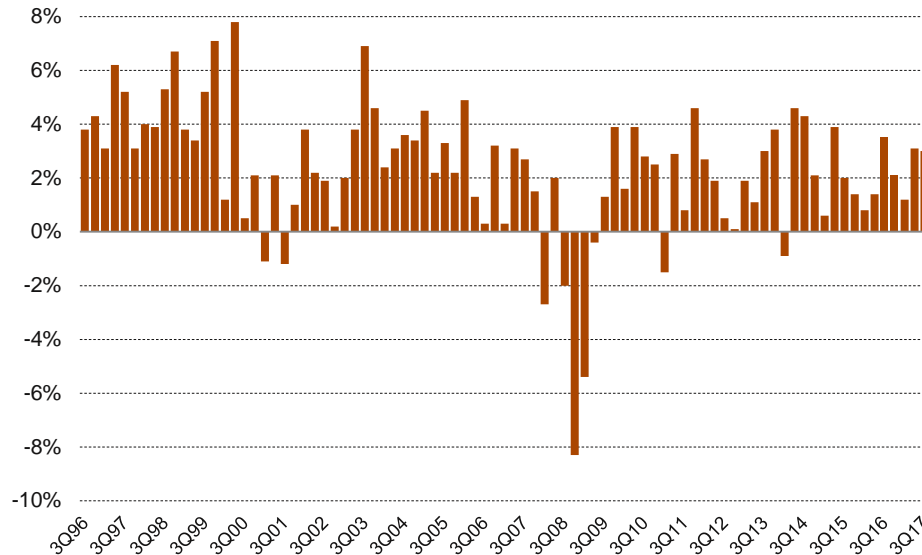
Paul Erlendson
Senior Vice President

Alex Browning
Senior Vice President

U.S. Economy

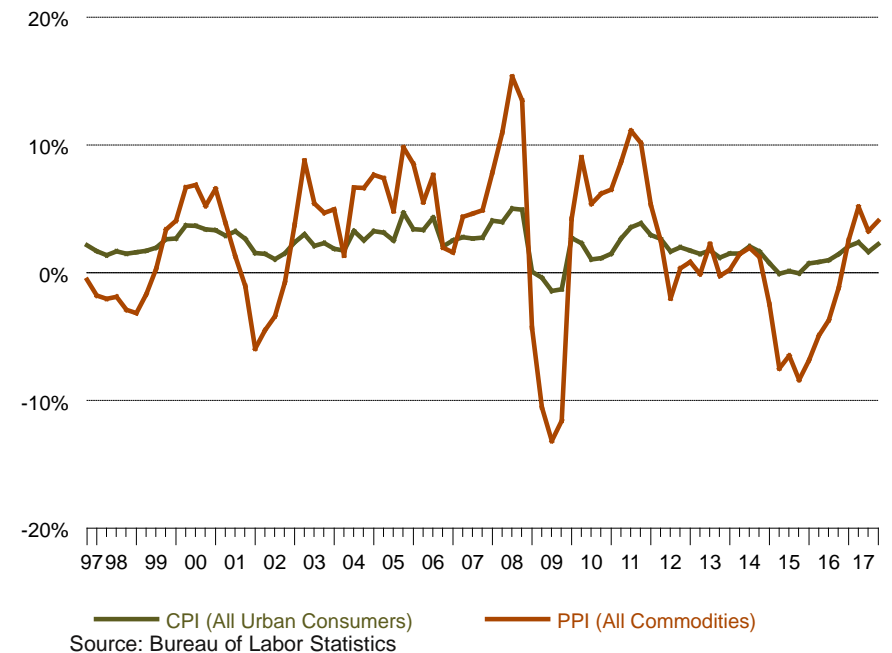
Periods Ending September 30, 2017

Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year

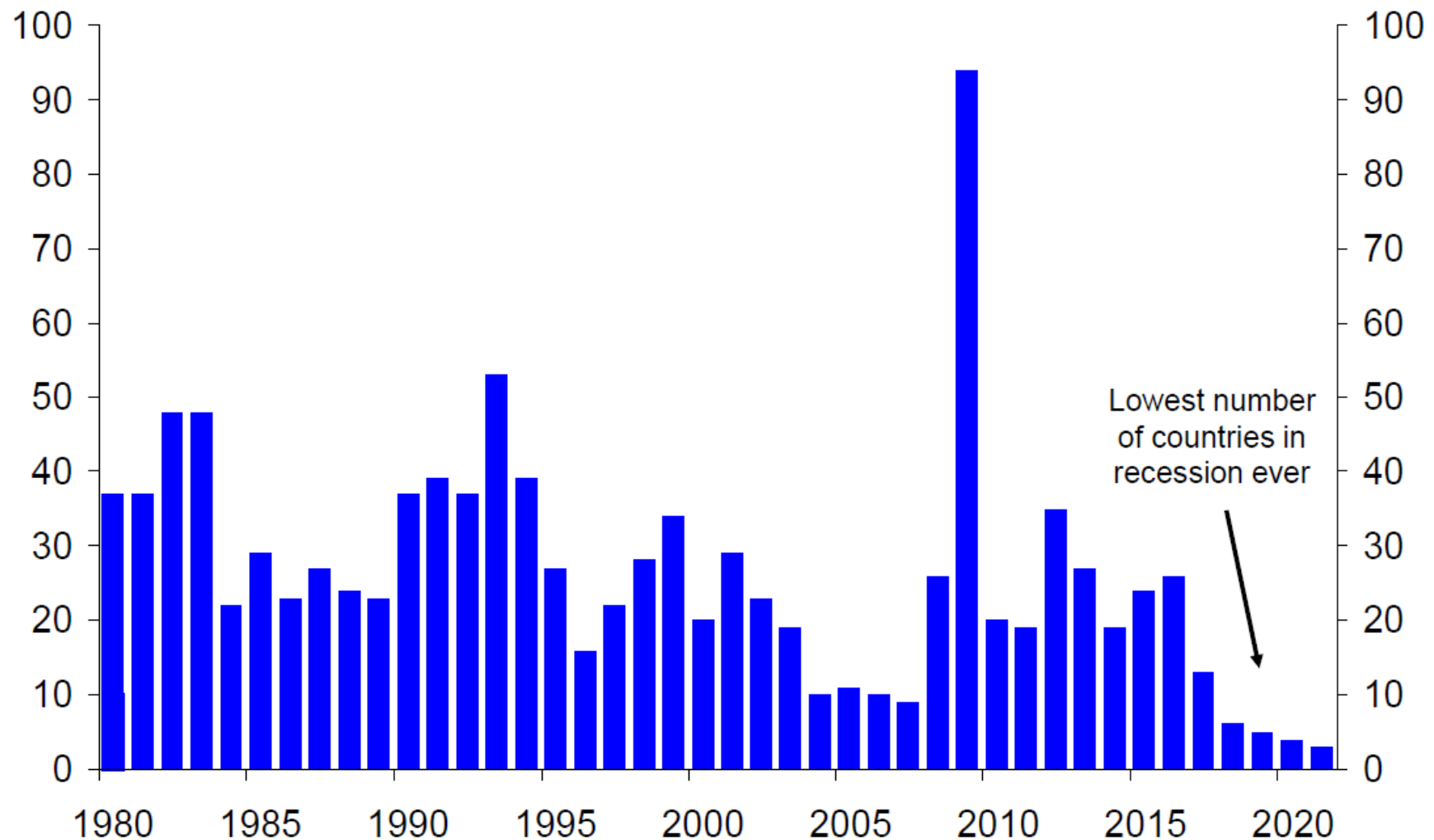


Source: Bureau of Labor Statistics

- The initial estimate of 3rd quarter GDP was 3.0%, above expectations and on par with Q2's 3.1%.
- September headline inflation rose 2.2% over the trailing twelve months. Core CPI increased 1.7%.
- September unemployment was down 0.2% from June to 4.2%, a 16 year low, while the labor force participation rate rose to 63.1% (up 0.3%).
- The Fed did not increase the target overnight rate during the quarter, although one more hike is forecasted for 2017.

Global Growth & Recession

Number of countries in the world in a recession



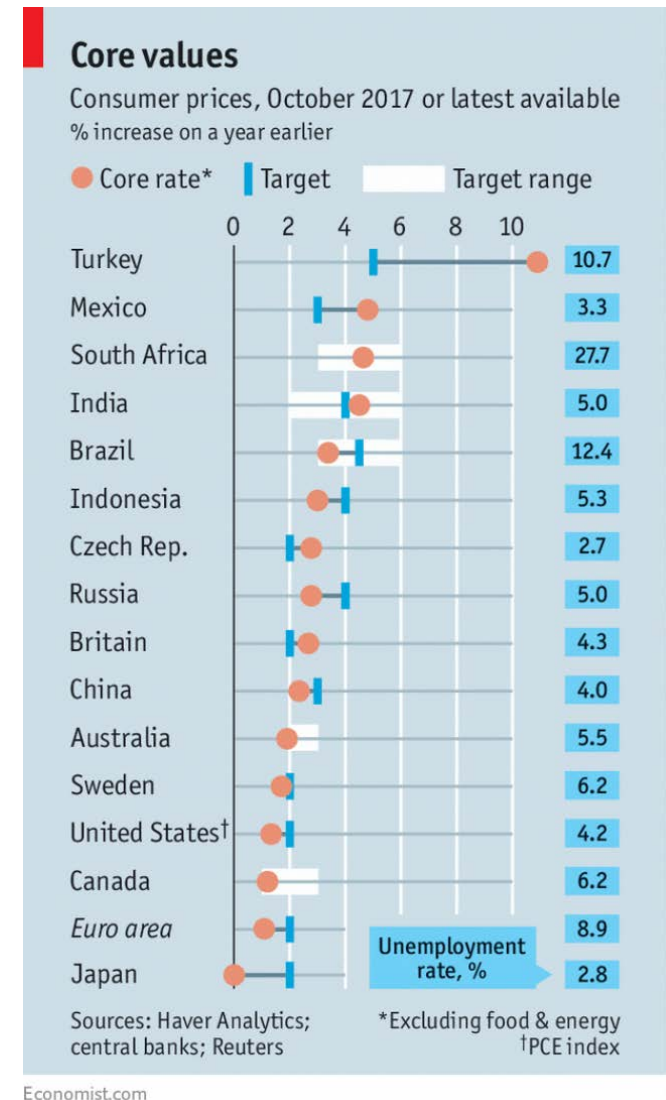
Source: Deutsche Bank

Global Growth is Positive

Global inflation and unemployment are low



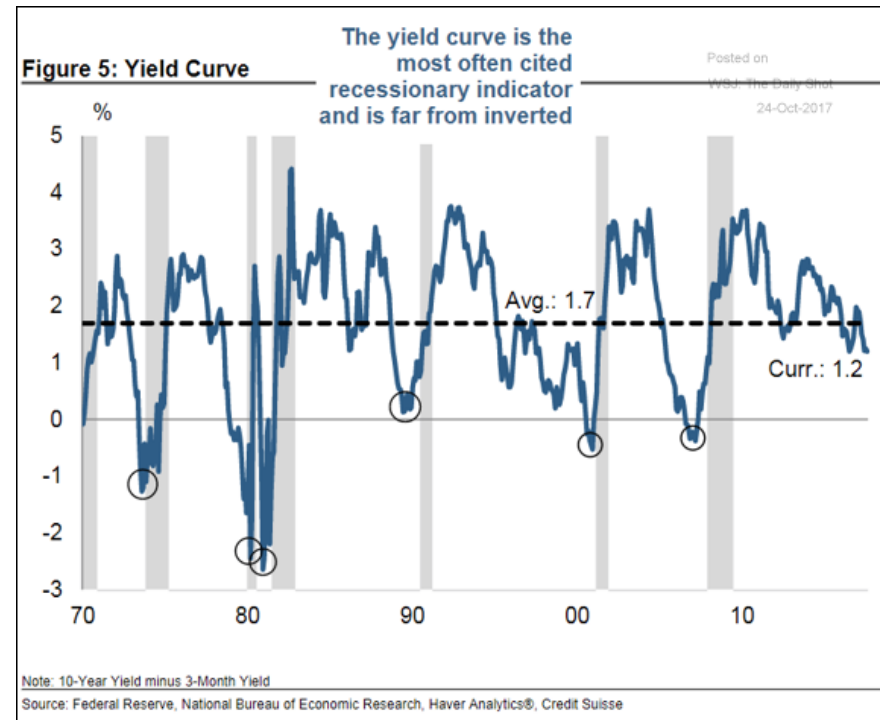
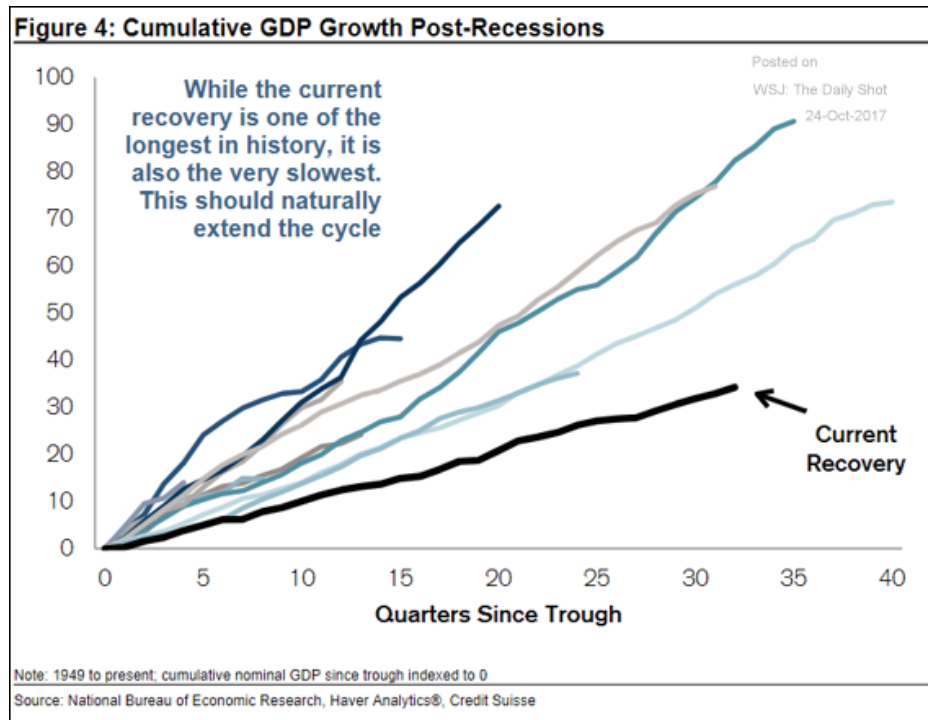
Source: KKR; International Monetary Fund World Economic Outlook; Have Analytics. Data as of April 18, 2017.



Source: The Economist, 4 November 2017

How Close Are We to the Next Recession?

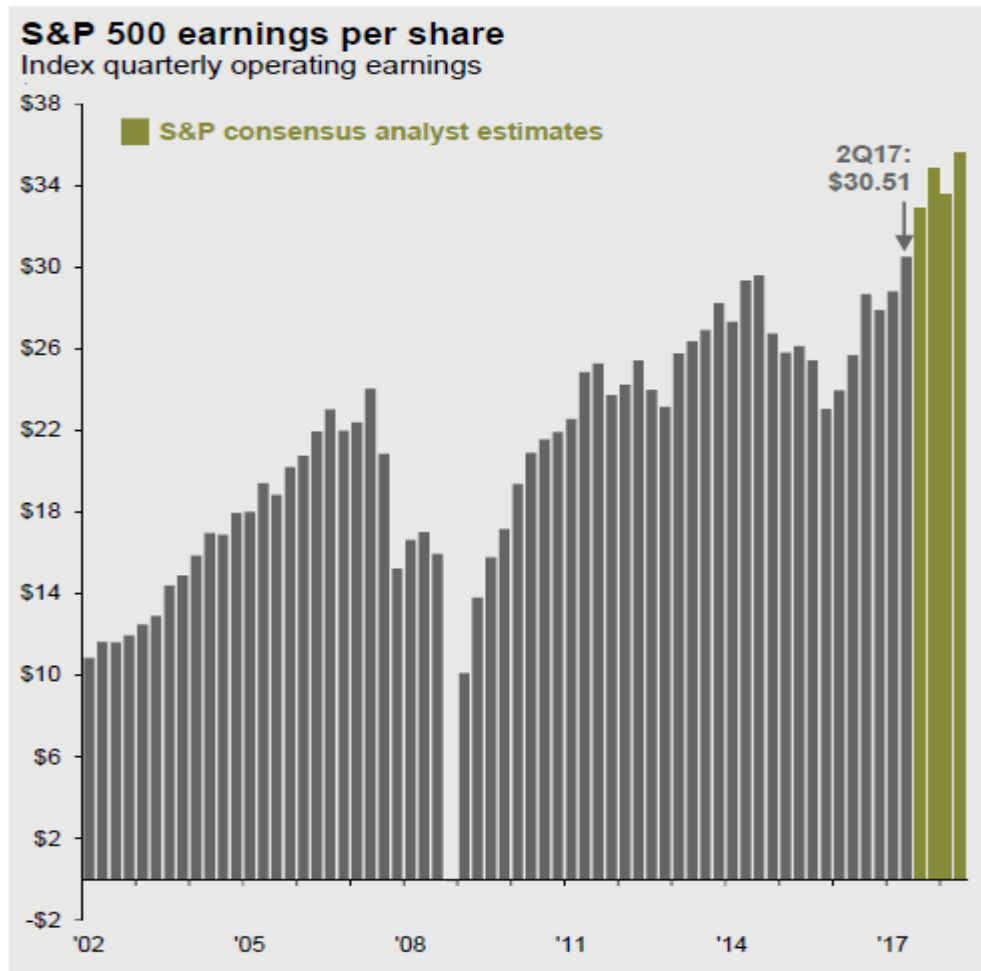
Expansions Do Not Die of Old Age, But Can They Live On Too Long?



- The slow burn in the current expansion may enable it to continue, at the risk of building up asset price bubbles even further.
- Yield curve has flattened (difference between 10-year and 3-year has fallen) but it is nowhere near inverted. An inverted yield curve does not cause a recession, but is often symptomatic of one.

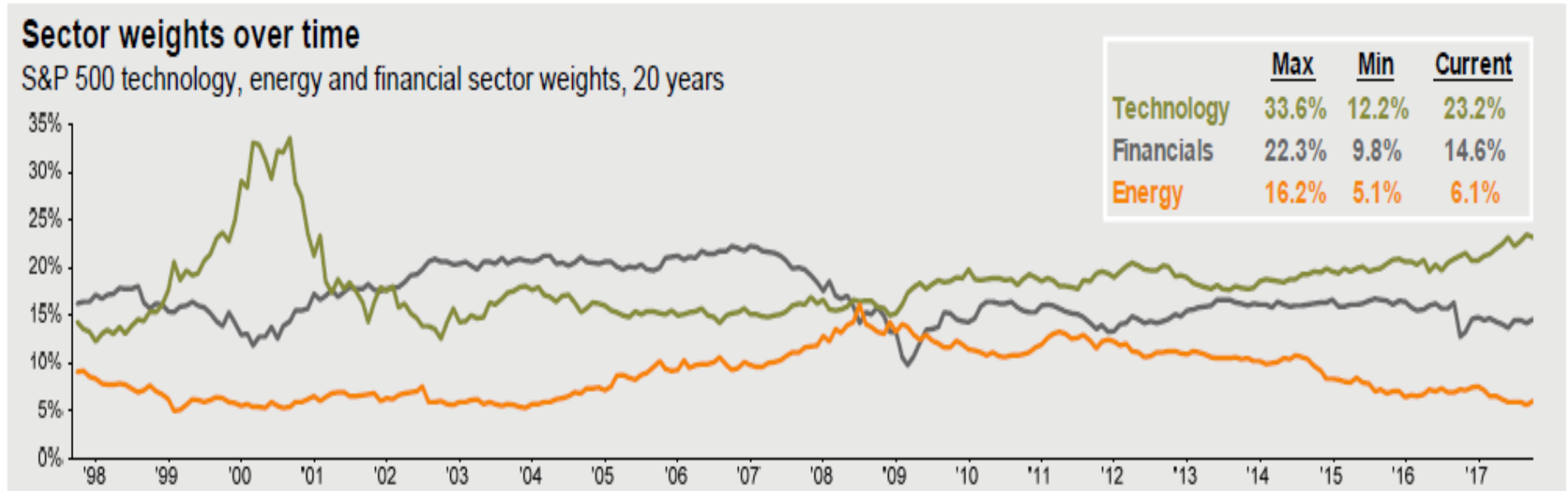
Source: Wall Street Journal

S&P 500 Earnings



- Through 10/27, 55% of S&P 500 companies have reported earnings
- 76% of S&P 500 companies have reported positive EPS surprises and 67% have reported positive sales surprises.
- The blended earnings growth rate for the S&P 500 is 4.7%.
- Energy and Technology show the biggest earnings growth gains (Energy from a low base)
 - Tech earnings growth up 14.8%, Energy up 138%

S&P Sector Composition is Changing



Source: Standard & Poor's, FactSet, J.P. Morgan Asset Management; (Top) MSCI, Russell; (Bottom) MSCI. The MSCI High Dividend Yield Index aims to

- Technology sector weight is growing while Energy and Financials are shrinking, relatively.

JP Morgan Guide to the Markets®, 4Q 2017 As of September 30, 2017

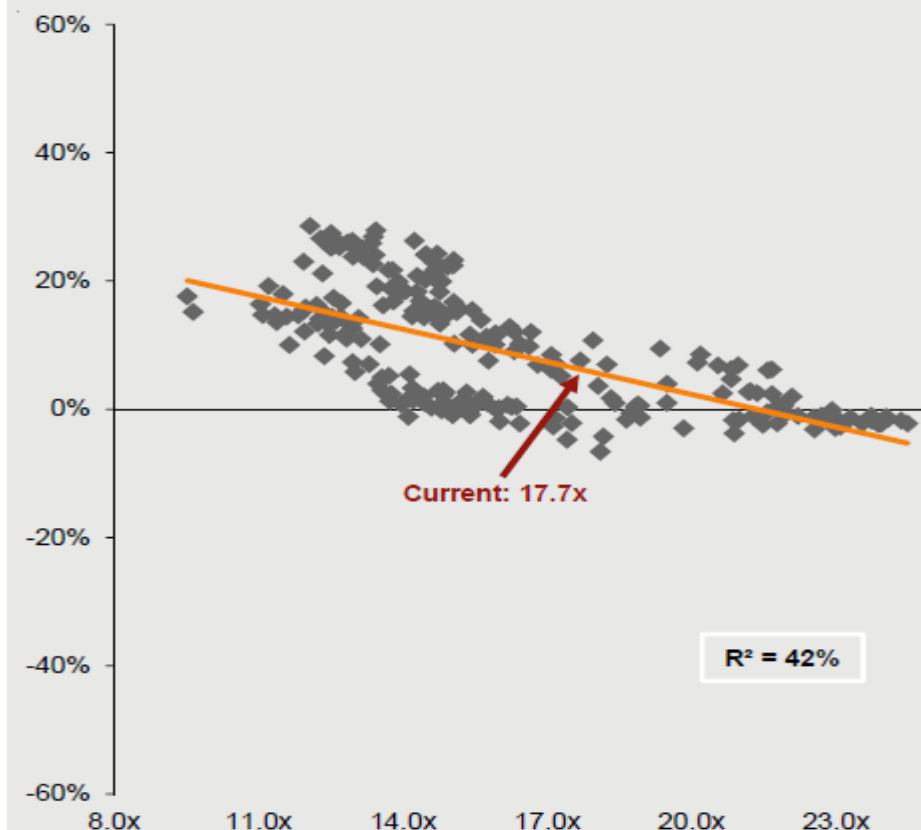
Valuations are Getting Rich – Prospects for Future Returns

Current P/E as % of 15-year avg. P/E*

| | Value | Blend | Growth |
|-------|--------|--------|--------|
| Large | 120.9% | 122.5% | 123.5% |
| Mid | 116.3% | 115.7% | 116.7% |
| Small | 116.0% | 125.3% | 138.3% |

- All capitalization and style segments are above the long-term averages (i.e. the readings are greater than 100% of the 15-year average).
- Small cap is richer than large cap.
- Growth is more expensive than value.

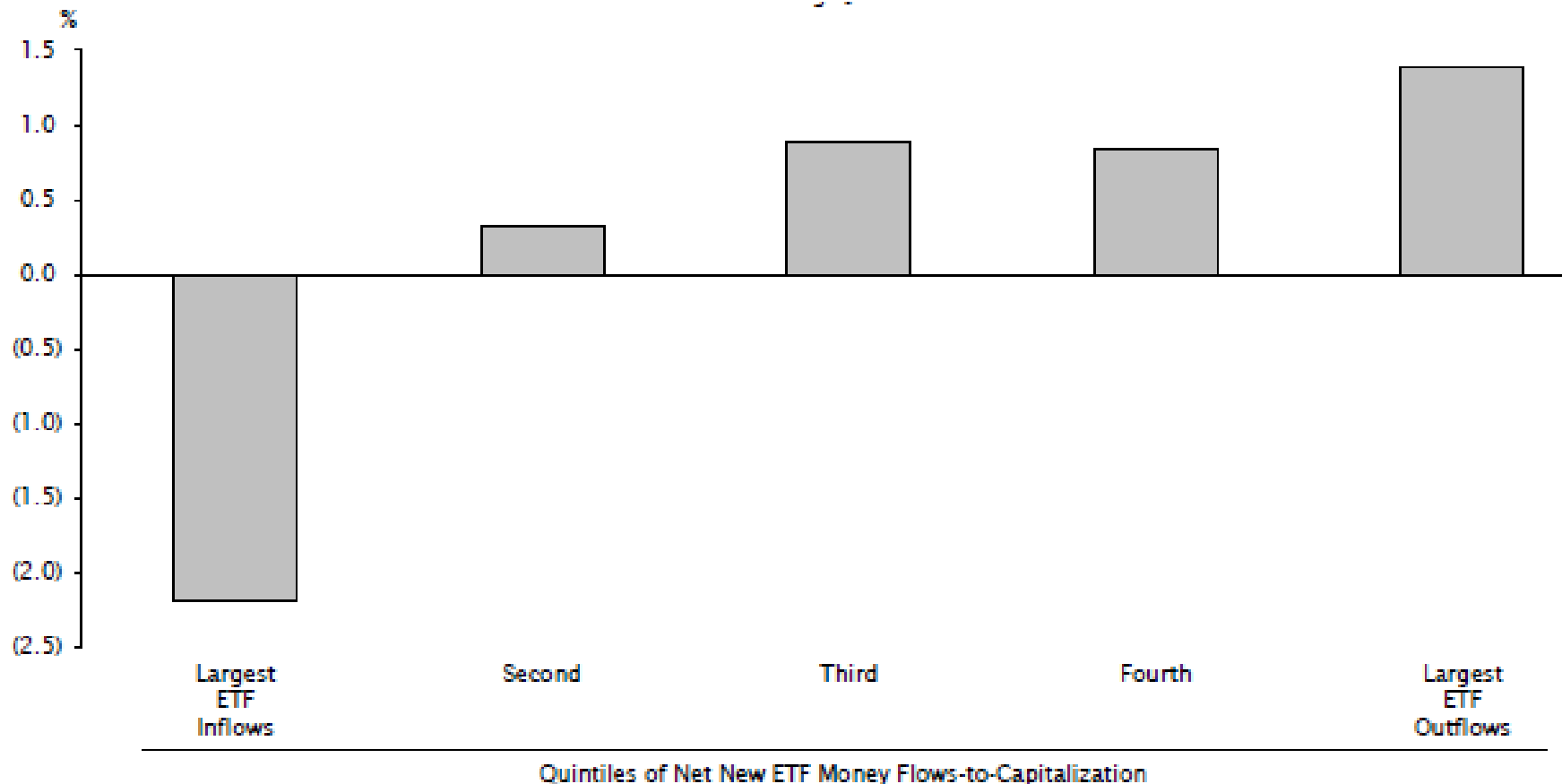
Forward P/E and subsequent 5-yr. annualized returns
S&P 500 Total Return Index



Source: JP Morgan Guide to the Markets®, 4Q 2017 As of September 30, 2017

Stocks held by hot ETFs tend to lag over the following year

Large cap stock relative quintile returns January 2010 through June 2017



Source: Empirical Research Partners

- The exhibit above compares large cap stocks' relative returns to the quintiles of net new ETF flows that are measured over one-year periods.
- Last year's "hottest" stocks lag in the following year while the "unpopular" stocks tend to do better.

Asset Class Performance

Periodic Table of Investment Returns
for Periods Ended September 30, 2017

Best



Worst

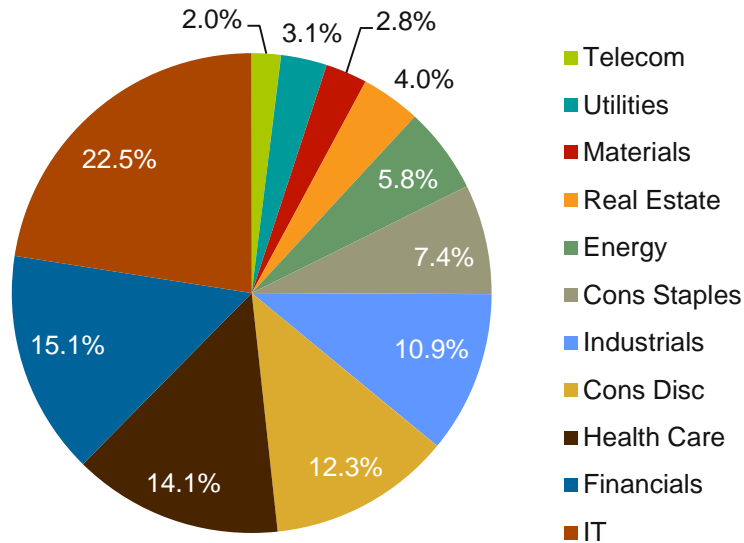
| Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 20 Years |
|--------------------------------------|--|---|---|--|--|
| MSCI:EM Gross 8.0% | MSCI:EM Gross 22.9% | Russell:2000 Index 12.2% | S&P:500 14.2% | Russell:2000 Index 7.8% | Russell:2000 Index 7.5% |
| Russell:2000 Index 5.7% | Russell:2000 Index 20.7% | S&P:500 10.8% | Russell:2000 Index 13.8% | S&P:500 7.4% | S&P:500 7.0% |
| MSCI:EAFE 5.4% | MSCI:EAFE 19.1% | MSCI:EM Gross 5.3% | MSCI:EAFE 8.4% | Blmbg:Aggregate 4.3% | MSCI:EM Gross 6.7% |
| S&P:500 4.5% | S&P:500 18.6% | MSCI:EAFE 5.0% | MSCI:EM Gross 4.4% | MSCI:EM Gross 1.7% | Blmbg:Aggregate 5.1% |
| Blmbg:Commodity Price Idx 2.2% | 3 Month T-Bill 0.7% | Blmbg:Aggregate 2.7% | Blmbg:Aggregate 2.1% | MSCI:EAFE 1.3% | MSCI:EAFE 4.6% |
| Blmbg:Aggregate 0.8% | Blmbg:Aggregate 0.1% | 3 Month T-Bill 0.3% | 3 Month T-Bill 0.2% | 3 Month T-Bill 0.5% | 3 Month T-Bill 2.1% |
| 3 Month T-Bill 0.3% | Blmbg:Commodity Price Idx (1.0%) | Blmbg:Commodity Price Idx (10.7%) | Blmbg:Commodity Price Idx (10.7%) | Blmbg:Commodity Price Idx (7.2%) | Blmbg:Commodity Price Idx (1.8%) |

- With no inflation since the early 1980s, commodity returns have been . . er . . um . . lacklustre?

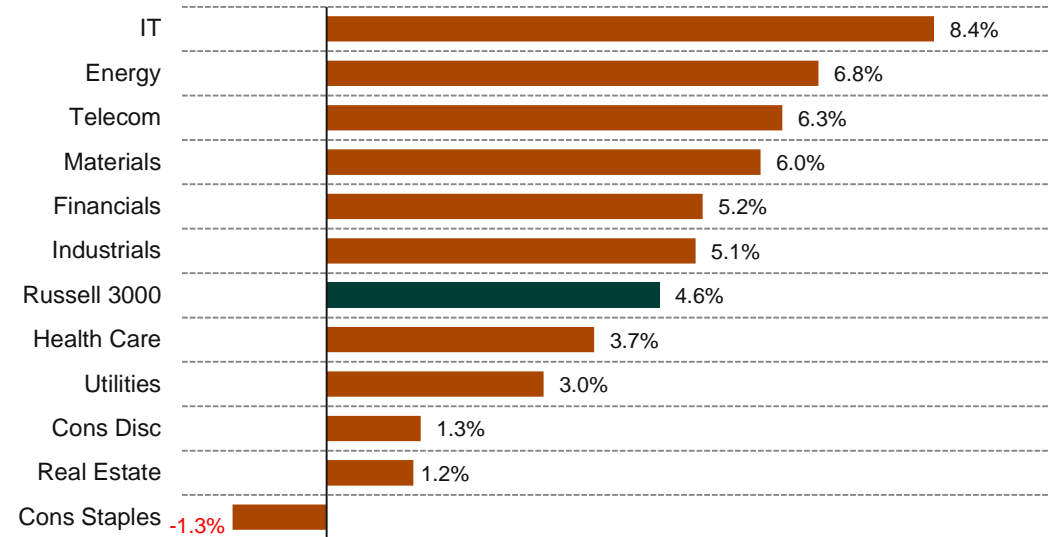
U.S. Equity Returns

Periods Ending September 30, 2017

Economic Sector Exposure (Russell 3000)



Quarterly Returns (Russell 3000)



Source: Barrow Hanley Quarterly Benchmark Review

- The Russell 1000 large cap index was up 4.5% - Information Technology (+8.6%) and Energy (+6.9%) were the best performing sectors.
- The Russell 2000 small cap index was up 5.7% - Industrials (+9.1%) and Health Care (+7.8%) were the best performing sectors.
- Equity indices such as the S&P 500, DJIA, and NASDAQ reached record highs during the quarter.

U.S. Equity Style Returns

Periods Ending September 30, 2017

| 3Q 2017 | | | |
|---------|-------|------|--------|
| | Value | Core | Growth |
| Large | 3.1% | 4.5% | 5.9% |
| Mid | 2.1% | 3.5% | 5.3% |
| Small | 5.1% | 5.7% | 6.2% |

| Annualized 1 Year Returns | | | |
|---------------------------|-------|-------|--------|
| | Value | Core | Growth |
| Large | 15.1% | 18.5% | 21.9% |
| Mid | 13.4% | 15.3% | 17.8% |
| Small | 20.6% | 20.7% | 21.0% |

-  Represents 3 best performing asset classes in time period
-  Represents 3 middle performing asset classes in time period
-  Represents 3 worst performing asset classes in time period

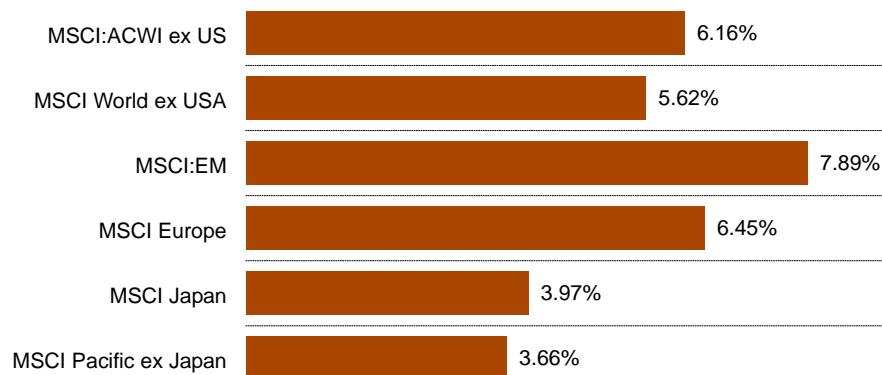
- Last Quarter: Small outperformed; growth outperformed.
 - Large caps dominated most of the quarter, fueled by a positive earnings season.
 - Small caps took the reins back in September and won the quarter.
- Last Year: Small outperformed; growth outperformed.

Large Cap Core is represented by the Russell 1000 Index, Large Cap Value is represented by the Russell 1000 Value Index and Large Cap Growth is represented by the Russell 1000 Growth Index. Mid Cap Core is represented by the Russell Midcap Index, Mid Cap Value is represented by the Russell Midcap Value Index and Mid Cap Growth is represented by the Russell Midcap Growth Index. Small Cap Core is represented by the Russell 2000 Index, Small Cap Value is represented by the Russell 2000 Value Index and Small Cap Growth is represented by the Russell 2000 Growth Index.

International Equity Returns

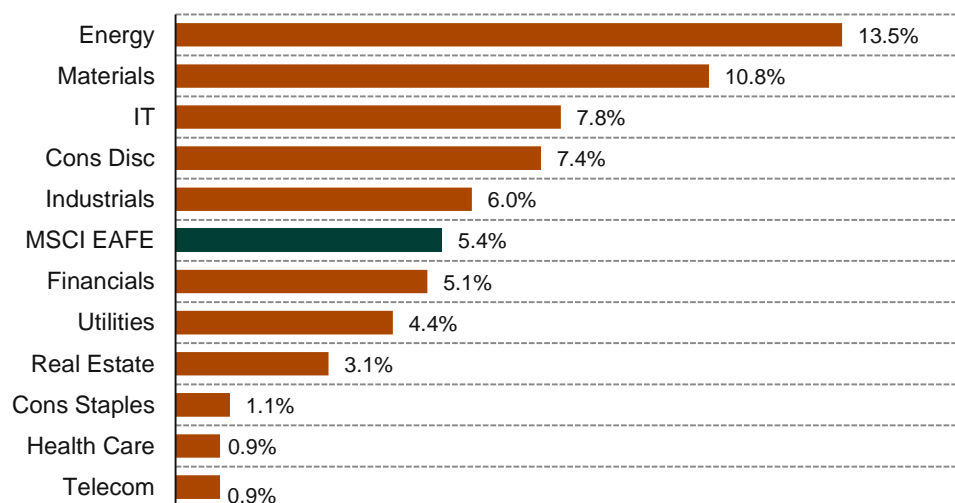
Periods Ending September 30, 2017

Regional Quarterly Performance (U.S. Dollar)



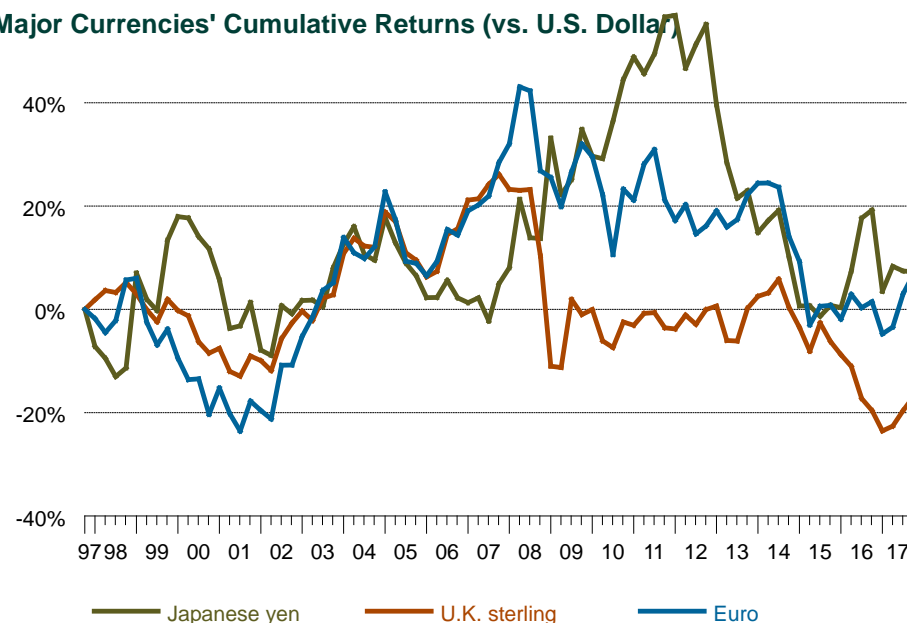
Source: MSCI

MSCI EAFE Sector Returns



Source: Barrow Hanley Quarterly Benchmark Review

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

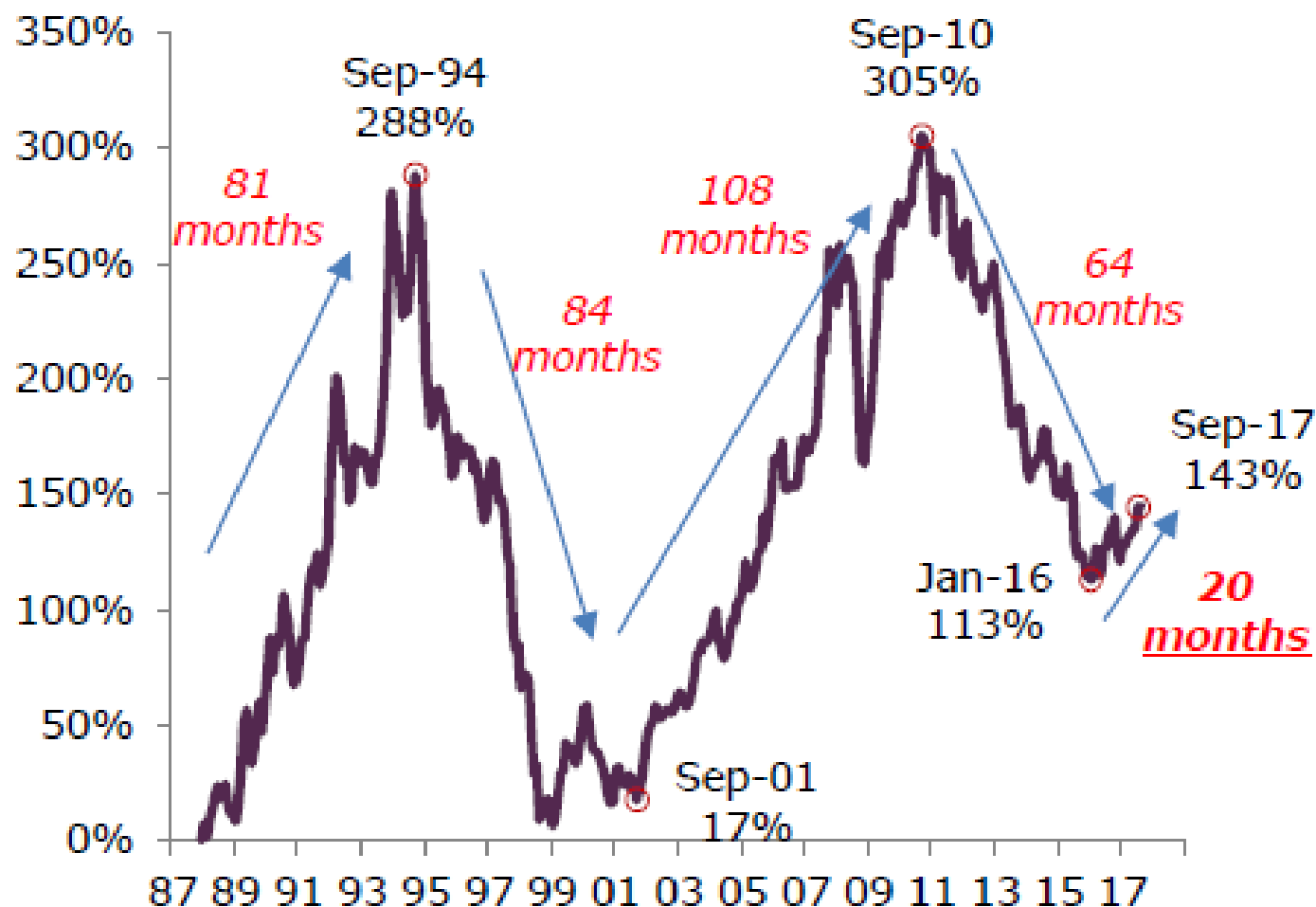


*Euro returns from 1Q99. German mark prior to 1Q99.
Source: MSCI

- The best performing region was emerging markets (+7.9%).
- The euro and pound strengthened versus the dollar while the yen weakened.
- Economic recovery and a weakening dollar pushed non-U.S. equities to outperform U.S. equities for most of the third quarter.

The trend is on the mend

Relative Total Return, emerging market vs developed market returns (Feb '87 = 0%)

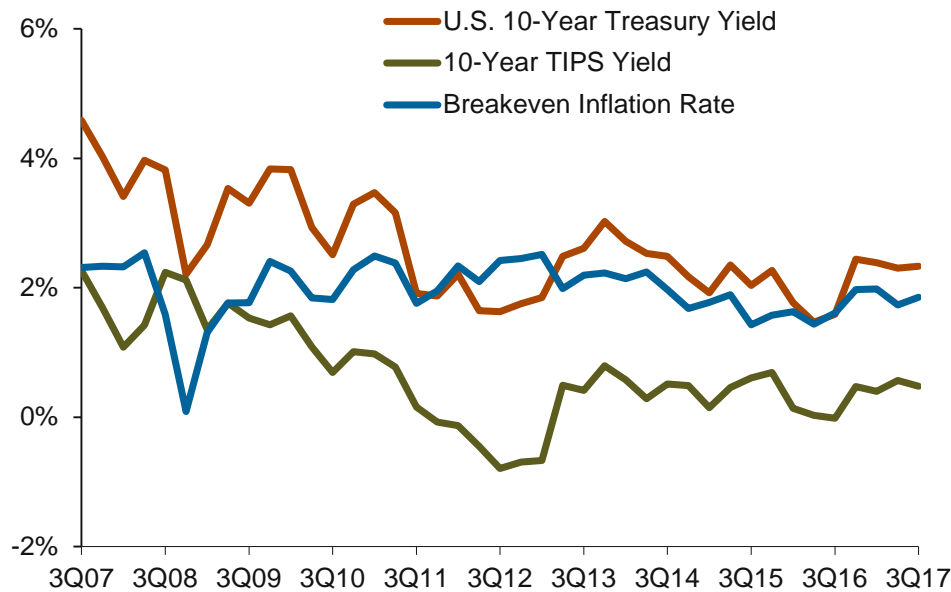


Source: KKR Global Macro & Asset Allocation Analysis

Yield Curve Changes

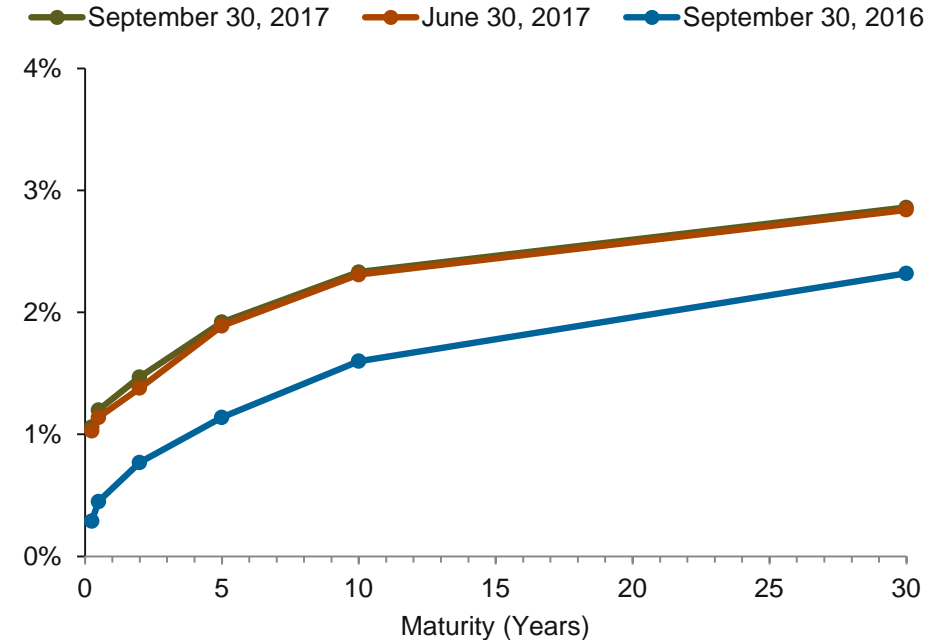
Periods Ending September 30, 2017

Historical 10-Year Yields



Source: Bloomberg

U.S. Treasury Yield Curves



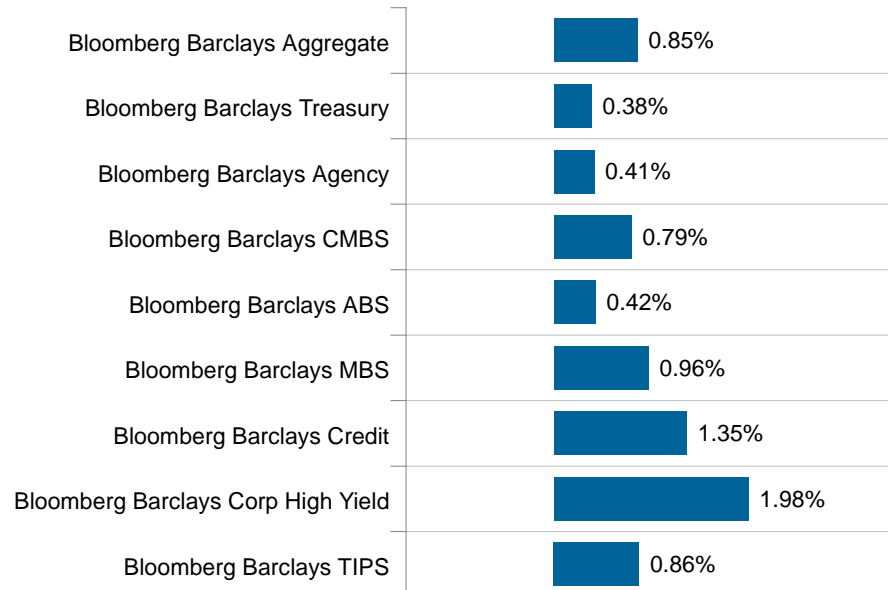
Source: U.S. Department of the Treasury

- The Treasury yield curve rose slightly during the quarter, the short end increasing more than the long end. The yield on the 1-month gained 10 bps whereas the yield on both the 10-year and 30-year gained only two.
- Breakeven inflation rose as expectations for growth and inflation rates increased.
- Worldwide, rates remain low.

Total Rates of Return by Bond Sector

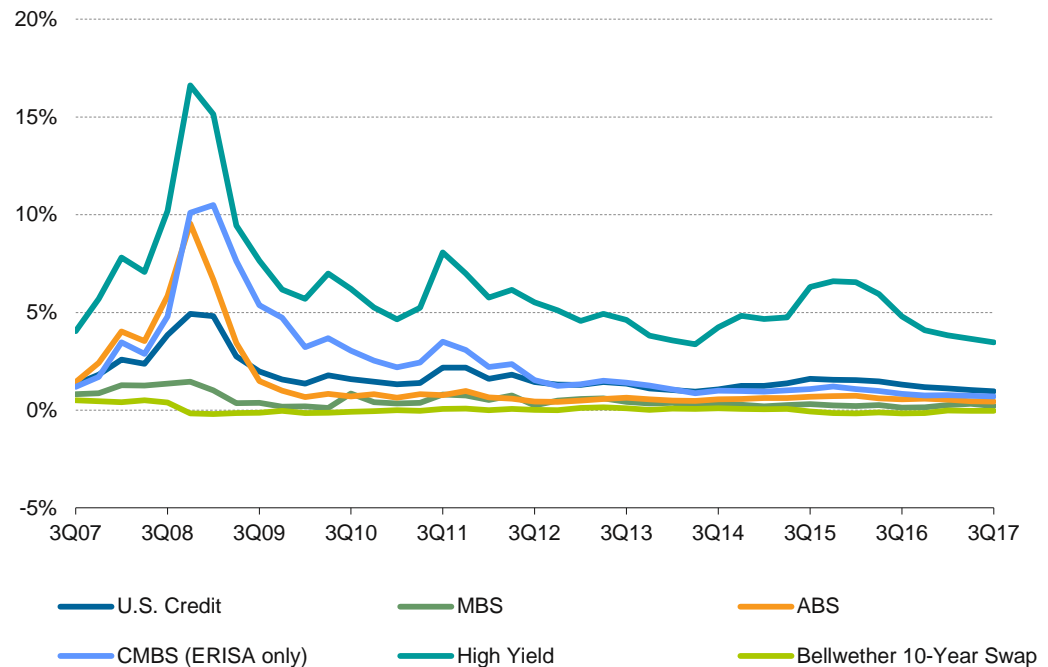
Periods Ending September 30, 2017

Total Returns



Source: Bloomberg Barclays

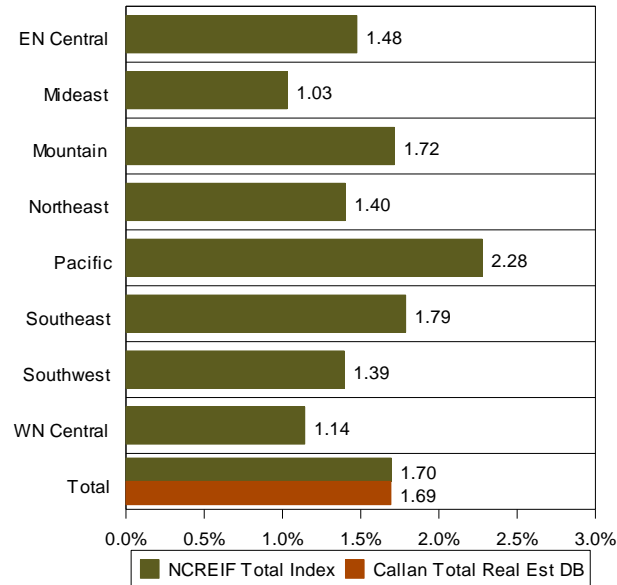
Effective Yield Over Treasuries



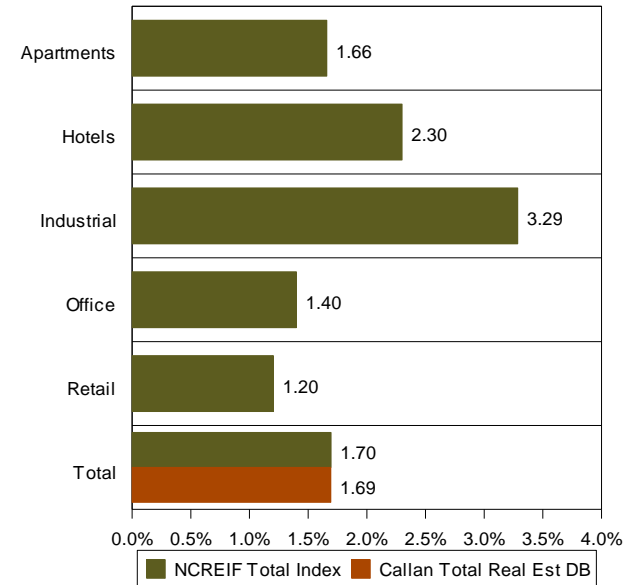
- High yield (+2.0%) and investment grade credit (+2.2%) were the best performing sectors as global demand for yield provided support for spread sectors.
- Demand for yield saw spreads contract across all sectors; high yield and MBS were the most pronounced.
- Increasing inflation expectations provided a tailwind to TIPS performance (+0.9%).

Real Estate Overview

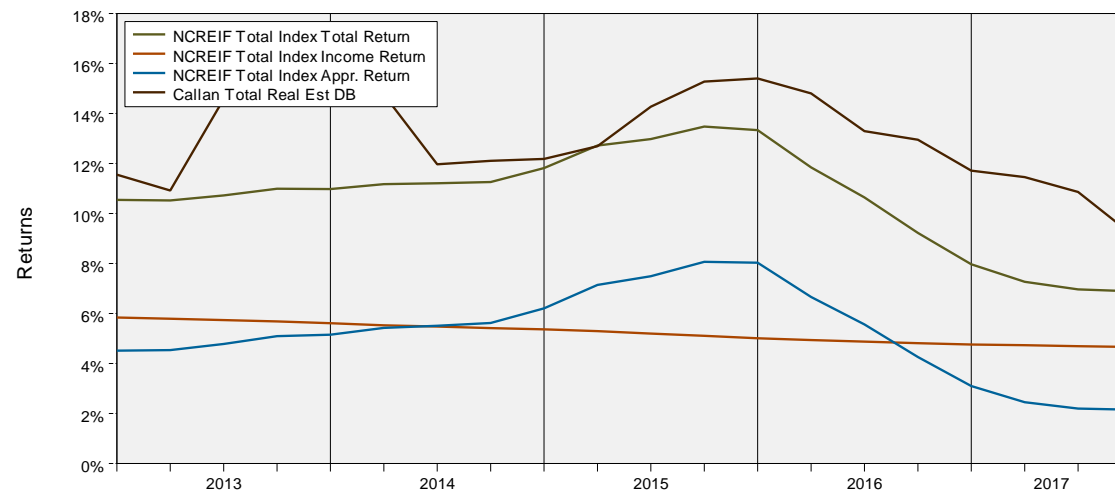
**NCREIF Total Index Returns by Geographic Area:
Quarter Ended September 30, 2017**



**NCREIF Total Index Returns by Property Type
Quarter Ended September 30, 2017**



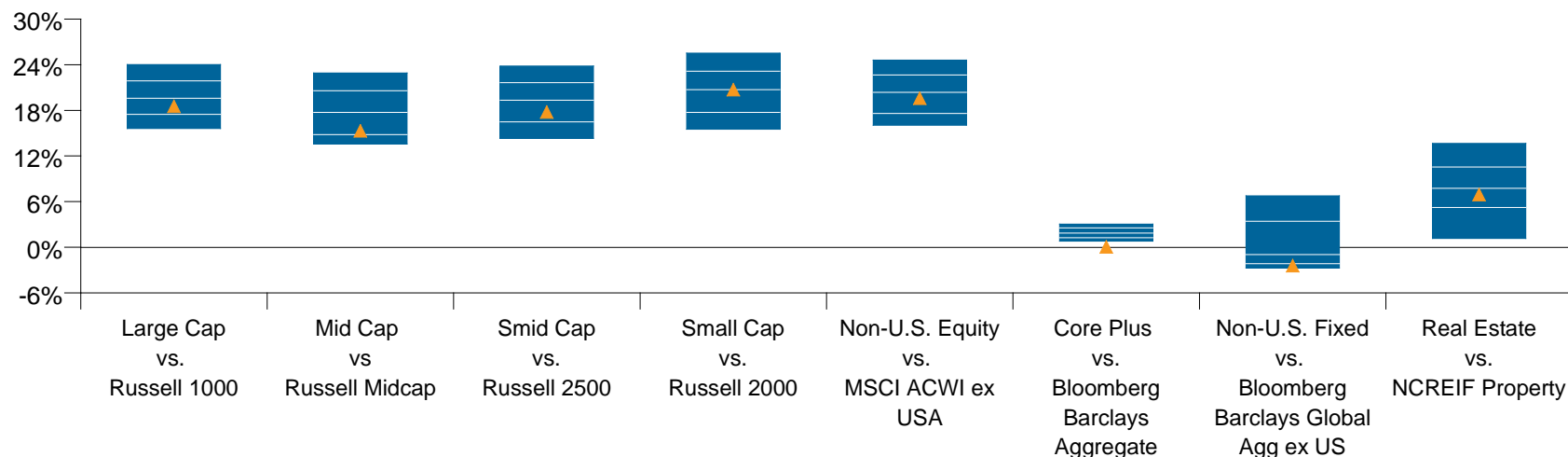
Rolling 1 Year Returns



Active Management vs. Index Returns

Range of Separate Account Manager Returns by Asset Class

One Year ended September 30, 2017



- Active management is improving over the trailing year relative to the market indices

Sources: Bloomberg Barclays, Callan, MSCI, NCREIF, Russell. All style group returns presented gross of fees.

Callan Research

3Q17 Highlights

New Research

- The Private Debt Pie: Do You Want a Slice? Do You Need One?
- Callan 2017 Nuclear Decommissioning Funding Study
- Callan 2017 Private Equity Survey
- The Triple Play: Adding Timberland, Farmland, and Infrastructure to Portfolios
- Reaching for Higher Ground: The Evolution of TDFs
- Hedge Fund Monitor: Uncertainty—Beyond the Next Eclipse

Popular Blog Posts

So What the Heck is SUBICO?

Greg Allen
Butch Cliff

What We're Seeing from Manager Searches

Stephen Trousdale

Avoiding Fiduciary Traps: 8 Tips for DC Plan Sponsors

Lori Lucas

Callan DC Index Off to a Strong Start

Lori Lucas

In Context: MiFID II

Bo Abesamis

Conference Highlights: NASP

Jay Kloepper

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Callan Institute Events

Upcoming Conferences, Workshops, and Webinars

Live Events

- Callan 2018 National Conference
January 29-31, 2018, in San Francisco

Speakers Include:

- **Zanny Minton Beddoes** - Editor-in-Chief, *The Economist*, on the economy and geopolitics
- **Hal Hershfield**, UCLA Anderson School of Management, and **Raphael Schoenle**, Brandeis University, on financial decision-making
- **Shankar Vedantam** - host of the Hidden Brain on NPR, on the hidden brain in finance
- **Dr. R. David Edelman** - Director of MIT's Project on Technology, the Economy, and National Security, on cybersecurity
- **Paul Nicklen** - *National Geographic* writer and photographer, author of the following books - *Polar Obsession* and *Spirit of the Wild*
- **Callan's EDD Talk** on Investment Theory and Design will explore ESG Factors and what they mean to current and future professionals in the institutional investment space

Webinars

- Investigating Private Equity Implementation
October 31, 2017
- The Cost of Returns: An In-Depth Look at Institutional Investment Fees
November 14, 2017
 - This webinar will feature speakers/topics from our October Regional Workshop

“Callan College” Ongoing fiduciary education Introduction to Investments sessions

- April 10-11, 2018, in San Francisco
- July 24-25, 2018, in San Francisco
- October 2-3, 2018, in Chicago



Consolidated Pension Trusts Quarterly Review

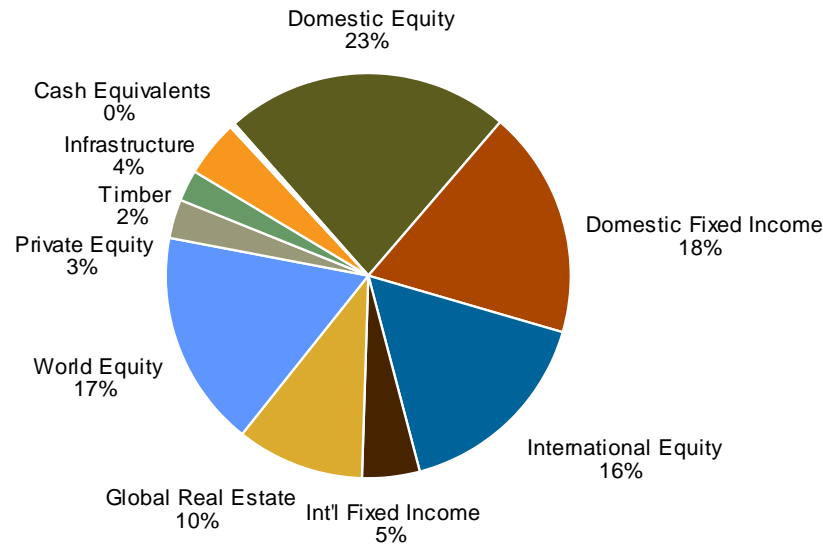
- Public Employees Retirement System
- Teachers' Fund for Retirement



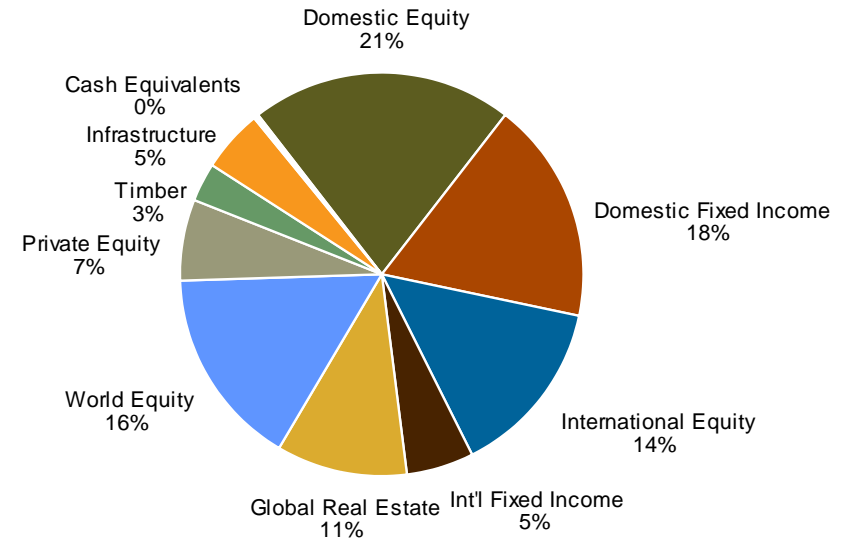
Consolidated Pension Trust Allocation

As of September 30, 2017

Actual Asset Allocation



Target Asset Allocation



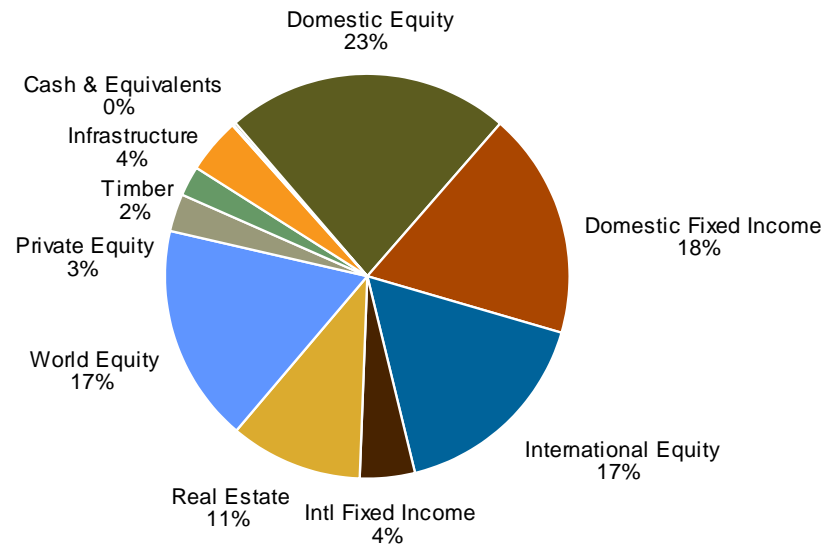
| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-----------------------|------------------|------------------|--------|-----------------------|----------------------|
| Domestic Equity | 1,248,756 | 22.8% | 21.0% | 1.8% | 98,810 |
| Domestic Fixed Income | 994,546 | 18.2% | 17.8% | 0.4% | 19,829 |
| International Equity | 900,771 | 16.4% | 14.3% | 2.1% | 117,712 |
| Int'l Fixed Income | 251,796 | 4.6% | 5.4% | (0.8%) | (43,905) |
| Global Real Estate | 557,392 | 10.2% | 10.5% | (0.3%) | (17,581) |
| World Equity | 949,203 | 17.3% | 16.0% | 1.3% | 73,053 |
| Private Equity | 169,791 | 3.1% | 6.5% | (3.4%) | (186,145) |
| Timber | 135,424 | 2.5% | 3.1% | (0.6%) | (34,330) |
| Infrastructure | 246,226 | 4.5% | 5.0% | (0.5%) | (27,571) |
| Cash Equivalents | 22,032 | 0.4% | 0.4% | 0.0% | 128 |
| Total | 5,475,935 | 100.0% | 100.0% | | |



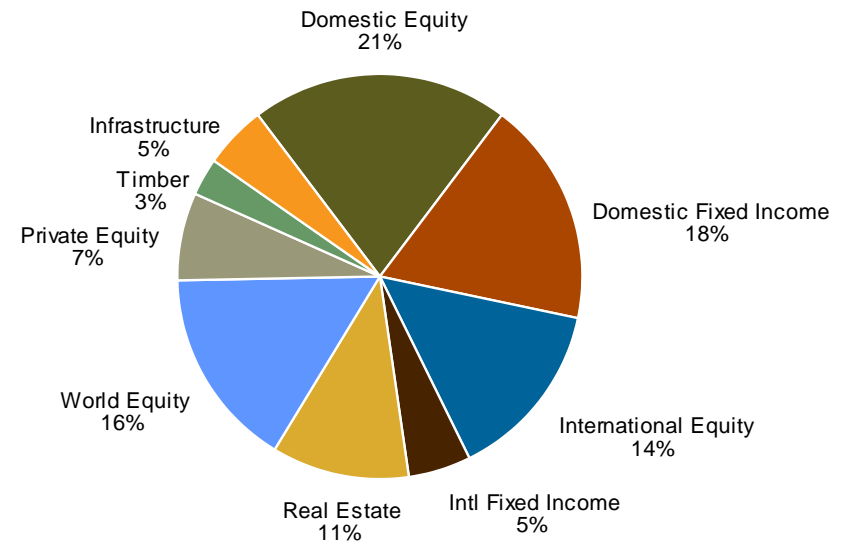
PERS Allocation

As of September 30, 2017

Actual Asset Allocation



Target Asset Allocation

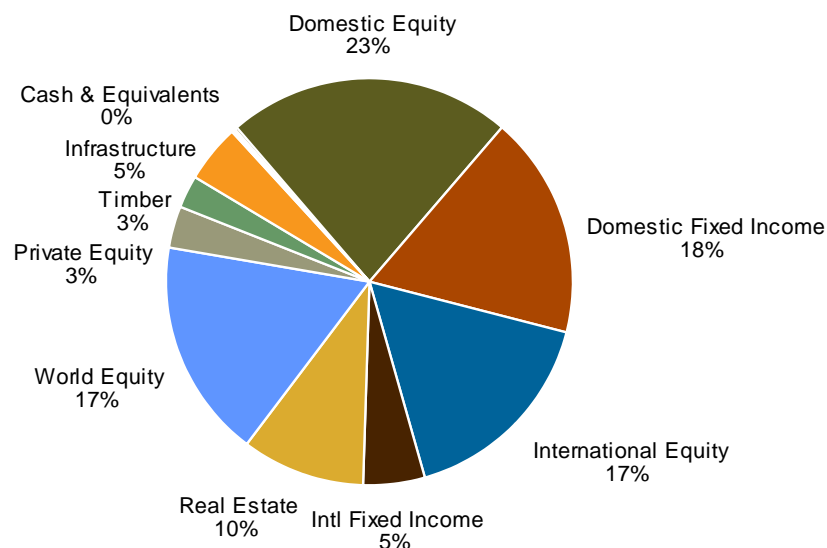


| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-----------------------|---------------|---------------|--------|--------------------|-------------------|
| Domestic Equity | 660,838 | 22.9% | 20.6% | 2.3% | 66,985 |
| Domestic Fixed Income | 520,976 | 18.1% | 18.0% | 0.1% | 2,076 |
| International Equity | 481,358 | 16.7% | 14.4% | 2.3% | 66,238 |
| Intl Fixed Income | 126,578 | 4.4% | 5.0% | (0.6%) | (17,561) |
| Real Estate | 304,717 | 10.6% | 11.0% | (0.4%) | (12,389) |
| World Equity | 500,578 | 17.4% | 16.0% | 1.4% | 39,333 |
| Private Equity | 85,181 | 3.0% | 7.0% | (4.0%) | (116,613) |
| Timber | 68,405 | 2.4% | 3.0% | (0.6%) | (18,078) |
| Infrastructure | 126,096 | 4.4% | 5.0% | (0.6%) | (18,043) |
| Cash & Equivalents | 8,053 | 0.3% | 0.0% | 0.3% | 8,053 |
| Total | 2,882,780 | 100.0% | 100.0% | | |

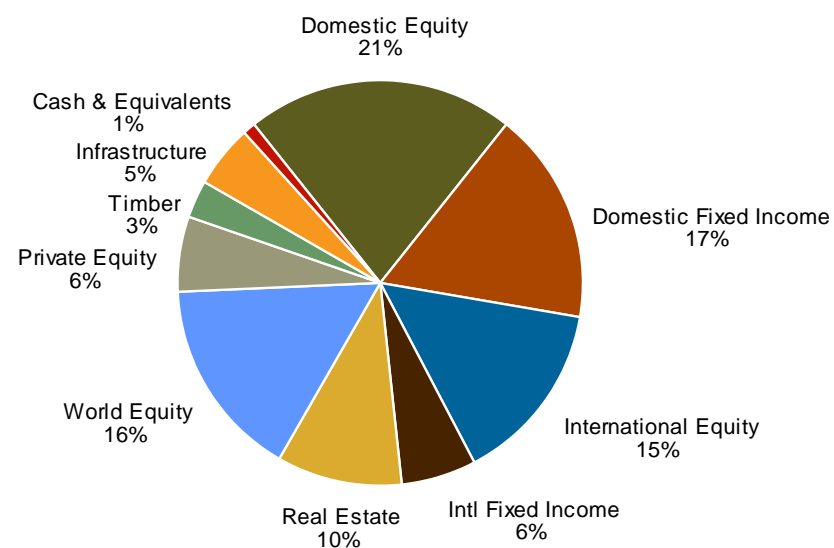
TFFR Allocation

As of September 30, 2017

Actual Asset Allocation



Target Asset Allocation



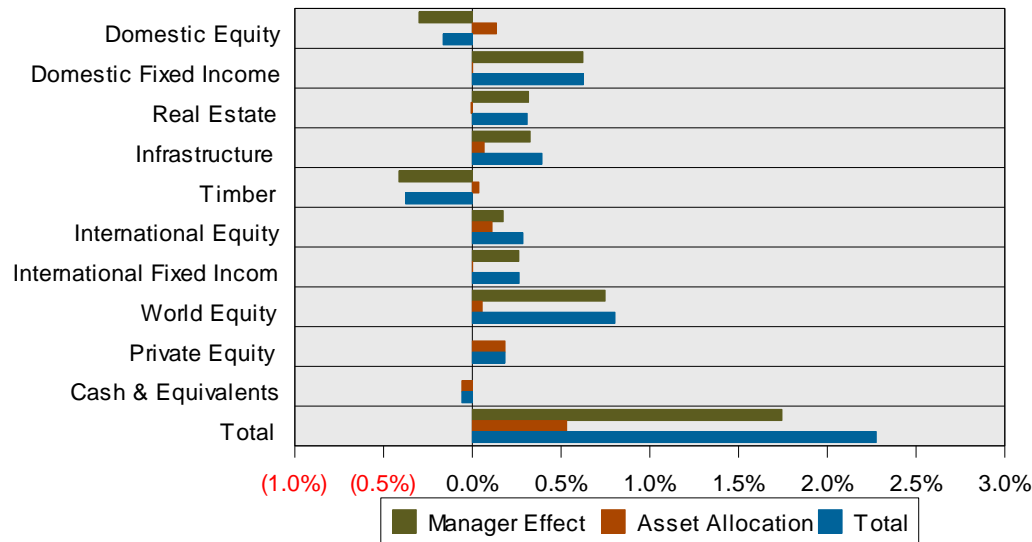
| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-----------------------|---------------|---------------|--------|--------------------|-------------------|
| Domestic Equity | 545,147 | 22.8% | 21.4% | 1.4% | 34,135 |
| Domestic Fixed Income | 422,116 | 17.7% | 17.0% | 0.7% | 16,172 |
| International Equity | 395,334 | 16.6% | 14.6% | 2.0% | 46,700 |
| Intl Fixed Income | 116,927 | 4.9% | 6.0% | (1.1%) | (26,348) |
| Real Estate | 232,988 | 9.8% | 10.0% | (0.2%) | (5,803) |
| World Equity | 414,609 | 17.4% | 16.0% | 1.4% | 32,544 |
| Private Equity | 78,187 | 3.3% | 6.0% | (2.7%) | (65,088) |
| Timber | 61,130 | 2.6% | 3.0% | (0.4%) | (10,508) |
| Infrastructure | 109,809 | 4.6% | 5.0% | (0.4%) | (9,586) |
| Cash & Equivalents | 11,660 | 0.5% | 1.0% | (0.5%) | (12,219) |
| Total | 2,387,907 | 100.0% | 100.0% | | |



PERS Performance and Attribution

As of September 30, 2017

One Year Relative Attribution Effects



1 Year Ended 9/30/2017

Gross: 13.54%
 Net of fees: 13.26%
 Target: 11.27%
 Net Added: 1.99%

One Year Relative Attribution Effects

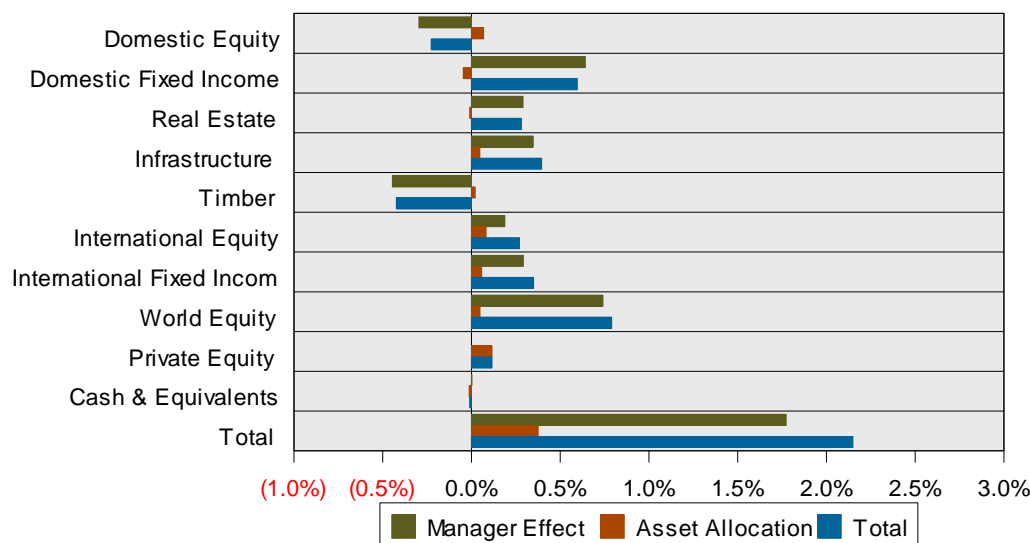
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|----------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 17.77% | 19.15% | (0.30%) | 0.14% | (0.16%) |
| Domestic Fixed Income | 18% | 18% | 5.71% | 2.46% | 0.62% | 0.00% | 0.63% |
| Real Estate | 11% | 11% | 9.64% | 6.89% | 0.32% | (0.01%) | 0.31% |
| Infrastructure | 4% | 5% | 9.75% | 2.31% | 0.33% | 0.07% | 0.39% |
| Timber | 3% | 3% | (9.44%) | 3.28% | (0.41%) | 0.04% | (0.38%) |
| International Equity | 16% | 14% | 20.70% | 19.66% | 0.17% | 0.11% | 0.29% |
| International Fixed Income | 5% | 5% | 2.48% | (2.42%) | 0.26% | 0.00% | 0.26% |
| World Equity | 17% | 16% | 22.89% | 18.17% | 0.75% | 0.06% | 0.80% |
| Private Equity | 3% | 7% | 6.54% | 6.54% | 0.00% | 0.18% | 0.18% |
| Cash & Equivalents | 1% | 0% | 0.92% | 0.92% | 0.00% | (0.06%) | (0.06%) |

Total **13.54% = 11.27% + 1.74% + 0.53%** **2.28%**

TFFR Performance and Attribution

As of September 30, 2017

One Year Relative Attribution Effects



1 Year Ended 9/30/2017

Gross: 13.33%
 Net of fees: 13.04%
 Target: 11.18%
 Net Added: 1.86%

One Year Relative Attribution Effects

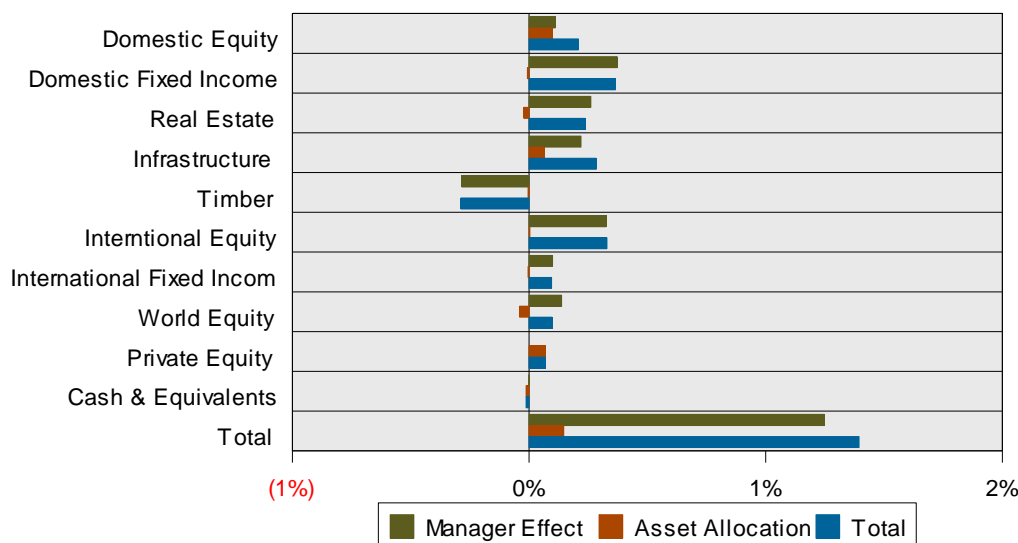
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|----------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 17.77% | 19.13% | (0.30%) | 0.07% | (0.23%) |
| Domestic Fixed Income | 17% | 17% | 5.53% | 2.09% | 0.64% | (0.05%) | 0.60% |
| Real Estate | 10% | 10% | 9.64% | 6.89% | 0.29% | (0.01%) | 0.28% |
| Infrastructure | 5% | 5% | 9.75% | 2.31% | 0.35% | 0.05% | 0.40% |
| Timber | 3% | 3% | (9.44%) | 3.28% | (0.44%) | 0.02% | (0.42%) |
| International Equity | 16% | 15% | 20.65% | 19.49% | 0.19% | 0.08% | 0.27% |
| International Fixed Income | 5% | 6% | 2.48% | (2.42%) | 0.29% | 0.06% | 0.35% |
| World Equity | 17% | 16% | 22.89% | 18.17% | 0.74% | 0.05% | 0.79% |
| Private Equity | 3% | 6% | 6.54% | 6.54% | 0.00% | 0.12% | 0.12% |
| Cash & Equivalents | 1% | 1% | 0.92% | 0.66% | 0.00% | (0.01%) | (0.01%) |

Total **13.33% = 11.18% + 1.77% + 0.38%** **2.15%**

PERS Performance and Attribution

As of September 30, 2017

Five Year Annualized Relative Attribution Effects



5 Years Ended 9/30/2017

Gross: 9.36%
 Net of fees: 9.04%
 Target: 7.97%
 Net Added: 1.07%

Five Year Annualized Relative Attribution Effects

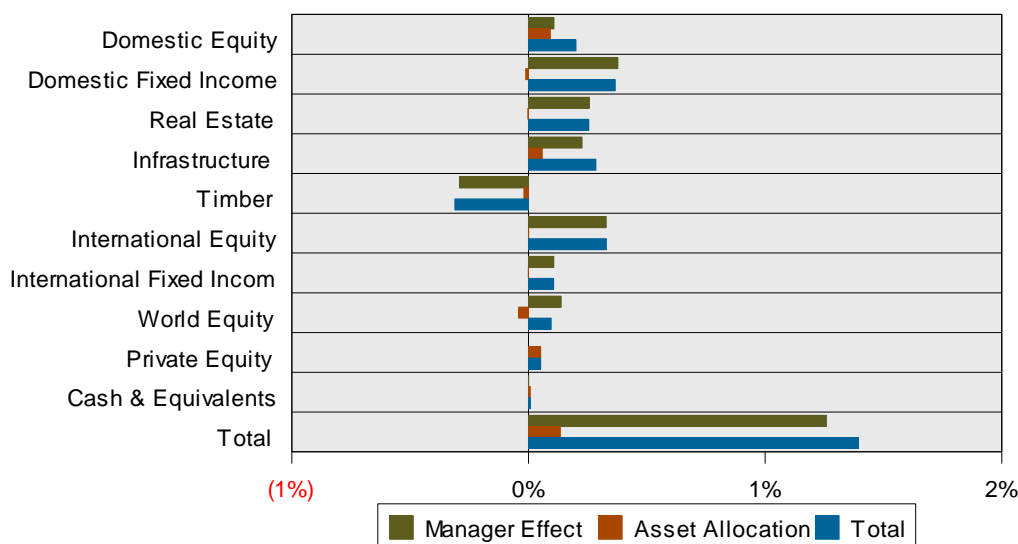
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|----------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 22% | 14.75% | 14.23% | 0.11% | 0.10% | 0.21% |
| Domestic Fixed Income | 18% | 17% | 5.36% | 3.31% | 0.37% | (0.01%) | 0.37% |
| Real Estate | 10% | 10% | 13.01% | 10.35% | 0.26% | (0.02%) | 0.24% |
| Infrastructure | 4% | 5% | 6.54% | 1.09% | 0.22% | 0.06% | 0.28% |
| Timber | 4% | 5% | 0.27% | 7.13% | (0.28%) | (0.00%) | (0.29%) |
| Intentional Equity | 15% | 15% | 9.50% | 7.33% | 0.33% | 0.00% | 0.33% |
| International Fixed Income | 5% | 5% | 1.15% | (0.73%) | 0.10% | (0.00%) | 0.10% |
| World Equity | 16% | 16% | 11.65% | 10.99% | 0.14% | (0.04%) | 0.10% |
| Private Equity | 4% | 5% | 0.90% | 0.90% | 0.00% | 0.07% | 0.07% |
| Cash & Equivalents | 1% | 1% | 0.30% | 0.27% | 0.00% | (0.01%) | (0.01%) |

Total **9.36% = 7.97% + 1.25% + 0.15%** **1.39%**

TFFR Performance and Attribution

As of September 30, 2017

Five Year Annualized Relative Attribution Effects



5 Years Ended 9/30/2017

Gross: 9.37%
 Net of fees: 9.05%
 Target: 7.98%
 Net Added: 1.07%

Five Year Annualized Relative Attribution Effects

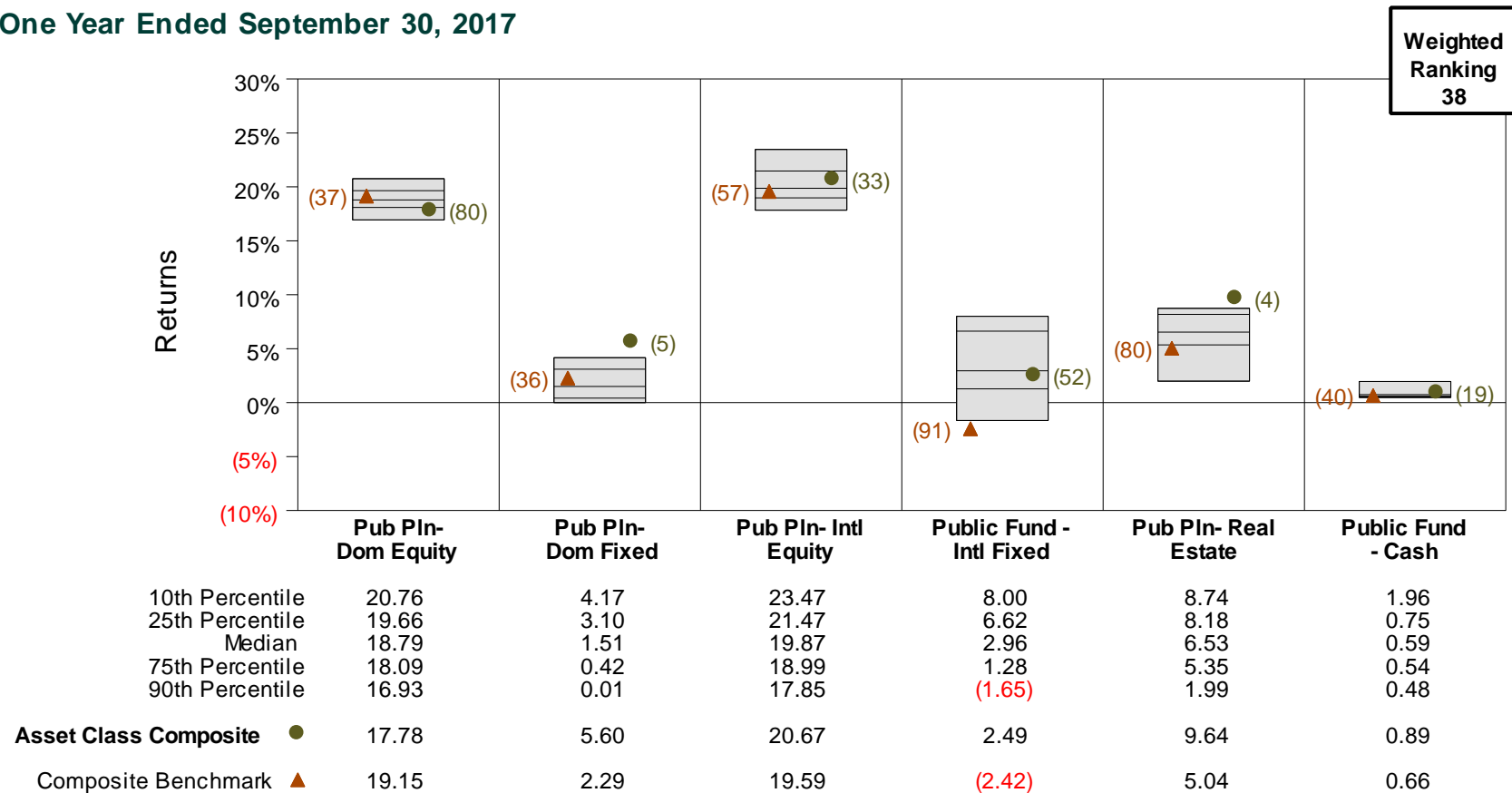
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|----------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 22% | 14.74% | 14.23% | 0.11% | 0.09% | 0.20% |
| Domestic Fixed Income | 18% | 17% | 5.30% | 3.19% | 0.38% | (0.01%) | 0.37% |
| Real Estate | 10% | 10% | 13.01% | 10.35% | 0.26% | (0.00%) | 0.26% |
| Infrastructure | 4% | 5% | 6.54% | 1.09% | 0.23% | 0.06% | 0.29% |
| Timber | 4% | 4% | 0.27% | 7.13% | (0.29%) | (0.02%) | (0.31%) |
| International Equity | 15% | 15% | 9.71% | 7.52% | 0.33% | 0.00% | 0.33% |
| International Fixed Income | 5% | 5% | 1.15% | (0.73%) | 0.11% | (0.00%) | 0.11% |
| World Equity | 16% | 16% | 11.66% | 10.99% | 0.14% | (0.04%) | 0.10% |
| Private Equity | 4% | 5% | 0.91% | 0.91% | 0.00% | 0.05% | 0.05% |
| Cash & Equivalents | 1% | 1% | 0.30% | 0.22% | 0.00% | 0.01% | 0.01% |

Total 9.37% = 7.98% + 1.26% + 0.14% **1.39%**

Asset Class Composite Results

Consolidated Pension Trust asset class results vs other Public Pension Funds

Total Asset Class Performance
One Year Ended September 30, 2017

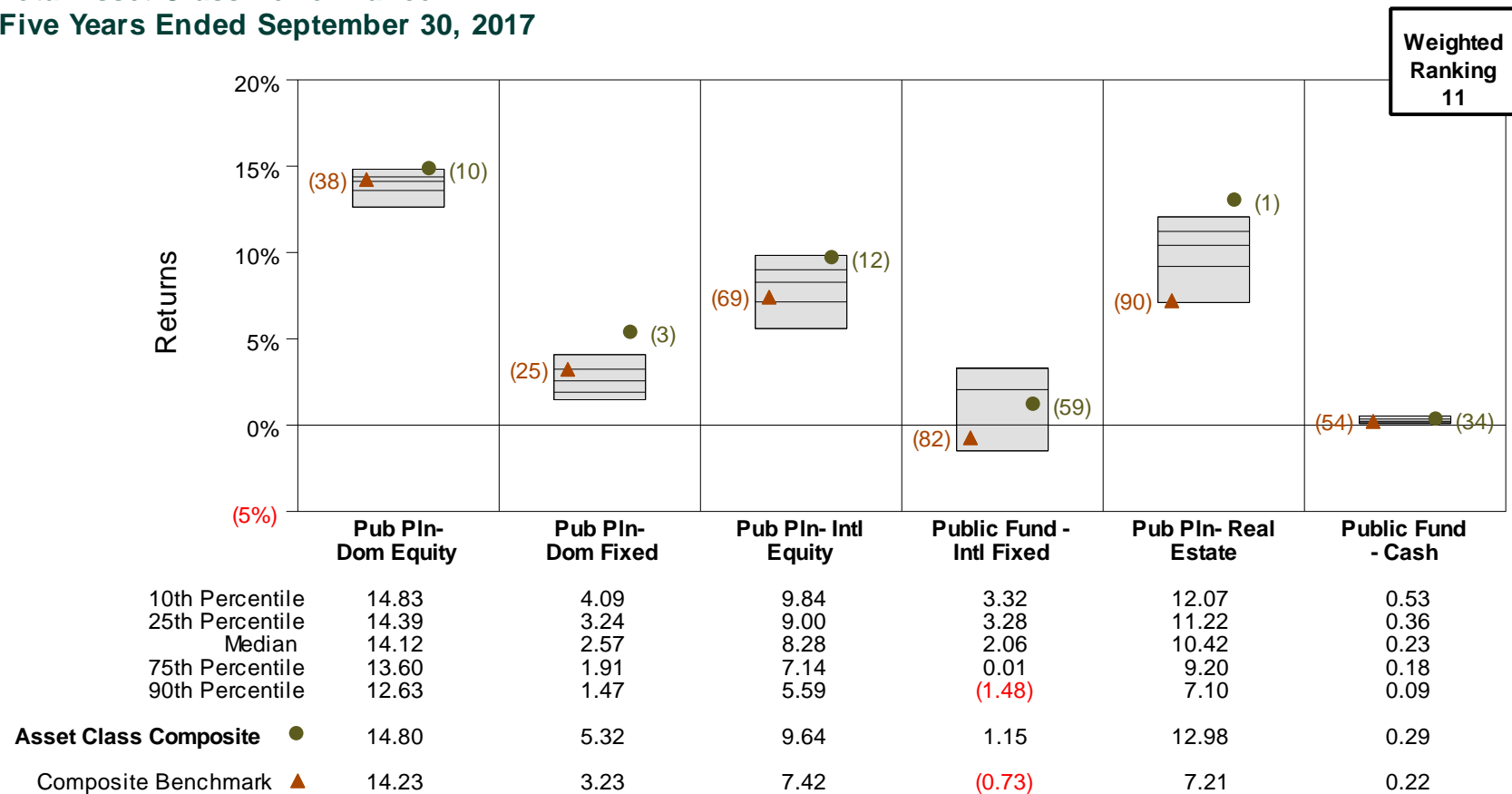


- Domestic equity returns placed in the bottom quartile over the last year.
- Public market asset classes outperformed their respective benchmarks with the exception of domestic equity.

Asset Class Composite Results

Consolidated Pension Trust asset class results vs other Public Pension Funds

Total Asset Class Performance
Five Years Ended September 30, 2017



- All public market asset classes lead their respective benchmarks over the last five years.
- Domestic equity and fixed income, and real estate are all in the top decile over the last five years.



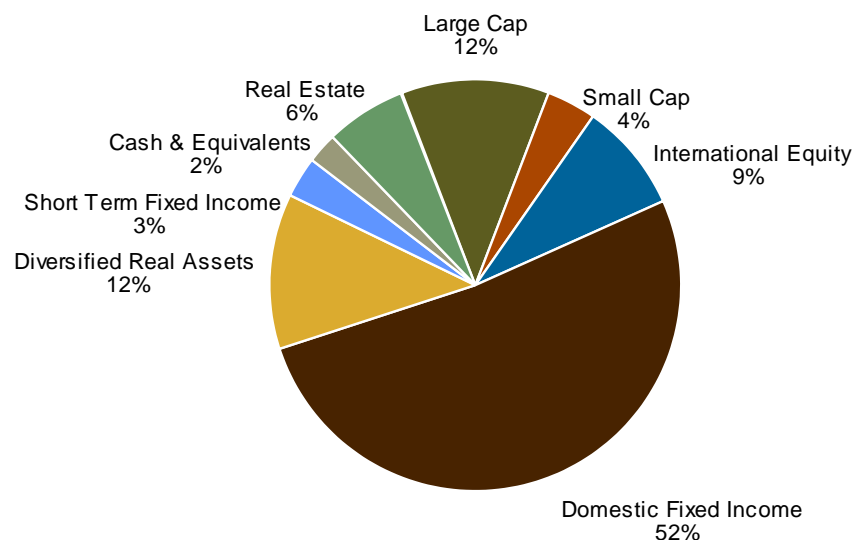
Consolidated Insurance Trust Quarterly Review

- Workforce Safety & Insurance Legacy Fund
- Budget Stabilization Fund

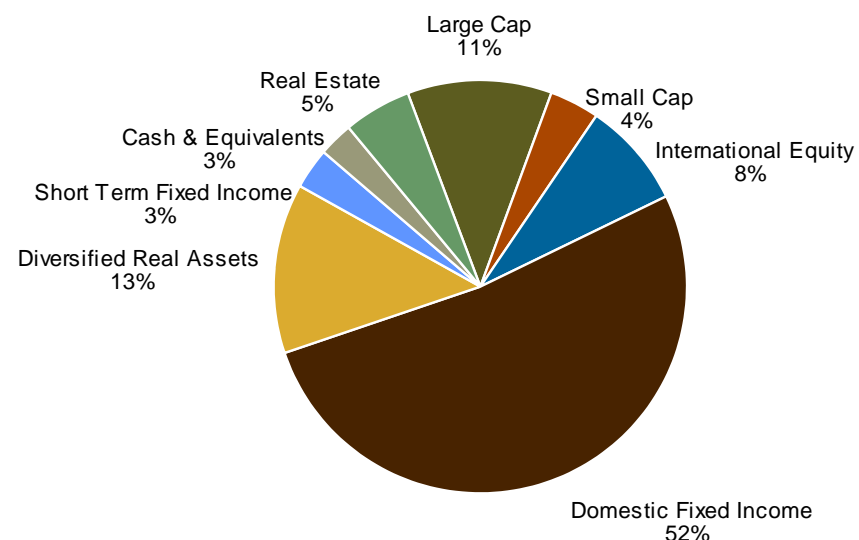
Consolidated Insurance Trust Allocation

As of September 30, 2017

Actual Asset Allocation



Target Asset Allocation

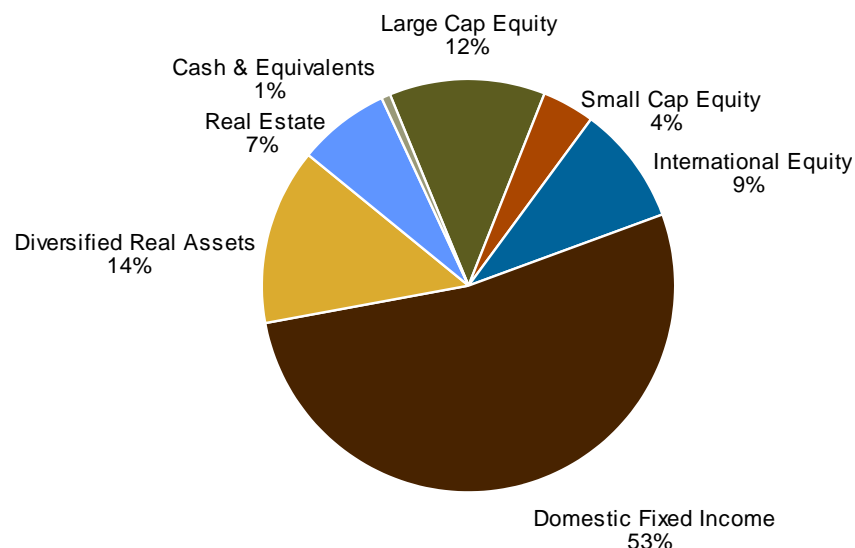


| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-------------------------|---------------|---------------|--------|--------------------|-------------------|
| Large Cap | 253,742 | 11.6% | 11.3% | 0.3% | 5,684 |
| Small Cap | 85,916 | 3.9% | 3.9% | 0.0% | 304 |
| International Equity | 189,523 | 8.6% | 8.3% | 0.3% | 7,321 |
| Domestic Fixed Income | 1,135,197 | 51.7% | 52.0% | (0.3%) | (6,308) |
| Diversified Real Assets | 268,898 | 12.2% | 13.3% | (1.1%) | (23,064) |
| Short Term Fixed Income | 70,717 | 3.2% | 3.2% | 0.0% | 471 |
| Cash & Equivalents | 53,216 | 2.4% | 2.7% | (0.3%) | (6,055) |
| Real Estate | 137,994 | 6.3% | 5.3% | 1.0% | 21,648 |
| Total | 2,195,203 | 100.0% | 100.0% | | |

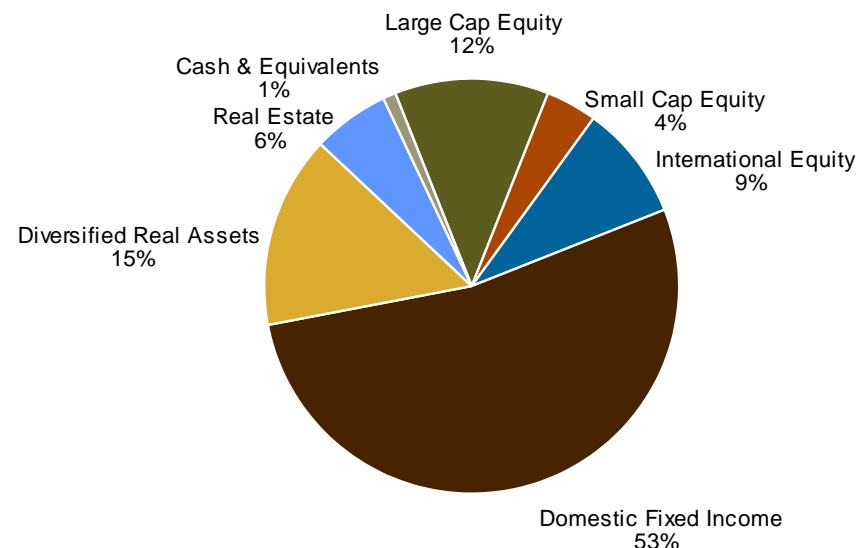
WSI Allocation

As of September 30, 2017

Actual Asset Allocation



Target Asset Allocation

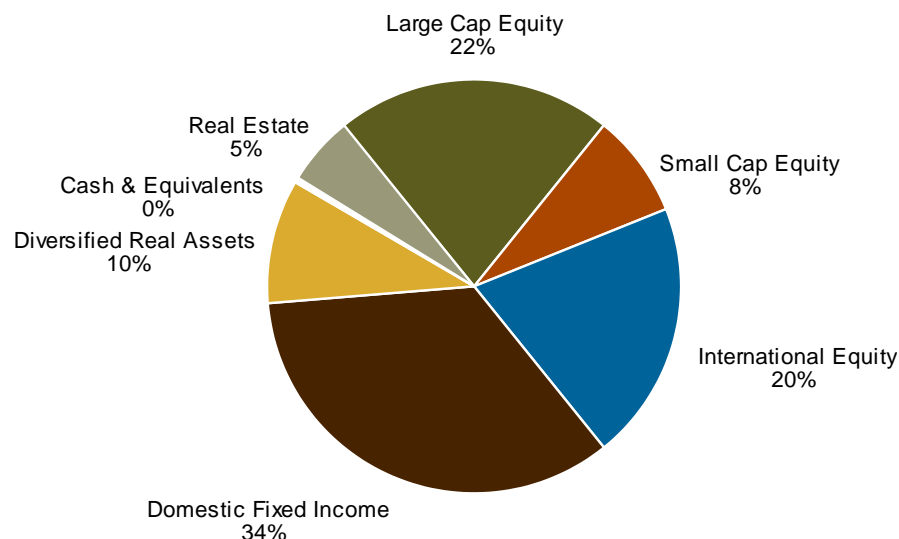


| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-------------------------|---------------|---------------|--------|--------------------|-------------------|
| Large Cap Equity | 235,497 | 12.2% | 12.0% | 0.2% | 4,673 |
| Small Cap Equity | 77,976 | 4.1% | 4.0% | 0.1% | 1,034 |
| International Equity | 179,754 | 9.3% | 9.0% | 0.3% | 6,635 |
| Domestic Fixed Income | 1,014,375 | 52.7% | 53.0% | (0.3%) | (5,101) |
| Diversified Real Assets | 264,697 | 13.8% | 15.0% | (1.2%) | (23,834) |
| Real Estate | 137,928 | 7.2% | 6.0% | 1.2% | 22,516 |
| Cash & Equivalents | 13,312 | 0.7% | 1.0% | (0.3%) | (5,923) |
| Total | 1,923,540 | 100.0% | 100.0% | | |

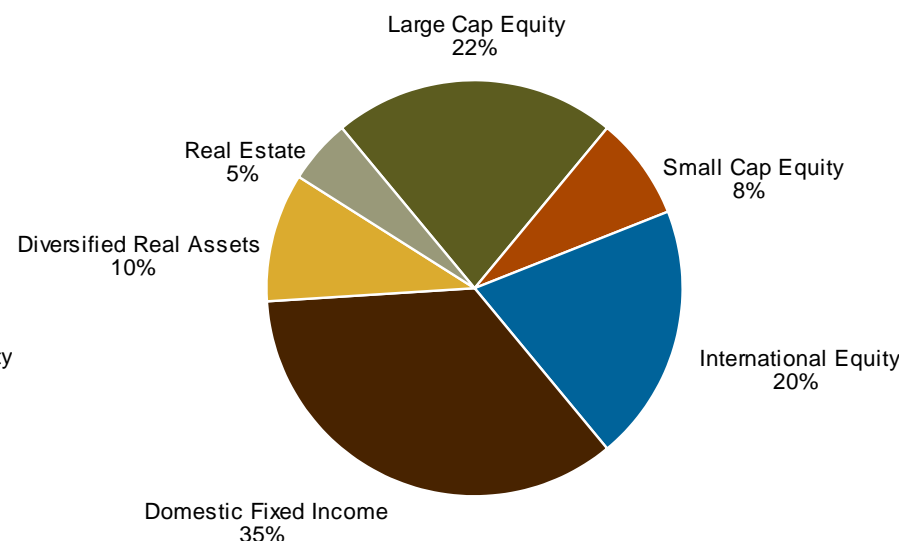
Legacy Fund Allocation

As of September 30, 2017

Actual Asset Allocation



Target Asset Allocation

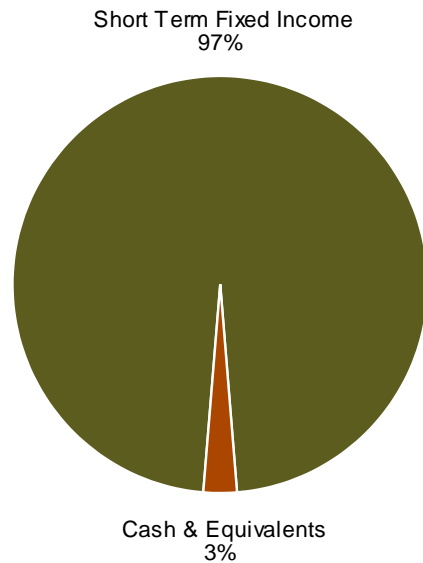


| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-------------------------|------------------|------------------|--------|-----------------------|----------------------|
| Large Cap Equity | 1,078,491 | 21.7% | 22.0% | (0.3%) | (12,868) |
| Small Cap Equity | 401,308 | 8.1% | 8.0% | 0.1% | 4,450 |
| International Equity | 1,004,578 | 20.3% | 20.0% | 0.3% | 12,434 |
| Domestic Fixed Income | 1,709,895 | 34.5% | 35.0% | (0.5%) | (26,357) |
| Diversified Real Assets | 482,747 | 9.7% | 10.0% | (0.3%) | (13,325) |
| Cash & Equivalents | 17,703 | 0.4% | 0.0% | 0.4% | 17,703 |
| Real Estate | 265,999 | 5.4% | 5.0% | 0.4% | 17,963 |
| Total | 4,960,722 | 100.0% | 100.0% | | |

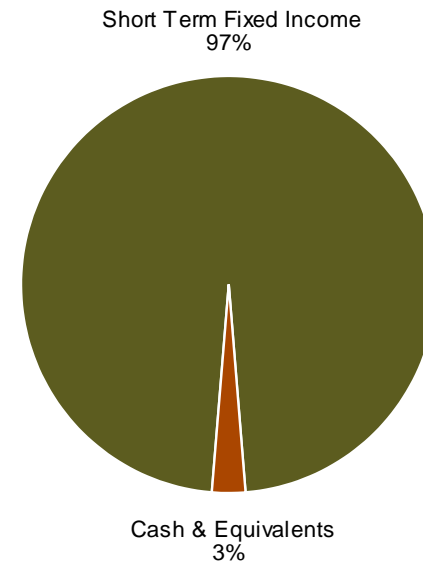
Budget Stabilization Fund Allocation

As of September 30, 2017

Actual Asset Allocation



Target Asset Allocation

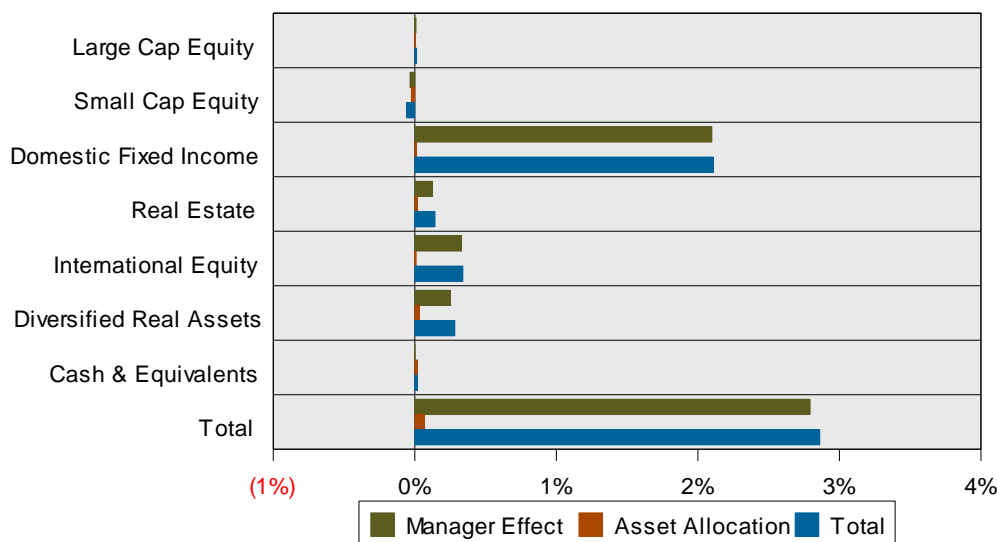


| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-------------------------|------------------|------------------|--------|-----------------------|----------------------|
| Short Term Fixed Income | 37,449 | 97.4% | 97.4% | 0.0% | (2) |
| Cash & Equivalents | 1,002 | 2.6% | 2.6% | 0.0% | 2 |
| Total | 38,451 | 100.0% | 100.0% | | |

WSI Performance and Attribution

As of September 30, 2017

One Year Relative Attribution Effects



1 Year Ended 9/30/2017

Gross: 8.11%
 Net of fees: 7.89%
 Target: 5.25%
 Net Added: 2.60%

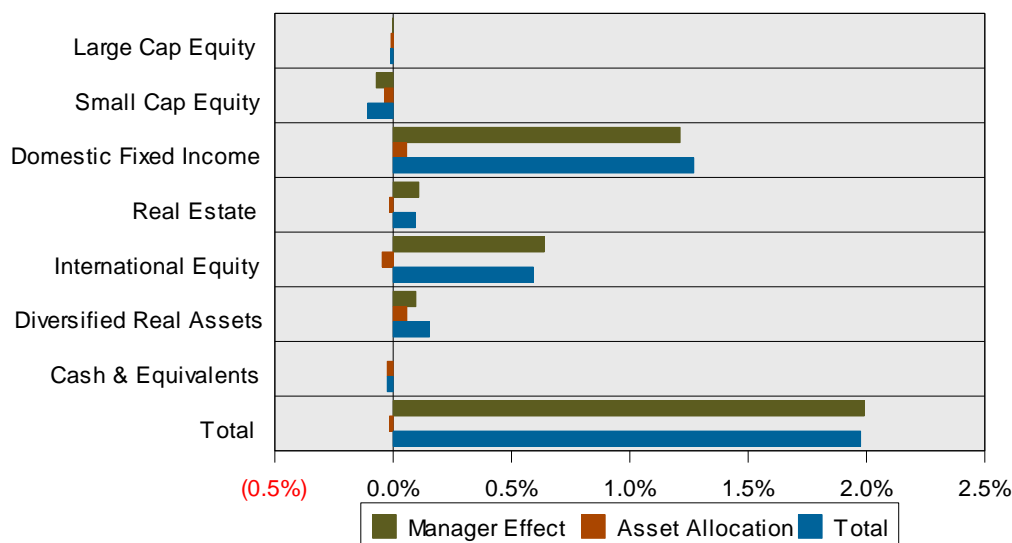
One Year Relative Attribution Effects

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 12% | 12% | 18.59% | 18.54% | 0.01% | 0.00% | 0.01% |
| Small Cap Equity | 4% | 4% | 19.68% | 20.74% | (0.03%) | (0.02%) | (0.06%) |
| Domestic Fixed Income | 53% | 53% | 3.90% | 0.07% | 2.10% | 0.01% | 2.11% |
| Real Estate | 7% | 6% | 8.61% | 6.89% | 0.12% | 0.02% | 0.14% |
| International Equity | 9% | 9% | 22.78% | 18.73% | 0.33% | 0.01% | 0.34% |
| Diversified Real Assets | 14% | 15% | 3.33% | 1.59% | 0.25% | 0.03% | 0.28% |
| Cash & Equivalents | 1% | 1% | 0.63% | 0.66% | (0.00%) | 0.02% | 0.02% |
| Total | | | 8.11% | 5.25% | + 2.79% | + 0.07% | 2.86% |

Legacy Fund Performance and Attribution

As of September 30, 2017

One Year Relative Attribution Effects



1 Year Ended 9/30/2017

Gross: 11.66%
 Net of fees: 11.42%
 Target: 9.68%
 Net Added: 1.74%

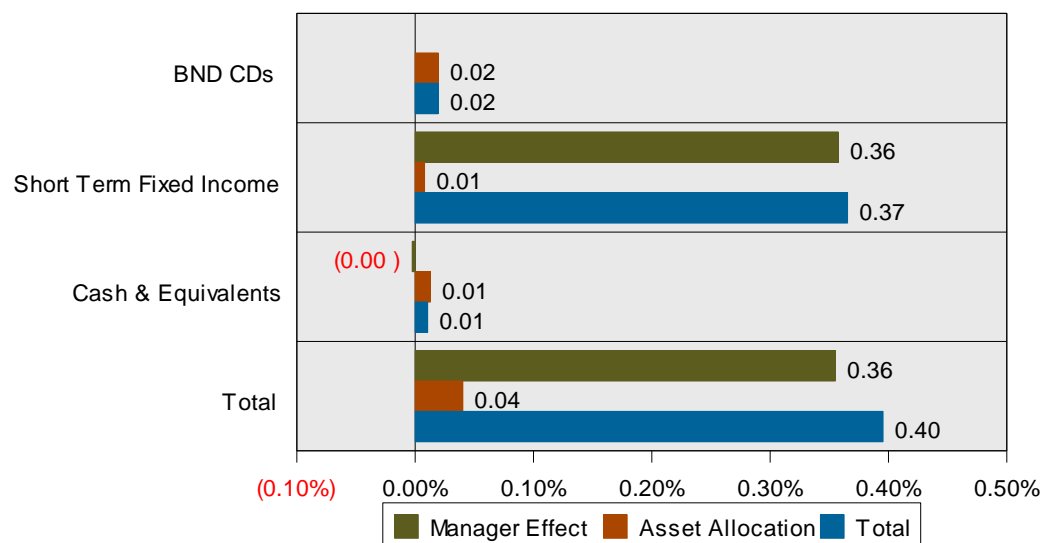
One Year Relative Attribution Effects

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 22% | 22% | 18.57% | 18.54% | (0.00%) | (0.01%) | (0.01%) |
| Small Cap Equity | 8% | 8% | 19.79% | 20.74% | (0.07%) | (0.04%) | (0.11%) |
| Domestic Fixed Income | 34% | 35% | 3.36% | 0.07% | 1.21% | 0.06% | 1.27% |
| Real Estate | 6% | 5% | 8.63% | 6.89% | 0.11% | (0.02%) | 0.09% |
| International Equity | 20% | 20% | 22.16% | 18.73% | 0.64% | (0.05%) | 0.59% |
| Diversified Real Assets | 9% | 10% | 1.43% | 0.47% | 0.10% | 0.06% | 0.15% |
| Cash & Equivalents | 0% | 0% | 0.62% | 0.62% | 0.00% | (0.02%) | (0.02%) |
| Total | | | 11.66% | 9.68% | + 1.99% | + (0.01%) | 1.98% |

Budget Stabilization Fund Overview

As of September 30, 2017

One Year Relative Attribution Effects



1 Year Ended 9/30/2017

Gross: 1.10%
 Net of fees: 0.76%
 Target: 0.71%
 Net Added: 0.05%

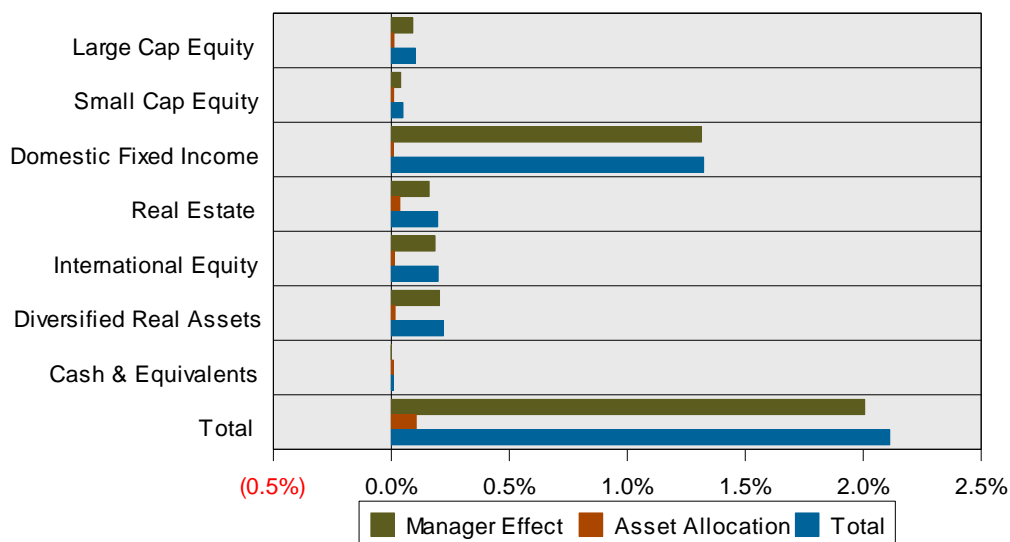
One Year Relative Attribution Effects

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|----------------|----------------|------------------|-----------------------|
| BND CDs | 8% | 8% | - | - | 0.00% | 0.02% | 0.02% |
| Short Term Fixed Income | 86% | 86% | 0.91% | 0.48% | 0.36% | 0.01% | 0.37% |
| Cash & Equivalents | 5% | 6% | 0.62% | 0.66% | (0.00%) | 0.01% | 0.01% |
| Total | | | 1.10% | = 0.71% | + 0.36% | + 0.04% | 0.40% |

WSI Performance and Attribution

As of September 30, 2017

Five Year Annualized Relative Attribution Effects



5 Years Ended 9/30/2017

Gross: 6.94%
 Net of fees: 6.69%
 Target: 4.83%
 Net Added: 1.86%

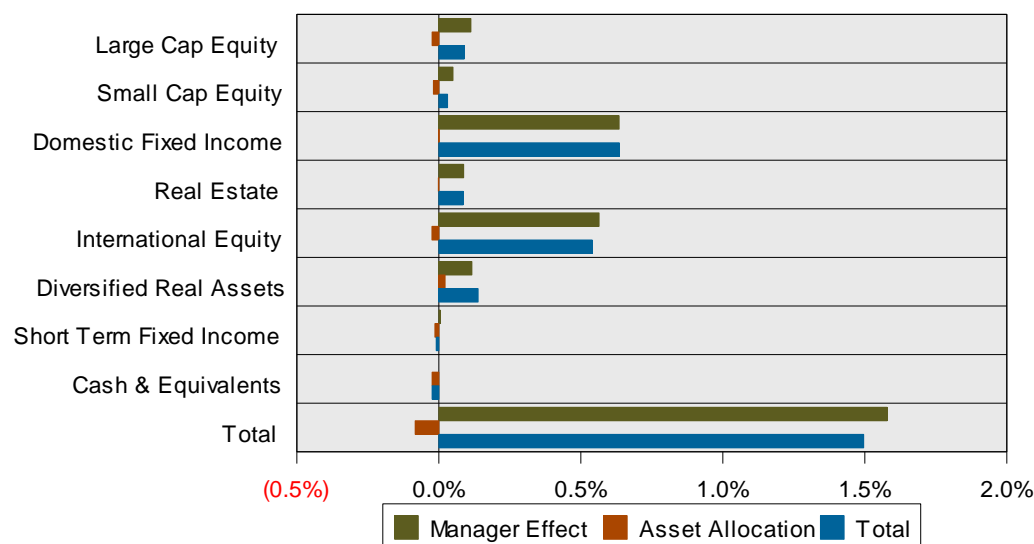
Five Year Annualized Relative Attribution Effects

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 11% | 11% | 15.19% | 14.27% | 0.09% | 0.01% | 0.10% |
| Small Cap Equity | 4% | 4% | 15.00% | 13.79% | 0.04% | 0.01% | 0.05% |
| Domestic Fixed Income | 52% | 52% | 4.58% | 2.06% | 1.31% | 0.01% | 1.32% |
| Real Estate | 7% | 6% | 12.84% | 10.35% | 0.16% | 0.04% | 0.20% |
| International Equity | 8% | 8% | 10.48% | 8.28% | 0.19% | 0.01% | 0.20% |
| Diversified Real Assets | 17% | 17% | 3.43% | 2.33% | 0.20% | 0.02% | 0.22% |
| Cash & Equivalents | 1% | 1% | 0.21% | 0.22% | (0.00%) | 0.01% | 0.01% |
| Total | | | 6.94% | 4.83% | 2.01% | 0.11% | 2.11% |

Legacy Fund Performance and Attribution

As of September 30, 2017

Three Year Annualized Relative Attribution Effects



3 Years Ended 9/30/2017

Gross: 7.51%
 Net of fees: 7.26%
 Target: 6.01%
 Net Added: 1.25%

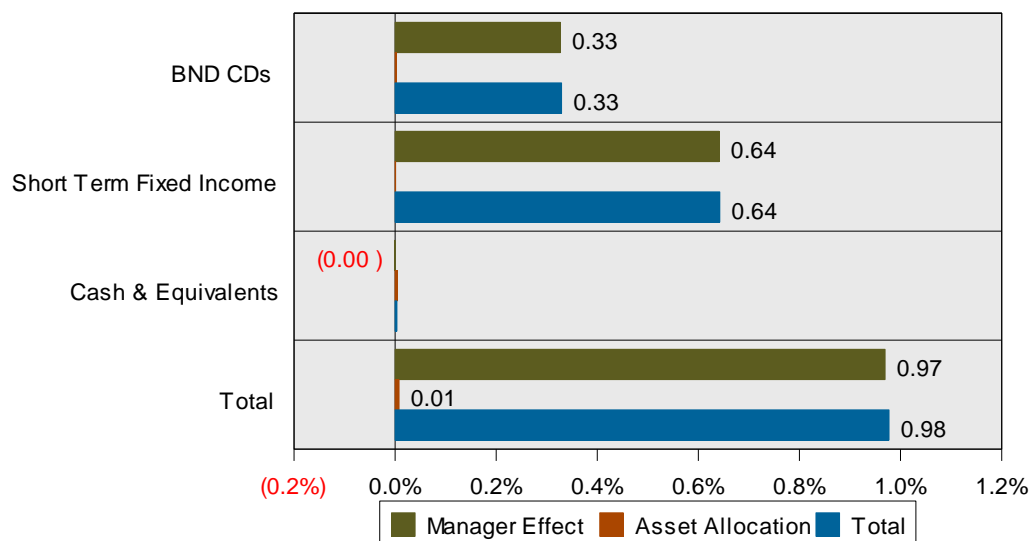
Three Year Annualized Relative Attribution Effects

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 22% | 22% | 11.19% | 10.63% | 0.11% | (0.02%) | 0.09% |
| Small Cap Equity | 8% | 8% | 12.91% | 12.18% | 0.05% | (0.02%) | 0.03% |
| Domestic Fixed Income | 34% | 35% | 4.54% | 2.71% | 0.64% | 0.00% | 0.64% |
| Real Estate | 6% | 5% | 11.54% | 9.83% | 0.09% | (0.00%) | 0.09% |
| International Equity | 20% | 20% | 7.70% | 4.88% | 0.56% | (0.02%) | 0.54% |
| Diversified Real Assets | 9% | 10% | 2.52% | 1.34% | 0.12% | 0.02% | 0.14% |
| Short Term Fixed Income | 1% | 1% | - | - | 0.00% | (0.01%) | (0.01%) |
| Cash & Equivalents | 0% | 0% | 0.27% | 0.27% | 0.00% | (0.02%) | (0.02%) |
| Total | | | 7.51% | 6.01% | + 1.58% | + (0.08%) | 1.50% |

Budget Stabilization Fund Overview

As of September 30, 2017

Five Year Annualized Relative Attribution Effects



5 Year Ended 9/30/2017

Gross: 1.71%
 Net of fees: 1.56%
 Target: 0.73%
 Net Added: 0.83%

Five Year Annualized Relative Attribution Effects

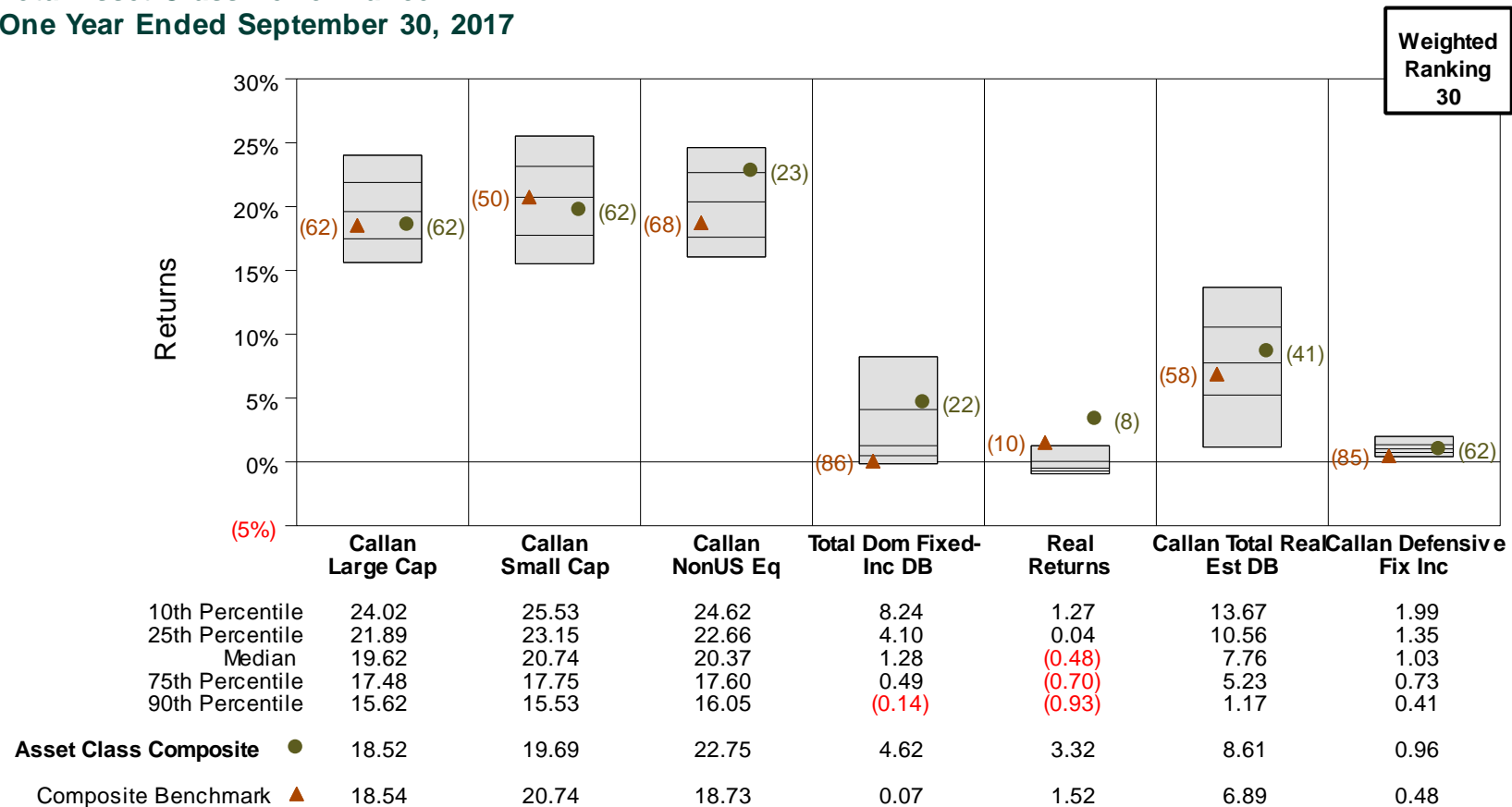
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| BND CDs | 17% | 17% | - | - | 0.33% | 0.00% | 0.33% |
| Short Term Fixed Income | 81% | 81% | 1.48% | 0.69% | 0.64% | 0.00% | 0.64% |
| Cash & Equivalents | 3% | 3% | 0.20% | 0.22% | (0.00%) | 0.00% | 0.00% |

Total 1.71% = 0.73% + 0.97% + 0.01% **0.98%**

Asset Class Composite Results

Consolidated Insurance Trust asset class results vs Callan Style Groups

Total Asset Class Performance
One Year Ended September 30, 2017

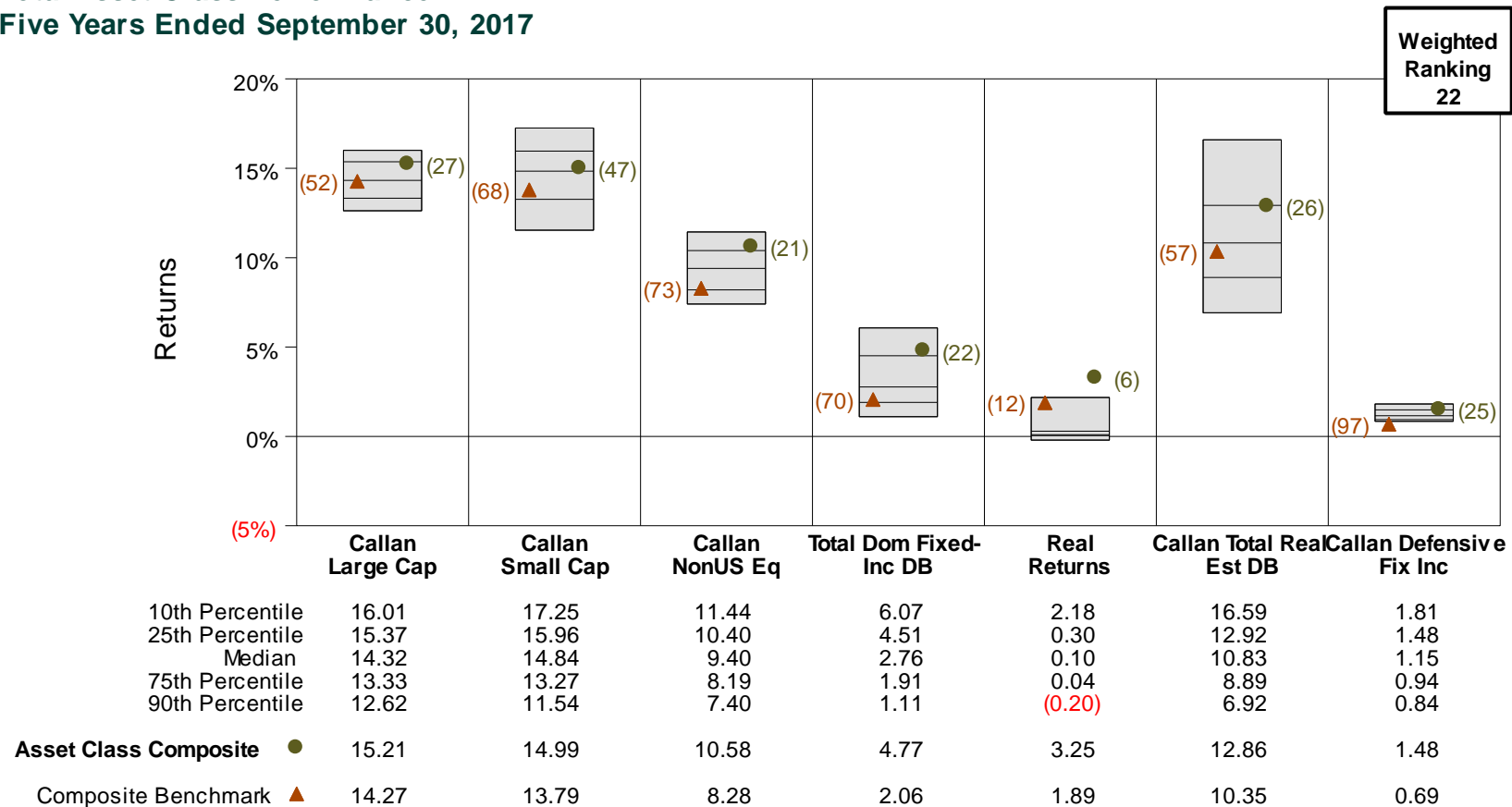


- Large and small cap stocks, and defensive fixed income were below median over the last year.
- Int'l equity, domestic fixed income, and real return placed in the top quartile over the last year.

Asset Class Composite Results

Consolidated Insurance Trust asset class results vs Callan Style Groups

Total Asset Class Performance
Five Years Ended September 30, 2017



- Int'l equity, domestic fixed income, and real return placed in the top quartile over the last five years.
- All asset classes outperformed their respective benchmarks over the last five years.

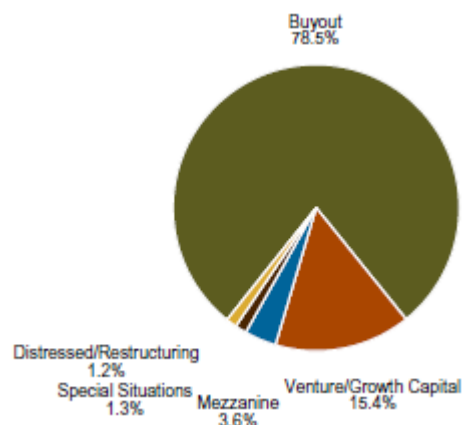


Private Equity Summary

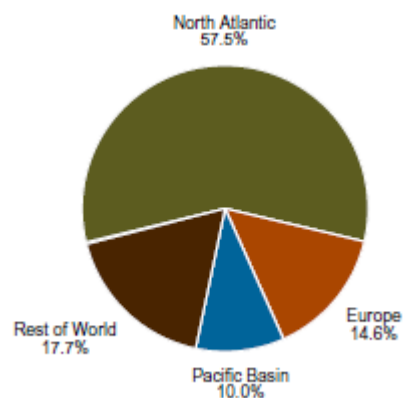
Private Equity Portfolio Summary

As of September 30, 2017

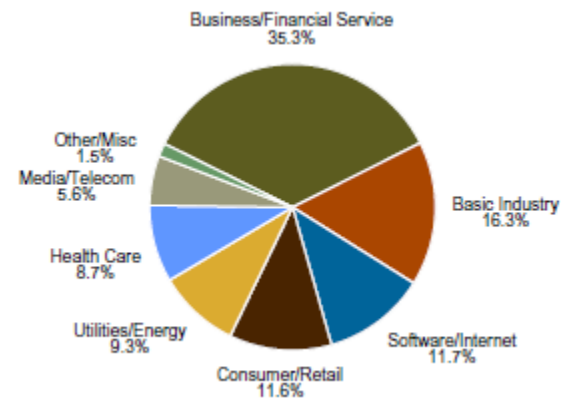
Strategy Mix by Net Asset Value



Geographic Mix by Net Asset Value



Industry Mix by Net Asset Value



Private Equity Portfolio Summary

Total Private Equity Period Ended September 30, 2017

| | September 30, 2017 | Quarter Change | June 30, 2017 |
|--|----------------------|---------------------|----------------------|
| Summary | | | |
| Vintage Years | 16 in 1998-2017 | | 16 in 1998-2017 |
| Changes in Value | | | |
| Capital Commitments | \$853,899,556 | - | \$853,899,556 |
| Paid-In Capital | \$747,110,907 | \$10,612,923 | \$736,497,984 |
| Uncalled Capital | \$264,794,206 | \$(10,596,935) | \$275,391,141 |
| % Paid-In | 87.49% | 1.24% | 86.25% |
| Distributed Capital | \$684,920,971 | \$3,770,886 | \$681,150,086 |
| Net Asset Value | \$170,079,641 | \$6,792,038 | \$163,287,603 |
| Total Realized and Unrealized Value | \$855,000,612 | \$10,562,924 | \$844,437,689 |
| Ratios and Performance | | | |
| Distributions to Paid-In Capital (DPI) | 0.92x | (0.01)x | 0.92x |
| Residual Value to Paid-In Capital (RVPI) | 0.23x | 0.01x | 0.22x |
| Total Value to Paid-In Capital (TVPI) | 1.14x | (0.00)x | 1.15x |
| Quartile Ranking | 3 rd | | 3 rd |
| Net IRR | 4.11% | (0.05%) | 4.16% |
| Additional Performance Metrics | | | |
| Distribution Rate, as % of Beginning NAV | | 2.31% | |
| Unrealized Gain/(Loss), Dollars | | \$(50,000) | |
| Unrealized Gain/(Loss), % | | (0.03%) | |

Private Equity Portfolio Summary

North Dakota State Investment Board Private Equity - Manager Detail as of September 30, 2017

The following table summarizes changes in each manager's aggregated cash flows and valuation information as of September 30, 2017.

| Manager | Vintage Year | Capital Commitments (\$000s) | Paid-In Capital (\$000s) | Uncalled Capital (\$000s) | % Paid-In | Distributed Capital (\$000s) | Net Asset Value (\$000s) | DPI | RVPI | TVPI | Net IRR |
|-----------------------------|--------------|------------------------------|--------------------------|---------------------------|---------------|------------------------------|--------------------------|--------------|--------------|----------------------------|--------------|
| Adams St Direct Co-Invest | 2006 | \$20,000 | 19,100 | 900 | 95.50% | 26,700 | 1,756 | 1.40x | 0.09x | 1.49x ^{2nd} | 5.51% |
| Adams St 2010 Direct Fund | 2010 | \$1,500 | 1,407 | 93 | 93.83% | 1,270 | 971 | 0.90x | 0.69x | 1.59x ^{2nd} | 12.01% |
| Adams St 1998 Partnership | 1998 | \$5,230 | 5,236 | 27 | 100.12% | 7,726 | 125 | 1.48x | 0.02x | 1.50x ^{2nd} | 7.25% |
| Adams St 1999 Partnership | 1999 | \$9,041 | 8,664 | 377 | 95.83% | 10,937 | 325 | 1.26x | 0.04x | 1.30x ^{2nd} | 4.28% |
| Adams St 2000 Partnership | 2000 | \$17,195 | 17,511 | 844 | 101.84% | 25,883 | 546 | 1.48x | 0.03x | 1.51x ^{2nd} | 7.16% |
| Adams St 2001 Partnership | 2001 | \$9,530 | 9,121 | 410 | 95.70% | 13,535 | 1,044 | 1.48x | 0.11x | 1.60x ^{2nd} | 7.19% |
| Adams St 2002 Partnership | 2002 | \$5,318 | 5,150 | 167 | 96.85% | 9,390 | 155 | 1.82x | 0.03x | 1.85x ^{2nd} | 13.06% |
| Adams St 2003 Partnership | 2003 | \$1,877 | 1,780 | 97 | 94.84% | 2,810 | 289 | 1.58x | 0.16x | 1.74x ^{2nd} | 11.38% |
| Adams St 2010 Partnership | 2010 | \$7,500 | 6,386 | 1,114 | 85.15% | 3,268 | 6,151 | 0.51x | 0.96x | 1.47x ^{3rd} | 12.90% |
| Adams St 2008 Non-US | 2008 | \$10,000 | 8,900 | 1,100 | 89.00% | 5,183 | 7,734 | 0.58x | 0.87x | 1.45x ^{3rd} | 9.50% |
| Adams St 1999 Non-US | 1999 | \$3,812 | 3,572 | 240 | 93.69% | 6,925 | 69 | 1.94x | 0.02x | 1.96x ^{1st} | 12.46% |
| Adams St 2000 Non-US | 2000 | \$4,538 | 4,538 | 0 | 100.00% | 8,251 | 522 | 1.82x | 0.12x | 1.93x ^{1st} | 13.20% |
| Adams St 2001 Non-US | 2001 | \$3,354 | 3,354 | 0 | 100.00% | 6,115 | 161 | 1.82x | 0.05x | 1.87x ^{2nd} | 13.45% |
| Adams St 2002 Non-US | 2002 | \$5,834 | 5,789 | 249 | 99.22% | 11,413 | 260 | 1.97x | 0.04x | 2.02x ^{1st} | 15.25% |
| Adams St 2003 Non-US | 2003 | \$4,741 | 4,507 | 234 | 95.07% | 9,994 | 339 | 2.22x | 0.08x | 2.29x ^{1st} | 23.24% |
| Adams St 2004 Non-US | 2004 | \$2,244 | 3,619 | -1,375 | 161.29% | 7,650 | 269 | 2.11x | 0.07x | 2.19x ^{1st} | 18.08% |
| Adams St 2010 Non-US EM | 2010 | \$1,500 | 1,212 | 288 | 80.80% | 209 | 1,441 | 0.17x | 1.19x | 1.36x ^{3rd} | 9.32% |
| Adams St 2010 Non-US Dev | 2010 | \$4,500 | 3,751 | 749 | 83.35% | 1,842 | 3,033 | 0.49x | 0.81x | 1.30x ^{3rd} | 9.09% |
| Adams St 2015 Global Fd | 2015 | \$30,000 | 7,815 | 22,185 | 26.05% | 1,603 | 8,061 | 0.21x | 1.03x | 1.24x ^{1st} | 32.60% |
| Adams St 2016 Global Fd | 2016 | \$30,000 | 2,925 | 27,075 | 9.75% | 0 | 3,263 | 0.00x | 1.12x | 1.12x ^{1st} | 11.72% |
| Adams St BVCF IV Fund | 1999 | \$25,000 | 25,000 | 0 | 100.00% | 43,736 | 3,344 | 1.75x | 0.13x | 1.88x ^{1st} | 7.62% |
| BlackRock | 2017 | \$200,000 | 14,437 | 185,563 | 7.22% | 0 | 14,170 | 0.00x | 0.98x | 0.98x ^{1st} | (3.68%) |
| Capital International V | 2007 | \$35,000 | 40,929 | 5,157 | 116.94% | 36,987 | 2,038 | 0.90x | 0.05x | 0.95x ^{4th} | (1.50%) |
| Capital International VI | 2011 | \$35,000 | 35,520 | 2,029 | 101.49% | 5,465 | 26,669 | 0.15x | 0.75x | 0.90x ^{4th} | (3.80%) |
| CorsAir III | 2007 | \$25,000 | 32,692 | 2,113 | 130.77% | 12,754 | 14,399 | 0.39x | 0.44x | 0.83x ^{4th} | (3.26%) |
| CorsAir IV | 2010 | \$25,000 | 41,111 | -1,115 | 164.44% | 26,024 | 24,051 | 0.63x | 0.59x | 1.22x ^{4th} | 8.30% |
| EIG Energy Fund XIV | 2007 | \$45,000 | 59,496 | 1,243 | 132.21% | 49,840 | 6,100 | 0.84x | 0.10x | 0.94x ^{4th} | (2.66%) |
| Hearthstone Advisors MSII | 1999 | \$3,500 | 26,592 | 3,484 | 759.78% | 36,872 | -21 | 1.39x | 0.00x | 1.39x ^{2nd} | (99.79%) |
| Hearthstone Advisors MSIII | 2003 | \$35,000 | 64,285 | 4,475 | 183.67% | 72,253 | 2,293 | 1.12x | 0.04x | 1.16x ^{3rd} | 24.67% |
| MatlinPatterson II | 2004 | \$40,631 | 59,836 | 49 | 147.27% | 33,106 | 1,156 | 0.55x | 0.02x | 0.57x ^{4th} | (22.59%) |
| MatlinPatterson III | 2007 | \$40,000 | 48,675 | 3,068 | 121.69% | 35,094 | 23,812 | 0.72x | 0.49x | 1.21x ^{4th} | 4.26% |
| Lewis & Clark, LP | 2002 | \$7,500 | 6,750 | 750 | 90.00% | 5,488 | 1,623 | 0.81x | 0.24x | 1.05x ^{3rd} | 0.58% |
| Lewis & Clark II | 2009 | \$15,000 | 13,578 | 1,422 | 90.52% | 2,057 | 9,119 | 0.15x | 0.67x | 0.82x ^{4th} | (3.70%) |
| Quantum Energy Partners | 2007 | \$15,000 | 15,130 | 276 | 100.87% | 12,924 | 4,813 | 0.85x | 0.32x | 1.17x ^{4th} | 4.77% |
| Total Private Equity | | \$853,900 | 747,111 | 264,794 | 87.49% | 684,921 | 170,080 | 0.92x | 0.23x | 1.14x^{3rd} | 4.11% |



Watch List Managers

Watchlist Managers

As of September 30, 2017

- UBS Global Fixed Income
- JP Morgan MBS



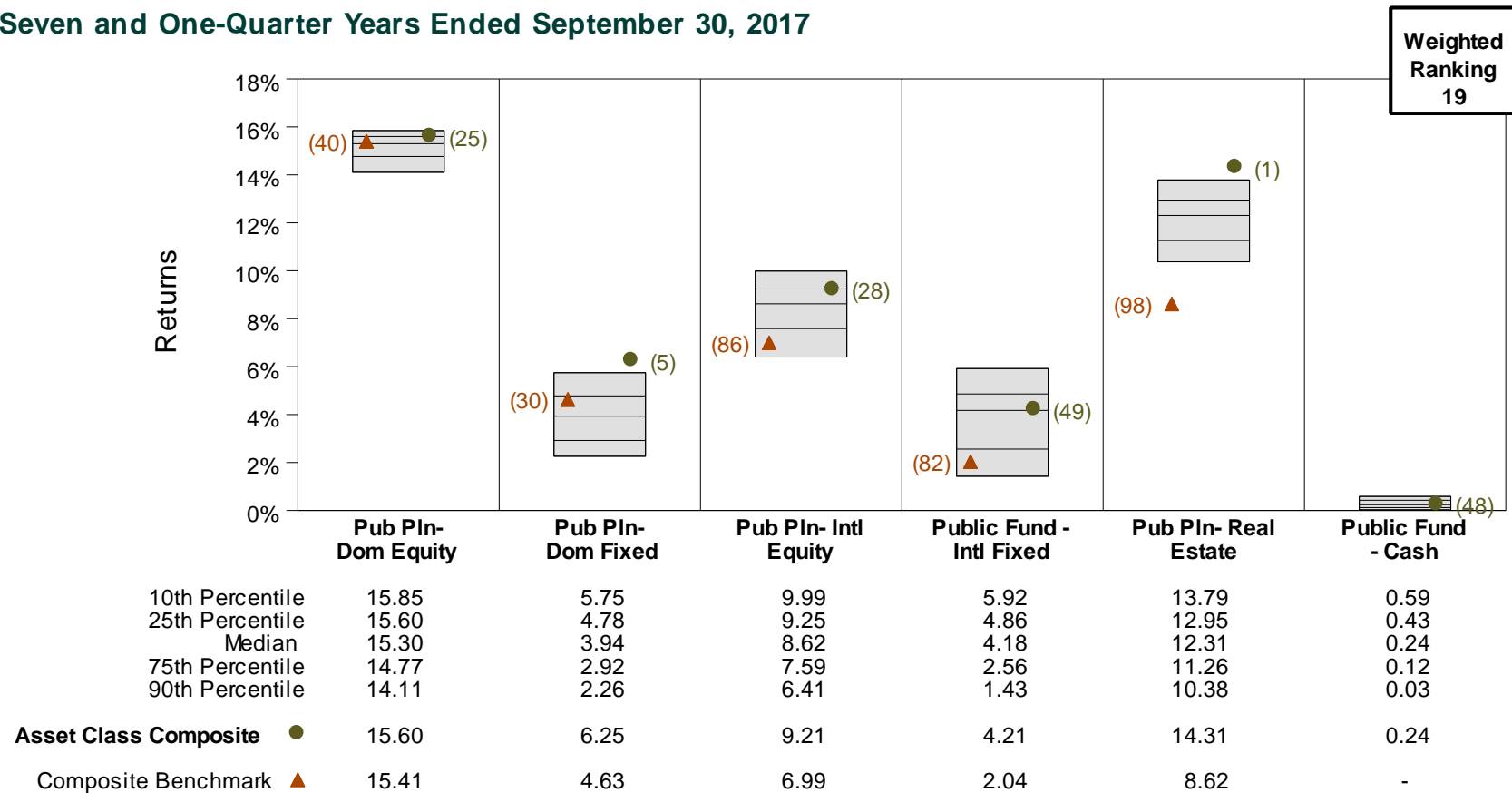
Appendix

Consolidated Asset Class Rankings

Asset Class Composite Results

PERS' results vs other Public Funds

Total Asset Class Performance
Seven and One-Quarter Years Ended September 30, 2017

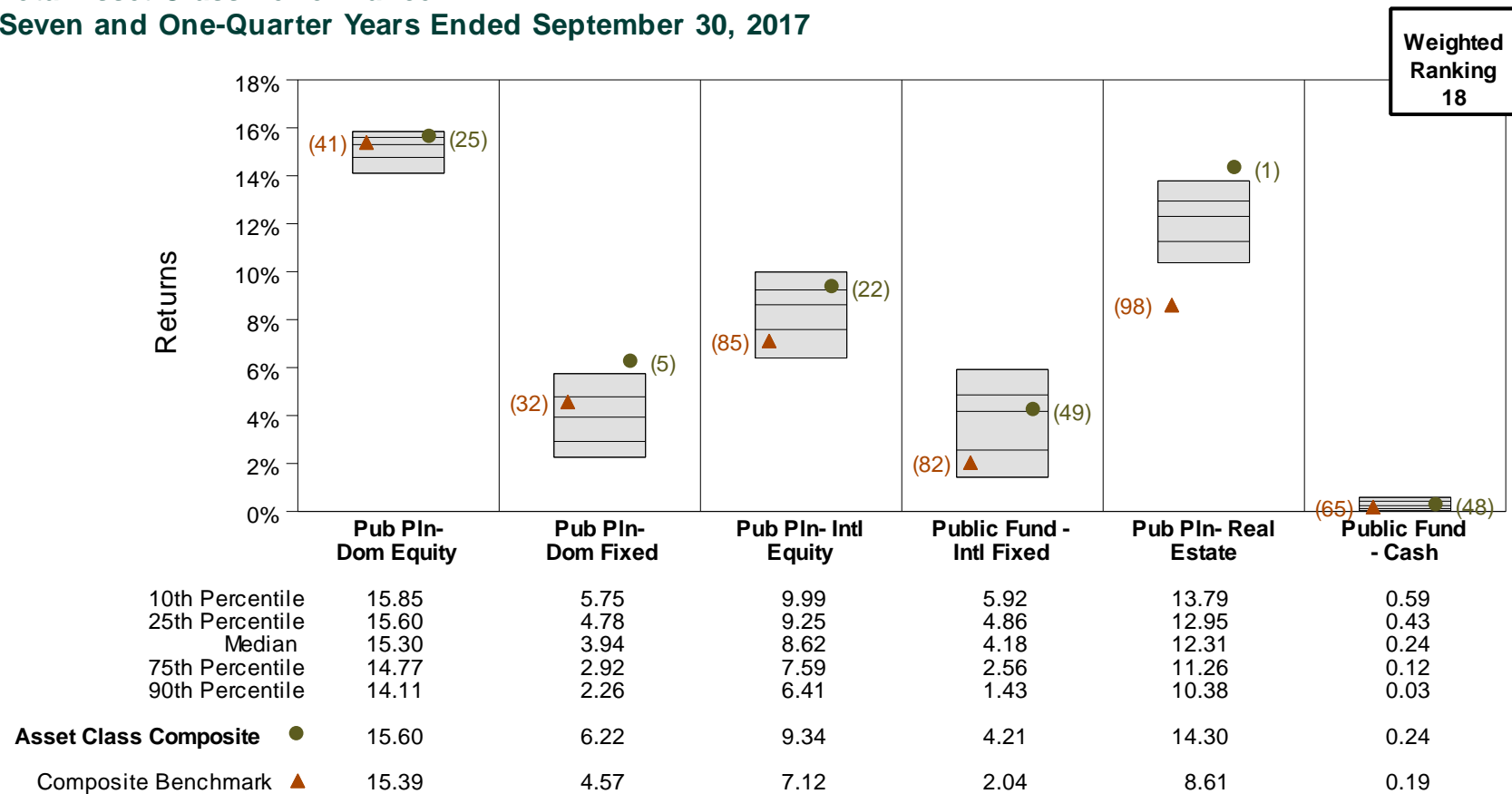


- Public market asset classes are above median.
 - Many “cash” funds have exposure to higher return and risk strategies (i.e. credit and longer duration) than NDSIB does.
- Domestic equity and fixed income, and real estate returns in top quartile.

Asset Class Composite Results

TFFR's asset class results vs other Public Pension Funds

Total Asset Class Performance
Seven and One-Quarter Years Ended September 30, 2017

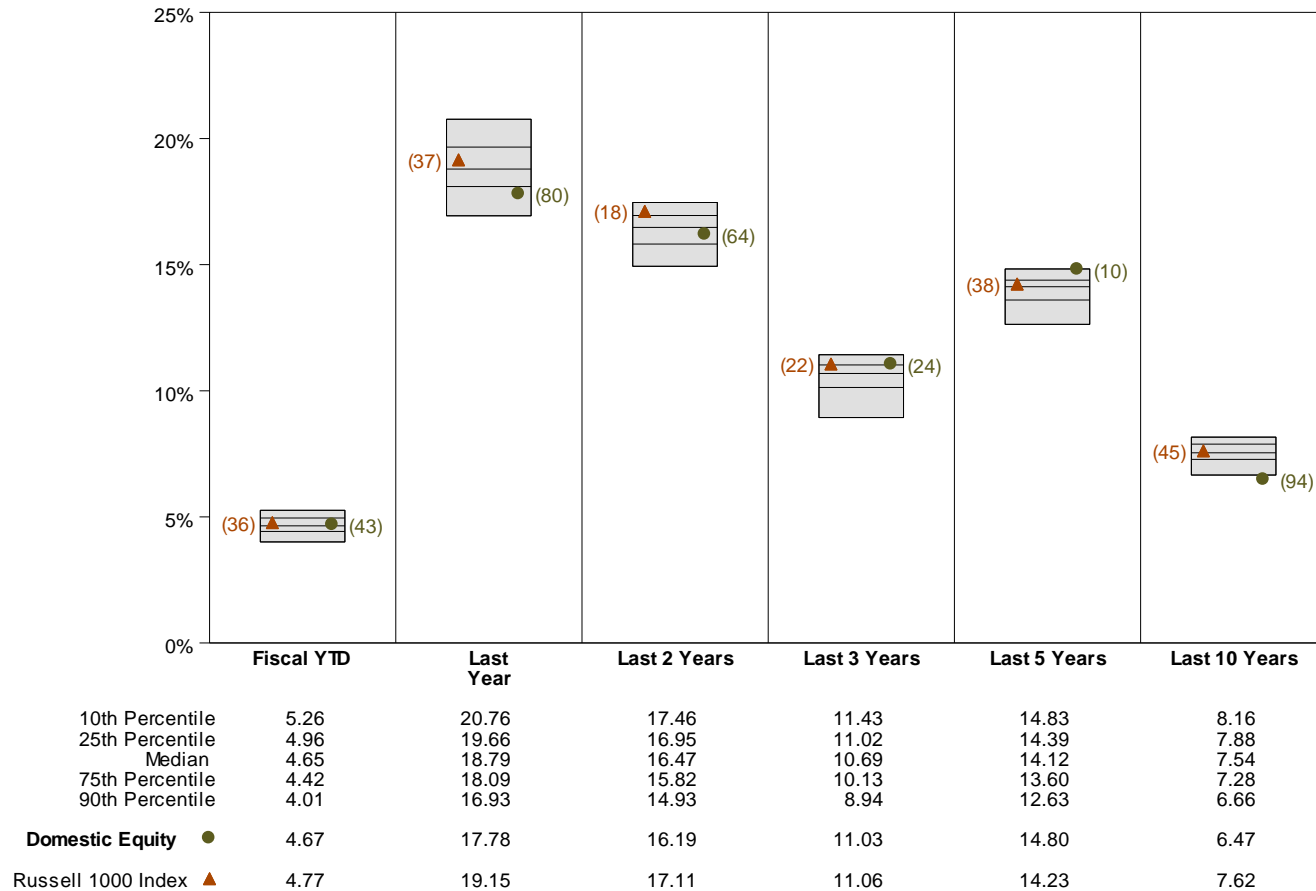


- Public market asset classes are all above their respective benchmark.
- Domestic fixed income and real estate returns in top decile.

Consolidated Pension Trust: U.S. Equity

As of September 30, 2017

Performance vs Pub Pln- Domestic Equity (Gross)

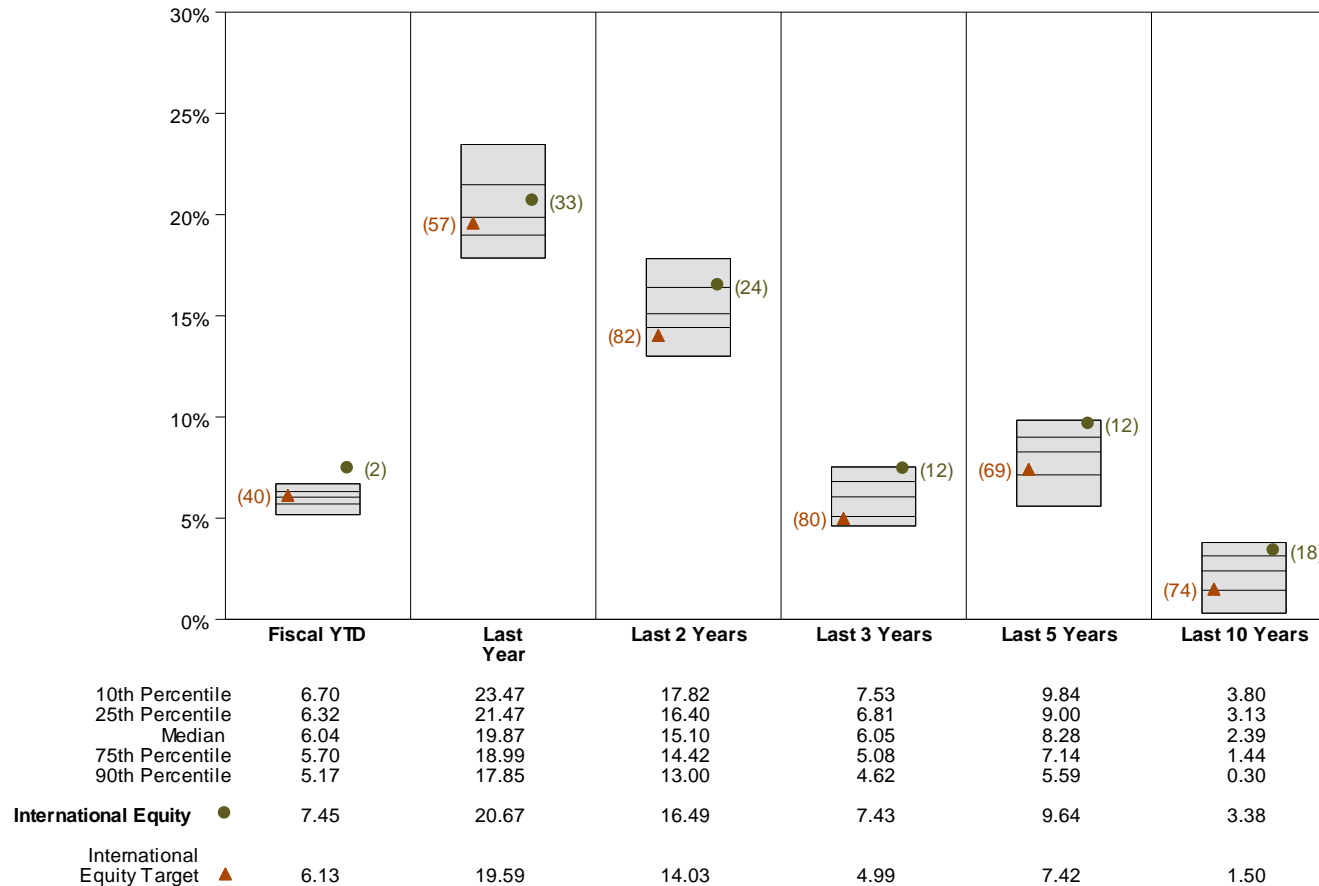


- Domestic equity has struggled over the last two years, but returns were strong over the last three and five year time frames.

Consolidated Pension Trust: International Equity

As of September 30, 2017

Performance vs Pub Pln- International Equity (Gross)



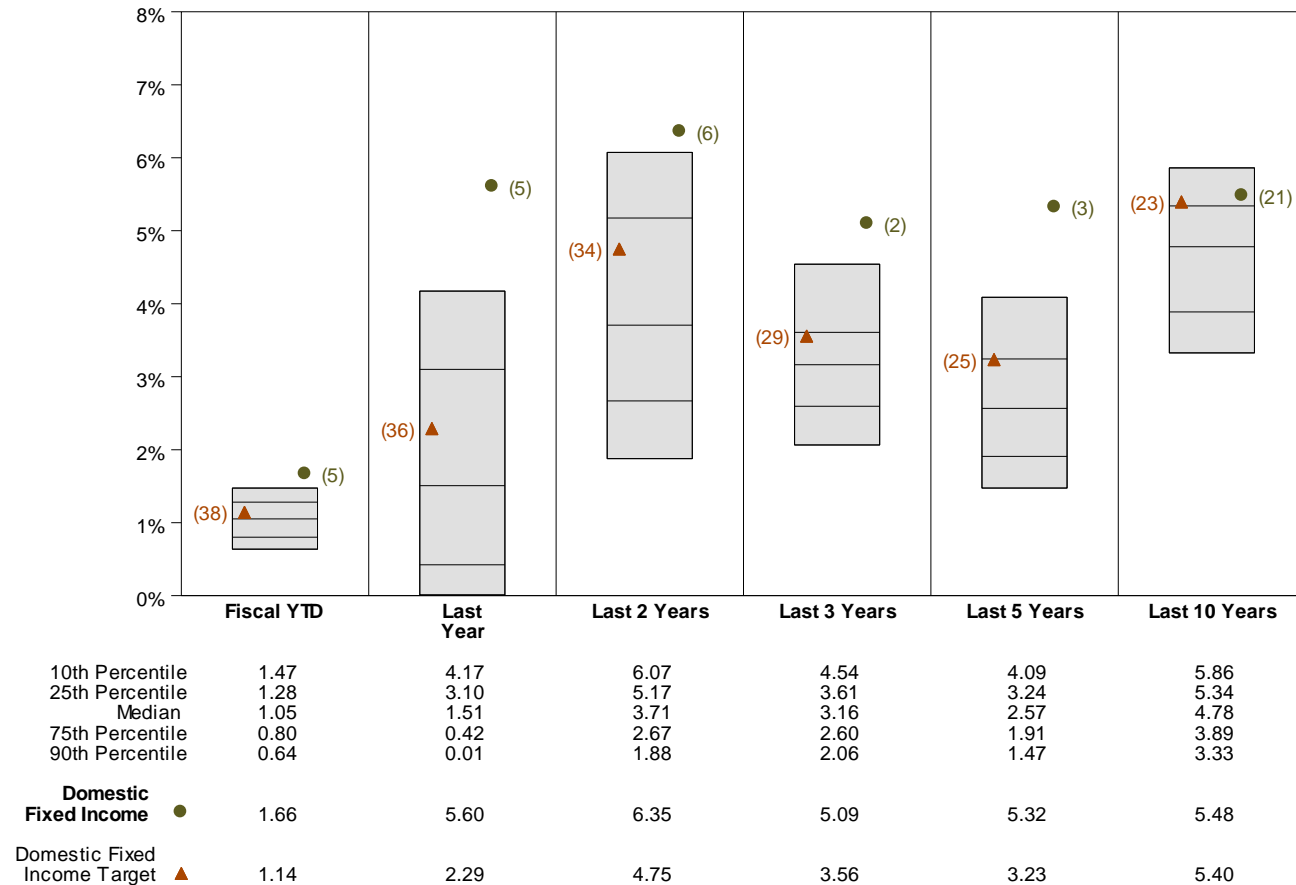
- International equity returns placed in the top decile last quarter, and have generally been strong over the last ten years.



Consolidated Pension Trust: U.S. Fixed Income

As of September 30, 2017

Performance vs Pub Pln- Domestic Fixed (Gross)

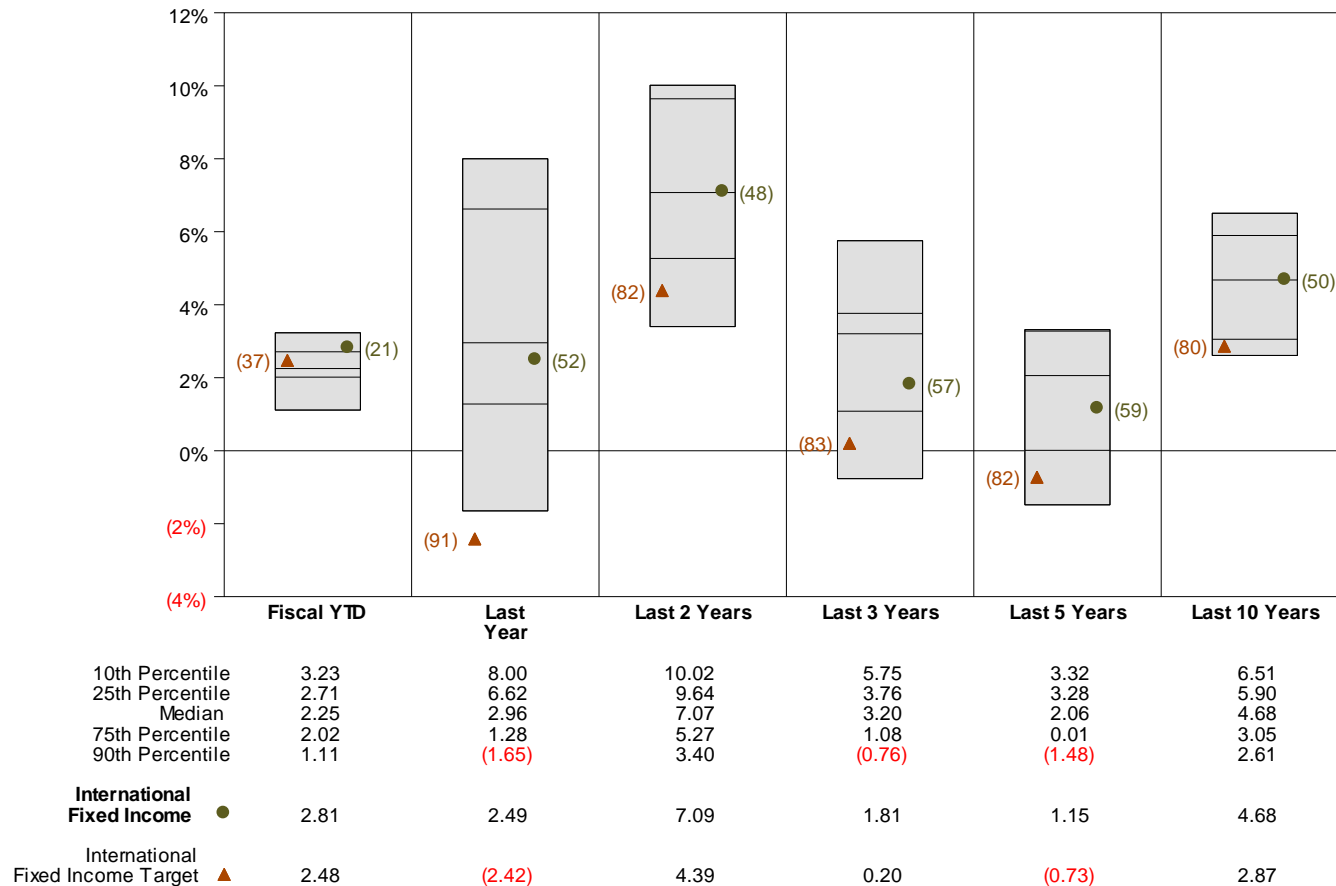


- The domestic fixed income program has consistently provided strong returns over the last ten years.

Consolidated Pension Trust: International Fixed Income

As of September 30, 2017

Performance vs Public Fund - International Fixed (Gross)

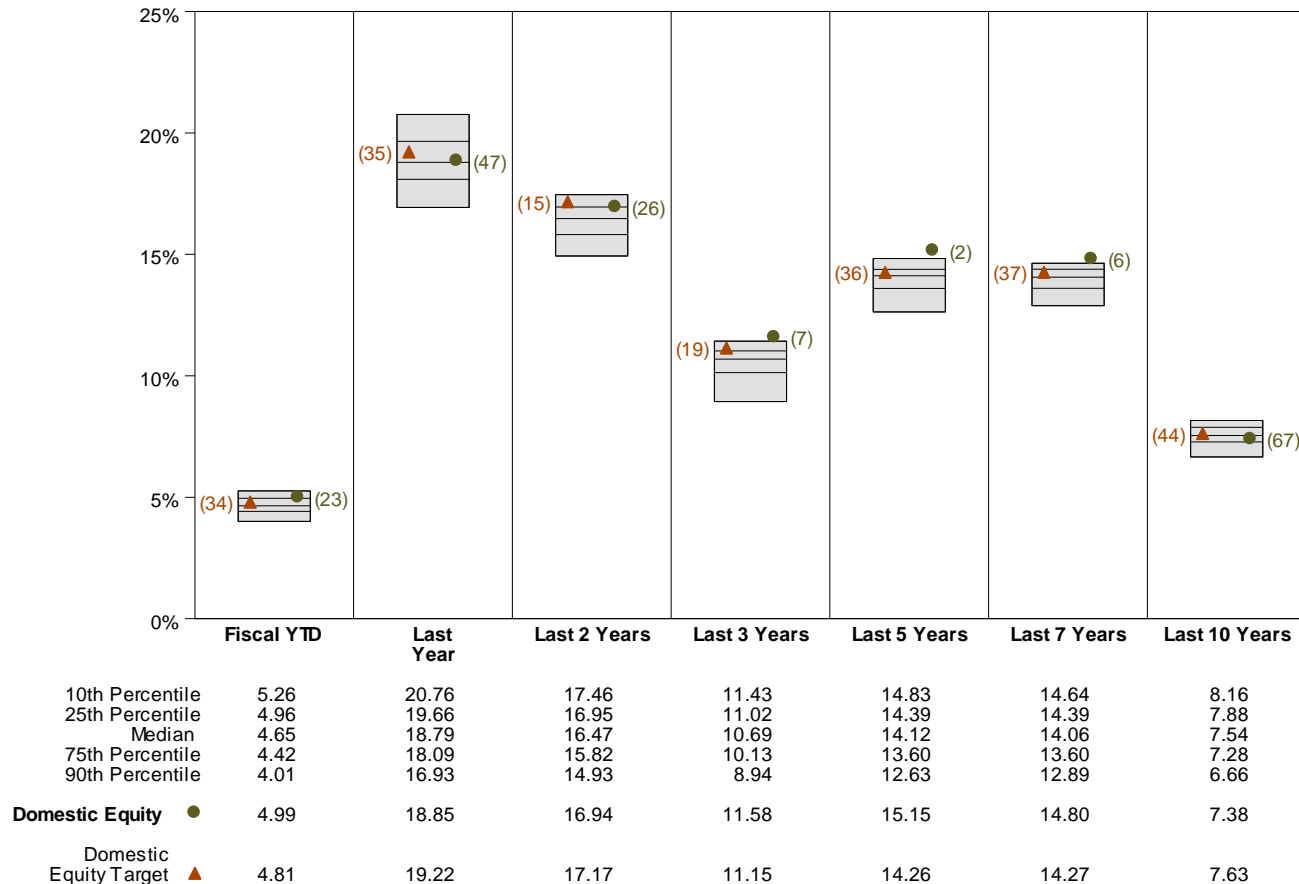


- The international fixed income program placed in the top quartile last quarter, and has continued to outperform the benchmark during the last ten years.

Consolidated Insurance Trust: Domestic Equity

As of September 30, 2017

Performance vs Pub Pln- Domestic Equity (Gross)

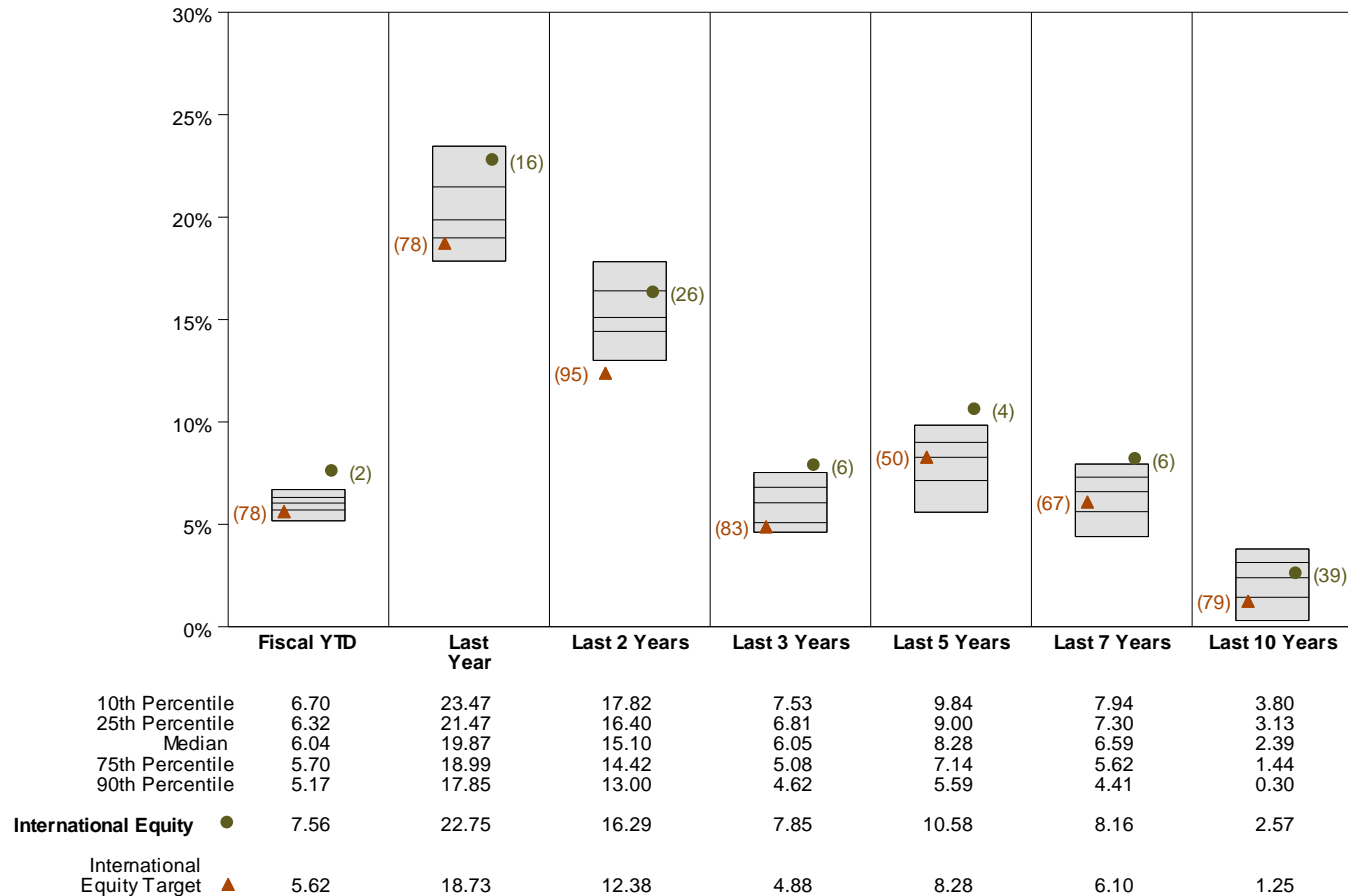


- With the exception of the most recent 10 year period, the Insurance Trust's domestic equity program has consistently placed above the median manager.

Consolidated Insurance Trust: International Equity

As of September 30, 2017

Performance vs Pub Pln- International Equity (Gross)

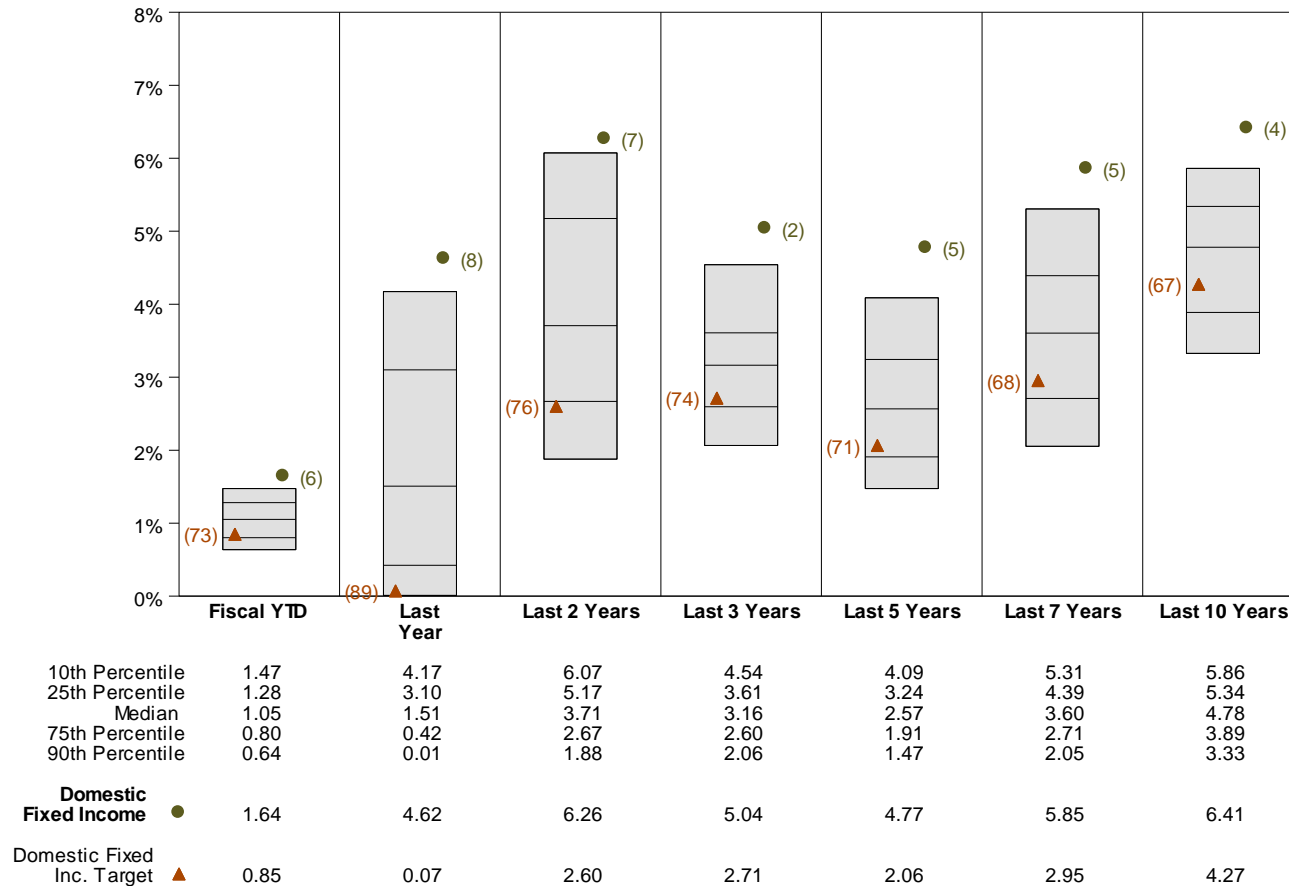


- The international equity program has consistently placed in the top quartile over the last seven years.

Consolidated Insurance Trust: Domestic Fixed Income

As of September 30, 2017

Performance vs Pub Pln- Domestic Fixed (Gross)



- Fixed income has been an exceptionally well-performing asset in the Insurance Trust, placing in the top decile over all time periods.

September 30, 2017



North Dakota State Investment Board Pension Funds

**Investment Measurement Service
Quarterly Review**

The following report was prepared by Callan using information from sources that include the following: fund trustee(s); fund custodian(s); investment manager(s); Callan computer software; Callan investment manager and fund sponsor database; third party data vendors; and other outside sources as directed by the client. Callan assumes no responsibility for the accuracy or completeness of the information provided, or methodologies employed, by any information providers external to Callan. Reasonable care has been taken to assure the accuracy of the Callan 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, Callan 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 2017 by Callan.

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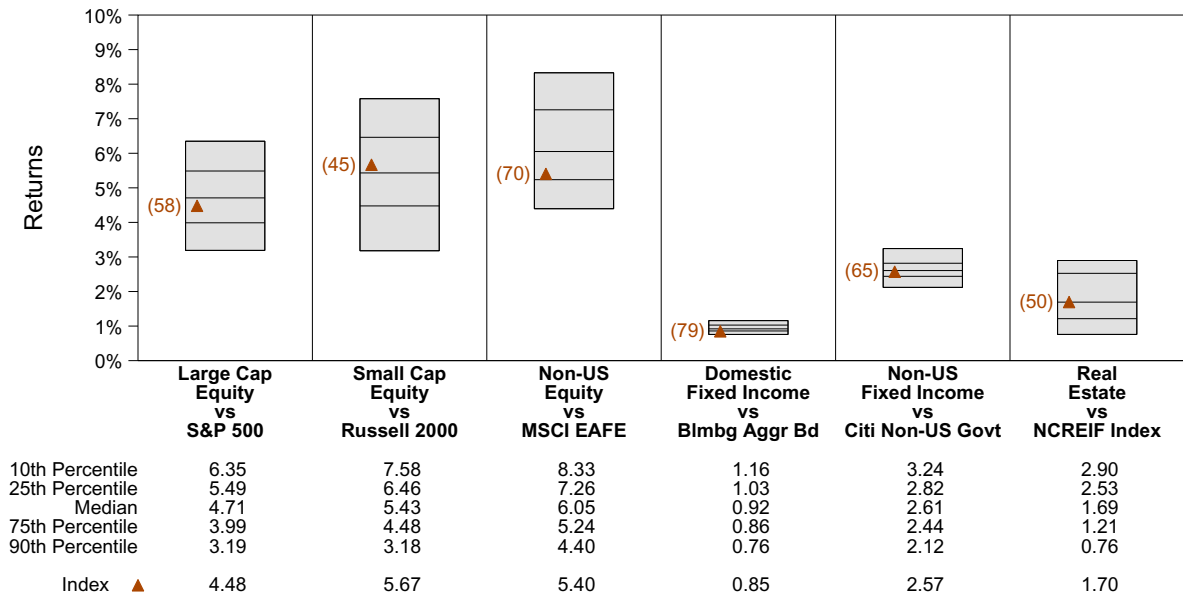
Market Overview

Active Management vs Index Returns

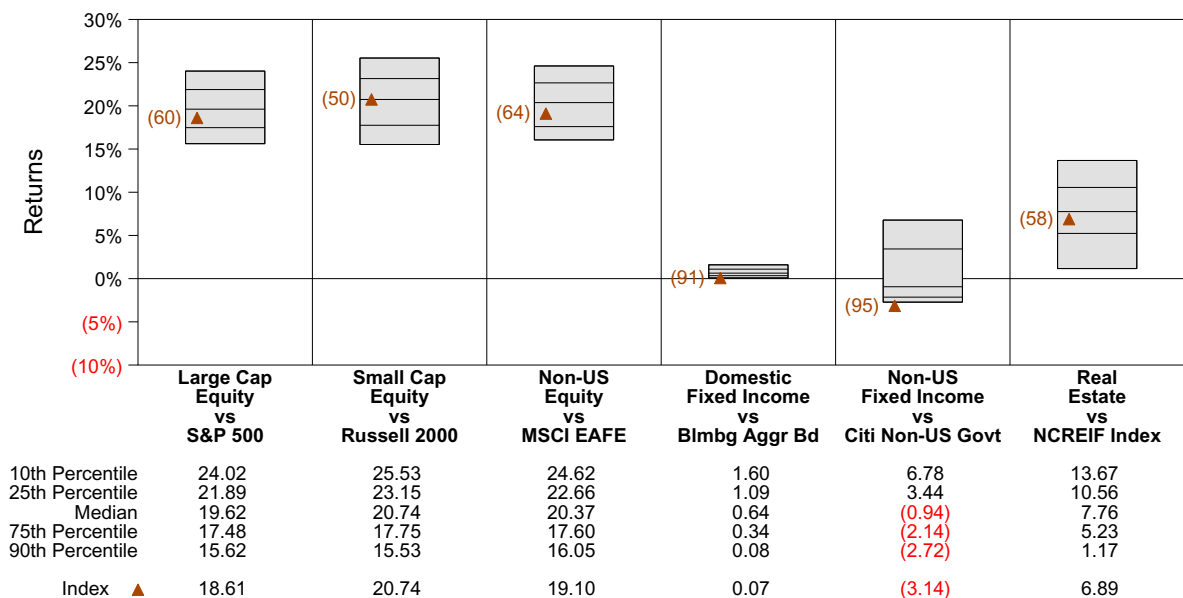
Market Overview

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

Range of Separate Account Manager Returns by Asset Class One Quarter Ended September 30, 2017



Range of Separate Account Manager Returns by Asset Class One Year Ended September 30, 2017



Third Quarter 2017

Why So Sad?

ECONOMY

2 The disconnect sharpened in the quarter between the state of the economy, which is pretty good, and sentiment, which is not so good. Global geopolitical upheaval dominates the news cycle. But the world economy is in much better shape than this sentiment might suggest.

Managing Risk While Hunting for Returns

FUND SPONSOR

4 Endowments and foundations performed best over the one-year period ending with the third quarter, while Taft-Hartley plans surpassed other groups over the past three- and five-year periods. Corporate plans did best over a 10-year period.

Up, Up, Up, and Away for Global Stocks

EQUITY

6 The **S&P 500**, **Russell 2000**, and **Nasdaq Composite** all hit record highs on the final trading day of the quarter. Non-U.S. developed equity outperformed the U.S. for the third consecutive quarter; emerging markets outperformed developed ones, also for the third straight quarter.

Healthy Risk Appetite Drove Yields

FIXED INCOME

9 Global fixed income markets generally performed well in the third quarter. Moderate growth and inflation kept long-term rates low and range-bound in the U.S. Rates were also low outside the U.S., but dollar weakness boosted returns, especially for emerging market debt.

Best Location? Europe These Days

REAL ESTATE

11 The **NCREIF Property Index** notched 35 straight quarters of gains, while the **NCREIF Open End Diversified Core Equity Index** rebounded from last quarter's seven-year low. Europe was the strongest-performing region, with the **FTSE EPRA/NAREIT Europe Index** up 4.8%.

PE Market Sees 'Golden Era'

PRIVATE EQUITY

13 Low volatility and gently rising markets fostered ongoing "Golden Era" conditions in the private equity market. Fundraising is on pace to best last year's post-GFC high; buyout and venture investments slowed slightly but dollar volume remained healthy.

Kickin' It with Risk

HEDGE FUNDS

14 The **Credit Suisse Hedge Fund Index** rose 1.8% in the quarter, while the median manager in the *Callan Hedge Fund-of-Funds Database* advanced 2.0%. The median *Callan Long/Short Equity FoF* (+3.1%) handily beat the *Callan Absolute Return FOF* (+1.8%).

Strongest First Half in DC Index History

DEFINED CONTRIBUTION

15 The **Callan DC Index™** rose 3.1% during the second quarter and is now up 7.9% year-to-date—its strongest first-half performance since its 2006 inception. Still, the Index trailed the typical Age 45 Target Date Fund, up 3.7% in the second quarter and 9.4% in the first half.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000

+4.6%

Non-U.S. Equity
MSCI ACWI ex USA

+6.2%

U.S. Fixed Income
Bloomberg Barclays Agg

+0.8%

Non-U.S. Fixed Income
Bloomberg Barclays GBI ex US

+2.5%

Sources: Bloomberg Barclays, MSCI, Russell Investment Group

Why So Sad?

ECONOMY | Jay Kloepfer

The disconnect sharpened in the third quarter of 2017 between the state of the underlying economy, which is pretty good, and sentiment, which is not so good, teetering on downright gloomy.

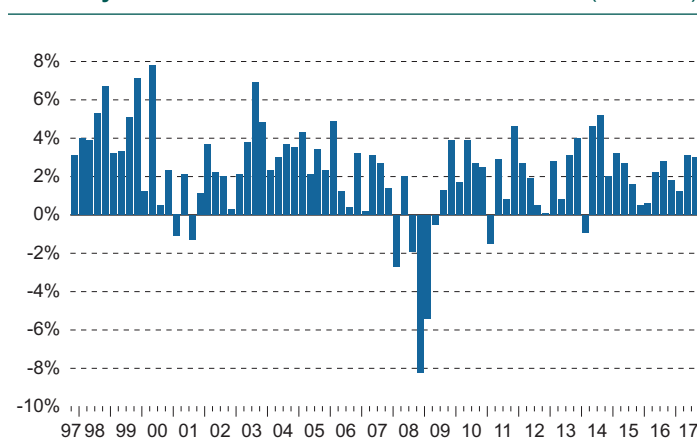
Geopolitical upheaval across the globe dominated the news cycle, feeding anxieties about the future of monetary and fiscal policy, taxes, trade, and conflict. Tension remained high with North Korea and continued to escalate with Russia. Richly priced capital markets spurred concerns about an “inevitable” correction. Comparisons to the pre-Global Financial Crisis (GFC) period in 2007, to before the Dot-Com Bubble in 2000, and particularly to 1987 before the 20% one-day drop in the U.S. stock market abound. Then two hurricanes of historic proportions slammed the Caribbean, the Gulf of Mexico, and the U.S. mainland within a couple weeks of each other in September.

Stepping back from the conjecture and hand-wringing, the state of the global economy as we head into the fourth quarter of 2017 is much better than this general sentiment might suggest. Investors are certainly less concerned about the economy than the news would lead us to believe. The U.S. economy has actually gathered momentum as 2017 progressed. After a relatively weak first quarter (1.4% growth), GDP was revised up to 3.1% in the second quarter and grew an astounding 3.0% in the third quarter *after* accounting for the impact of Harvey and Irma. Without the hurricanes, real GDP would likely have seen a robust gain in excess of 4%, perhaps as strong as 4.5%. Initial estimates for fourth quarter growth are equally lofty.

What gives? Is this growth spurt the last, exuberant gasp before the economy collapses from exhaustion? First and foremost, we should recall that expansions do not die of old age; they typically expire under the weight of imbalances in spending versus income, a run-up in debt, a build-up in inventory for demand that wanes, or over-building for economic activity that doesn't materialize. These imbalances are obvious in hindsight but difficult to spot in the moment. The current cycle is particularly hard to pin down; the expansion may be getting long in the tooth

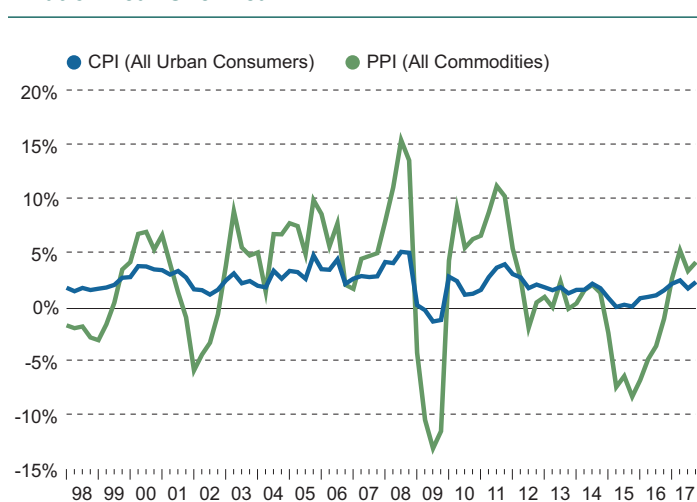
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

after more than seven years, but the GDP gains since the GFC (2.2% per year) are substantially lower than those enjoyed in previous recoveries (above 3%). Consumers spent the first several years following the GFC deleveraging, whether voluntarily or involuntarily. Businesses have been persistently reluctant to invest in capital, except perhaps for equipment replacement and technology.

Consumer spending is finally leading GDP growth, fueled by tight labor markets, a long-awaited nudge upward in wages and salaries, and in a perhaps less sanguine development, a renewed interest in and ability to borrow. While mortgage debt is still more difficult to obtain than pre-GFC, consumer credit as a percentage of disposable income has regained its pre-GFC peak of 24% and then some, reaching past 26% in the third quarter of 2017. Business spending is also finally accelerating after years of fits and starts. The ISM Report on Business for September shows strength across almost all measures of manufacturing and non-manufacturing activity. The Purchasing Managers' Index came in at 58.8 in August and 60.8 in September, well above 50, the dividing line between expansion and contraction. The new orders, production, and employment indices are even stronger, and coupled with a sharp decline in inventories following the hurricanes, activity is poised to be even stronger in the fourth quarter.

The sustainability of the 2017 burst in growth will certainly fall under scrutiny. Hopes for near-term fiscal stimulus in the U.S. are diminished, and tight labor markets suggest limited potential for further growth from the existing set of labor and capital inputs available in the U.S. economy.

Outside the U.S., euro zone GDP for the second quarter was revised upwards to 2.3% from 1.7%, and preliminary data support continued improvement in the third quarter. The long-awaited response to the stimulus appears to have arrived. In China, annual growth increased by 6.9% in the second quarter, identical to the first quarter and slightly ahead of expectations. Initial data on industrial production and investment in fixed

The Long-Term View

| Index | 2017 3rd Qtr | Periods ended Dec. 31, 2016 | | | |
|---------------------------------|-----------------|-----------------------------|-------|--------|--------|
| | | Year | 5 Yrs | 10 Yrs | 25 Yrs |
| U.S. Equity | | | | | |
| Russell 3000 | 4.57 | 12.74 | 14.67 | 7.07 | 9.29 |
| S&P 500 | 4.48 | 11.96 | 14.66 | 6.95 | 9.15 |
| Russell 2000 | 5.67 | 21.31 | 14.46 | 7.07 | 9.69 |
| Non-U.S. Equity | | | | | |
| MSCI ACWI ex USA | 6.16 | 4.50 | 5.00 | 0.96 | – |
| MSCI Emerging Markets | 7.89 | 11.19 | 1.28 | 1.84 | – |
| MSCI ACWI ex USA Small Cap | 6.90 | 3.91 | 7.74 | 2.89 | – |
| Fixed Income | | | | | |
| Bloomberg Barclays Agg | 0.85 | 2.65 | 2.23 | 4.34 | 5.63 |
| 90-Day T-Bill | 0.26 | 0.33 | 0.12 | 0.80 | 2.71 |
| Bloomberg Barclays Long G/C | 1.53 | 6.67 | 4.07 | 6.85 | 7.58 |
| Bloomberg Barclays GI Agg ex US | 2.48 | 1.49 | -1.39 | 2.44 | 4.73 |
| Real Estate | | | | | |
| NCREIF Property | 1.70 | 7.97 | 10.91 | 6.93 | 8.63 |
| FTSE NAREIT Equity | 0.94 | 8.52 | 12.01 | 5.08 | 11.13 |
| Alternatives | | | | | |
| CS Hedge Fund | 1.81 | 1.25 | 4.34 | 3.75 | – |
| Cambridge PE* | -- | 9.26 | 12.77 | 9.40 | 15.39 |
| Bloomberg Commodity | 2.52 | 11.77 | -8.95 | -5.57 | 2.55 |
| Gold Spot Price | 3.42 | 8.63 | -5.97 | 6.08 | 4.82 |
| Inflation – CPI-U | 0.76 | 2.07 | 1.36 | 1.81 | 2.26 |

*Most recent quarterly data not available.

Sources: Bloomberg Barclays, Bloomberg, Credit Suisse, FTSE, MSCI, NCREIF, Russell Investment Group, Standard & Poor's, Thomson Reuters/Cambridge, Bureau of Economic Analysis.

assets released in July and August are consistent with a third quarter slowdown. Robust gains in developed non-U.S. and emerging equity markets are fueled by renewed optimism, or at least reduced skepticism, about growth prospects in many markets around the globe.

Recent Quarterly Economic Indicators

| | 3Q17 | 2Q17 | 1Q17 | 4Q16 | 3Q16 | 2Q16 | 1Q16 | 4Q15 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Employment Cost–Total Compensation Growth | 2.5% | 2.4% | 2.4% | 2.2% | 2.3% | 2.3% | 1.9% | 2.0% |
| Nonfarm Business–Productivity Growth | 1.6%* | 1.5% | 0.1% | 1.3% | 2.5% | 0.8% | -1.2% | -2.6% |
| GDP Growth | 3.0% | 3.1% | 1.2% | 1.8% | 2.8% | 2.2% | 0.6% | 0.5% |
| Manufacturing Capacity Utilization | 75.2% | 75.7% | 75.4% | 75.1% | 74.9% | 75.1% | 75.4% | 75.4% |
| Consumer Sentiment Index (1966=100) | 95.1 | 96.4 | 97.2 | 93.2 | 90.3 | 92.4 | 91.5 | 91.3 |

*Estimate.

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

Managing Risk While Hunting for Returns

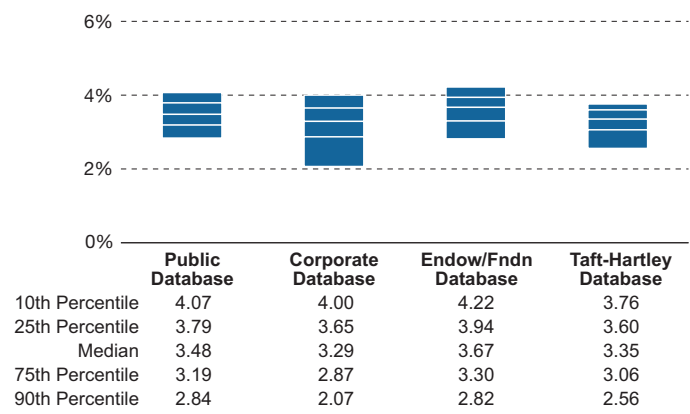
FUND SPONSOR

Low interest rates and low return expectations continued to drive strategic allocation discussions for fund sponsors. Many felt compelled to take on market risk to reach return targets. Sponsors are now examining if there is anything they can do to tamp down the risk within their large growth allocation short of actually reducing it.

For instance, to offset risk in a crisis situation, plans have examined strategies including Treasury bond allocations, momentum, multi-asset class (MACs), and even gold.

These discussions, as we have noted before, turn diversification on its head: Investors are looking for investments with similar underlying return factors (in this case equity) while seeking at least some diversification to smooth the ride within that large growth allocation. A broader growth allocation can then consider investments like high yield, convertibles, low volatility equity, hedge funds, MACs, and option-based strategies. This approach also allows for new strategies to be brought into the fold, based on prospective diversification or return enhancement. The broadening of growth assets often leads

Callan Fund Sponsor Returns for the Quarter

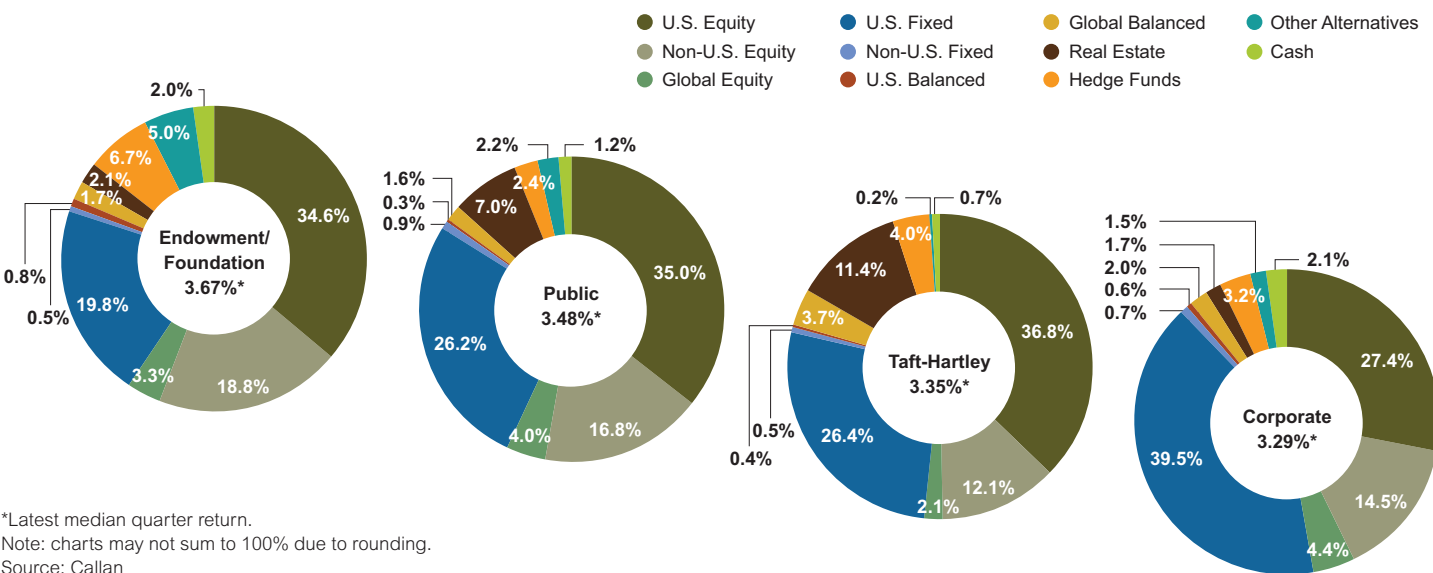


Source: Callan

to a sharper focus on refining fixed income exposure to gain a “purer” exposure to interest rates.

In addition, the active/passive discussion continues to loom large. The argument to retain active to protect in a down market and be nimble in a volatile, low-return environment is compelling, but plan sponsors are weary of historical

Callan Fund Sponsor Average Asset Allocation



underperformance in actively managed equity. And tied to that discussion is the use of passive management to control costs.

For defined contribution (DC) plans, regulations, lawsuits, and implementation are driving factors for the decision-making process. Some of this conversation has led to negotiating a reduction of fees for the plans, in some cases to a significant extent. Heightened fee sensitivity and litigation have resulted in little traction for non-traditional asset classes such as liquid alternatives.

Target date funds (TDFs) dominate asset flows in DC plans; they now account for almost 30% of DC assets, according to the Callan DC Index™. TDFs have received an average of 71% of flows into DC plans over the last three years.

Over the last five years, Callan has seen several trends in asset allocation by different types of fund sponsors:

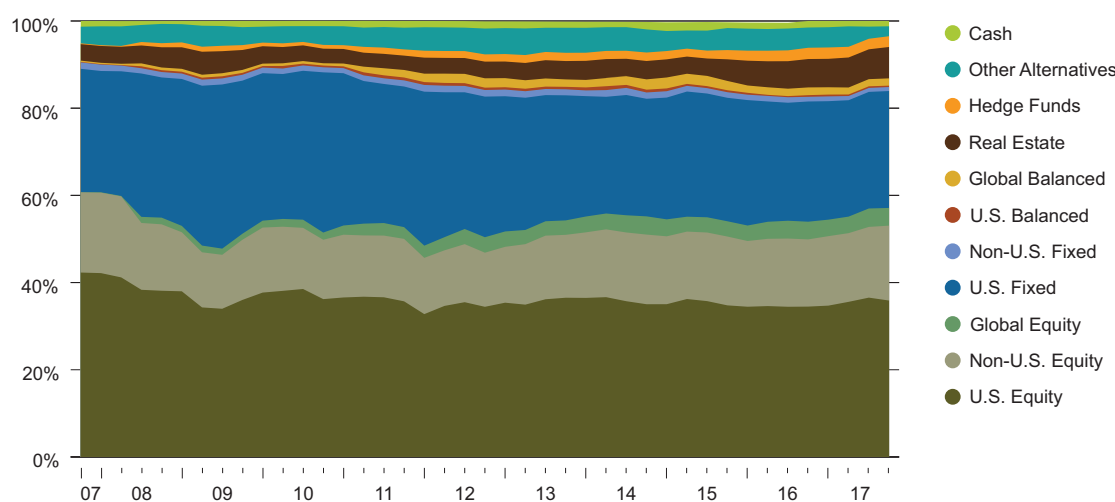
- Corporate funds: The range of U.S. fixed income allocations has widened, as these sponsors are in different stages of efforts to de-risk.

- Public funds: Many have increased their allocation to non-U.S. equity and real estate at the expense of fixed income. Capital market return expectations have created a difficult environment for total return investors.
- Endowments and foundations: They continue to move assets from fixed income to asset classes with expectations for higher returns. Global equity, non-U.S. equity, and real estate have all benefited from this shift.

The performance by fund sponsors continued to be robust. Over the one-year ending with the third quarter, only corporate sponsors did not exceed the 10.9% return of a quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio. Endowments and foundations performed best over that one-year period, while corporate plans did best over a 10-year period. Taft-Hartley plans were the best-performing group over the past three and five years, partially due to a larger home-country bias.

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.

Global Equity

U.S. Stocks: The 'Everything Rally' Marched On

+4.6%

RUSSELL 3000

The Goldilocks environment ("Not too hot, not too cold, but just right") and investor complacency continued to keep volatility at multi-decade lows and propel stock markets to new highs, in spite of escalating tensions with North Korea, several severe natural disasters, and uncertainty around the prospects for tax reform and other U.S. domestic agenda items. The **S&P 500 Index**, **Russell 2000 Index**, and **Nasdaq Composite Index** all hit record highs on the final trading day of the quarter. It was the Nasdaq's 50th record close this year.

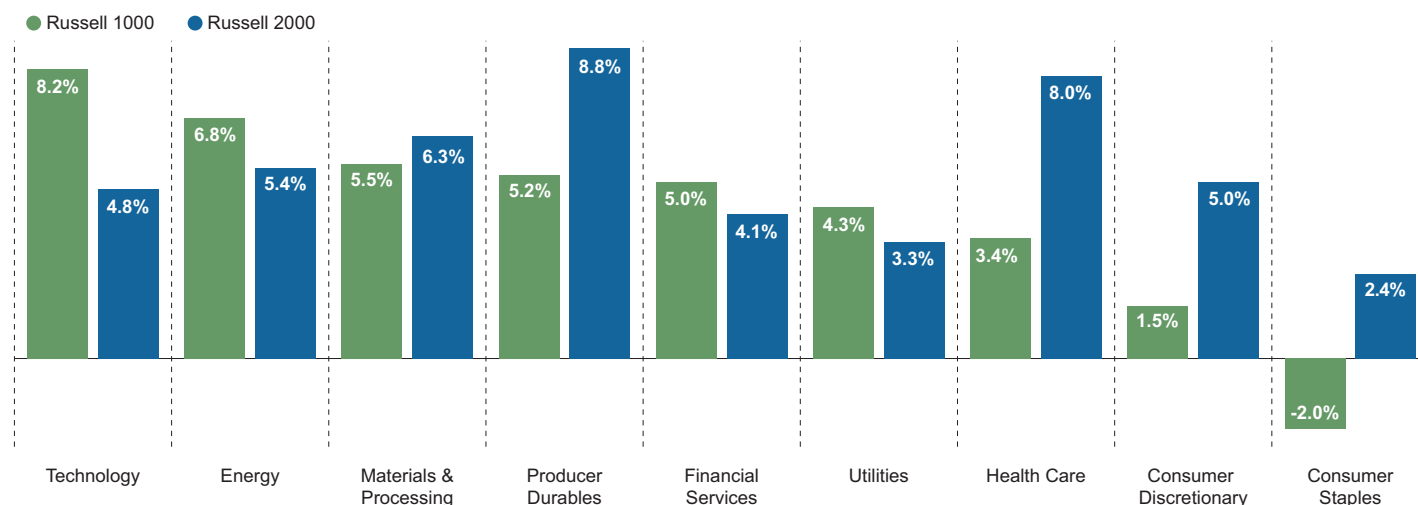
Stocks, bonds, and commodities alike rewarded investors in what's been coined the "everything rally," marked by its surprisingly low volatility. Even cash is up from its dismal 0% days and posted a +0.3% quarterly result. Investors' attention remained focused on the hopeful promise of tax reform along with the generally upbeat picture of the U.S. economy. But contrarians question where longer-term alpha can be found amid stretched equity valuations.

The Tech (+8.6%) and Energy (+6.8%) sectors led the S&P 500 (+4.5%). The globally dominant Tech names (the so-called "FAAMG" stocks, or Facebook, Amazon, Apple, Microsoft, and Google) continued to drive results in the sector, which now accounts for 23% of the S&P 500 and 38% of the **Russell 1000 Growth Index**. Tech alone has accounted for approximately 40% of the S&P 500's return year-to-date, with key drivers being strong earnings reports, increasing market share, and product innovation. Record-high valuations for several companies raised concern over their influence on the overall performance of the Index should a correction occur.

The Energy sector continued to see signs of incremental improvement during the quarter due to a backdrop of improving supply and demand. Consumer Staples (-1.3%) was the sole sector to deliver a negative result as momentum-oriented stocks and sectors garnered favor.

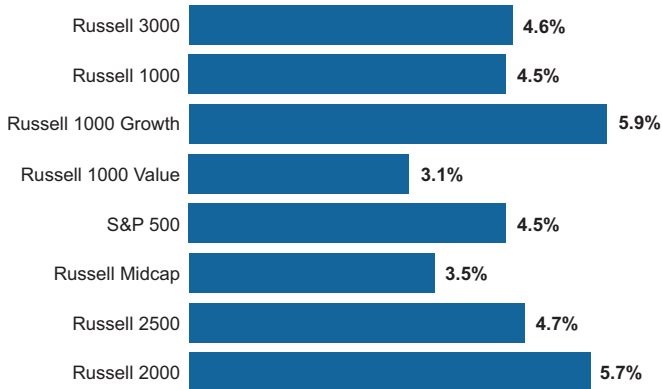
Small cap stocks outperformed large cap. In addition, growth outperformed value (Russell 1000 Growth: +5.9% vs. **Russell 1000 Value**: +3.1%; **Russell 2000 Growth**: +6.2% vs. **Russell 2000 Value**: +5.1%). Biotech (+14.5%) and a surge in small

Quarterly Performance of Select Sectors



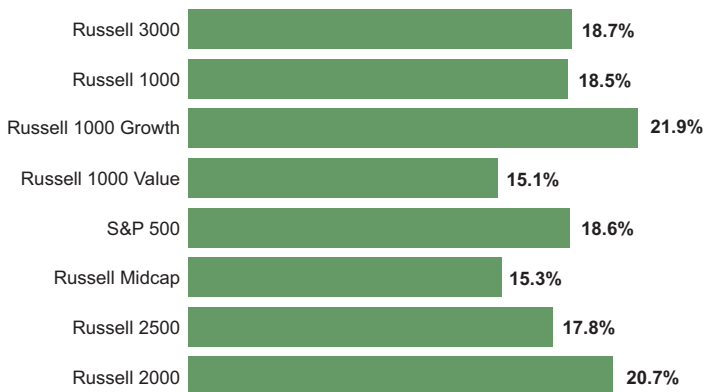
Source: Russell Investment Group

U.S. Equity: Quarterly Returns



Sources: Russell Investment Group and Standard & Poor's

U.S. Equity: One-Year Returns



Sources: Russell Investment Group and Standard & Poor's

cap value on tax reform news in September bolstered small cap stocks during the quarter. Biotech benefited from the easing of pricing risks as well as the FDA's approval of genetics-based therapeutics.

From a factor perspective, momentum (+27.5% YTD) remained the top performer while defensive (+8.5% YTD) was

the laggard. Investor behavior has had a meaningful influence on results as investors tend to project their optimism across the broad market and chase momentum during periods of strength.

Global Stocks: Stronger Outside the U.S.

+6.2%

MSCI ACWI **EX USA**

Non-U.S. developed economies continued to gain traction. Second quarter GDP growth in the euro zone was 2.3% (year-over-year) with consumer confidence and demand both showing strength. The euro gained ground versus the U.S. dollar and the pound continued to strengthen on hawkish comments from the Bank of England. Outside of Europe, Japan's economy continued to slowly recover; second quarter GDP growth was 2.5% (annualized). While this was lower than expected, the economy has now expanded for six consecutive quarters.

Non-U.S. developed equity (**MSCI World ex USA: +5.6%**) outperformed the U.S. for the third consecutive quarter as the European market (**MSCI Europe: +6.5%**) continued to post positive economic data and corporate earnings growth with some signs of political stability.

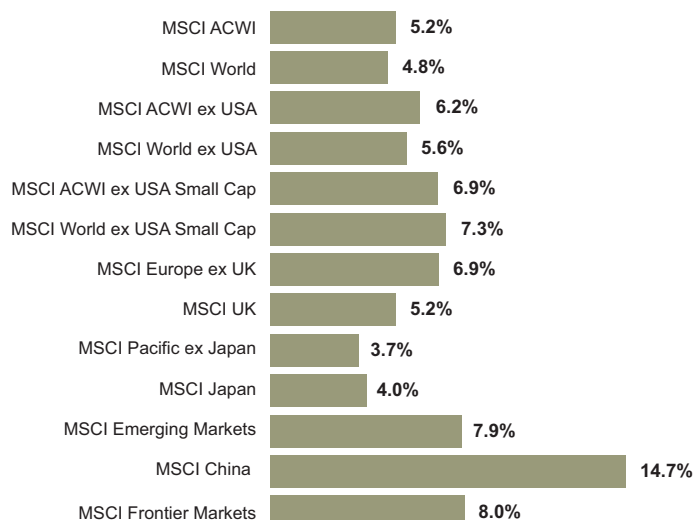
The dollar's losses against the euro stemmed from an upside surprise with European growth and market-friendly outcomes in European elections. Economically sensitive sectors outperformed defensive securities.

All sectors generated positive returns. Energy and Materials were the top two performers as a result of higher oil and commodity prices. WTI and Brent prices surged by 12% and 20%, respectively, driven by favorable supply and demand dynamics. Copper rallied 9% due to tightening supply and positive economic data from China.

Value outpaced growth as economically sensitive sectors posted strong quarterly results.

Non-U.S. Equity: Quarterly Returns

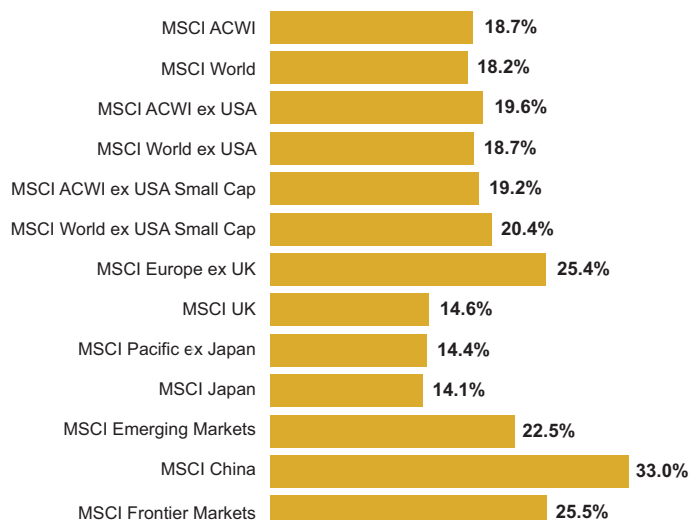
(U.S. Dollar)



Source: MSCI

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

(U.S. Dollar)



Source: MSCI

Emerging Markets: Upbeat Signs Across the Board

+7.9%

MSCI EM

Emerging markets topped developed markets for the third consecutive quarter, fueled by a soft dollar, synchronized global growth, and strong

oil and commodity prices. Brazil was the best-performing country within emerging markets given the hope of achieving fiscal reforms to spur economic growth. China continued to fare well with GDP growth of 6.9% exceeding expectations; the Chinese Tech and Real Estate sectors were top performers.

All sectors within emerging markets posted positive returns, led by economically sensitive sectors such as Real Estate, Energy, Materials, and Financials.

Brazilian and Russian banks surged during the quarter, spurred by rising oil and commodity prices and improving lending conditions.

Despite a strong showing by value factors, growth and momentum dominated the market given the returns of large cap Asian tech companies, helped in part by the demand for mobility and connectivity.

Non-U.S. Small Cap: Mixed Messages

+6.9%

MSCI ACWI ex USA SC

Developed non-U.S. small cap (**MSCI World ex USA Small Cap: +7.3%**) outperformed large cap in the risk-

on market environment marked by improving economic activity in Europe. The top three performing countries were Germany (+17.0%), Norway (+16.4%), and Italy (+13.5%). All sectors posted positive returns, led by Energy and Technology.

Small cap (**MSCI Emerging Markets Small Cap: +5.6%**) lagged large cap in emerging markets due to the strong performance of large cap Asian technology companies. The top three performing countries were Peru (+42.8%), Brazil (+31.8%), and Chile (+19.8%), all benefiting from higher oil and commodity prices.

Growth outperformed value in developed small cap, propelled by optimism surrounding European growth. Conversely, value outpaced growth in emerging market small cap, supported by positive oil and commodity prices.

Global Fixed Income

U.S. Bonds: Low Volatility Drove Returns

+0.8%

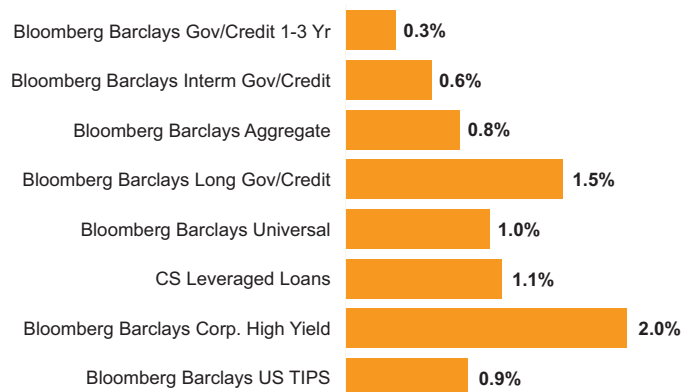
BB AGGREGATE

Yields rose modestly, particularly on the short end of the U.S. Treasury yield curve. The 10-year Treasury yield touched 2.00% during the quarter on geopolitical risks related to North Korea, but ended the quarter at 2.33%. Moderate growth and inflation kept long-term rates low and range-bound. Volatility in fixed income markets (as well as equities) sat at near historic lows; the overall risk appetite remained strong. And in general, lower-rated credits again outperformed investment grade.

The **Bloomberg Barclays U.S. Aggregate Bond Index** was up 0.8% in the quarter. The **Bloomberg Barclays U.S. Corporate Bond Index** rose 1.3%. High yield corporates fared even better, with the **Bloomberg Barclays U.S. Corporate High Yield Bond Index** up 2.0%. TIPS rebounded from their underperformance in the previous quarter.

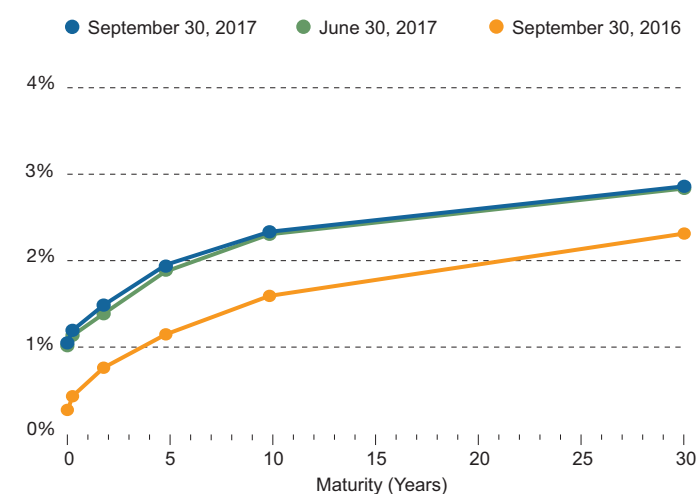
The **Bloomberg Barclays U.S. TIPS Index** rose 0.9% and the 10-year breakeven spread (the difference between nominal and real yields) rose to 1.84% as of quarter-end from 1.73% at the end of the second quarter.

U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

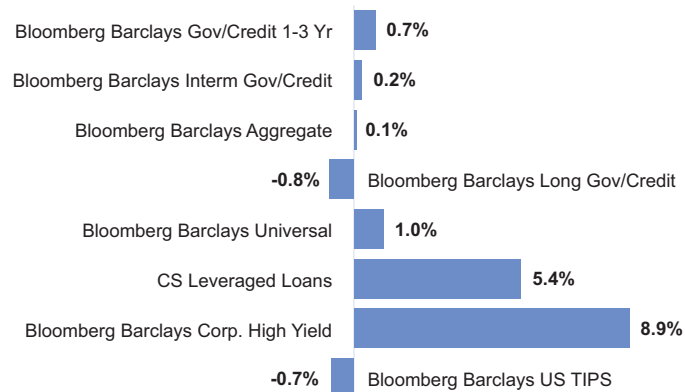
U.S. Treasury Yield Curves



Source: Bloomberg

Corporate credit spreads tightened on strong demand and robust corporate earnings. Financials and Utilities were the leading sectors during the quarter. High yield credit continued to perform well, aided by the hunt for yield. The upward trend in earnings along with corporate discipline has led to the highest rating agency upgrade-downgrade ratio since 2013.

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

GLOBAL FIXED INCOME (Continued)

The municipal bond market also performed well; the **Bloomberg Barclays Municipal Bond Index** returned 1.1% for the quarter and the shorter duration 1-10 Year Blend Index was up 0.7%.

Global Bonds: Many Reasons to Cheer

+2.5%

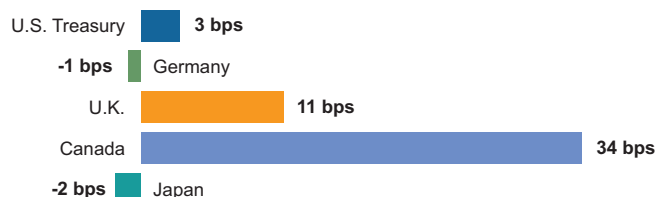
BB GBL AGG EX US

Rates were also steady overseas, though dollar weakness boosted returns. The **Bloomberg Barclays Global Aggregate Index** returned +1.8% (unhedged) versus +0.8% for the hedged version. Emerging market debt posted solid returns. The **JPM EMBI Global Diversified Index** (\$ denominated) was up 2.6%. Gains were broad-based with only beleaguered Venezuela (-11%) down. The local currency **JPM GBI-EM Global Diversified**

Index increased 3.6%. Returns were mixed for this index, with Brazil (+11%) being the best performer and Argentina's first-ever local bonds (-4%) being the worst on worries over the success of reforms.

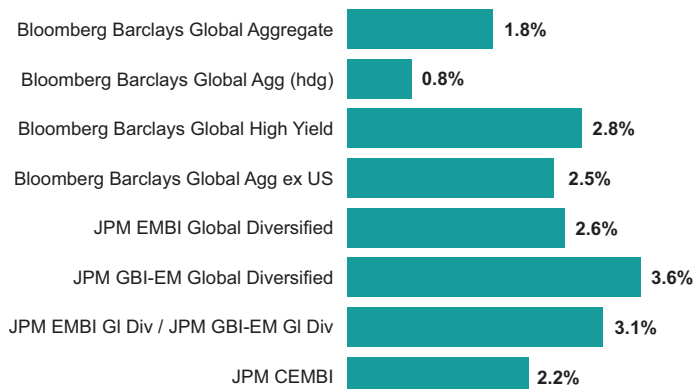
Change in 10-year Global Government Bond Yields

2Q17 to 3Q17



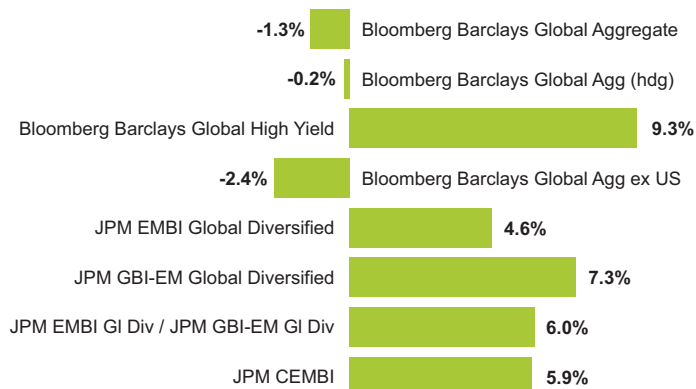
Source: Bloomberg Barclays

Non-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JP Morgan

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



Sources: Bloomberg Barclays and JP Morgan

Europe Continues as Best-Performing Region

REAL ESTATE | Kevin Nagy

The **NCREIF Property Index** advanced 1.7% during the third quarter (1.1% from income and 0.6% from appreciation). This marked the 35th consecutive quarter of positive returns for the Index. Appreciation return resumed its decreasing trend after an increase during the second quarter.

Industrial (+3.3%) was the best-performing sector for the sixth consecutive quarter followed by Hotel (+2.3%), Multi-Family (+1.7%), and Office (+1.4%); Retail (+1.2%) was the worst performer.

The West was the strongest region for the fourth quarter in a row, increasing 2.2%, and the East brought up the rear with a +1.3% return.

Transaction volume increased to \$11.8 billion, up 53% from the second quarter and 22% from the third quarter of 2016. Appraisal capitalization rates fell 8 basis points to 4.39%. Transaction capitalization suffered a steeper decline, falling 83 bps to 5.26%. The spread between appraisal and transaction rates decreased to 87 bps.

Occupancy rates fell to 93.3%. Industrial and Retail occupancy rates increased slightly while Apartment and Office rates decreased.

The **NCREIF Open End Diversified Core Equity Index** rose 1.9% (1.1% from income and 0.8% from appreciation), a 17 bps increase from the second quarter. Appreciation return increased by 18 bps from the second quarter's seven-year low.

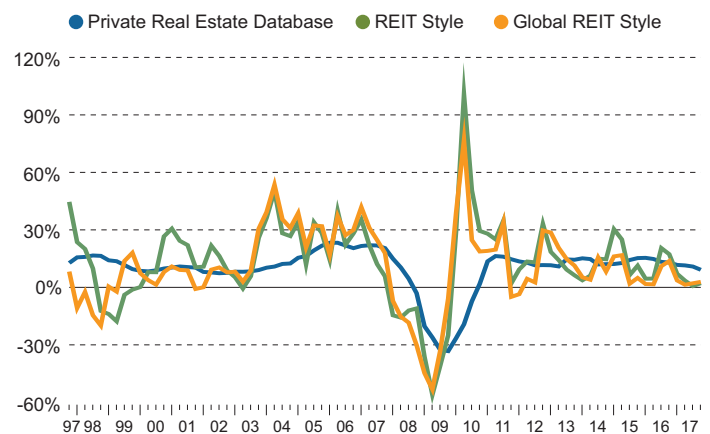
Global real estate investment trusts (REITs), tracked by the **FTSE EPRA/NAREIT Developed REIT Index** (USD), outperformed

U.S. REITs and posted a 1.8% return. U.S. REITs, as measured by the **FTSE NAREIT Equity REITs Index**, advanced 0.9% for the quarter.

In the U.S., REITs started the quarter with a strong July but then surrendered most of the gains with poor showings in August and September. Sectors experiencing strong secular demand, such as Industrial (+6.5%) and Data Centers (+5.2%), were the best performers as the continued rise of e-commerce and cloud storage provided ample tailwind. Hotels (+2.8%) and Self-Storage (+4.7%) also did well, buoyed by expectations of inflation and rising interest rates. Health Care (-5.4%) was the worst-performing sector.

Europe, as represented by the **FTSE EPRA/NAREIT Europe Index**, was again the strongest-performing region, rising 4.8% in U.S. dollar terms. Strong, diversified growth across the majority of the region's economies was the main driver of positive returns. The region largely shrugged off destabilizing political events such as the Catalan independence referendum.

Rolling One-Year Returns



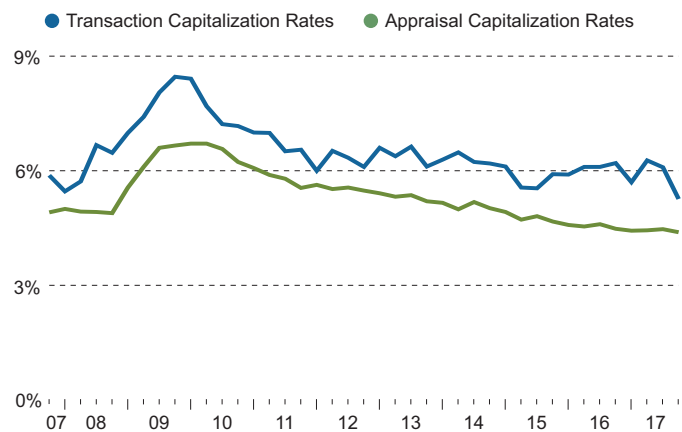
Source: Callan

REAL ESTATE (Continued)

For the second quarter in a row, the Asia-Pacific region outperformed the U.S. but underperformed Europe. Hong Kong

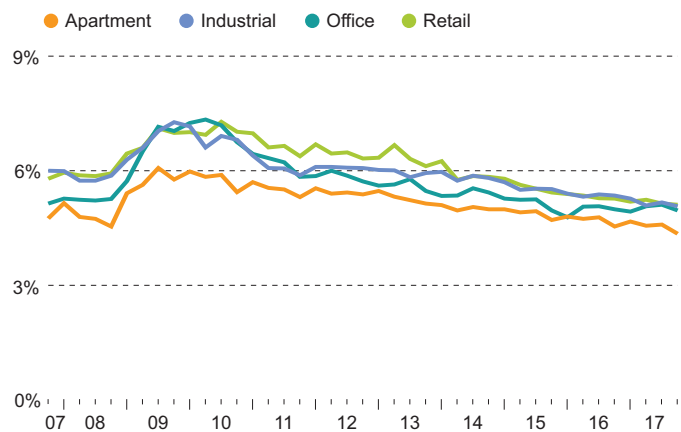
provided the best regional performance while Japan lagged behind, hurt by a strengthening yen.

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.

Low Volatility + Rising Markets = Strong Liquidity

PRIVATE EQUITY | Gary Robertson

Third quarter private equity partnership commitments totaled \$84.0 billion, with 210 new partnerships formed, according to *Private Equity Analyst*. The number of funds raised decreased 34% from 319 in the second quarter, but the dollar volume dipped only 2% from \$85.0 billion. Apollo IX is the largest fund raised so far in 2017, holding a \$24.6 billion final close in the third quarter—and it is the largest buyout fund ever raised.

Investments by buyout funds into companies totaled 446 deals, down 12% from 504 in the prior quarter, according to *Buyouts* newsletter. The announced total volume was \$51 billion, up 6% from \$48 billion in the second quarter. The quarter's largest deal was the \$7.5 billion take-private of Panera Bread by JAB, a family-owned holding company. Sixteen deals with announced values of \$1 billion or more closed in the quarter.

New investments in venture capital companies totaled 1,706 rounds of financing with \$21.5 billion of announced value, according to the National Venture Capital Association (NVCA). The number of rounds declined 21% from the 2,164 in the second quarter, and announced dollar value decreased 6% from \$22.9 billion.

Buyouts reported that there were 446 private M&A exits of buyout-backed companies, with 43 deals disclosing values totaling

Funds Closed January 1 to September 30, 2017

| Strategy | No. of Funds | Amt (\$mm) | Percent |
|---------------------|--------------|----------------|-------------|
| Venture Capital | 382 | 29,109 | 12% |
| Buyouts | 272 | 167,111 | 67% |
| Subordinated Debt | 52 | 22,627 | 9% |
| Distressed Debt | 17 | 9,601 | 4% |
| Secondary and Other | 31 | 9,869 | 4% |
| Fund-of-funds | 85 | 11,122 | 4% |
| Totals | 839 | 249,439 | 100% |

Source: Private Equity Analyst
Figures may not total due to rounding.

\$50.8 billion. The M&A exits were down 12% from the prior quarter's 504, but the announced value increased 6% from \$48.1 billion. Buyout-backed IPOs in the third quarter fell to only one raising \$43 million, a sharp decrease compared to last quarter's seven IPOs (a two-year high), raising an aggregate \$2.0 billion.

Venture-backed exits (both private sales and IPOs) totaled 182 transactions, and disclosed value totaled \$11.2 billion. The number of exits rose 2% from the second quarter's 179, and the announced dollar volume increased 9% from \$10.3 billion.

Please see our upcoming issue of *Private Markets Trends* for more in-depth coverage.

Private Equity Performance Database (%) (Pooled Horizon IRRs through June 30, 2017*)

| Strategy | 3 Months | Year | 3 Years | 5 Years | 10 Years | 15 Years | 20 Years |
|---------------------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------|
| All Venture | 2.01 | 8.79 | 11.89 | 14.74 | 9.37 | 8.32 | 19.63 |
| Growth Equity | 3.69 | 14.51 | 9.51 | 12.74 | 9.94 | 11.84 | 13.20 |
| All Buyouts | 6.51 | 18.69 | 10.43 | 14.36 | 8.71 | 13.86 | 12.55 |
| Mezzanine | 4.00 | 11.72 | 8.63 | 9.91 | 8.73 | 9.47 | 8.79 |
| Distressed | 4.30 | 17.77 | 8.19 | 11.95 | 9.15 | 11.29 | 11.36 |
| All Private Equity | 4.96 | 15.79 | 10.35 | 13.94 | 8.98 | 12.19 | 13.15 |
| S&P 500 | 3.09 | 17.90 | 9.61 | 14.63 | 7.18 | 8.35 | 7.15 |
| Russell 3000 | 3.02 | 18.51 | 9.10 | 14.58 | 7.26 | 8.66 | 7.44 |

Private equity returns are net of fees.

Sources: Standard & Poor's and Thomson Reuters/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.

Kickin' It with Risk

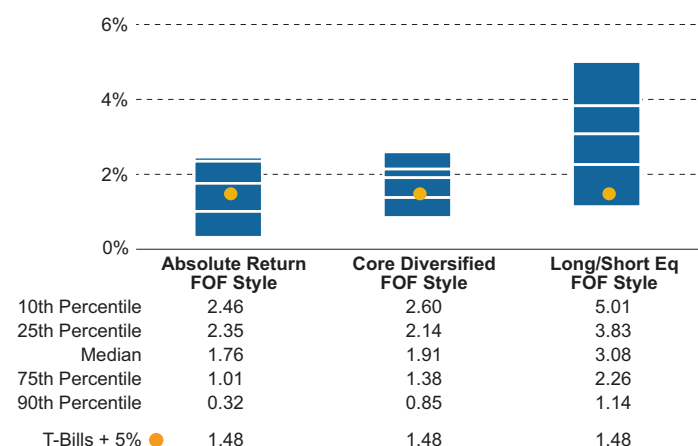
HEDGE FUNDS | Jim McKee

Discarding worries of stubbornly slow global economic growth and other distractions, markets focused on positive economic news and hopes of U.S. tax reform this quarter, suggesting rising stock prices ahead. Volatility as a measure of perceived market risk reached cyclical lows across the major markets. Amid this risk-on environment, hedge funds got some traction. Illustrating raw hedge fund performance without implementation costs, the asset-weighted **Credit Suisse Hedge Fund Index** (CS HFI) rose 1.8%. As a proxy for live hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Database** advanced 2.0%, net of all fees and expenses.

Within CS HFI, the best-performing strategy was *Emerging Markets* (+5.6%), where embedded market beta explained some but not all of the gains. Other strategies performing particularly well were *Equity Market Neutral* (+4.4%) and *Long/Short Equity* (+3.0%); both benefited from an improved stock-picking environment. *Managed Futures* (+1.3%) and *Global Macro* (+1.8%) benefited modestly from top-down trends and discretionary calls, particularly in the equity markets.

Within Callan's Hedge Fund-of-Funds Database, market exposures meaningfully affected performance in the quarter. Supported by the equity rally, the median *Callan Long/Short Equity FOF* (+3.1%) handily beat the *Callan Absolute Return FOF* (+1.8%). With exposures to both non-directional and directional styles, the *Core Diversified FOF* advanced 1.9%.

Callan Style Group Quarterly Returns



Sources: Callan and Merrill Lynch

Callan Database Median and Index Returns* for Periods ended September 30, 2017

| | Quarter | YTD | Year | 3 Years | 5 Years | 10 Years | 15 Years |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Hedge Fund-of-Funds Database | 2.02 | 5.47 | 7.26 | 2.87 | 4.97 | 3.11 | 5.16 |
| CS Hedge Fund Index | 1.81 | 4.70 | 5.91 | 1.96 | 4.16 | 3.24 | 6.00 |
| CS Equity Market Neutral | 4.38 | 7.00 | 4.16 | 1.37 | 2.48 | -2.89 | 0.55 |
| CS Convertible Arbitrage | 1.61 | 4.10 | 4.54 | 2.76 | 3.51 | 3.61 | 4.76 |
| CS Fixed Income Arbitrage | 0.22 | 4.20 | 6.12 | 3.02 | 3.86 | 3.57 | 4.04 |
| CS Multi-Strategy | 1.38 | 6.56 | 7.80 | 5.33 | 6.97 | 5.01 | 7.06 |
| CS Distressed | 1.56 | 5.52 | 9.29 | 1.27 | 5.47 | 3.70 | 7.68 |
| CS Risk Arbitrage | 1.66 | 5.70 | 6.52 | 3.37 | 3.44 | 3.10 | 4.38 |
| CS Event-Driven Multi-Strategy | 0.58 | 4.27 | 6.12 | -1.19 | 3.47 | 2.73 | 6.49 |
| CS Long/Short Equity | 2.99 | 9.81 | 9.59 | 3.94 | 6.86 | 3.91 | 6.88 |
| CS Global Macro | 1.83 | 0.26 | 4.86 | 1.48 | 2.53 | 4.58 | 7.31 |
| CS Managed Futures | 1.32 | -3.12 | -8.59 | -0.17 | 0.00 | 2.09 | 3.25 |
| CS Emerging Markets | 5.58 | 13.02 | 12.72 | 5.88 | 6.21 | 3.53 | 8.63 |

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

DC Index Closes Strongest First Half in Its History

DEFINED CONTRIBUTION | Tom Szkwarla

The Callan DC Index™ rose a healthy 3.1% during the second quarter, reflecting strong equity market performance, and is now up 7.9% year-to-date—its best first-half performance since its 2006 inception. Still, the Index trailed the typical Age 45 Target Date Fund (TDF), which gained 3.7% in the second quarter and 9.4% in the first half. TDFs have benefited from higher exposures to non-U.S. equity and emerging markets, which are both up sharply year to date, than the typical DC participant.

Since the Index's inception in 2006, the average TDF has outperformed DC plans by 76 basis points annually. Due to their heavier equity exposure, TDFs have tended to outperform in strong markets and underperform in weak markets.

For the quarter, plan balances rose 3.19%, almost entirely due to return growth (3.06%) rather than inflows (plan sponsor and participant contributions), which contributed just 0.13%.

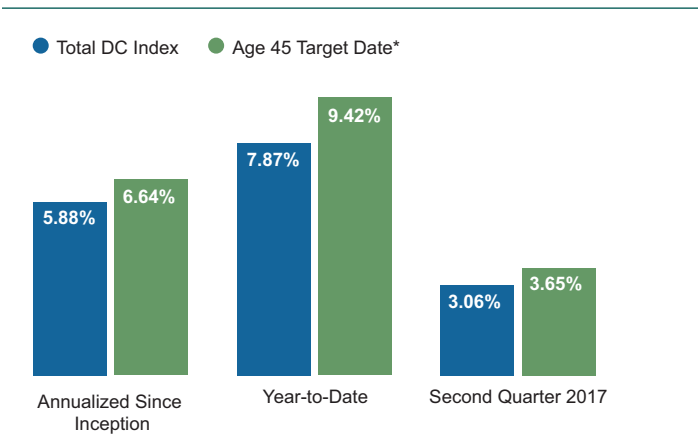
The proportion of net flows into non-U.S. equities during the quarter was the highest since late 2007. Money primarily flowed out of stable value, U.S. small/mid cap equity, and company stock. As usual, TDFs attracted the lion's share of net flows, with 69 cents of every dollar of flows moving into these funds.

Index turnover (i.e., net transfer activity levels within DC plans) came in at 0.43% in the quarter compared to average historical quarterly turnover levels of 0.63%.

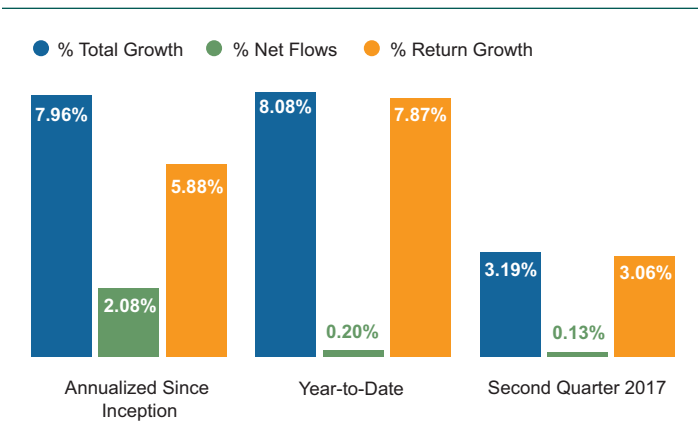
The Callan DC Index's overall equity allocation edged up from last quarter to nearly 70%, slightly above the Index's historical average of 67%. Still, the Index has yet to achieve its pre-Global Financial Crisis equity allocation peak of 73% (fourth quarter of 2007).

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 (Second Quarter 2017) (Top Two and Bottom Two Asset Gatherers)

| Asset Class | Flows as % of Total Net Flows |
|------------------------|-------------------------------|
| Target Date Funds | 69.47% |
| Emerging Market Equity | 1.94% |
| U.S. Small/Mid Cap | -28.57% |
| Stable Value | -31.80% |
| Total Turnover** | 0.43% |

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

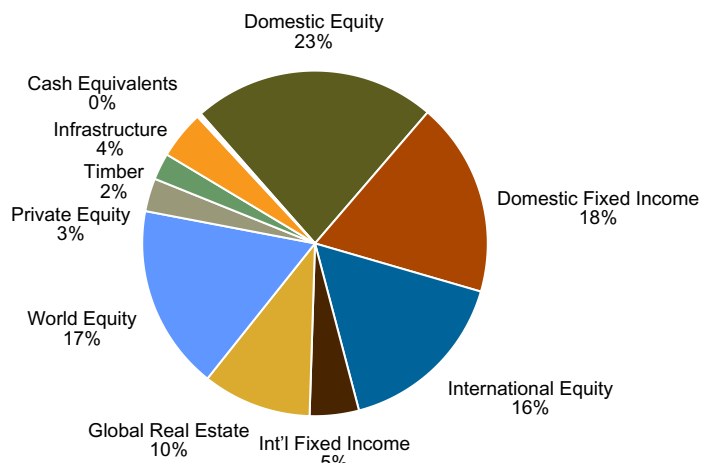
* The Age 45 Fund transitioned from the average 2030 TDF to the 2035 TDF in June 2013.

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

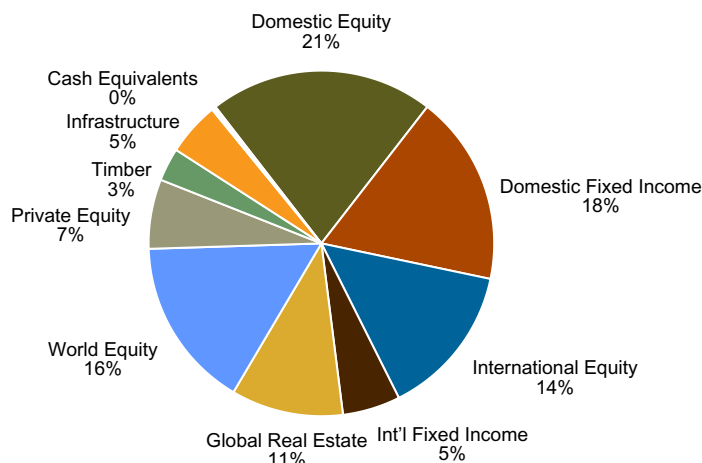
Actual vs Target Asset Allocation As of September 30, 2017

The top left chart shows the Fund's asset allocation as of September 30, 2017. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.

Actual Asset Allocation

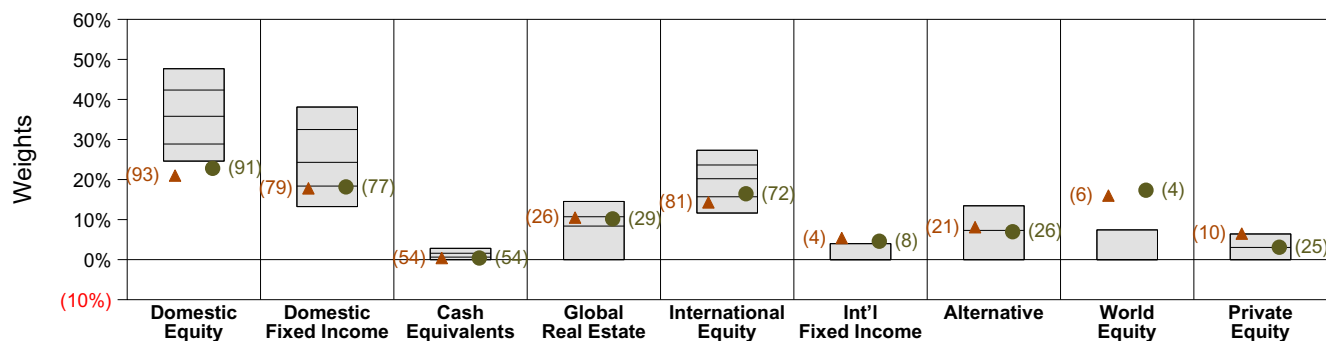


Target Asset Allocation



| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-----------------------|---------------|---------------|--------|--------------------|-------------------|
| Domestic Equity | 1,248,756 | 22.8% | 21.0% | 1.8% | 98,810 |
| Domestic Fixed Income | 994,546 | 18.2% | 17.8% | 0.4% | 19,829 |
| International Equity | 900,771 | 16.4% | 14.3% | 2.1% | 117,712 |
| Int'l Fixed Income | 251,796 | 4.6% | 5.4% | (0.8%) | (43,905) |
| Global Real Estate | 557,392 | 10.2% | 10.5% | (0.3%) | (17,581) |
| World Equity | 949,203 | 17.3% | 16.0% | 1.3% | 73,053 |
| Private Equity | 169,791 | 3.1% | 6.5% | (3.4%) | (186,145) |
| Timber | 135,424 | 2.5% | 3.1% | (0.6%) | (34,330) |
| Infrastructure | 246,226 | 4.5% | 5.0% | (0.5%) | (27,571) |
| Cash Equivalents | 22,032 | 0.4% | 0.4% | 0.0% | 128 |
| Total | 5,475,935 | 100.0% | 100.0% | | |

Asset Class Weights vs Callan Public Fund Sponsor Database



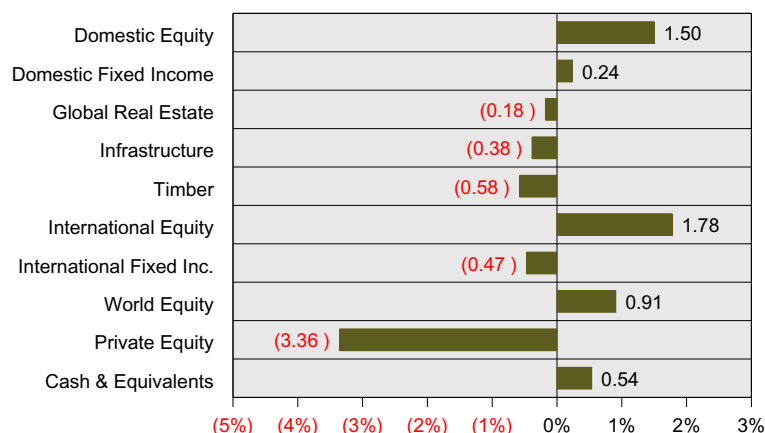
| | | | | | | | | | |
|------------------|--------------|--------------|-------------|--------------|--------------|-------------|-------------|--------------|-------------|
| 10th Percentile | 47.67 | 38.10 | 2.82 | 14.53 | 27.31 | 3.99 | 13.45 | 7.43 | 6.41 |
| 25th Percentile | 42.35 | 32.48 | 1.59 | 10.71 | 23.63 | 0.00 | 7.30 | 0.00 | 3.05 |
| Median | 35.80 | 24.30 | 0.63 | 8.38 | 20.20 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75th Percentile | 28.87 | 18.37 | 0.00 | 0.00 | 15.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| 90th Percentile | 24.60 | 13.25 | 0.00 | 0.00 | 11.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fund | 22.80 | 18.16 | 0.40 | 10.18 | 16.45 | 4.60 | 6.97 | 17.33 | 3.10 |
| Target | 21.00 | 17.80 | 0.40 | 10.50 | 14.30 | 5.40 | 8.10 | 16.00 | 6.50 |
| % Group Invested | 96.60% | 97.28% | 73.47% | 71.43% | 91.84% | 14.97% | 13.61% | 12.24% | 36.73% |

* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

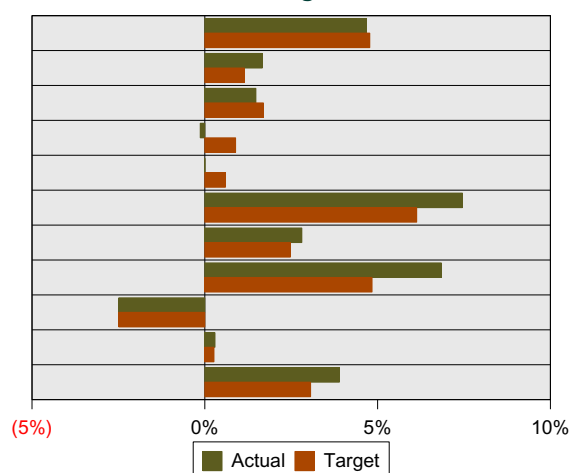
Quarterly Total Fund Relative Attribution - September 30, 2017

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

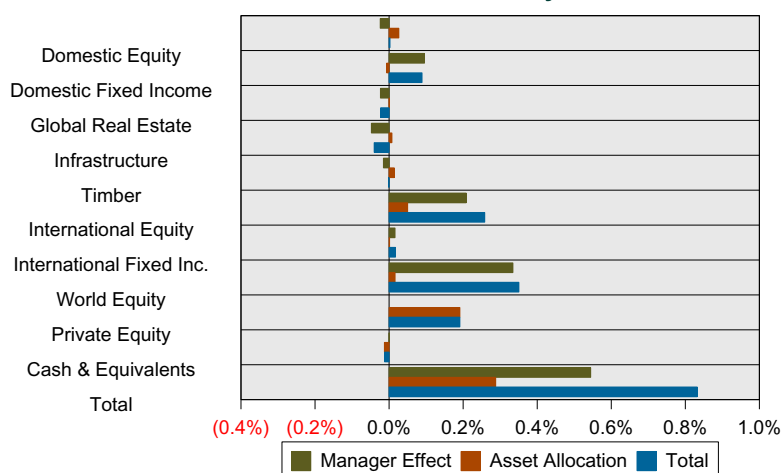
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2017

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 4.67% | 4.77% | (0.02%) | 0.03% | 0.00% |
| Domestic Fixed Income | 18% | 18% | 1.66% | 1.14% | 0.10% | (0.01%) | 0.09% |
| Global Real Estate | 10% | 10% | 1.48% | 1.70% | (0.02%) | 0.00% | (0.02%) |
| Infrastructure | 5% | 5% | (0.13)% | 0.89% | (0.05%) | 0.01% | (0.04)% |
| Timber | 3% | 3% | 0.00% | 0.60% | (0.02%) | 0.01% | (0.00)% |
| International Equity | 16% | 14% | 7.45% | 6.13% | 0.21% | 0.05% | 0.26% |
| International Fixed Inc. | 5% | 5% | 2.81% | 2.48% | 0.02% | 0.00% | 0.02% |
| World Equity | 17% | 16% | 6.84% | 4.84% | 0.33% | 0.02% | 0.35% |
| Private Equity | 3% | 6% | (2.49)% | (2.49)% | 0.00% | 0.19% | 0.19% |
| Cash & Equivalents | 1% | 0% | 0.29% | 0.26% | 0.00% | (0.01)% | (0.01)% |

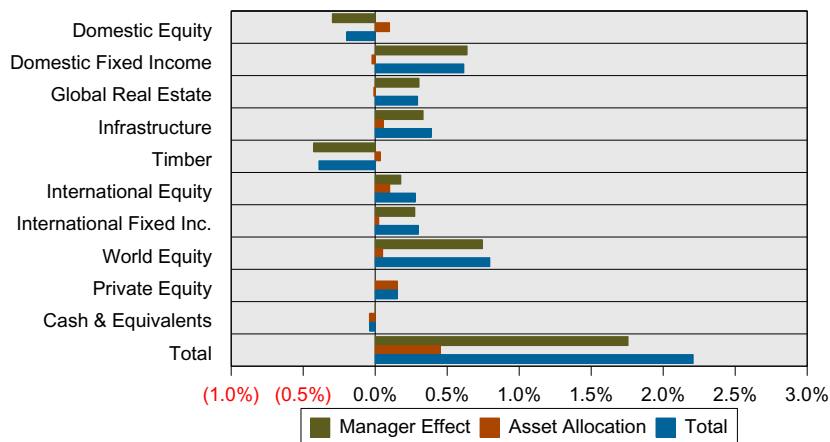
Total **3.89% = 3.06% + 0.54% + 0.29%** **0.83%**

* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

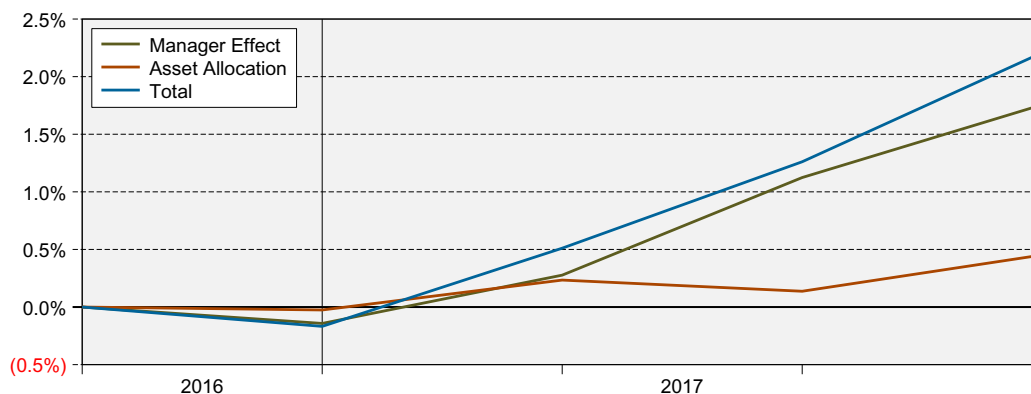
Cumulative Total Fund Relative Attribution - September 30, 2017

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

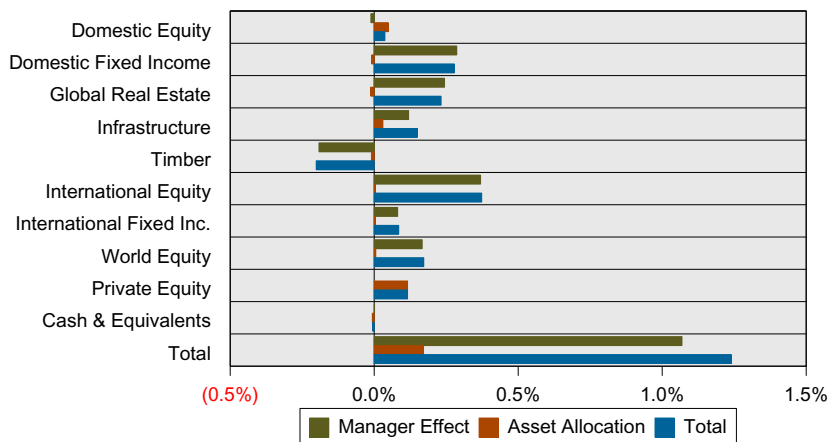
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 17.78% | 19.15% | (0.30%) | 0.10% | (0.20%) |
| Domestic Fixed Income | 18% | 18% | 5.60% | 2.29% | 0.64% | (0.02%) | 0.62% |
| Global Real Estate | 11% | 10% | 9.64% | 6.89% | 0.30% | (0.01%) | 0.29% |
| Infrastructure | 4% | 5% | 9.75% | 2.31% | 0.33% | 0.06% | 0.39% |
| Timber | 3% | 3% | (9.44%) | 3.28% | (0.43%) | 0.04% | (0.39%) |
| International Equity | 16% | 14% | 20.67% | 19.59% | 0.18% | 0.10% | 0.28% |
| International Fixed Inc. | 5% | 5% | 2.49% | (2.42%) | 0.28% | 0.02% | 0.30% |
| World Equity | 17% | 16% | 22.90% | 18.17% | 0.74% | 0.05% | 0.80% |
| Private Equity | 3% | 6% | 6.53% | 6.53% | 0.00% | 0.15% | 0.15% |
| Cash & Equivalents | 1% | 0% | 0.89% | 0.66% | 0.00% | (0.04%) | (0.04%) |
| Total | | | 13.41% | 11.20% | + 1.76% | + 0.45% | 2.21% |

* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

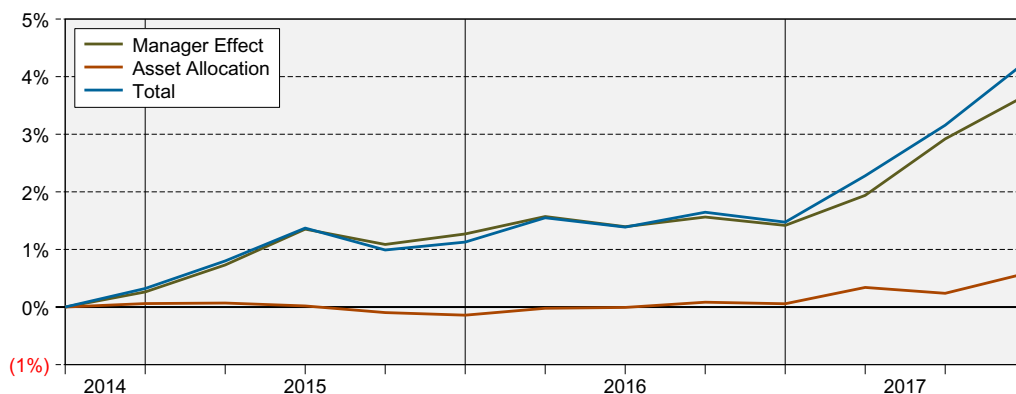
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

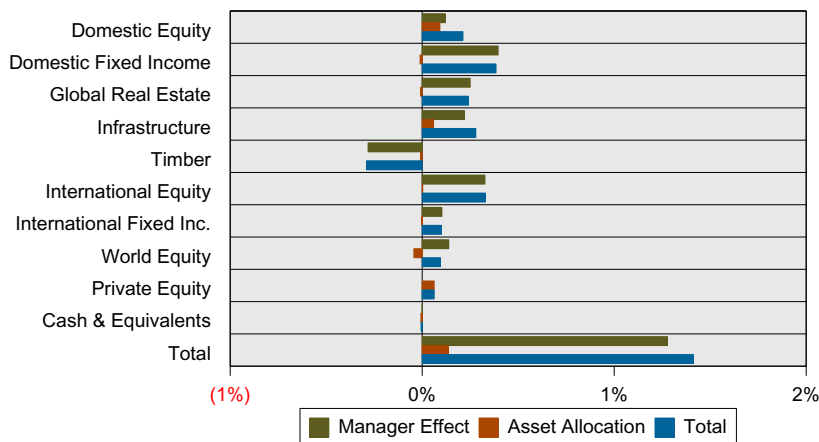
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 11.03% | 11.06% | (0.01%) | 0.05% | 0.04% |
| Domestic Fixed Income | 19% | 18% | 5.09% | 3.56% | 0.29% | (0.01%) | 0.28% |
| Global Real Estate | 10% | 10% | 12.30% | 9.83% | 0.24% | (0.01%) | 0.23% |
| Infrastructure | 4% | 5% | 3.63% | 0.95% | 0.12% | 0.03% | 0.15% |
| Timber | 3% | 4% | (0.61%) | 5.24% | (0.19%) | (0.01%) | (0.20%) |
| International Equity | 15% | 14% | 7.43% | 4.99% | 0.37% | 0.00% | 0.37% |
| International Fixed Inc. | 5% | 5% | 1.81% | 0.20% | 0.08% | 0.00% | 0.09% |
| World Equity | 16% | 16% | 8.67% | 7.69% | 0.17% | 0.01% | 0.17% |
| Private Equity | 4% | 6% | (2.14%) | (2.14%) | 0.00% | 0.12% | 0.12% |
| Cash & Equivalents | 1% | 1% | 0.45% | 0.32% | 0.00% | (0.01%) | (0.01%) |
| Total | | | 7.49% | 6.25% | + 1.07% | + 0.17% | 1.24% |

* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

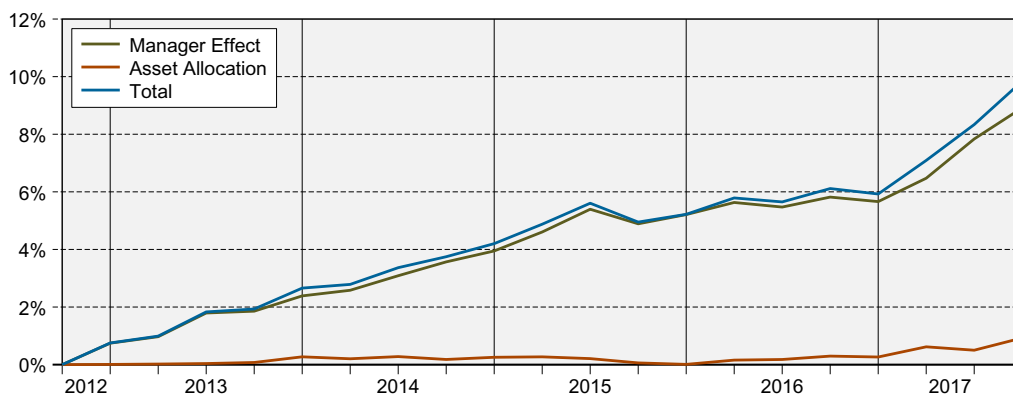
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

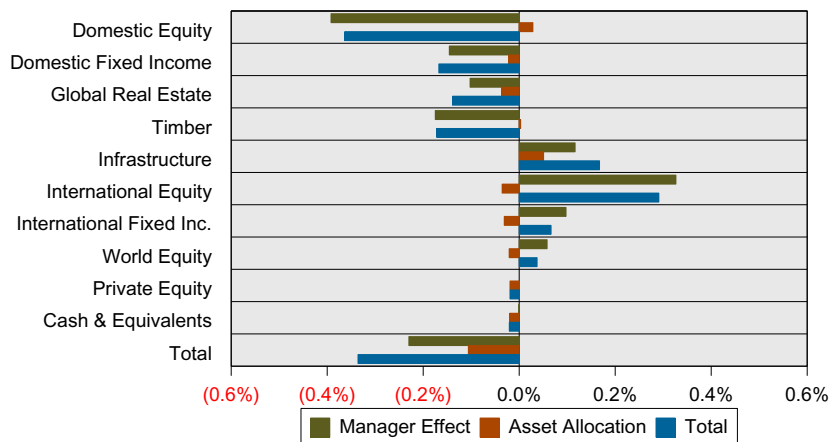
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 22% | 14.80% | 14.23% | 0.12% | 0.09% | 0.21% |
| Domestic Fixed Income | 18% | 18% | 5.32% | 3.23% | 0.40% | (0.01%) | 0.38% |
| Global Real Estate | 10% | 10% | 12.98% | 10.35% | 0.25% | (0.01%) | 0.24% |
| Infrastructure | 4% | 5% | 6.52% | 1.09% | 0.22% | 0.06% | 0.28% |
| Timber | 4% | 4% | 0.27% | 7.13% | (0.28%) | (0.01%) | (0.29%) |
| International Equity | 15% | 14% | 9.64% | 7.42% | 0.33% | 0.00% | 0.33% |
| International Fixed Inc. | 5% | 5% | 1.15% | (0.73%) | 0.10% | (0.00%) | 0.10% |
| World Equity | 16% | 16% | 11.65% | 10.99% | 0.14% | (0.04%) | 0.09% |
| Private Equity | 4% | 5% | 0.93% | 0.93% | 0.00% | 0.06% | 0.06% |
| Cash & Equivalents | 1% | 1% | 0.29% | 0.22% | 0.00% | (0.01%) | (0.01%) |
| Total | | | 9.35% | 7.94% | 1.28% | 0.14% | 1.41% |

* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

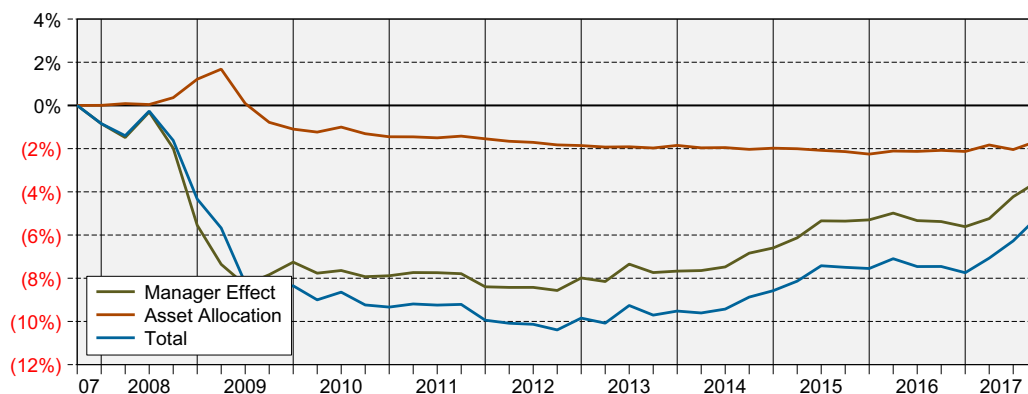
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Ten Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Ten Year Annualized Relative Attribution Effects

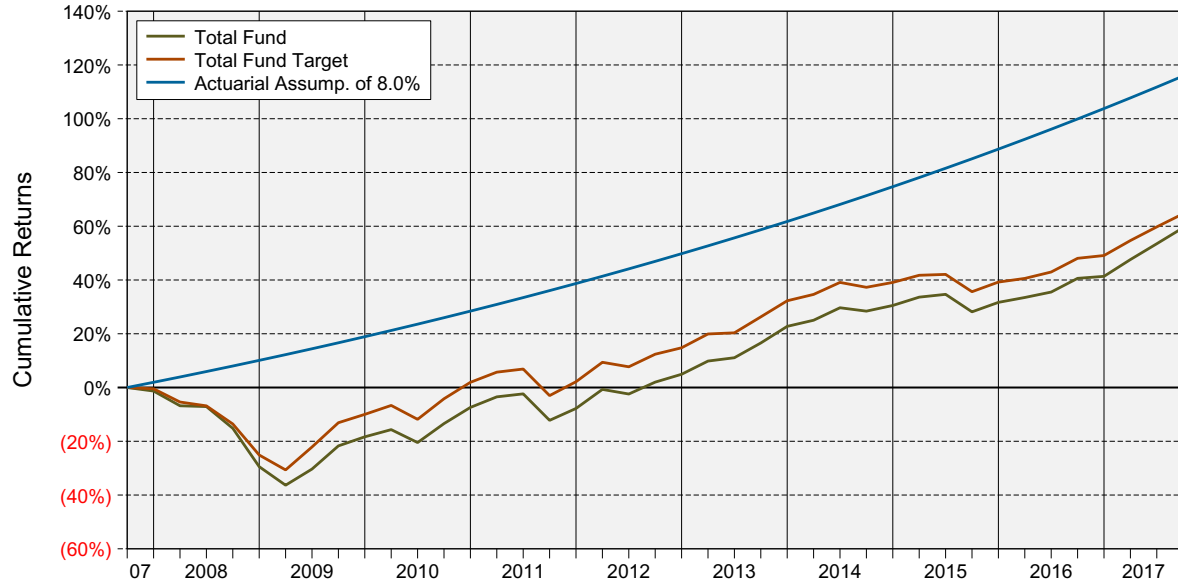
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 29% | 29% | 6.47% | 7.62% | (0.39%) | 0.03% | (0.36%) |
| Domestic Fixed Income | 22% | 21% | 5.48% | 5.40% | (0.15%) | (0.02%) | (0.17%) |
| Global Real Estate | 9% | 9% | 4.93% | 6.23% | (0.10%) | (0.04%) | (0.14%) |
| Timber | 2% | 3% | - | - | (0.17%) | 0.00% | (0.17%) |
| Infrastructure | 2% | 3% | - | - | 0.12% | 0.05% | 0.17% |
| International Equity | 16% | 16% | 3.38% | 1.50% | 0.33% | (0.04%) | 0.29% |
| International Fixed Inc. | 5% | 5% | 4.68% | 2.87% | 0.10% | (0.03%) | 0.07% |
| World Equity | 8% | 8% | - | - | 0.06% | (0.02%) | 0.04% |
| Private Equity | 4% | 5% | (0.43%) | (0.43%) | 0.00% | (0.02%) | (0.02%) |
| Cash & Equivalents | 1% | 1% | 0.31% | 0.47% | (0.00%) | (0.02%) | (0.02%) |
| Total | | | 4.78% | 5.11% | (0.23%) | (0.11%) | (0.34%) |

* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

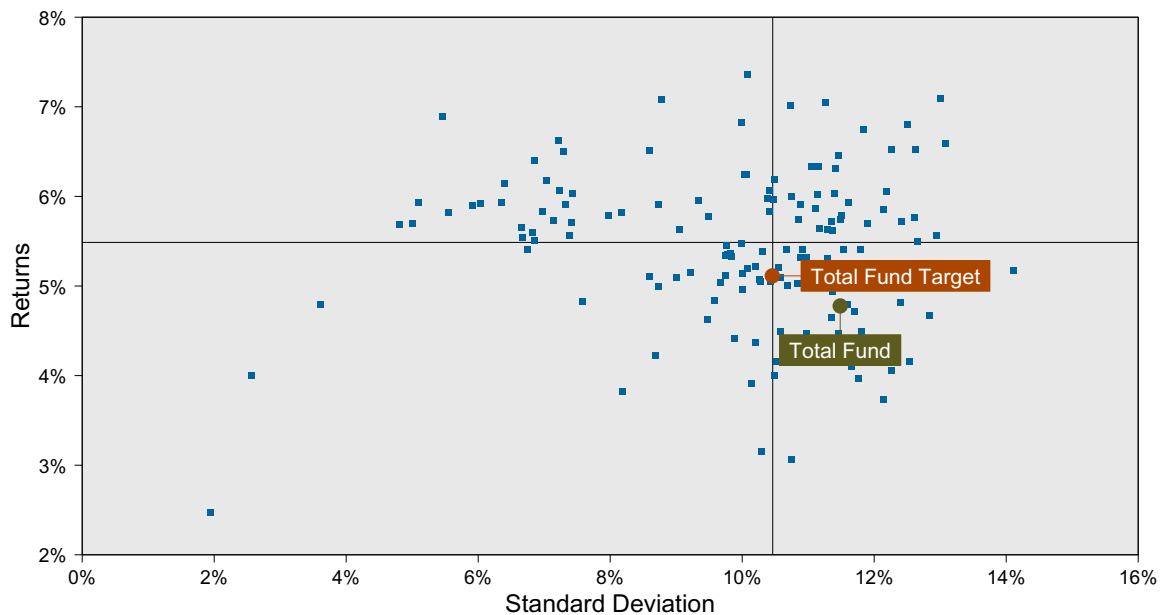
Cumulative Performance Relative to Target

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 Callan Public Fund Sponsor Database.

Cumulative Returns Actual vs Target



Ten Year Annualized Risk vs Return



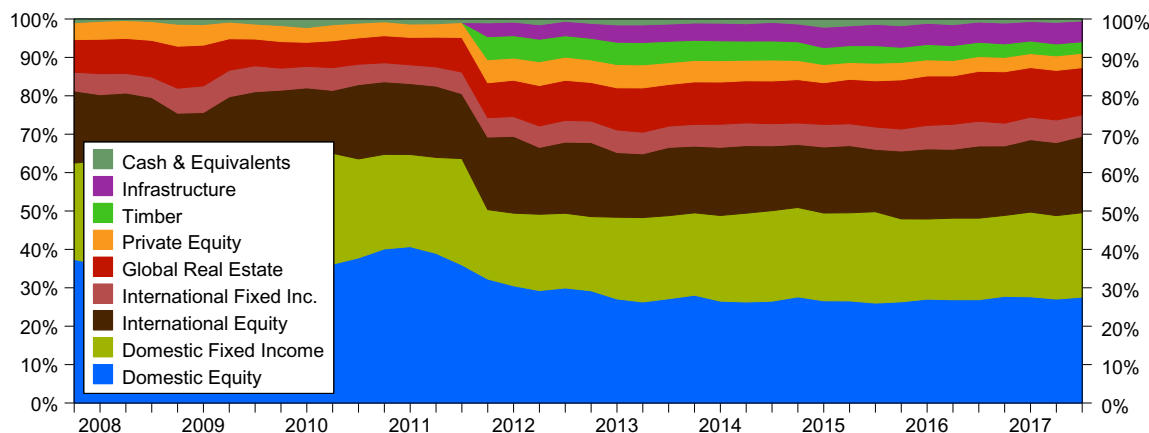
Squares represent membership of the Callan Public Fund Sponsor Database

* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

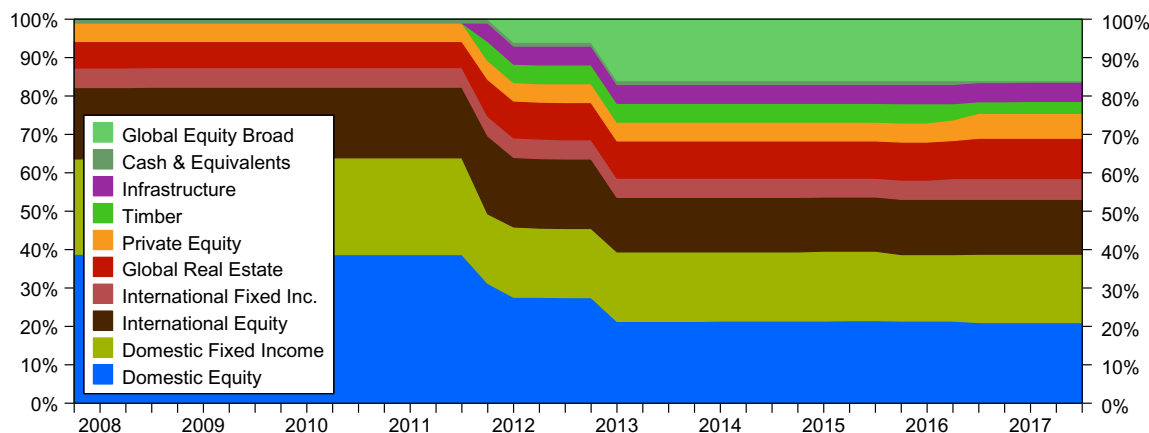
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

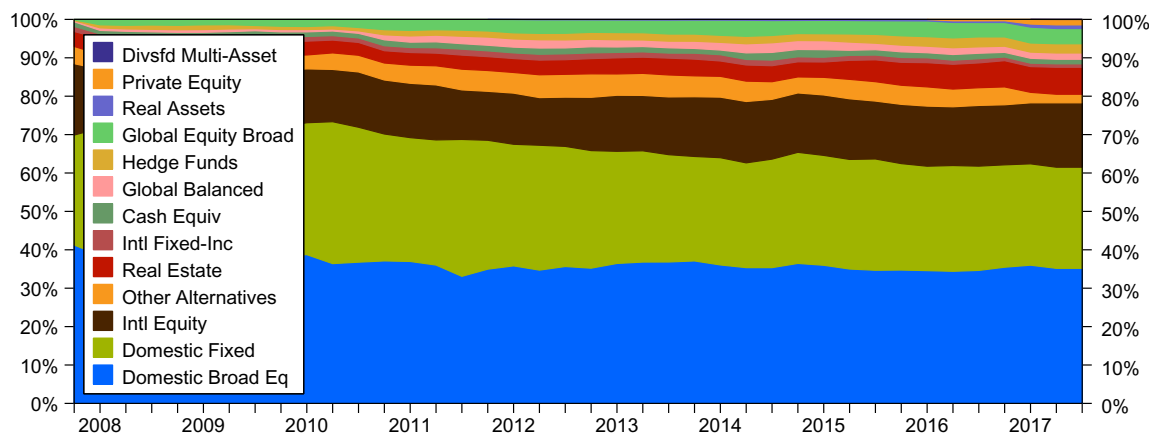
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation

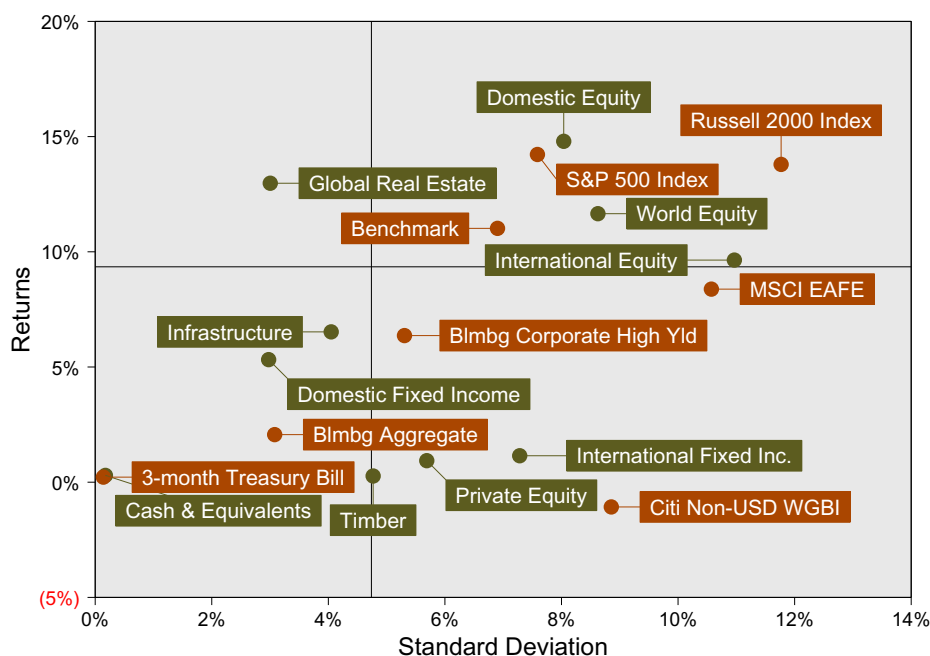


* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

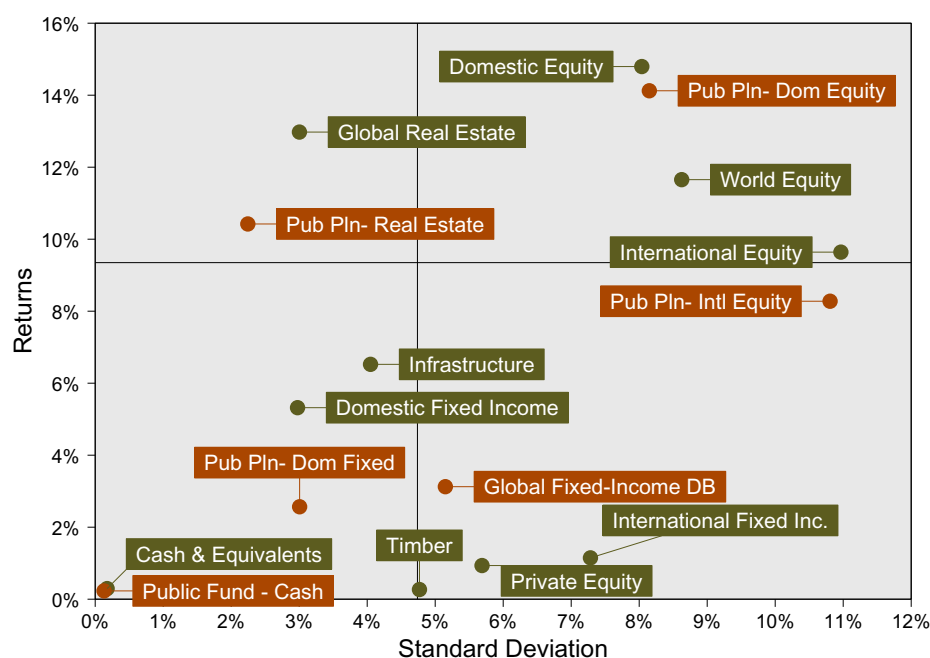
Asset Class Risk and Return

The charts below show the five year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

Five Year Annualized Risk vs Return Asset Classes vs Benchmark Indices



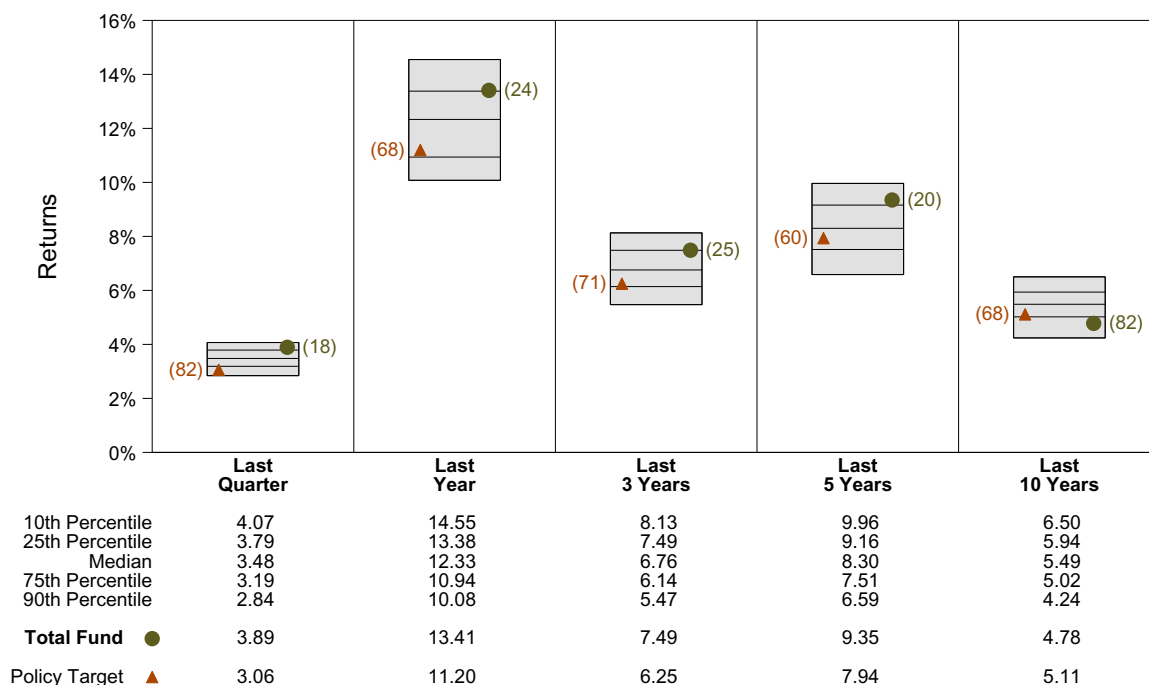
Five Year Annualized Risk vs Return Asset Classes vs Asset Class Median



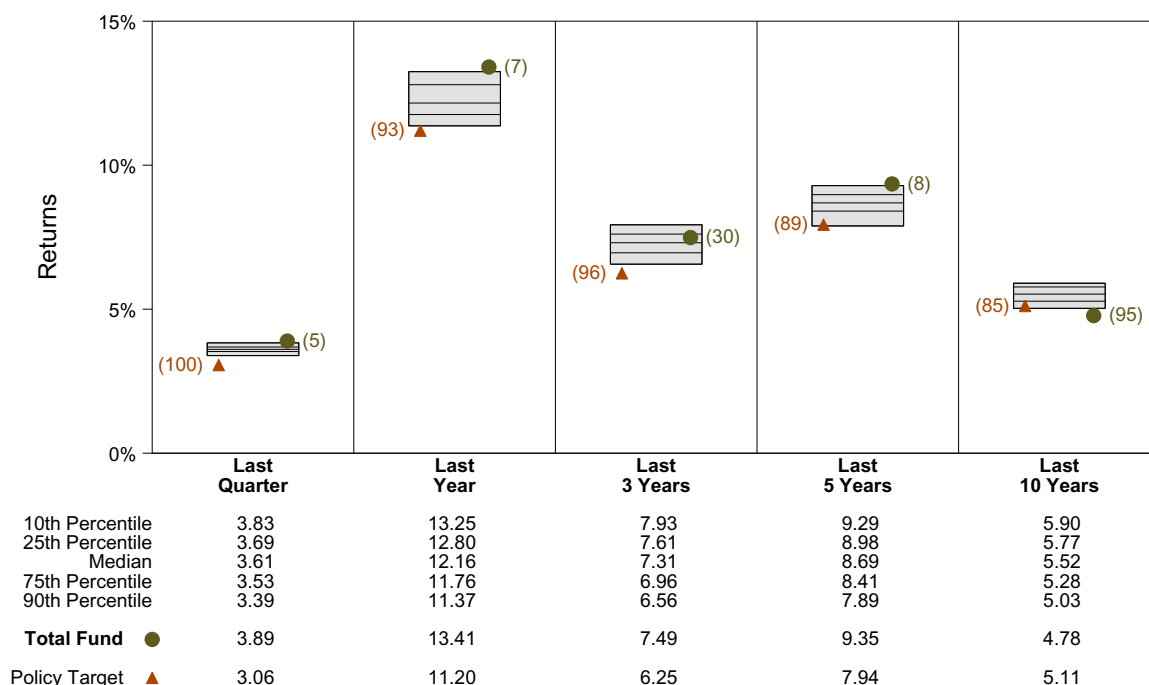
Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended September 30, 2017. 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.

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking

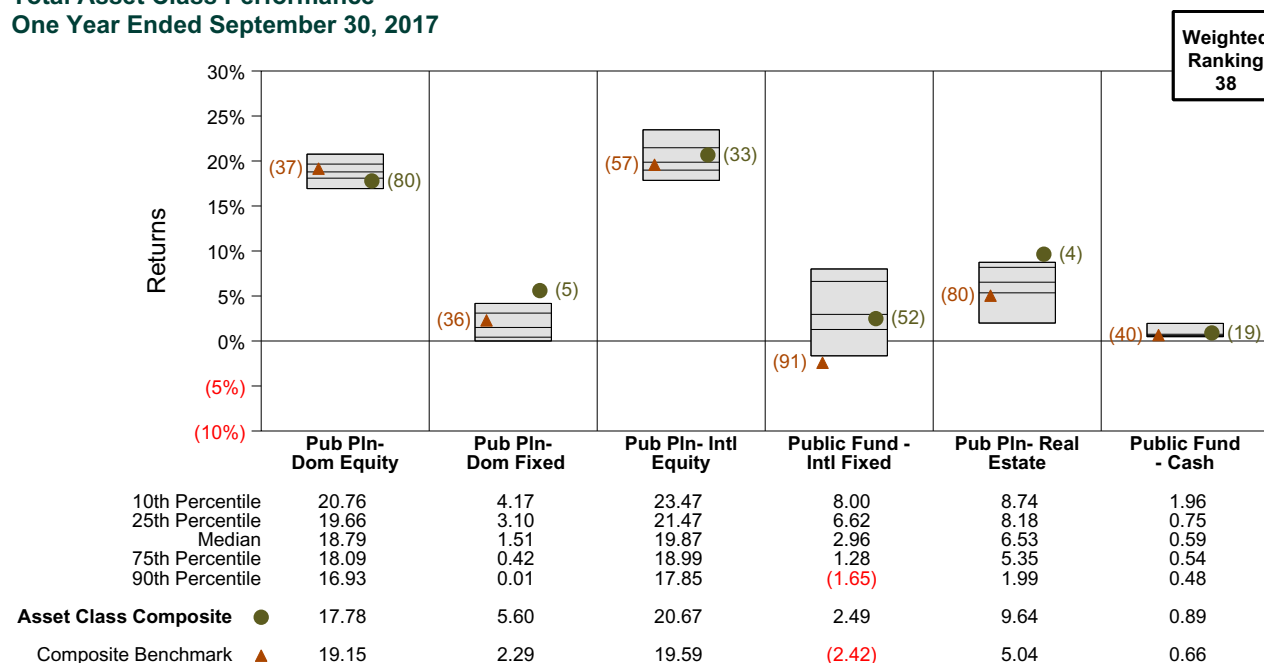


* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

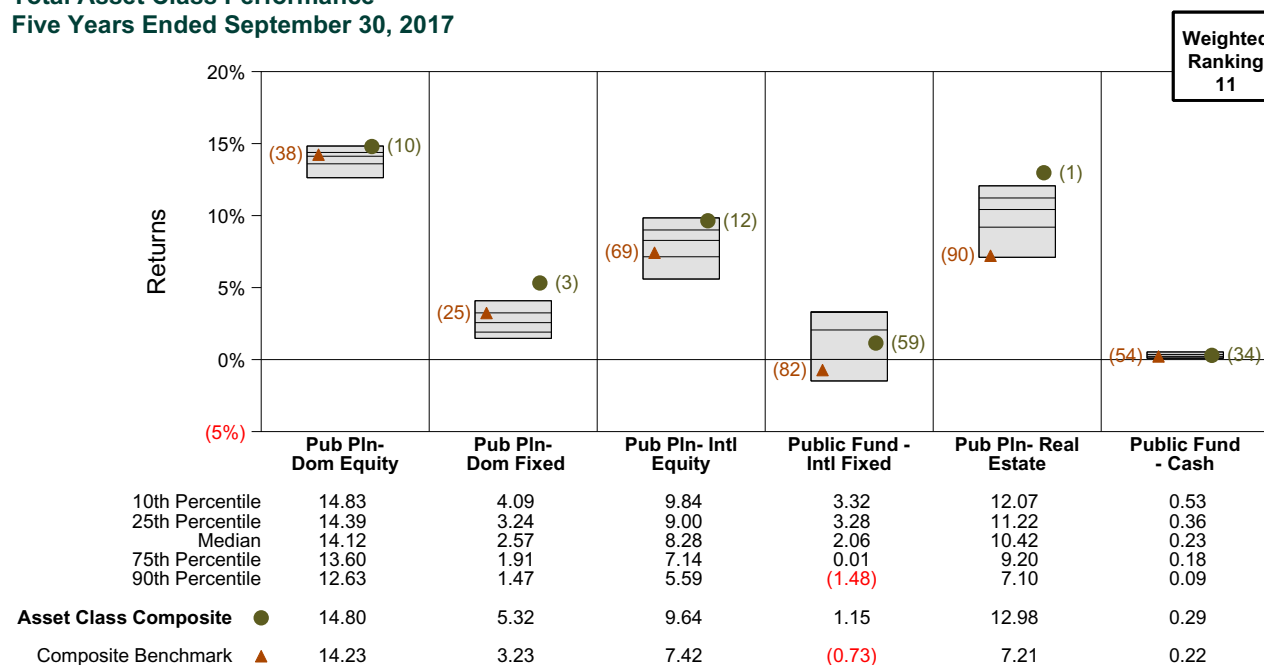
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended September 30, 2017



Total Asset Class Performance Five Years Ended September 30, 2017



* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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

| | September 30, 2017 | | | | June 30, 2017 | |
|----------------------------------|------------------------|---------------|----------------------|----------------------|------------------------|---------------|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| GLOBAL EQUITY | \$3,268,520,075 | 59.69% | \$4,584,749 | \$174,891,178 | \$3,089,044,149 | 58.29% |
| Domestic Equity | \$1,248,756,078 | 22.80% | \$(678,227) | \$55,775,088 | \$1,193,659,217 | 22.53% |
| Large Cap Domestic Equity | \$946,049,896 | 17.28% | \$(273,861) | \$41,525,722 | \$904,798,035 | 17.07% |
| L.A. Capital | 361,203,730 | 6.60% | (181,653) | 16,583,887 | 344,801,496 | 6.51% |
| LACM Enhanced Index | 208,491,454 | 3.81% | (50,490) | 8,114,499 | 200,427,445 | 3.78% |
| Northern Trust AM Enh S&P 500 | 175,544,658 | 3.21% | 0 | 8,226,149 | 167,318,509 | 3.16% |
| Parametric Clifton Enh S&P 500 | 200,810,053 | 3.67% | (41,718) | 8,601,187 | 192,250,585 | 3.63% |
| Small Cap Domestic Equity | \$302,706,183 | 5.53% | \$(404,366) | \$14,249,367 | \$288,861,182 | 5.45% |
| Atlanta Capital | 134,603,739 | 2.46% | (232,857) | 4,598,919 | 130,237,677 | 2.46% |
| Parametric Clifton Enh Small Cap | 168,102,443 | 3.07% | (171,509) | 9,650,448 | 158,623,505 | 2.99% |
| International Equity | \$900,770,675 | 16.45% | \$(380,387) | \$62,501,693 | \$838,649,370 | 15.83% |
| Developed Int'l Equity | \$675,786,186 | 12.34% | \$(380,387) | \$43,820,471 | \$632,346,103 | 11.93% |
| DFA Int'l Small Cap | 94,278,772 | 1.72% | 0 | 6,655,587 | 87,623,184 | 1.65% |
| Northern Trust AM World Ex US | 318,112,166 | 5.81% | (46,979) | 17,126,081 | 301,033,064 | 5.68% |
| Wellington Management Co. | 106,118,253 | 1.94% | (199,432) | 8,787,245 | 97,530,440 | 1.84% |
| William Blair | 157,276,996 | 2.87% | (133,975) | 11,251,557 | 146,159,414 | 2.76% |
| Emerging Markets Equity | \$224,984,489 | 4.11% | \$0 | \$18,681,222 | \$206,303,267 | 3.89% |
| Axiom | 171,860,784 | 3.14% | 0 | 15,643,099 | 156,217,685 | 2.95% |
| DFA | 53,123,705 | 0.97% | 0 | 3,038,123 | 50,085,582 | 0.95% |
| World Equity | \$949,202,682 | 17.33% | \$(1,198,673) | \$60,827,711 | \$889,573,644 | 16.79% |
| EPOCH Investment Partners | 423,282,874 | 7.73% | (630,592) | 27,968,499 | 395,944,967 | 7.47% |
| LSV Asset Management | 525,919,808 | 9.60% | (568,081) | 32,859,212 | 493,628,676 | 9.32% |

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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

| | September 30, 2017 | | | June 30, 2017 | | |
|----------------------------------|----------------------|--------------|--------------------|----------------------|----------------------|--------------|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| Private Equity | \$169,790,640 | 3.10% | \$6,842,037 | \$(4,213,314) | \$167,161,918 | 3.15% |
| Adams Street Direct Co-Invest Fd | 1,756,332 | 0.03% | (1,605,119) | 90,821 | 3,270,630 | 0.06% |
| Adams Street Direct Fund 2010 | 953,355 | 0.02% | (78,147) | 0 | 1,031,502 | 0.02% |
| Adams Street 1998 Partnership | 125,091 | 0.00% | 0 | (515) | 125,606 | 0.00% |
| Adams Street 1999 Partnership | 324,924 | 0.01% | 0 | (12,220) | 337,144 | 0.01% |
| Adams Street 2000 Partnership | 546,486 | 0.01% | 0 | (7,371) | 553,857 | 0.01% |
| Adams Street 2001 Partnership | 1,044,148 | 0.02% | (256,055) | (29,444) | 1,329,647 | 0.03% |
| Adams Street 2002 Partnership | 155,066 | 0.00% | (192,303) | 8,148 | 339,221 | 0.01% |
| Adams Street 2003 Partnership | 289,194 | 0.01% | 0 | 1,057 | 288,137 | 0.01% |
| Adams Street 2010 Partnership | 6,151,474 | 0.11% | (114,727) | 49,798 | 6,216,403 | 0.12% |
| Adams Street 2008 Fund | 7,733,643 | 0.14% | (238,233) | 201,699 | 7,770,177 | 0.15% |
| Adams Street 1999 Non-US | 69,632 | 0.00% | 0 | 0 | 69,632 | 0.00% |
| Adams Street 2000 Non-US | 530,987 | 0.01% | 0 | 0 | 530,987 | 0.01% |
| Adams Street 2001 Non-US | 162,493 | 0.00% | 0 | 0 | 162,493 | 0.00% |
| Adams Street 2002 Non-US | 260,301 | 0.00% | (232,500) | (9,307) | 502,108 | 0.01% |
| Adams Street 2003 Non-US | 338,736 | 0.01% | 0 | 15,258 | 323,478 | 0.01% |
| Adams Street 2004 Non-US | 268,879 | 0.00% | (49,482) | (1,635) | 319,996 | 0.01% |
| Adams Street 2010 Non-US | 3,083,287 | 0.06% | (194,576) | 129,392 | 3,148,471 | 0.06% |
| Adams Street 2010 Non-US Emg | 1,440,797 | 0.03% | (36,007) | 38,700 | 1,438,104 | 0.03% |
| Adams Street 2015 Global Fd | 8,060,874 | 0.15% | 0 | (10,685) | 8,071,559 | 0.15% |
| Adams Street 2016 Global Fd | 3,262,835 | 0.06% | 1,155,000 | (20,577) | 2,128,412 | 0.04% |
| Adams Street BVCF IV Fund | 3,343,678 | 0.06% | 0 | (116,678) | 3,460,356 | 0.07% |
| BlackRock | 14,169,586 | 0.26% | 5,557,813 | 0 | 8,611,773 | 0.16% |
| Capital International V | 2,013,333 | 0.04% | 24,284 | (24,284) | 2,013,333 | 0.04% |
| Capital International VI | 26,583,196 | 0.49% | 3,066,751 | (86,295) | 23,602,740 | 0.45% |
| CorsAir III | 14,349,264 | 0.26% | 134,530 | (144,688) | 14,359,422 | 0.27% |
| CorsAir IV | 23,848,468 | 0.44% | (99,192) | (107,736) | 24,055,396 | 0.45% |
| EIG Energy Fund XIV | 6,109,065 | 0.11% | 0 | 9,539 | 6,099,526 | 0.12% |
| Hearthstone Advisors MS II | 1 | 0.00% | 0 | 0 | 1 | 0.00% |
| Hearthstone Advisors MS III | 2,292,685 | 0.04% | 0 | 0 | 2,292,685 | 0.04% |
| Lewis & Clark, LP | 1,622,825 | 0.03% | 0 | 0 | 1,622,825 | 0.03% |
| Lewis & Clark II | 9,118,782 | 0.17% | 0 | 0 | 9,118,782 | 0.17% |
| Matlin Patterson II | 1,156,074 | 0.02% | 0 | (974) | 1,157,048 | 0.02% |
| Matlin Patterson III | 23,812,484 | 0.43% | 0 | (977,983) | 24,790,467 | 0.47% |
| Quantum Energy Partners | 4,812,665 | 0.09% | 0 | (3,207,335) | 8,020,000 | 0.15% |

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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

| | September 30, 2017 | | | | June 30, 2017 | |
|--------------------------------------|------------------------|---------------|-----------------------|----------------------|------------------------|---------------|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| GLOBAL FIXED INCOME | \$1,246,341,336 | 22.76% | \$5,016,385 | \$23,265,548 | \$1,218,059,403 | 22.99% |
| Domestic Fixed Income | \$994,545,652 | 18.16% | \$20,245,239 | \$15,990,888 | \$958,309,525 | 18.08% |
| Inv. Grade Fixed Income | \$709,653,880 | 12.96% | \$(253,878) | \$11,491,050 | \$698,416,708 | 13.18% |
| Declaration Total Return | 92,051,937 | 1.68% | (33,834) | 1,335,108 | 90,750,663 | 1.71% |
| J. P. Morgan MBS | 132,263,091 | 2.42% | (69,214) | 1,125,326 | 131,206,979 | 2.48% |
| PIMCO DiSCO II | 111,933,258 | 2.04% | 0 | 4,555,545 | 107,377,713 | 2.03% |
| PIMCO MBS | 185,289,364 | 3.38% | (76,153) | 1,830,717 | 183,534,800 | 3.46% |
| PIMCO Unconstrained | 69,257,194 | 1.26% | (74,677) | 1,966,250 | 67,365,621 | 1.27% |
| SSgA Long US Treas Index | 118,859,035 | 2.17% | 0 | 678,104 | 118,180,932 | 2.23% |
| Below Inv. Grade Fixed Income | \$284,891,772 | 5.20% | \$20,499,117 | \$4,499,838 | \$259,892,817 | 4.90% |
| Ares | 22,200,000 | 0.41% | 22,200,000 | 0 | - | - |
| Cerberus | 21,600,000 | 0.39% | 21,600,000 | 0 | - | - |
| Goldman Sachs 2006 Offshore | 399,728 | 0.01% | 0 | 17,878 | 381,850 | 0.01% |
| Goldman Sachs Offshore V | 1,466,765 | 0.03% | 0 | 67,865 | 1,398,900 | 0.03% |
| Loomis Sayles | 184,195,913 | 3.36% | (21,026,010) | 4,414,095 | 200,807,828 | 3.79% |
| PIMCO Bravo II Fund | 55,029,366 | 1.00% | (2,274,873) | 0 | 57,304,239 | 1.08% |
| International Fixed Income | \$251,795,684 | 4.60% | \$(15,228,854) | \$7,274,660 | \$259,749,878 | 4.90% |
| Brandywine | 158,350,846 | 2.89% | (146,149) | 4,693,264 | 153,803,731 | 2.90% |
| UBS Global Asset Mgmt. | 93,444,838 | 1.71% | (15,082,705) | 2,581,396 | 105,946,147 | 2.00% |
| GLOBAL REAL ASSETS | \$939,041,894 | 17.15% | \$(21,941,682) | \$7,811,184 | \$953,172,392 | 17.99% |
| Global Real Estate | \$557,391,861 | 10.18% | \$(19,900,073) | \$8,137,578 | \$569,154,356 | 10.74% |
| Invesco Core Real Estate | 259,140,953 | 4.73% | (2,101,994) | 3,721,548 | 257,521,398 | 4.86% |
| Invesco Fund II | 188,225 | 0.00% | 0 | 0 | 188,225 | 0.00% |
| Invesco Fund III | 21,815,113 | 0.40% | 0 | 0 | 21,815,113 | 0.41% |
| Invesco Asia RE Feeder | 279,160 | 0.01% | 0 | 0 | 279,160 | 0.01% |
| Invesco Asia RE Fund III | 21,314,475 | 0.39% | (373,897) | () | 21,688,372 | 0.41% |
| Invesco Value Added Fd IV | 44,296,474 | 0.81% | 0 | 0 | 44,296,474 | 0.84% |
| JP Morgan | 199,435,301 | 3.64% | (1,955,757) | 4,048,765 | 197,342,292 | 3.72% |
| JP Morgan Alternative Fd | 292,644 | 0.01% | 0 | 0 | 292,644 | 0.01% |
| JP Morgan China Property Fd | 312,006 | 0.01% | (15,464,656) | 0 | 15,776,662 | 0.30% |
| JP Morgan Greater European Opp Fd | 10,317,511 | 0.19% | (3,769) | 367,264 | 9,954,015 | 0.19% |
| Timber | \$135,423,897 | 2.47% | \$(1,064,035) | \$35 | \$136,487,897 | 2.58% |
| TIR Teredo | 31,445,437 | 0.57% | 0 | 0 | 31,445,437 | 0.59% |
| TIR Springbank | 103,978,460 | 1.90% | (1,064,035) | 35 | 105,042,460 | 1.98% |
| Infrastructure | \$246,226,136 | 4.50% | \$(977,574) | \$(326,429) | \$247,530,139 | 4.67% |
| JP Morgan Asian Infrastructure | 23,517,287 | 0.43% | (17,016) | (36,643) | 23,570,946 | 0.44% |
| JP Morgan IIF | 178,979,091 | 3.27% | (1,939) | 1,293 | 178,979,737 | 3.38% |
| Grosvenor Cust. Infrastructure | 34,096,781 | 0.62% | (3,138,127) | (272,327) | 37,507,235 | 0.71% |
| Grosvenor Cust. Infrastructure II | 9,632,977 | 0.18% | 2,179,507 | (18,751) | 7,472,221 | 0.14% |
| CASH & CASH EQUIVALENTS | \$22,031,561 | 0.40% | \$(17,061,595) | \$163,818 | \$38,929,339 | 0.73% |
| Northern Trust Cash Account | 11,948,444 | 0.22% | (17,061,595) | 135,103 | 28,874,936 | 0.54% |
| Bank of ND | 10,083,117 | 0.18% | 0 | 28,715 | 10,054,403 | 0.19% |
| Securities Lending Income | \$0 | 0.00% | \$(115,215) | \$115,215 | - | - |
| Total Fund | \$5,475,934,867 | 100.0% | \$(29,517,358) | \$206,246,943 | \$5,299,205,283 | 100.0% |

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---------------------------------------|-----------------|--------------|--------------------|--------------------|---------------------|
| Global Equity | | | | | |
| Gross | 5.66% | 19.40% | 8.61% | 11.64% | - |
| Net | 5.58% | 19.13% | 8.33% | 11.29% | - |
| Wtd Avg Global Equity Benchmark | 4.29% | 17.61% | 7.38% | 10.45% | - |
| Domestic Equity | | | | | |
| Gross | 4.67% | 17.78% | 11.03% | 14.80% | 6.47% |
| Net | 4.62% | 17.58% | 10.84% | 14.55% | 6.18% |
| Wtd Avg Domestic Equity Benchmark | 4.77% | 19.15% | 11.06% | 14.23% | 7.62% |
| Large Cap Equity | | | | | |
| Gross | 4.59% | 17.30% | 11.22% | 15.13% | 5.77% |
| Net | 4.56% | 17.18% | 11.08% | 14.95% | 5.55% |
| Large Cap Benchmark (1) | 4.48% | 18.54% | 10.63% | 14.27% | 7.44% |
| L.A. Capital - Gross | 4.81% | 17.07% | 12.38% | 15.30% | 9.12% |
| L.A. Capital - Net | 4.76% | 16.83% | 12.15% | 15.06% | 8.90% |
| Russell 1000 Growth Index | 5.90% | 21.94% | 12.69% | 15.26% | 9.08% |
| LACM Enhanced Index - Gross | 4.05% | 16.48% | 10.95% | 14.66% | 8.30% |
| LACM Enhanced Index - Net | 4.02% | 16.36% | 10.82% | 14.52% | 8.14% |
| Russell 1000 Index | 4.48% | 18.54% | 10.63% | 14.27% | 7.55% |
| Northern Tr AM Enh S&P500 - Gross | 4.92% | 17.17% | 9.12% | 14.13% | 7.59% |
| Northern Tr AM Enh S&P500 - Net | 4.92% | 17.17% | 9.03% | 13.86% | 7.41% |
| S&P 500 Index | 4.48% | 18.61% | 10.81% | 14.22% | 7.44% |
| Parametric Clifton Enh S&P500 - Gross | 4.47% | 18.66% | 11.02% | 14.30% | - |
| Parametric Clifton Enh S&P500 - Net | 4.45% | 18.64% | 10.94% | 14.25% | - |
| S&P 500 Index | 4.48% | 18.61% | 10.81% | 14.22% | 7.44% |
| Small Cap Equity | | | | | |
| Gross | 4.94% | 19.34% | 10.29% | 13.42% | 8.13% |
| Net | 4.79% | 18.88% | 9.96% | 12.97% | 7.61% |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 13.79% | 7.85% |
| Atlanta Capital - Gross | 3.53% | 17.04% | - | - | - |
| Atlanta Capital - Net | 3.35% | 16.19% | - | - | - |
| S&P 600 Small Cap Index | 5.96% | 21.05% | 14.07% | 15.60% | 9.27% |
| Parametric Clifton Enh SmCap - Gross | 6.09% | 21.25% | 13.19% | 14.74% | - |
| Parametric Clifton Enh SmCap - Net | 5.98% | 21.12% | 12.84% | 14.32% | - |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 13.79% | 7.85% |

(1) S&P 500 Index through 12/31/2011 and Russell 1000 Index thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|------------------------------------|-----------------|--------------|--------------------|--------------------|---------------------|
| International Equity | | | | | |
| Gross | 7.45% | 20.67% | 7.43% | 9.64% | 3.38% |
| Net | 7.41% | 20.47% | 7.24% | 9.35% | 3.04% |
| Wtd Avg Int'l Equity Benchmark | 6.13% | 19.59% | 4.99% | 7.42% | 1.50% |
| Developed Intl Equity | | | | | |
| Gross | 6.93% | 20.33% | 7.41% | 10.58% | 3.11% |
| Net | 6.87% | 20.06% | 7.15% | 10.27% | 2.79% |
| Benchmark(1) | 5.62% | 18.73% | 4.88% | 8.28% | 1.25% |
| DFA Int'l Small Cap Value - Net | 7.60% | 25.37% | 9.96% | 13.61% | - |
| World ex US SC Value | 6.97% | 21.46% | 8.34% | 11.31% | 4.01% |
| Northern Tr AM World ex US - Gross | 5.69% | 19.20% | 4.95% | - | - |
| Northern Tr AM World ex US - Net | 5.67% | 19.16% | 4.92% | - | - |
| MSCI World ex US | 5.62% | 18.73% | 4.57% | 7.81% | 1.28% |
| Wellington Management - Gross | 9.02% | 23.23% | 13.51% | 15.35% | 7.15% |
| Wellington Management - Net | 8.81% | 22.24% | 12.58% | 14.40% | 6.24% |
| BMI, EPAC, <\$2 B | 5.48% | 18.18% | 9.83% | 11.69% | 3.50% |
| William Blair - Gross | 7.70% | 17.75% | - | - | - |
| William Blair - Net | 7.61% | 17.32% | - | - | - |
| MSCI ACWI ex US IMI | 6.27% | 19.55% | 5.16% | 7.32% | 1.59% |
| Emerging Markets Equity | | | | | |
| Gross | 9.06% | 21.73% | 6.89% | 5.64% | 3.10% |
| Net | 9.06% | 21.73% | 6.89% | 5.38% | 2.69% |
| Emerging Mkts - Net | 7.89% | 22.46% | 4.90% | 3.99% | 1.32% |
| Axiom - Net | 10.01% | 23.27% | 7.16% | - | - |
| Emerging Mkts - Net | 7.89% | 22.46% | 4.90% | 3.99% | 1.32% |
| DFA - Net | 6.07% | 17.19% | 6.20% | 6.63% | 3.85% |
| Emerging Mkts - Net | 7.89% | 22.46% | 4.90% | 3.99% | 1.32% |
| World Equity | | | | | |
| Gross | 6.84% | 22.90% | 8.67% | 11.65% | - |
| Net | 6.70% | 22.43% | 8.12% | 10.97% | - |
| MSCI World Index | 4.84% | 18.17% | 7.69% | 10.99% | 4.22% |
| EPOCH Investment - Gross(2) | 7.07% | 22.19% | 8.64% | 11.88% | - |
| EPOCH Investment - Net | 6.90% | 21.41% | 7.95% | 11.14% | - |
| MSCI World Index | 4.84% | 18.17% | 7.69% | 10.99% | 4.22% |
| LSV Asset Management - Gross(3) | 6.66% | 23.29% | 8.67% | - | - |
| LSV Asset Management - Net | 6.54% | 23.06% | 8.23% | - | - |
| MSCI ACWI Idx | 5.31% | 19.29% | 8.02% | 10.79% | 4.45% |

(1) MSCI EAFE through 12/31/1996; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again through 6/30/2016; MSCI World ex-US thereafter.

(2) EPOCH Investment was removed from the Domestic Equity Composite to the World Equity Composite as of 1/1/2012.

(3) LSV Asset Management was removed from the Domestic Equity and International Equity Composites to the World Equity Composite as of February 1, 2013.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|----------------------------------|-----------------|--------------|--------------------|--------------------|---------------------|
| Private Equity* | | | | | |
| Net | (2.49%) | 6.53% | (2.15%) | 0.91% | (0.56%) |
| Adams Street Direct Co-Invest Fd | 2.78% | (1.45%) | 9.20% | 11.24% | 5.60% |
| Adams Street Direct Fund 2010 | 0.00% | 12.03% | 7.95% | 11.92% | - |
| Adams Street 1998 Partnership | (0.41%) | (0.23%) | 0.77% | 3.74% | (2.34%) |
| Adams Street 1999 Partnership | (3.62%) | (0.27%) | (3.07%) | 1.91% | 0.84% |
| Adams Street 2000 Partnership | (1.33%) | 1.94% | (2.49%) | (0.04%) | 1.68% |
| Adams Street 2001 Partnership | (2.74%) | 6.23% | (1.49%) | 4.77% | 2.92% |
| Adams Street 2002 Partnership | 2.71% | 22.14% | 4.45% | 6.62% | 4.38% |
| Adams Street 2003 Partnership | 0.37% | 11.72% | 7.33% | 11.66% | 5.52% |
| Adams Street 2010 Partnership | 0.81% | 16.05% | 13.41% | 13.16% | - |
| Adams Street 2008 Fund | 2.68% | 18.76% | 12.64% | 12.63% | - |
| Adams Street 1999 Non-US | 0.00% | 10.53% | 0.34% | 4.33% | 6.23% |
| Adams Street 2000 Non-US | 0.00% | 9.39% | 0.29% | 0.62% | 0.71% |
| Adams Street 2001 Non-US | 0.00% | (3.12%) | 8.34% | 15.70% | 2.44% |
| Adams Street 2002 Non-US | (2.24%) | (6.98%) | 2.80% | 4.39% | 0.69% |
| Adams Street 2003 Non-US | 4.72% | 28.86% | 13.82% | 17.18% | 11.13% |
| Adams Street 2004 Non-US | (0.60%) | 4.51% | (2.27%) | 6.60% | 3.09% |
| Adams Street 2010 Non-US | 4.16% | 26.69% | 10.66% | 10.66% | - |
| Adams Street 2010 Non-US Emg | 2.76% | 13.17% | 13.33% | 8.63% | - |
| Adams Street 2015 Global Fd | (0.13%) | 51.56% | - | - | - |
| Adams Street 2016 Global Fd | (0.63%) | - | - | - | - |
| Adams Street BVCF IV Fund | (3.37%) | 4.27% | 1.31% | 18.00% | 29.26% |
| BlackRock | 0.00% | - | - | - | - |
| Capital International V | (1.19%) | (49.78%) | (31.38%) | (20.26%) | (9.34%) |
| Capital International VI | (0.36%) | 10.11% | (4.40%) | (8.23%) | - |
| CorsAir III | (1.00%) | 6.21% | 9.16% | 3.06% | 2.62% |
| CorsAir IV | (0.45%) | 23.74% | 16.33% | 14.58% | - |
| EIG Energy Fund XIV | 0.16% | 12.74% | (34.79%) | (23.40%) | (6.83%) |
| Hearthstone Advisors MS III | 0.00% | (48.15%) | (20.26%) | 277.16% | - |
| Lewis & Clark, LP | 0.00% | 22.03% | (26.04%) | (17.39%) | (6.44%) |
| Lewis & Clark II | 0.00% | 10.83% | (1.11%) | (2.96%) | - |
| Matlin Patterson II | (0.08%) | (28.90%) | (3.02%) | (7.25%) | (28.63%) |
| Matlin Patterson III | (3.94%) | 2.63% | (1.84%) | 4.30% | 6.69% |
| Quantum Energy Partners | (39.99%) | (5.78%) | (17.53%) | 0.13% | 3.58% |

* Corsair III was taken out from the Private Equity Composite on July 1, 2009. It was then added back into the Private Equity Composite on October 1, 2011. At this time Corsair IV, Capital Intl and EIG were also added to this composite.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|--------------------------------------|-----------------|--------------|--------------------|--------------------|---------------------|
| Global Fixed Income | | | | | |
| Gross | 1.90% | 4.84% | 4.43% | 4.44% | - |
| Net | 1.85% | 4.59% | 4.17% | 4.19% | - |
| Wtd Avg Global FI Benchmark | 1.49% | 1.33% | 2.90% | 2.42% | - |
| Domestic Fixed Income | | | | | |
| Gross | 1.66% | 5.60% | 5.09% | 5.32% | 5.48% |
| Net | 1.61% | 5.39% | 4.87% | 5.10% | 5.21% |
| Wtd Avg Domestic FI Benchmark | 1.14% | 2.29% | 3.56% | 3.23% | 5.40% |
| Inv. Grade Fixed Income | | | | | |
| Gross | 1.65% | 3.88% | 4.50% | 4.39% | 4.83% |
| Net | 1.61% | 3.74% | 4.36% | 4.26% | 4.61% |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 4.27% |
| Declaration Total Return - Net | 1.47% | 4.29% | 4.00% | 4.72% | - |
| Libor-3 Month | 0.33% | 1.12% | 0.67% | 0.51% | 0.88% |
| J.P. Morgan MBS - Gross | 0.86% | 1.12% | 2.82% | - | - |
| J.P. Morgan MBS - Net | 0.80% | 0.92% | 2.63% | - | - |
| Blmbg Mortgage | 0.96% | 0.30% | 2.44% | 1.96% | 4.13% |
| PIMCO Unconstrained - Gross(1) | 2.92% | 9.33% | 4.42% | 2.81% | - |
| PIMCO Unconstrained - Net | 2.81% | 8.85% | 4.02% | 2.53% | - |
| Blended Benchmark(2) | 0.33% | 1.12% | 0.67% | 0.55% | - |
| PIMCO DiSCO II - Net | 4.24% | 17.18% | 9.43% | 12.56% | - |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 4.27% |
| PIMCO MBS - Gross | 1.00% | 0.63% | 2.62% | 1.91% | - |
| PIMCO MBS - Net | 0.96% | 0.46% | 2.45% | 1.74% | - |
| Blmbg Mortgage | 0.96% | 0.30% | 2.44% | 1.96% | 4.13% |
| SSgA Long US Treas Idx - Gross | 0.57% | (6.36%) | 4.84% | - | - |
| SSgA Long US Treas Idx - Net | 0.57% | (6.39%) | 4.80% | - | - |
| Blmbg Long Treas | 0.58% | (6.35%) | 4.85% | 2.84% | 6.89% |
| Below Inv. Grade Fixed Income | | | | | |
| Gross | 1.71% | 10.17% | 6.54% | 7.71% | 6.87% |
| Net | 1.60% | 9.73% | 6.10% | 7.26% | 6.51% |
| Blmbg HY Corp 2% Issue | 1.98% | 8.87% | 5.84% | 6.37% | 7.92% |
| Goldman Sachs 2006 Offshore - Net | 4.68% | 68.52% | 29.68% | 26.27% | 11.21% |
| Goldman Sachs Offshore V - Net | 4.85% | (9.07%) | (0.01%) | 5.14% | - |
| PIMCO Bravo II Fund - Net | 0.00% | 13.38% | 10.22% | - | - |
| Blmbg HY Corp 2% Issue | 1.98% | 8.87% | 5.84% | 6.37% | 7.92% |
| Loomis Sayles - Gross | 2.25% | 9.54% | 6.05% | 7.08% | 7.88% |
| Loomis Sayles - Net | 2.12% | 9.00% | 5.53% | 6.55% | 7.52% |
| Blmbg HY Corp 2% Issue | 1.98% | 8.87% | 5.84% | 6.37% | 7.92% |

(1) The product changed from Commingled Fund to Separate Account in March 2014.

(2) Libor-3 month through Feb. 28, 2014; Fund's performance through March 31, 2014; Libor-3 month thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

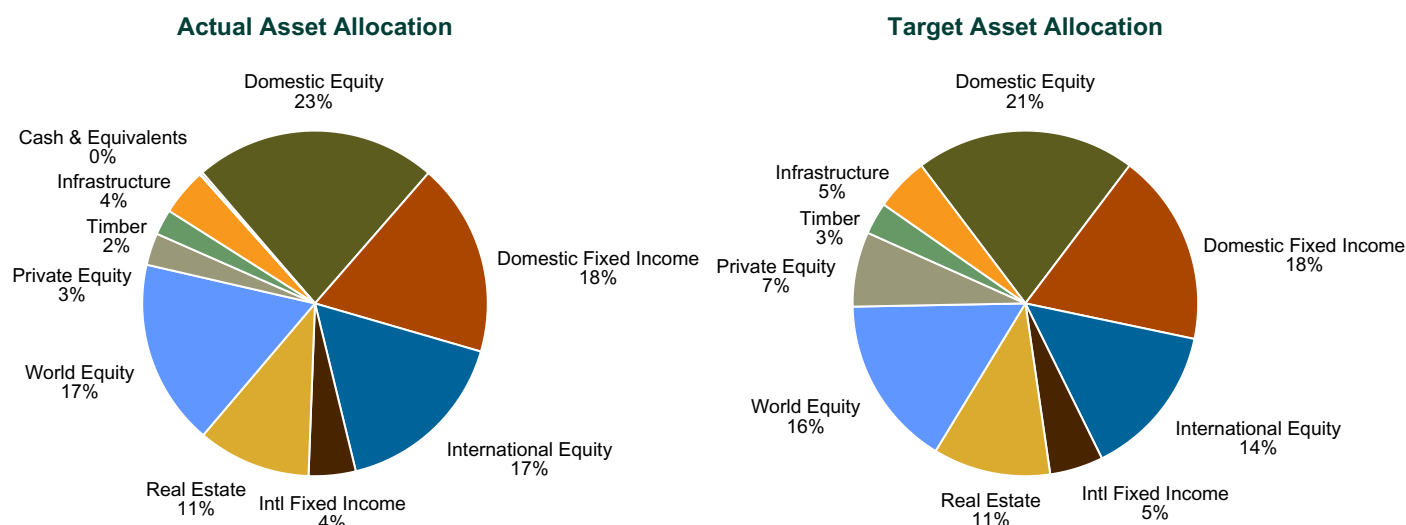
| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|--|-----------------|--------------|--------------------|--------------------|---------------------|
| International Fixed Income | | | | | |
| Gross | 2.81% | 2.49% | 1.81% | 1.15% | 4.68% |
| Net | 2.72% | 2.12% | 1.42% | 0.78% | 4.42% |
| Wtd Avg Int'l FI Benchmark | 2.48% | (2.42%) | 0.20% | (0.73%) | 2.87% |
| Brandywine - Gross | 3.05% | 6.19% | 3.10% | 3.07% | 6.33% |
| Brandywine - Net | 2.96% | 5.79% | 2.71% | 2.67% | 6.12% |
| Blmbg Global Aggregate | 1.76% | (1.26%) | 1.30% | 0.48% | 3.31% |
| UBS Global Asset Mgmt. - Gross | 2.40% | (2.53%) | 0.16% | (1.00%) | 2.66% |
| UBS Global Asset Mgmt. - Net | 2.32% | (2.85%) | (0.22%) | (1.33%) | 2.35% |
| Blended Benchmark(1) | 2.48% | (2.42%) | 0.20% | (0.73%) | 2.87% |
| Global Real Assets | | | | | |
| Gross | 0.84% | 6.41% | 7.77% | 8.64% | - |
| Net | 0.77% | 5.99% | 7.31% | 8.21% | - |
| Wtd Avg Global Real Assets Benchmark | 1.30% | 5.00% | 6.45% | 7.19% | - |
| Global Real Estate | | | | | |
| Gross | 1.48% | 9.64% | 12.30% | 12.98% | 4.93% |
| Net | 1.36% | 9.12% | 11.72% | 12.44% | 3.46% |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 6.23% |
| Invesco Core Real Estate - Gross | 1.46% | 8.29% | 11.18% | 11.70% | 5.24% |
| Invesco Core Real Estate - Net | 1.37% | 7.92% | 10.81% | 11.30% | 4.81% |
| Invesco Fund II - Net | 0.00% | 22.72% | 11.61% | 14.46% | - |
| Invesco Fund III - Net | 0.00% | 11.58% | 14.81% | 15.89% | - |
| Invesco Asia RE Feeder - Net | 0.00% | 1016.13% | 203.80% | 99.18% | - |
| Invesco Asia RE Fund III - Net | 0.00% | 22.04% | - | - | - |
| Invesco Value Added Fd IV - Net | 0.00% | 8.07% | - | - | - |
| JP Morgan - Gross | 2.07% | 8.16% | 11.42% | 12.57% | 5.40% |
| JP Morgan - Net | 1.84% | 7.19% | 10.23% | 11.48% | 4.34% |
| JP Morgan Alternative Fd - Net | 0.00% | 6.73% | (9.87%) | (3.16%) | (5.79%) |
| JP Morgan China Property Fd - Net | 0.00% | 37.81% | 23.10% | 25.47% | - |
| JPM Greater European Opp Fd - Net | 3.69% | 1.98% | 17.91% | 9.48% | - |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 6.23% |
| Timber | | | | | |
| Net | 0.00% | (9.44%) | (0.61%) | 0.27% | - |
| TIR Teredo | 0.00% | (7.02%) | 5.49% | 5.75% | 7.08% |
| TIR Springbank | 0.00% | (10.13%) | (3.21%) | (2.38%) | (1.86%) |
| NCREIF Timberland Index | 0.60% | 3.28% | 5.24% | 7.13% | 5.20% |
| Infrastructure | | | | | |
| Gross | (0.13%) | 9.75% | 3.63% | 6.52% | - |
| Net | (0.12%) | 9.24% | 3.08% | 5.93% | - |
| JP Morgan Asian Infrastructure - Net | (0.16%) | 35.91% | 5.96% | 8.89% | - |
| JP Morgan IIF - Gross | 0.00% | 7.06% | 2.46% | 5.73% | 3.65% |
| JP Morgan IIF - Net | 0.02% | 6.35% | 1.64% | 4.82% | 2.44% |
| Grosvenor Cust. Infrastructure - Net | (0.74%) | 8.31% | 7.27% | 8.84% | - |
| Grosvenor Cust. Infrastructure II - Net | (0.25%) | 3.95% | - | - | - |
| CPI-W | 0.89% | 2.31% | 0.95% | 1.09% | 1.68% |
| Cash & Cash Equivalents - Net | | | | | |
| Cash Account - Net | 0.29% | 0.89% | 0.45% | 0.29% | 0.31% |
| Bank of ND - Net | 0.29% | 0.80% | - | 0.30% | 0.31% |
| 3-month Treasury Bill | 0.26% | 0.66% | 0.32% | 0.22% | 0.47% |
| Total Fund | | | | | |
| Gross | 3.89% | 13.41% | 7.49% | 9.35% | 4.78% |
| Net | 3.82% | 13.12% | 7.18% | 9.01% | 4.33% |
| Target* | 3.06% | 11.20% | 6.25% | 7.94% | 5.11% |

* Current Quarter Target = 16.1% Russell 1000 Index, 16.0% MSCI World, 13.2% Blmbg Aggregate, 11.2% MSCI World ex US, 10.5% NCREIF Total Index, 6.5% NDSIB PEN - Private Equity, 5.4% Blmbg Glob Agg ex USD, 5.0% CPI-W, 4.9% Russell 2000 Index, 4.6% Blmbg HY 2% Iss Cap, 3.1% MSCI EM, 3.1% NCREIF Timberland Index and 0.4% 3-month Treasury Bill.

(1) Citigroup Non-US Govt through 12/31/2009 and the Bloomberg Global Aggregate Index ex US thereafter.

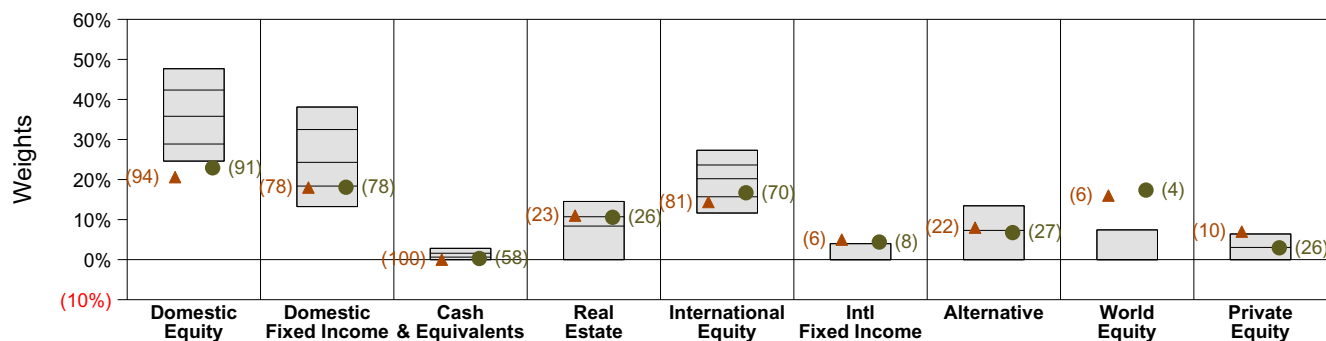
Actual vs Target Asset Allocation As of September 30, 2017

The top left chart shows the Fund's asset allocation as of September 30, 2017. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-----------------------|---------------|---------------|--------|--------------------|-------------------|
| Domestic Equity | 660,838 | 22.9% | 20.6% | 2.3% | 66,985 |
| Domestic Fixed Income | 520,976 | 18.1% | 18.0% | 0.1% | 2,076 |
| International Equity | 481,358 | 16.7% | 14.4% | 2.3% | 66,238 |
| Intl Fixed Income | 126,578 | 4.4% | 5.0% | (0.6%) | (17,561) |
| Real Estate | 304,717 | 10.6% | 11.0% | (0.4%) | (12,389) |
| World Equity | 500,578 | 17.4% | 16.0% | 1.4% | 39,333 |
| Private Equity | 85,181 | 3.0% | 7.0% | (4.0%) | (116,613) |
| Timber | 68,405 | 2.4% | 3.0% | (0.6%) | (18,078) |
| Infrastructure | 126,096 | 4.4% | 5.0% | (0.6%) | (18,043) |
| Cash & Equivalents | 8,053 | 0.3% | 0.0% | 0.3% | 8,053 |
| Total | 2,882,780 | 100.0% | 100.0% | | |

Asset Class Weights vs Callan Public Fund Sponsor Database



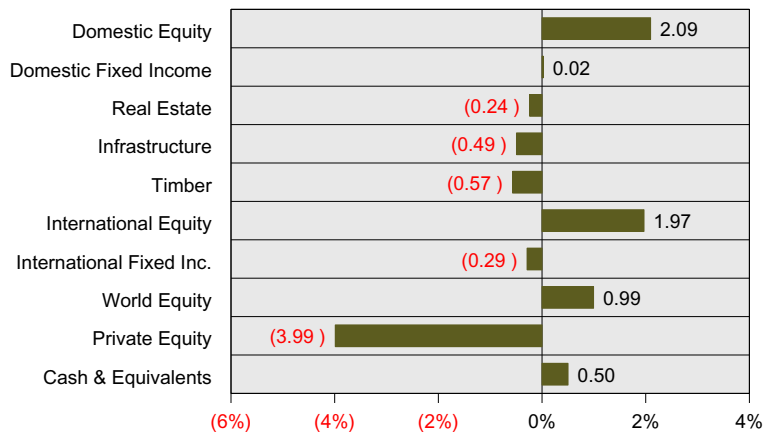
| | Domestic Equity | Domestic Fixed Income | Cash & Equivalents | Real Estate | International Equity | Intl Fixed Income | Alternative | World Equity | Private Equity |
|------------------|-----------------|-----------------------|--------------------|-------------|----------------------|-------------------|-------------|--------------|----------------|
| 10th Percentile | 47.67 | 38.10 | 2.82 | 14.53 | 27.31 | 3.99 | 13.45 | 7.43 | 6.41 |
| 25th Percentile | 42.35 | 32.48 | 1.59 | 10.71 | 23.63 | 0.00 | 7.30 | 0.00 | 3.05 |
| Median | 35.80 | 24.30 | 0.63 | 8.38 | 20.20 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75th Percentile | 28.87 | 18.37 | 0.00 | 0.00 | 15.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| 90th Percentile | 24.60 | 13.25 | 0.00 | 0.00 | 11.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fund | 22.92 | 18.07 | 0.28 | 10.57 | 16.70 | 4.39 | 6.75 | 17.36 | 2.95 |
| Target | 20.60 | 18.00 | 0.00 | 11.00 | 14.40 | 5.00 | 8.00 | 16.00 | 7.00 |
| % Group Invested | 96.60% | 97.28% | 73.47% | 71.43% | 91.84% | 14.97% | 13.61% | 12.24% | 36.73% |

* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

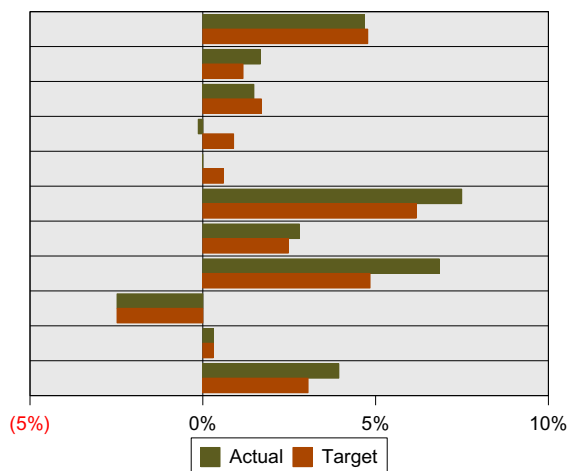
Quarterly Total Fund Relative Attribution - September 30, 2017

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

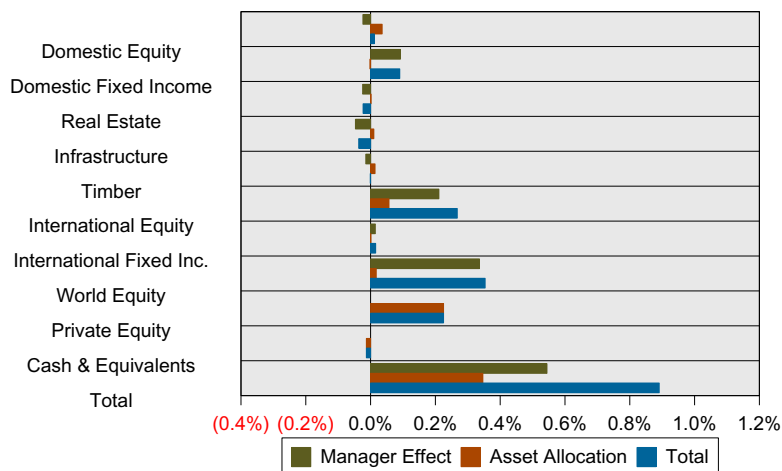
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2017

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 4.67% | 4.77% | (0.02%) | 0.04% | 0.01% |
| Domestic Fixed Income | 18% | 18% | 1.67% | 1.16% | 0.09% | (0.00%) | 0.09% |
| Real Estate | 11% | 11% | 1.48% | 1.70% | (0.02%) | 0.00% | (0.02%) |
| Infrastructure | 5% | 5% | (0.13%) | 0.89% | (0.05%) | 0.01% | (0.04%) |
| Timber | 2% | 3% | 0.00% | 0.60% | (0.01%) | 0.01% | (0.00%) |
| International Equity | 16% | 14% | 7.49% | 6.18% | 0.21% | 0.06% | 0.27% |
| International Fixed Inc. | 5% | 5% | 2.80% | 2.48% | 0.01% | 0.00% | 0.02% |
| World Equity | 17% | 16% | 6.84% | 4.84% | 0.34% | 0.02% | 0.35% |
| Private Equity | 3% | 7% | (2.48%) | (2.48%) | 0.00% | 0.23% | 0.23% |
| Cash & Equivalents | 1% | 0% | 0.30% | 0.30% | 0.00% | (0.01%) | (0.01%) |

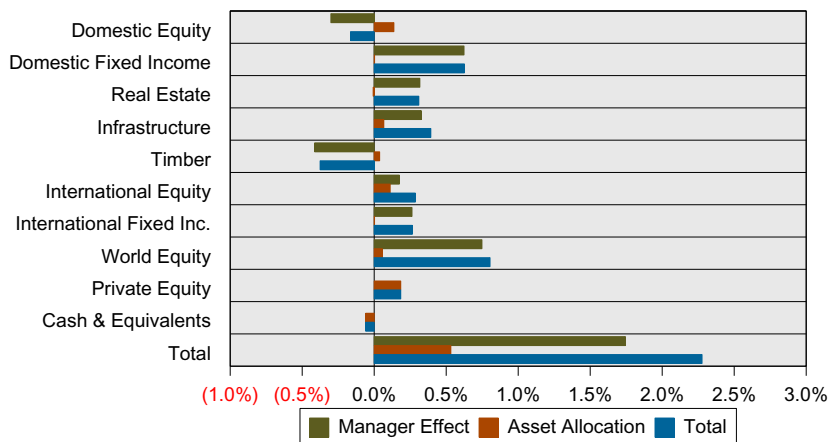
Total **3.94% = 3.05% + 0.54% + 0.35%** **0.89%**

* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

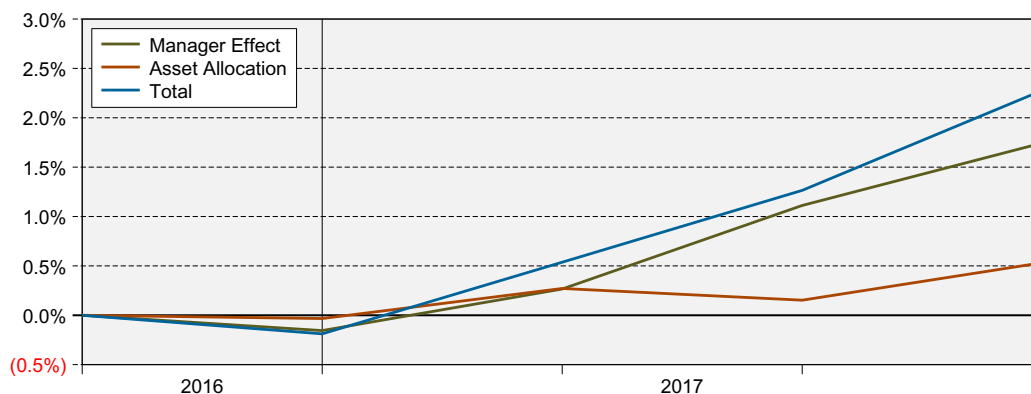
Cumulative Total Fund Relative Attribution - September 30, 2017

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

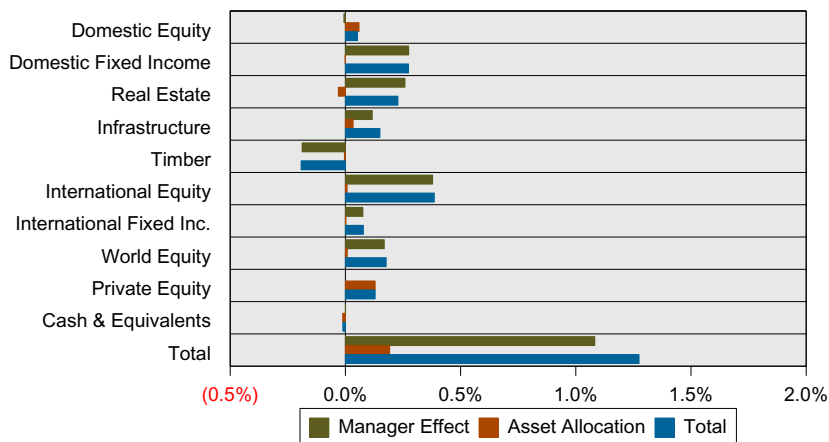
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 17.77% | 19.15% | (0.30%) | 0.14% | (0.16%) |
| Domestic Fixed Income | 18% | 18% | 5.71% | 2.46% | 0.62% | 0.00% | 0.63% |
| Real Estate | 11% | 11% | 9.64% | 6.89% | 0.32% | (0.01%) | 0.31% |
| Infrastructure | 4% | 5% | 9.75% | 2.31% | 0.33% | 0.07% | 0.39% |
| Timber | 3% | 3% | (9.44%) | 3.28% | (0.41%) | 0.04% | (0.38%) |
| International Equity | 16% | 14% | 20.70% | 19.66% | 0.17% | 0.11% | 0.29% |
| International Fixed Inc. | 5% | 5% | 2.48% | (2.42%) | 0.26% | 0.00% | 0.26% |
| World Equity | 17% | 16% | 22.89% | 18.17% | 0.75% | 0.06% | 0.80% |
| Private Equity | 3% | 7% | 6.54% | 6.54% | 0.00% | 0.18% | 0.18% |
| Cash & Equivalents | 1% | 0% | 0.92% | 0.92% | 0.00% | (0.06%) | (0.06%) |
| Total | | | 13.54% | 11.27% | + 1.74% | + 0.53% | 2.28% |

* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

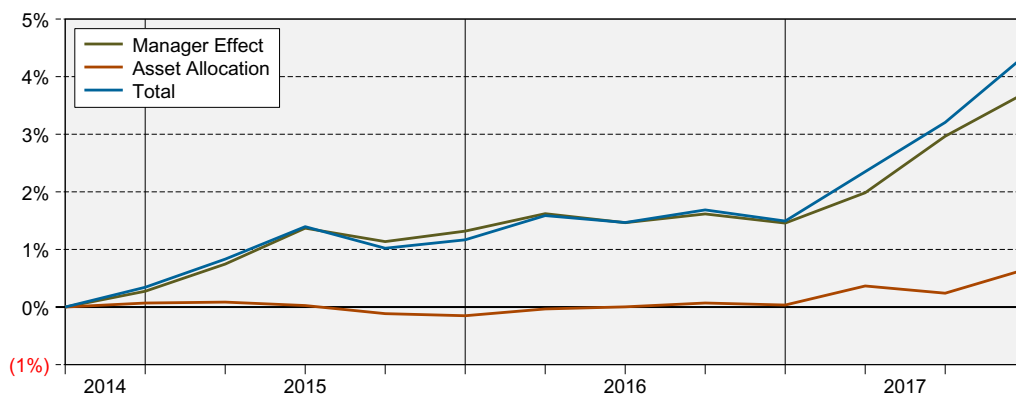
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

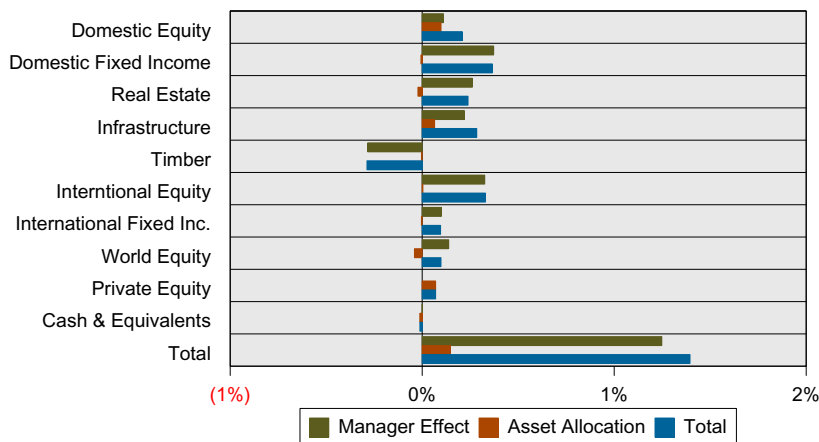
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 11.04% | 11.06% | (0.01%) | 0.06% | 0.05% |
| Domestic Fixed Income | 18% | 17% | 5.12% | 3.61% | 0.27% | (0.00%) | 0.27% |
| Real Estate | 11% | 10% | 12.37% | 9.83% | 0.26% | (0.03%) | 0.23% |
| Infrastructure | 4% | 5% | 3.63% | 0.95% | 0.12% | 0.03% | 0.15% |
| Timber | 3% | 4% | (0.60%) | 5.24% | (0.19%) | (0.00%) | (0.19%) |
| International Equity | 15% | 15% | 7.44% | 4.98% | 0.38% | 0.01% | 0.39% |
| International Fixed Inc. | 5% | 5% | 1.81% | 0.20% | 0.08% | 0.00% | 0.08% |
| World Equity | 16% | 16% | 8.68% | 7.69% | 0.17% | 0.01% | 0.18% |
| Private Equity | 4% | 6% | (2.14%) | (2.14%) | 0.00% | 0.13% | 0.13% |
| Cash & Equivalents | 1% | 1% | 0.46% | 0.40% | 0.00% | (0.01%) | (0.01%) |
| Total | | | 7.53% | 6.26% | + 1.08% | + 0.19% | 1.27% |

* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

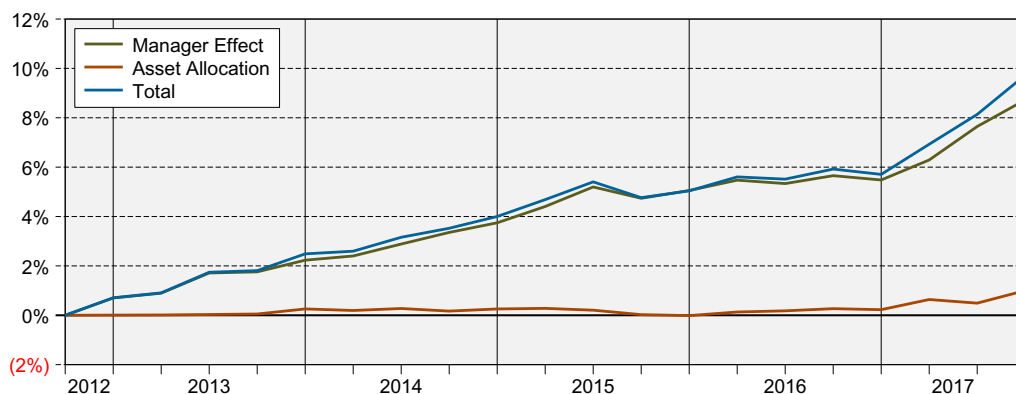
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

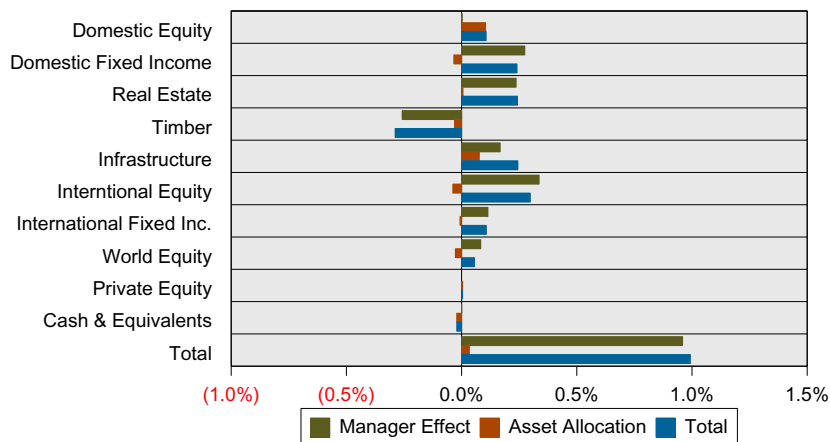
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 22% | 14.75% | 14.23% | 0.11% | 0.10% | 0.21% |
| Domestic Fixed Income | 18% | 17% | 5.36% | 3.31% | 0.37% | (0.01%) | 0.37% |
| Real Estate | 10% | 10% | 13.01% | 10.35% | 0.26% | (0.02%) | 0.24% |
| Infrastructure | 4% | 5% | 6.54% | 1.09% | 0.22% | 0.06% | 0.28% |
| Timber | 4% | 5% | 0.27% | 7.13% | (0.28%) | (0.00%) | (0.29%) |
| International Equity | 15% | 15% | 9.50% | 7.33% | 0.33% | 0.00% | 0.33% |
| International Fixed Inc. | 5% | 5% | 1.15% | (0.73%) | 0.10% | (0.00%) | 0.10% |
| World Equity | 16% | 16% | 11.65% | 10.99% | 0.14% | (0.04%) | 0.10% |
| Private Equity | 4% | 5% | 0.90% | 0.90% | 0.00% | 0.07% | 0.07% |
| Cash & Equivalents | 1% | 1% | 0.30% | 0.27% | 0.00% | (0.01%) | (0.01%) |
| Total | | | 9.36% | 7.97% | 1.25% | 0.15% | 1.39% |

* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

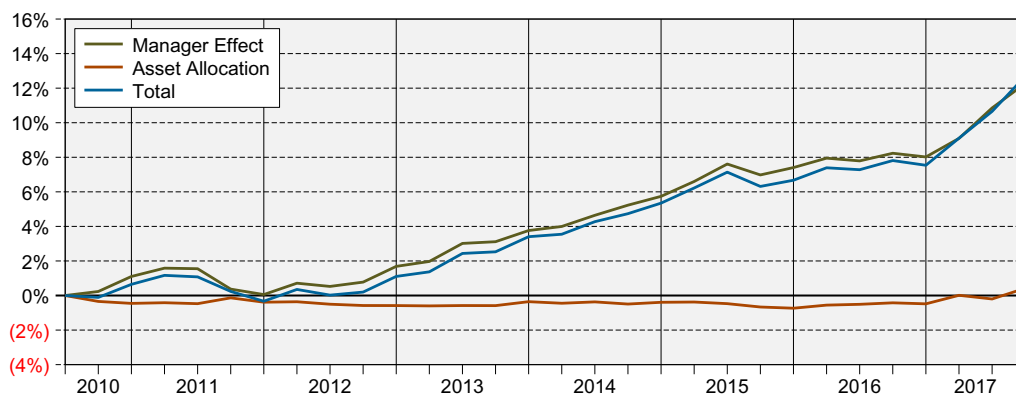
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Seven and One-Quarter Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Seven and One-Quarter Year Annualized Relative Attribution Effects

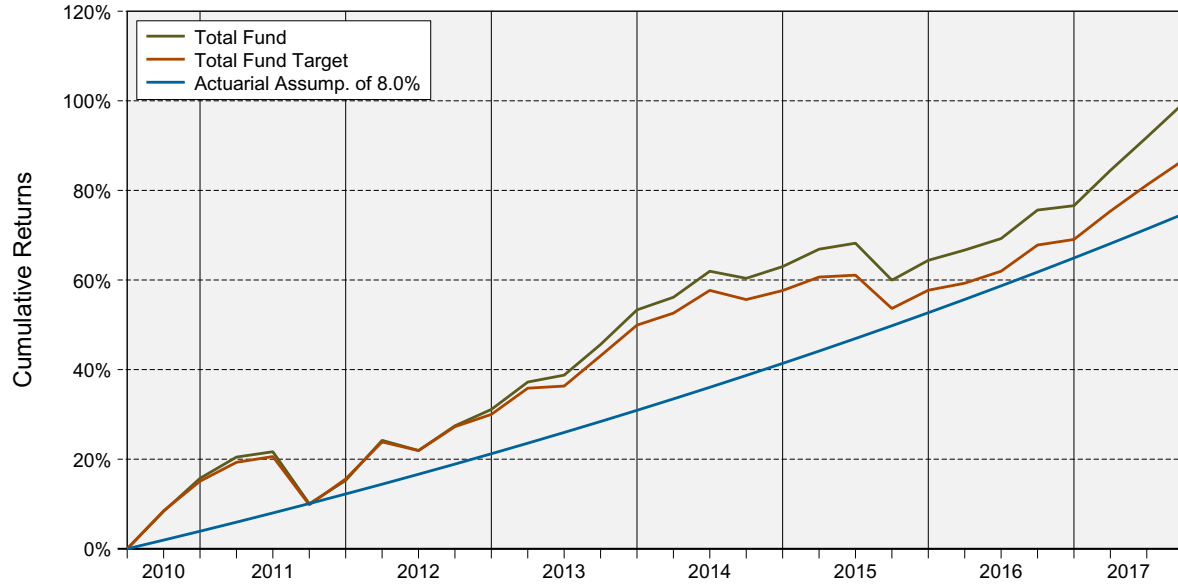
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 27% | 26% | 15.60% | 15.41% | 0.00% | 0.10% | 0.11% |
| Domestic Fixed Income | 20% | 19% | 6.25% | 4.63% | 0.27% | (0.03%) | 0.24% |
| Real Estate | 9% | 9% | 14.31% | 11.42% | 0.24% | 0.01% | 0.24% |
| Timber | 3% | 4% | - | - | (0.26%) | (0.03%) | (0.29%) |
| Infrastructure | 3% | 4% | - | - | 0.17% | 0.08% | 0.24% |
| International Equity | 16% | 15% | 9.21% | 6.99% | 0.34% | (0.04%) | 0.30% |
| International Fixed Inc. | 5% | 5% | 4.21% | 2.04% | 0.11% | (0.01%) | 0.11% |
| World Equity | 11% | 11% | - | - | 0.08% | (0.03%) | 0.06% |
| Private Equity | 4% | 5% | 3.41% | 3.41% | 0.00% | 0.00% | 0.00% |
| Cash & Equivalents | 1% | 1% | 0.24% | 0.22% | 0.00% | (0.02%) | (0.02%) |
| Total | | | 9.99% | 8.99% | + 0.96% | + 0.03% | 0.99% |

* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

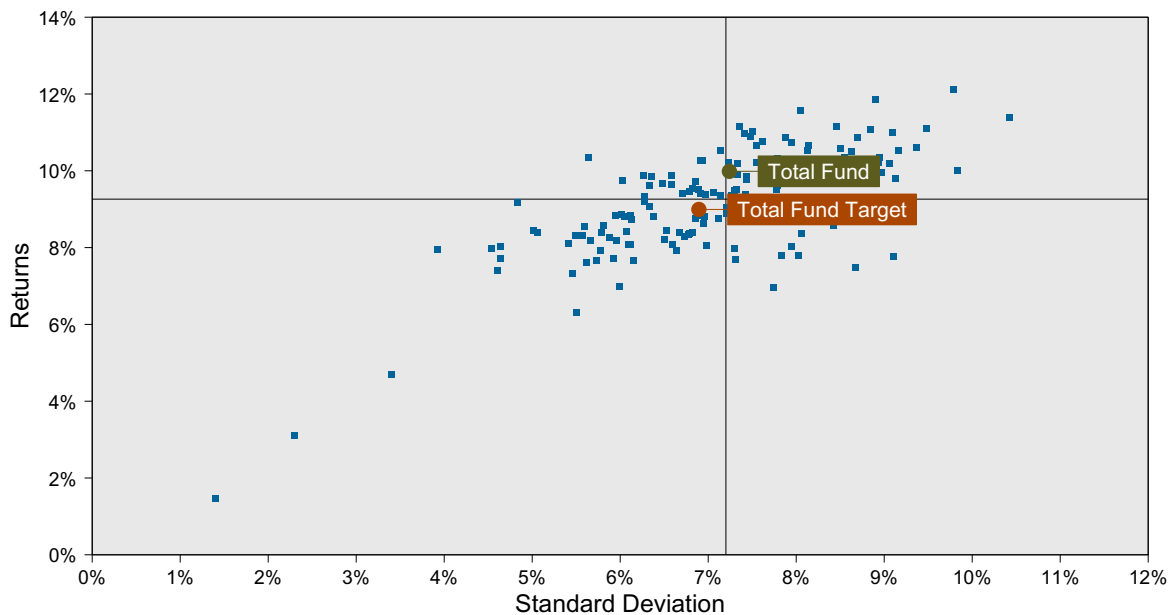
Cumulative Performance Relative to Target

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 Callan Public Fund Sponsor Database.

Cumulative Returns Actual vs Target



Seven and One-Quarter Year Annualized Risk vs Return



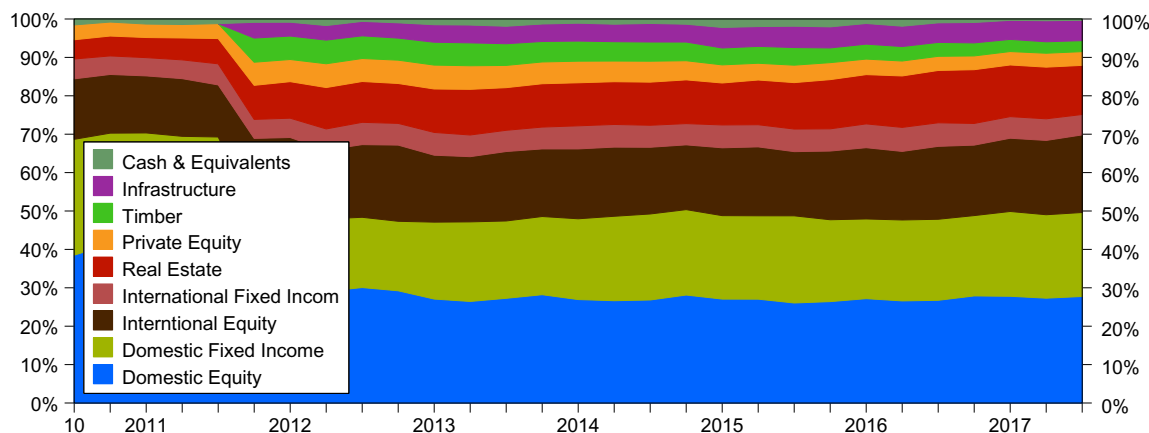
Squares represent membership of the Callan Public Fund Sponsor Database

* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

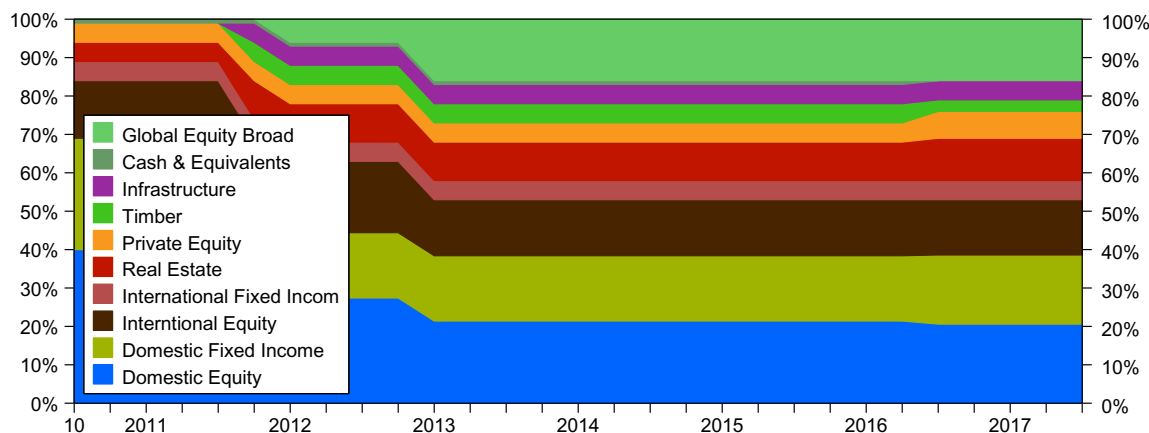
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

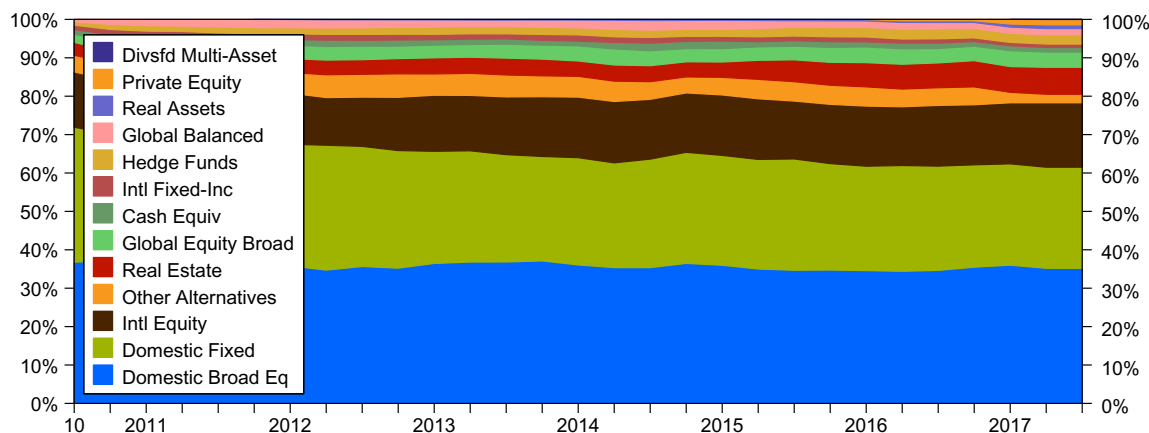
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation

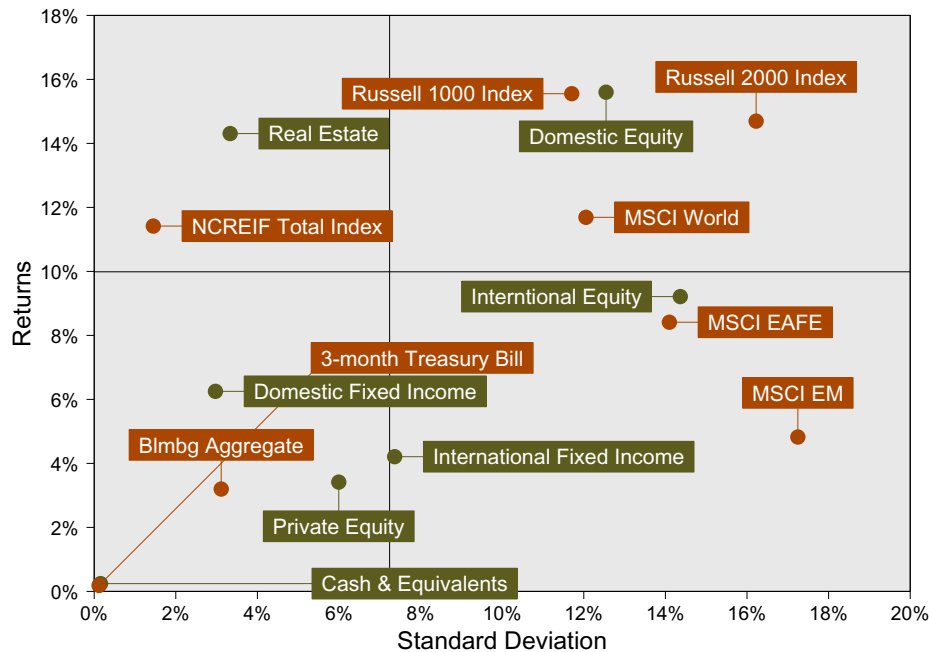


* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

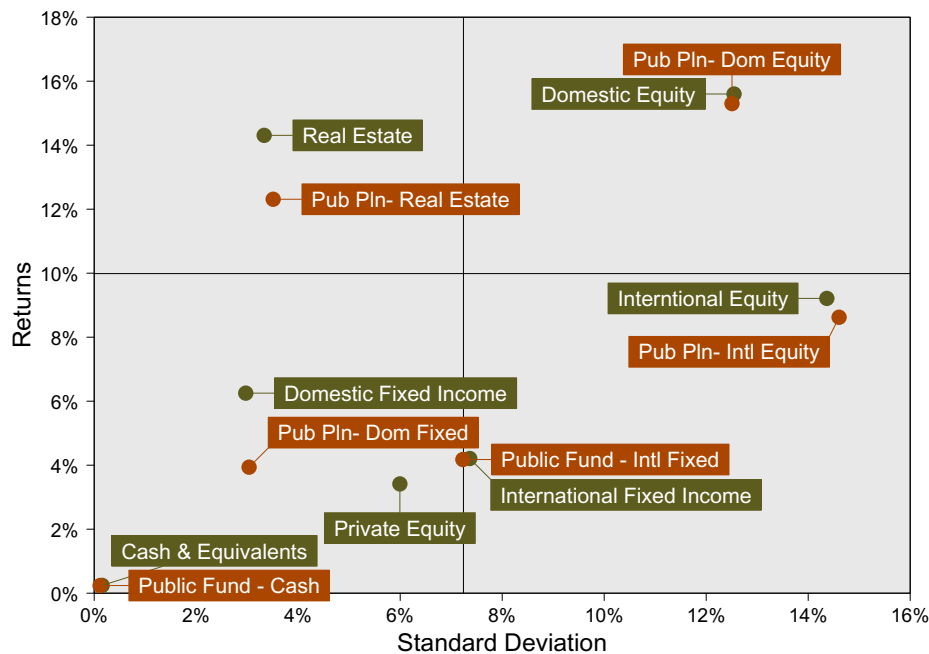
Asset Class Risk and Return

The charts below show the seven and one-quarter year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

Seven and One-Quarter Year Annualized Risk vs Return
Asset Classes vs Benchmark Indices



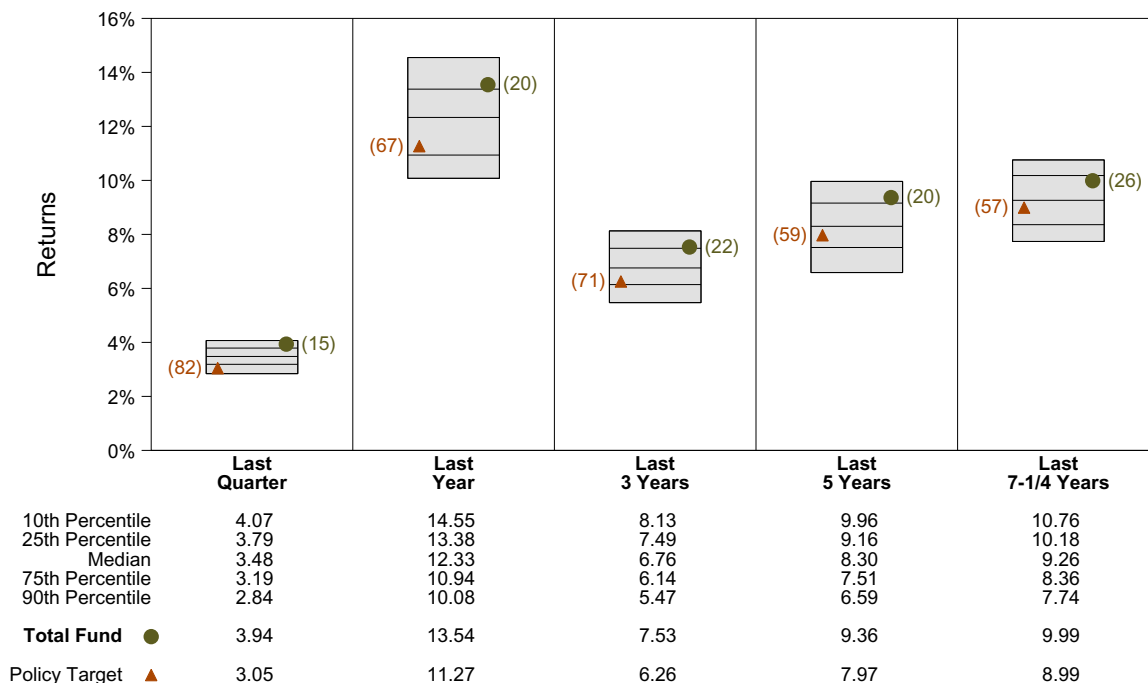
Seven and One-Quarter Year Annualized Risk vs Return
Asset Classes vs Asset Class Median



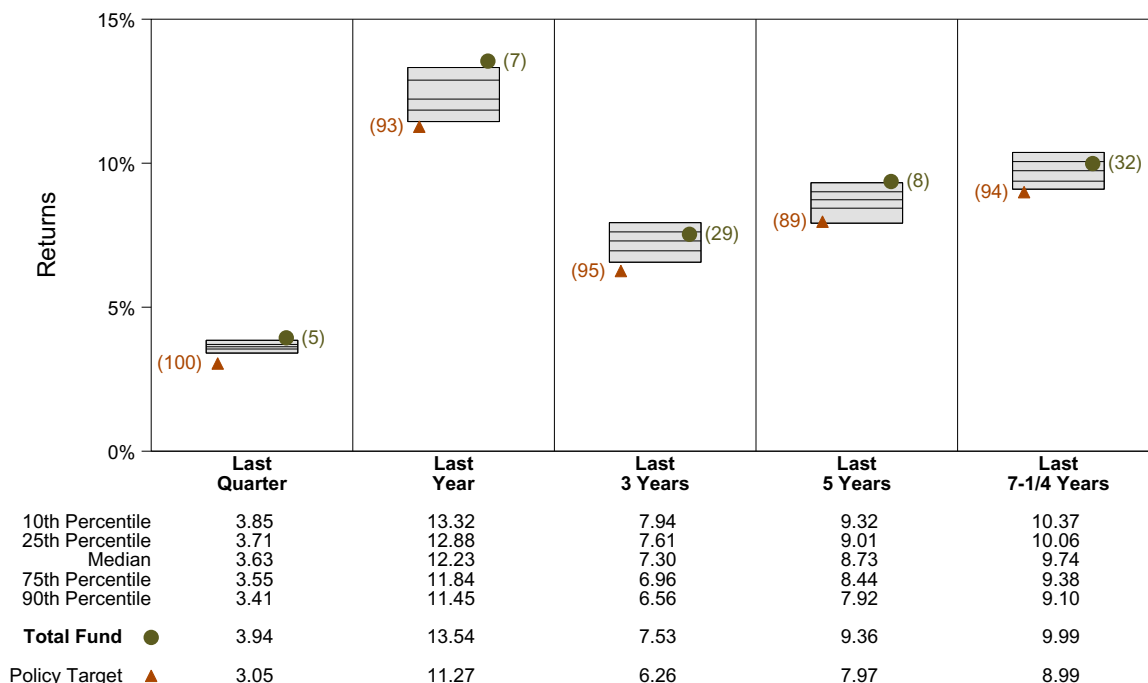
Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended September 30, 2017. 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.

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking

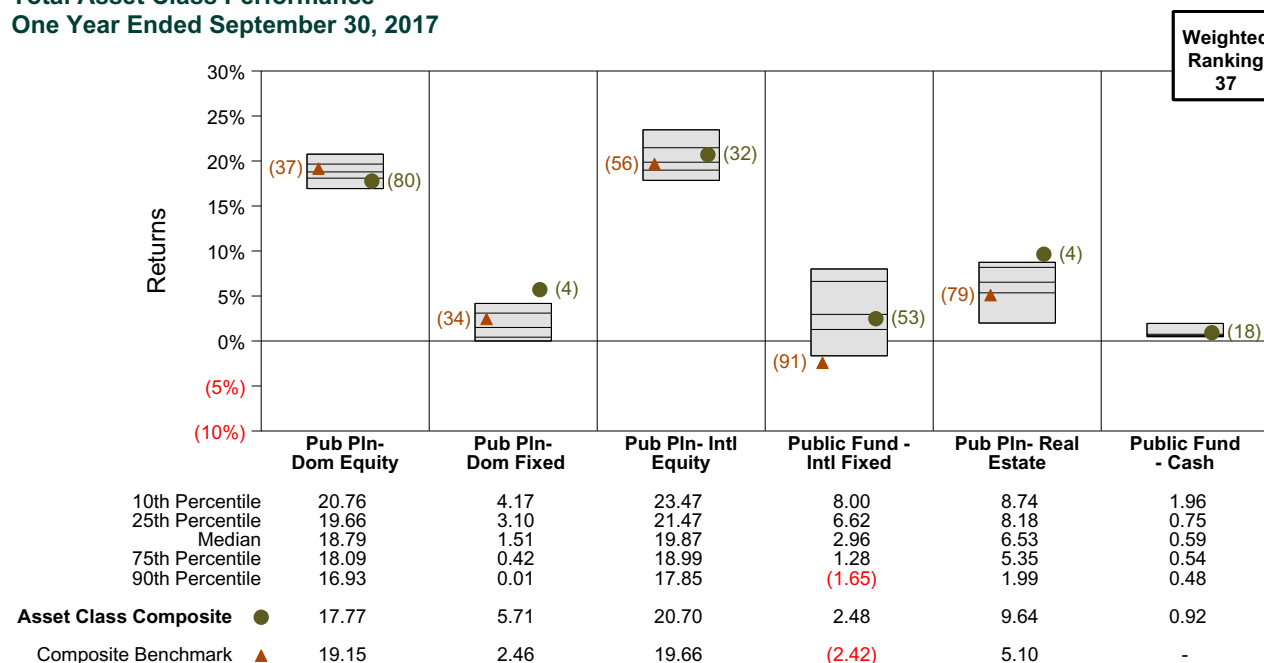


* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

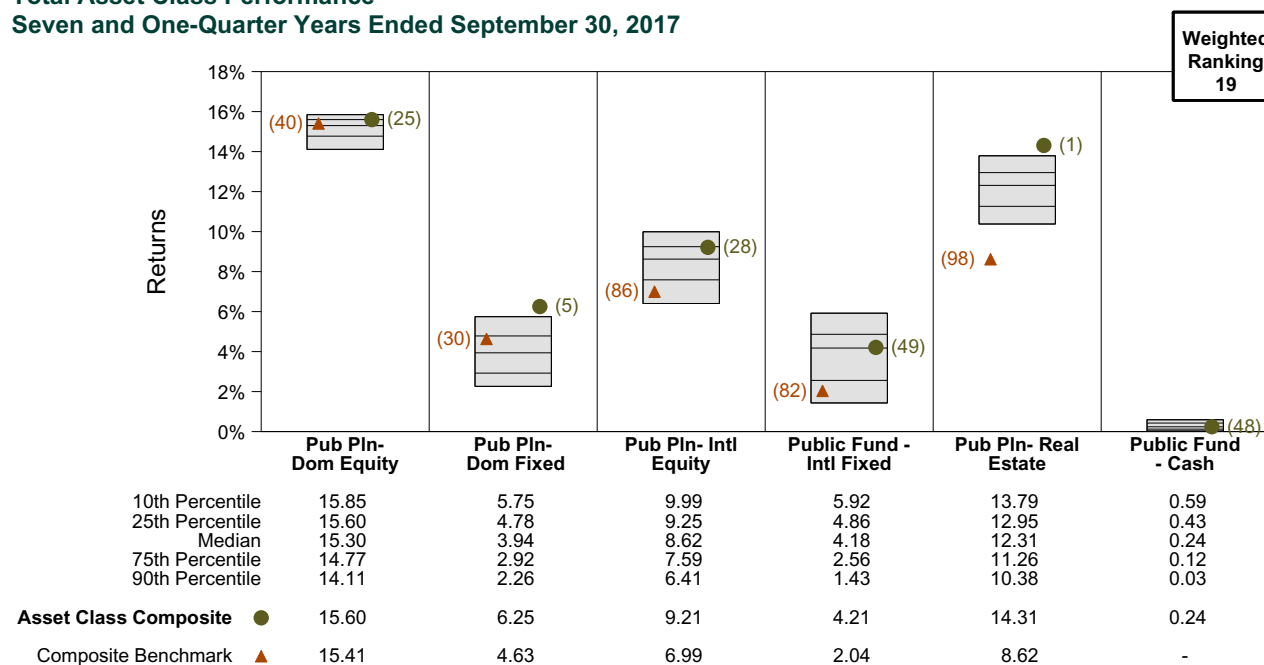
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended September 30, 2017



Total Asset Class Performance Seven and One-Quarter Years Ended September 30, 2017



* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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 Class Allocation

| | September 30, 2017 | | | | June 30, 2017 | |
|-----------------------------------|------------------------|---------------|-----------------------|----------------------|------------------------|---------------|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| GLOBAL EQUITY | \$1,727,955,687 | 59.94% | \$3,804,872 | \$92,959,894 | \$1,631,190,921 | 58.65% |
| Domestic Equity | \$660,838,025 | 22.92% | \$61,923 | \$29,498,601 | \$631,277,502 | 22.70% |
| Large Cap | 501,331,339 | 17.39% | 274,998 | 21,990,101 | 479,066,241 | 17.22% |
| Small Cap | 159,506,686 | 5.53% | (213,075) | 7,508,500 | 152,211,261 | 5.47% |
| International Equity | \$481,358,346 | 16.70% | \$471,942 | \$33,515,947 | \$447,370,457 | 16.08% |
| Developed Intl Equity | 352,115,493 | 12.21% | 51,942 | 22,819,234 | 329,244,317 | 11.84% |
| Emerging Markets | 129,242,853 | 4.48% | 420,000 | 10,696,713 | 118,126,139 | 4.25% |
| World Equity | \$500,577,902 | 17.36% | \$(161,540) | \$32,059,103 | \$468,680,340 | 16.85% |
| Private Equity | \$85,181,414 | 2.95% | \$3,432,547 | \$(2,113,756) | \$83,862,623 | 3.02% |
| GLOBAL FIXED INCOME | \$647,553,813 | 22.46% | \$2,696,468 | \$12,040,847 | \$632,816,497 | 22.75% |
| Domestic Fixed Income | \$520,976,119 | 18.07% | \$9,961,178 | \$8,394,696 | \$502,620,244 | 18.07% |
| Inv. Grade Fixed Income | 365,610,028 | 12.68% | (100,645) | 5,914,566 | 359,796,107 | 12.94% |
| Below Inv. Grade Fixed Income | 155,366,090 | 5.39% | 10,061,823 | 2,480,130 | 142,824,137 | 5.14% |
| International Fixed Income | \$126,577,694 | 4.39% | \$(7,264,710) | \$3,646,151 | \$130,196,253 | 4.68% |
| GLOBAL REAL ASSETS | \$499,217,874 | 17.32% | \$(11,917,133) | \$4,281,527 | \$506,853,480 | 18.22% |
| Real Estate | 304,716,872 | 10.57% | (10,879,039) | 4,448,678 | 311,147,233 | 11.19% |
| Timber | 68,405,231 | 2.37% | (537,465) | 18 | 68,942,678 | 2.48% |
| Infrastructure | 126,095,771 | 4.37% | (500,629) | (167,169) | 126,763,569 | 4.56% |
| Cash & Equivalents | \$8,052,650 | 0.28% | \$(2,481,485) | \$47,980 | \$10,486,155 | 0.38% |
| Securities Lending Income | \$0 | 0.00% | \$(60,987) | \$60,987 | - | - |
| Total Fund | \$2,882,780,024 | 100.0% | \$(7,958,265) | \$109,391,236 | \$2,781,347,053 | 100.0% |

PLEASE REFER TO PAGES 30-32 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 7-1/4 Years |
|-----------------------------------|-----------------|--------------|--------------------|--------------------|------------------------|
| Global Equity | | | | | |
| Gross | 5.69% | 19.44% | 8.63% | 11.57% | - |
| Net | 5.62% | 19.18% | 8.35% | 11.25% | - |
| Wtd Avg Global Equity Benchmark | 4.28% | 17.66% | 7.29% | 10.29% | - |
| Domestic Equity | | | | | |
| Gross | 4.67% | 17.77% | 11.04% | 14.75% | 15.60% |
| Net | 4.62% | 17.57% | 10.85% | 14.54% | 15.35% |
| Wtd Avg Domestci Equity Benchmark | 4.77% | 19.15% | 11.06% | 14.23% | 15.41% |
| Large Cap Equity | | | | | |
| Gross | 4.59% | 17.30% | 11.21% | 15.11% | 15.88% |
| Net | 4.56% | 17.18% | 11.07% | 14.93% | 15.64% |
| Benchmark(1) | 4.48% | 18.54% | 10.63% | 14.27% | 15.55% |
| Small Cap Equity | | | | | |
| Gross | 4.94% | 19.33% | 10.28% | 13.38% | 14.55% |
| Net | 4.79% | 18.88% | 9.96% | 13.06% | 14.25% |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 13.79% | 14.69% |
| International Equity | | | | | |
| Gross | 7.49% | 20.70% | 7.44% | 9.50% | 9.21% |
| Net | 7.45% | 20.51% | 7.25% | 9.25% | 8.90% |
| Wtd Avg Intl Equity Benchmark | 6.18% | 19.66% | 4.98% | 7.33% | 6.99% |
| Developed Intl Equity | | | | | |
| Gross | 6.93% | 20.33% | 7.42% | 10.53% | 9.75% |
| Net | 6.87% | 20.07% | 7.17% | 10.25% | 9.43% |
| Benchmark(2) | 5.62% | 18.73% | 4.88% | 8.28% | 7.55% |
| Emerging Markets | | | | | |
| Gross | 9.06% | 21.74% | 6.89% | 5.58% | 7.00% |
| Net | 9.06% | 21.74% | 6.89% | 5.41% | 6.71% |
| Benchmark(3) | 7.89% | 22.46% | 4.90% | 3.99% | 4.87% |
| World Equity | | | | | |
| Gross | 6.84% | 22.89% | 8.68% | 11.65% | - |
| Net | 6.70% | 22.43% | 8.13% | 10.97% | - |
| MSCI World Index | 4.84% | 18.17% | 7.69% | 10.99% | 11.69% |
| Private Equity | | | | | |
| Net | (2.48%) | 6.54% | (2.15%) | 0.87% | 3.34% |

(1) S&P 500 Index through 12/31/2011 and the Russell 1000 Index thereafter.

(2) 50% Hedged EAFE through 3/31/2011, MSCI EAFE through 6/30/2016; MSCI World ex-US thereafter.

(3) MSCI Emerging Mkts Idx (Gross) through 6/30/2011 and MSCI Emerging Mkts Idx Net thereafter.

PLEASE REFER TO PAGES 33-37 FOR INVESTMENT MANAGER LEVEL RETURNS.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

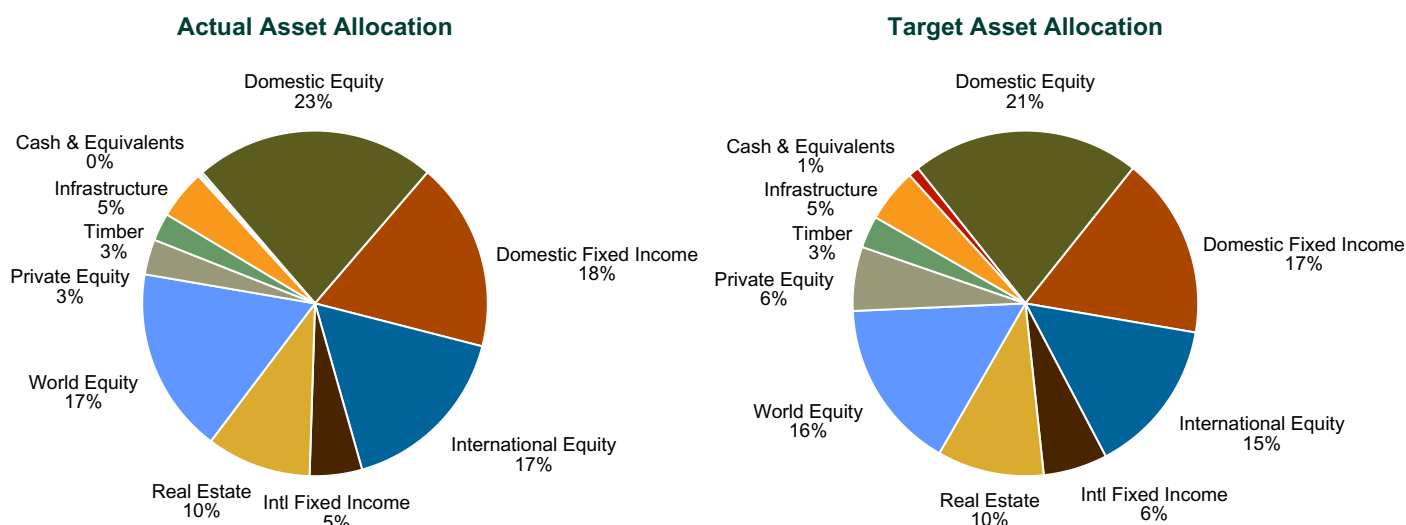
| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 7-1/4 Years |
|---------------------------------------|-----------------|--------------|--------------------|--------------------|------------------------|
| Global Fixed Income | | | | | |
| Gross | 1.90% | 4.93% | 4.43% | 4.44% | - |
| Net | 1.84% | 4.69% | 4.17% | 4.19% | - |
| Wtd Avg Global Fixed Income Benchmark | 1.45% | 1.41% | 2.88% | 2.41% | - |
| Domestic Fixed Income | | | | | |
| Gross | 1.67% | 5.71% | 5.12% | 5.36% | 6.25% |
| Net | 1.62% | 5.49% | 4.90% | 5.15% | 6.01% |
| Wtd Avg Domestic FI Benchmark | 1.16% | 2.46% | 3.61% | 3.31% | 4.63% |
| Inv. Grade Fixed Income | | | | | |
| Gross | 1.65% | 3.88% | 4.50% | 4.39% | 5.16% |
| Net | 1.61% | 3.75% | 4.36% | 4.27% | 4.99% |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 3.20% |
| Below Inv. Grade Fixed Income | | | | | |
| Gross | 1.73% | 10.18% | 6.53% | 7.70% | 9.14% |
| Net | 1.63% | 9.76% | 6.10% | 7.25% | 8.70% |
| Blmbg HY Corp 2% Issue | 1.98% | 8.87% | 5.84% | 6.37% | 8.14% |
| International Fixed Income | | | | | |
| Gross | 2.80% | 2.48% | 1.81% | 1.15% | 4.21% |
| Net | 2.71% | 2.11% | 1.42% | 0.78% | 3.84% |
| Wtd Avg Intl Fixed Income Benchmark | 2.48% | (2.42%) | 0.20% | (0.73%) | 2.04% |
| Global Real Assets | | | | | |
| Gross | 0.86% | 6.57% | 7.92% | 8.73% | - |
| Net | 0.79% | 6.14% | 7.45% | 8.30% | - |
| Wtd Avg Global Real Assets Benchmark | 1.31% | 5.10% | 6.51% | 7.23% | - |
| Real Estate | | | | | |
| Gross | 1.48% | 9.64% | 12.37% | 13.01% | 14.31% |
| Net | 1.36% | 9.12% | 11.78% | 12.47% | 13.74% |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 11.42% |
| Timber | | | | | |
| Net | 0.00% | (9.44%) | (0.60%) | 0.27% | - |
| NCREIF Timberland Index | 0.60% | 3.28% | 5.24% | 7.13% | 5.21% |
| Infrastructure | | | | | |
| Gross | (0.13%) | 9.75% | 3.63% | 6.54% | - |
| Net | (0.12%) | 9.25% | 3.08% | 5.93% | - |
| CPI-W | 0.89% | 2.31% | 0.95% | 1.09% | 1.66% |
| Cash & Equivalents - Net | 0.30% | 0.92% | 0.46% | 0.30% | 0.24% |
| 3-month Treasury Bill | 0.26% | 0.66% | 0.32% | 0.22% | 0.19% |
| Total Fund | | | | | |
| Gross | 3.94% | 13.54% | 7.53% | 9.36% | 9.99% |
| Net | 3.87% | 13.26% | 7.23% | 9.04% | 9.65% |
| Target* | 3.05% | 11.27% | 6.26% | 7.97% | 8.99% |

* Current Quarter Target = 16.0% MSCI World, 15.8% Russell 1000 Index, 13.0% Blmbg Aggregate, 11.0% MSCI World ex US, 11.0% NCREIF Total Index, 7.0% NDSIB PERS - Private Equity, 5.0% CPI-W, 5.0% Blmbg HY 2% Iss Cap, 5.0% Blmbg Glob Agg ex USD, 4.8% Russell 2000 Index, 3.4% MSCI EM and 3.0% NCREIF Timberland Index.

PLEASE REFER TO PAGES 33-37 FOR INVESTMENT MANAGER LEVEL RETURNS.

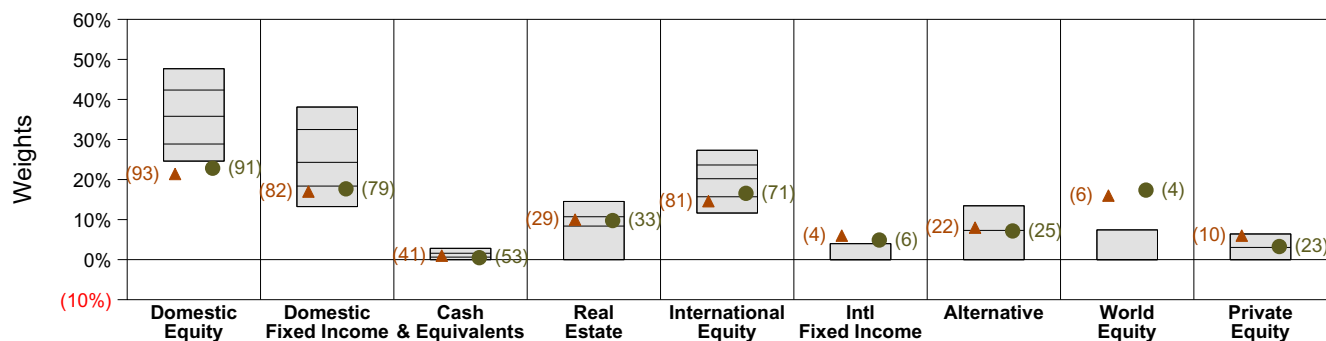
Actual vs Target Asset Allocation As of September 30, 2017

The top left chart shows the Fund's asset allocation as of September 30, 2017. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database.



| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-----------------------|---------------|---------------|--------|--------------------|-------------------|
| Domestic Equity | 545,147 | 22.8% | 21.4% | 1.4% | 34,135 |
| Domestic Fixed Income | 422,116 | 17.7% | 17.0% | 0.7% | 16,172 |
| International Equity | 395,334 | 16.6% | 14.6% | 2.0% | 46,700 |
| Intl Fixed Income | 116,927 | 4.9% | 6.0% | (1.1%) | (26,348) |
| Real Estate | 232,988 | 9.8% | 10.0% | (0.2%) | (5,803) |
| World Equity | 414,609 | 17.4% | 16.0% | 1.4% | 32,544 |
| Private Equity | 78,187 | 3.3% | 6.0% | (2.7%) | (65,088) |
| Timber | 61,130 | 2.6% | 3.0% | (0.4%) | (10,508) |
| Infrastructure | 109,809 | 4.6% | 5.0% | (0.4%) | (9,586) |
| Cash & Equivalents | 11,660 | 0.5% | 1.0% | (0.5%) | (12,219) |
| Total | 2,387,907 | 100.0% | 100.0% | | |

Asset Class Weights vs Callan Public Fund Sponsor Database



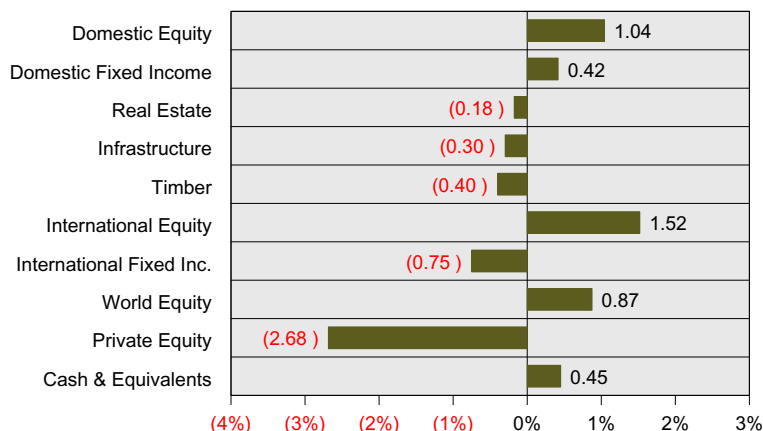
| | Domestic Equity | Domestic Fixed Income | Cash & Equivalents | Real Estate | International Equity | Intl Fixed Income | Alternative | World Equity | Private Equity |
|------------------|-----------------|-----------------------|--------------------|-------------|----------------------|-------------------|-------------|--------------|----------------|
| 10th Percentile | 47.67 | 38.10 | 2.82 | 14.53 | 27.31 | 3.99 | 13.45 | 7.43 | 6.41 |
| 25th Percentile | 42.35 | 32.48 | 1.59 | 10.71 | 23.63 | 0.00 | 7.30 | 0.00 | 3.05 |
| Median | 35.80 | 24.30 | 0.63 | 8.38 | 20.20 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75th Percentile | 28.87 | 18.37 | 0.00 | 0.00 | 15.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| 90th Percentile | 24.60 | 13.25 | 0.00 | 0.00 | 11.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fund | 22.83 | 17.68 | 0.49 | 9.76 | 16.56 | 4.90 | 7.16 | 17.36 | 3.27 |
| Target | 21.40 | 17.00 | 1.00 | 10.00 | 14.60 | 6.00 | 8.00 | 16.00 | 6.00 |
| % Group Invested | 96.60% | 97.28% | 73.47% | 71.43% | 91.84% | 14.97% | 13.61% | 12.24% | 36.73% |

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

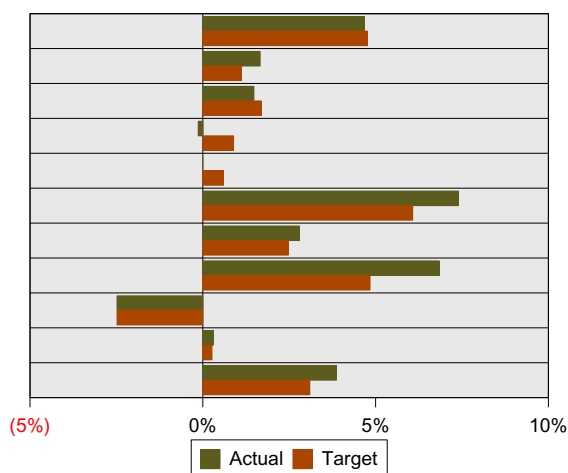
Quarterly Total Fund Relative Attribution - September 30, 2017

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

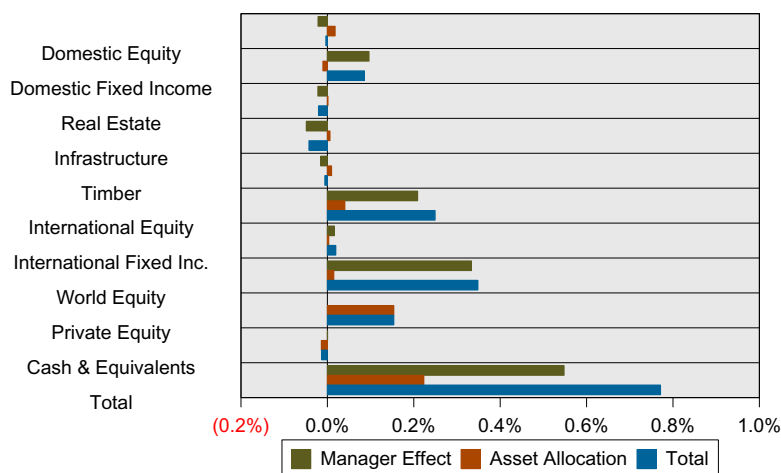
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2017

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 22% | 21% | 4.67% | 4.76% | (0.02%) | 0.02% | (0.00%) |
| Domestic Fixed Income | 17% | 17% | 1.66% | 1.12% | 0.10% | (0.01%) | 0.09% |
| Real Estate | 10% | 10% | 1.48% | 1.70% | (0.02%) | 0.00% | (0.02%) |
| Infrastructure | 5% | 5% | (0.13%) | 0.89% | (0.05%) | 0.01% | (0.04%) |
| Timber | 3% | 3% | 0.00% | 0.60% | (0.02%) | 0.01% | (0.01%) |
| International Equity | 16% | 15% | 7.40% | 6.07% | 0.21% | 0.04% | 0.25% |
| International Fixed Inc. | 5% | 6% | 2.80% | 2.48% | 0.02% | 0.00% | 0.02% |
| World Equity | 17% | 16% | 6.84% | 4.84% | 0.33% | 0.01% | 0.35% |
| Private Equity | 3% | 6% | (2.48%) | (2.48%) | 0.00% | 0.15% | 0.15% |
| Cash & Equivalents | 1% | 1% | 0.30% | 0.26% | 0.00% | (0.01%) | (0.01%) |

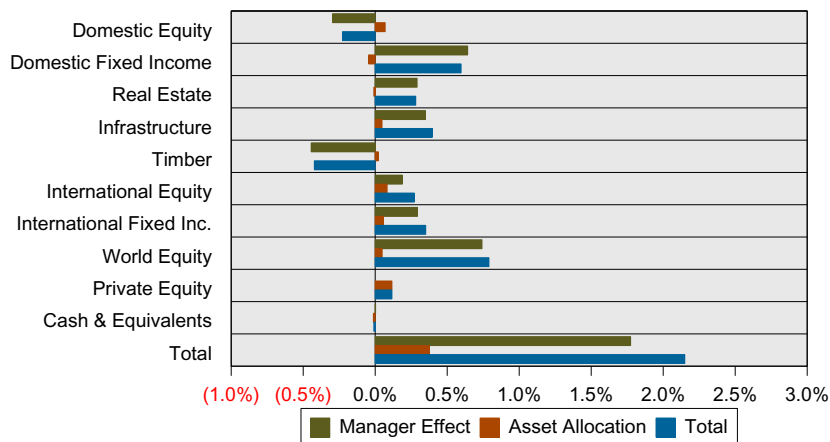
Total **3.87% = 3.10% + 0.55% + 0.22%** **0.77%**

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

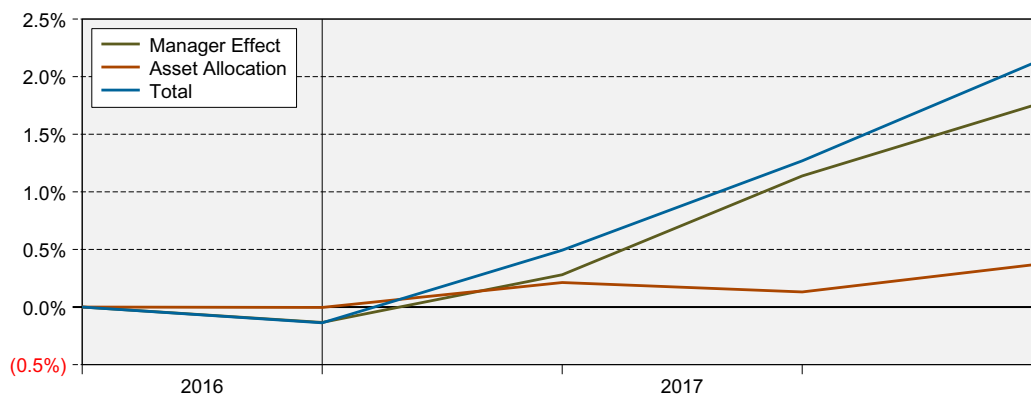
Cumulative Total Fund Relative Attribution - September 30, 2017

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

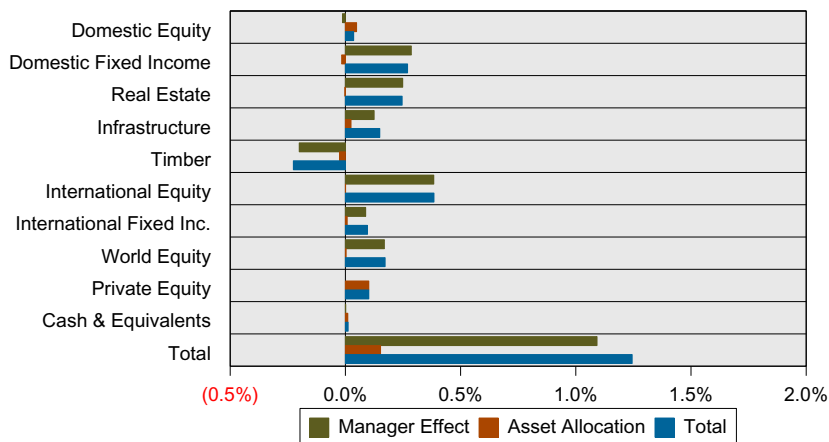
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 17.77% | 19.13% | (0.30%) | 0.07% | (0.23%) |
| Domestic Fixed Income | 17% | 17% | 5.53% | 2.09% | 0.64% | (0.05%) | 0.60% |
| Real Estate | 10% | 10% | 9.64% | 6.89% | 0.29% | (0.01%) | 0.28% |
| Infrastructure | 5% | 5% | 9.75% | 2.31% | 0.35% | 0.05% | 0.40% |
| Timber | 3% | 3% | (9.44%) | 3.28% | (0.44%) | 0.02% | (0.42%) |
| International Equity | 16% | 15% | 20.65% | 19.49% | 0.19% | 0.08% | 0.27% |
| International Fixed Inc. | 5% | 6% | 2.48% | (2.42%) | 0.29% | 0.06% | 0.35% |
| World Equity | 17% | 16% | 22.89% | 18.17% | 0.74% | 0.05% | 0.79% |
| Private Equity | 3% | 6% | 6.54% | 6.54% | 0.00% | 0.12% | 0.12% |
| Cash & Equivalents | 1% | 1% | 0.92% | 0.66% | 0.00% | (0.01%) | (0.01%) |
| Total | | | 13.33% | 11.18% | + 1.77% | + 0.38% | 2.15% |

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

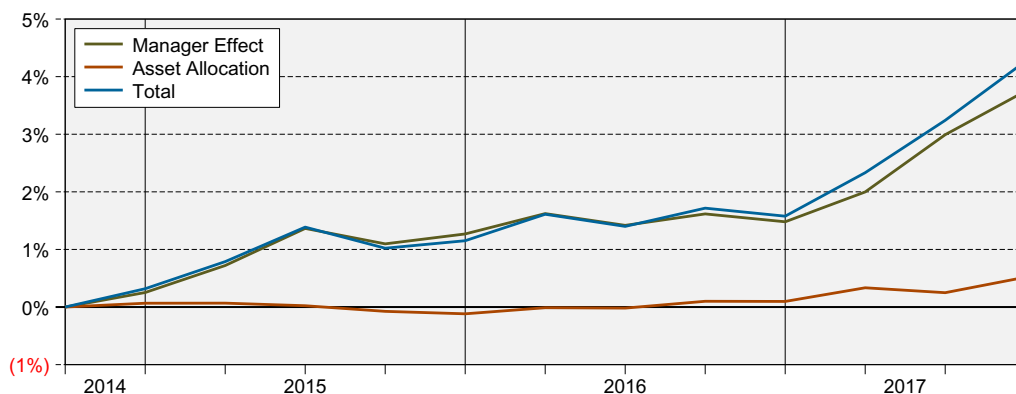
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

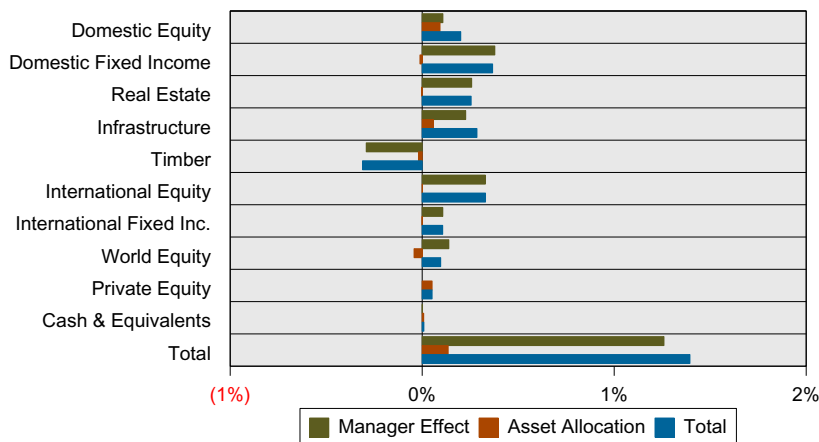
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 21% | 11.03% | 11.05% | (0.01%) | 0.05% | 0.04% |
| Domestic Fixed Income | 18% | 17% | 5.02% | 3.41% | 0.29% | (0.02%) | 0.27% |
| Real Estate | 10% | 10% | 12.37% | 9.83% | 0.25% | (0.00%) | 0.25% |
| Infrastructure | 5% | 5% | 3.63% | 0.95% | 0.12% | 0.02% | 0.15% |
| Timber | 3% | 4% | (0.60%) | 5.24% | (0.20%) | (0.03%) | (0.23%) |
| International Equity | 15% | 15% | 7.45% | 4.97% | 0.38% | 0.00% | 0.38% |
| International Fixed Inc. | 5% | 5% | 1.81% | 0.20% | 0.09% | 0.01% | 0.10% |
| World Equity | 16% | 16% | 8.68% | 7.69% | 0.17% | 0.00% | 0.17% |
| Private Equity | 4% | 5% | (2.14%) | (2.14%) | 0.00% | 0.10% | 0.10% |
| Cash & Equivalents | 1% | 1% | 0.46% | 0.32% | 0.00% | 0.01% | 0.01% |
| Total | | | 7.47% | 6.23% | + 1.09% | + 0.15% | 1.24% |

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

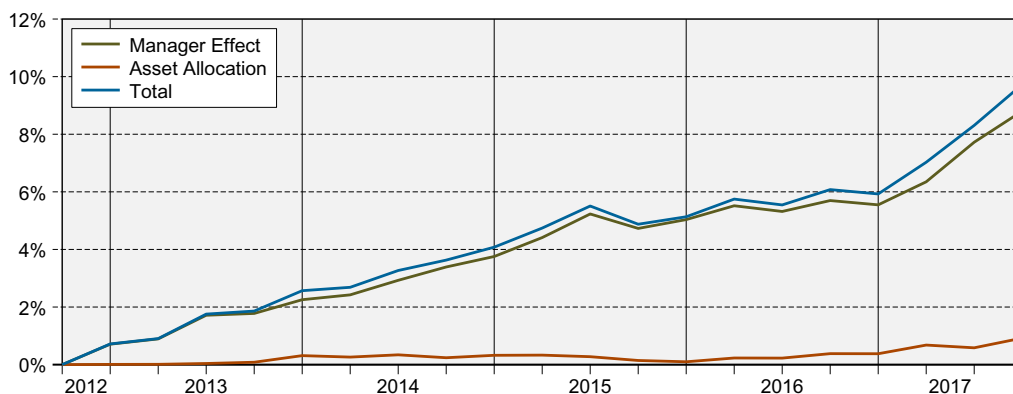
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

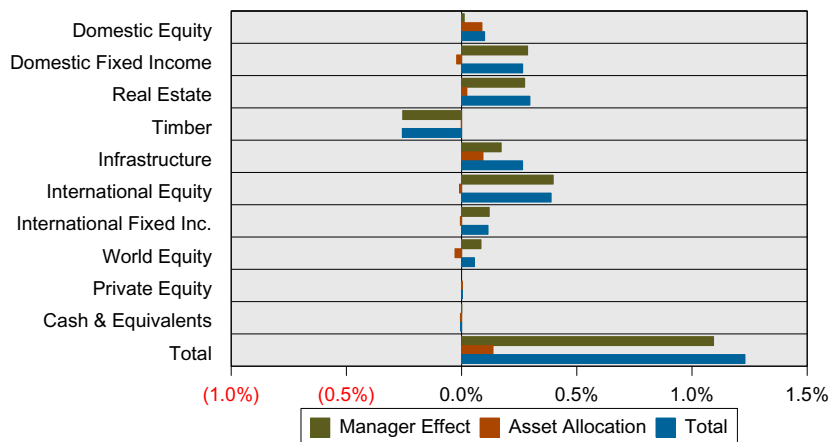
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 23% | 22% | 14.74% | 14.23% | 0.11% | 0.09% | 0.20% |
| Domestic Fixed Income | 18% | 17% | 5.30% | 3.19% | 0.38% | (0.01%) | 0.37% |
| Real Estate | 10% | 10% | 13.01% | 10.35% | 0.26% | (0.00%) | 0.26% |
| Infrastructure | 4% | 5% | 6.54% | 1.09% | 0.23% | 0.06% | 0.29% |
| Timber | 4% | 4% | 0.27% | 7.13% | (0.29%) | (0.02%) | (0.31%) |
| International Equity | 15% | 15% | 9.71% | 7.52% | 0.33% | 0.00% | 0.33% |
| International Fixed Inc. | 5% | 5% | 1.15% | (0.73%) | 0.11% | (0.00%) | 0.11% |
| World Equity | 16% | 16% | 11.66% | 10.99% | 0.14% | (0.04%) | 0.10% |
| Private Equity | 4% | 5% | 0.91% | 0.91% | 0.00% | 0.05% | 0.05% |
| Cash & Equivalents | 1% | 1% | 0.30% | 0.22% | 0.00% | 0.01% | 0.01% |
| Total | | | 9.37% | 7.98% | 1.26% | 0.14% | 1.39% |

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

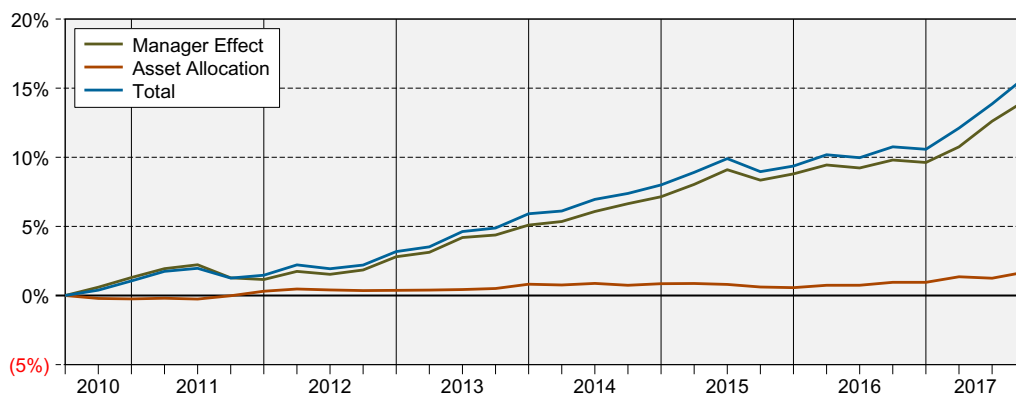
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Seven and One-Quarter Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Seven and One-Quarter Year Annualized Relative Attribution Effects

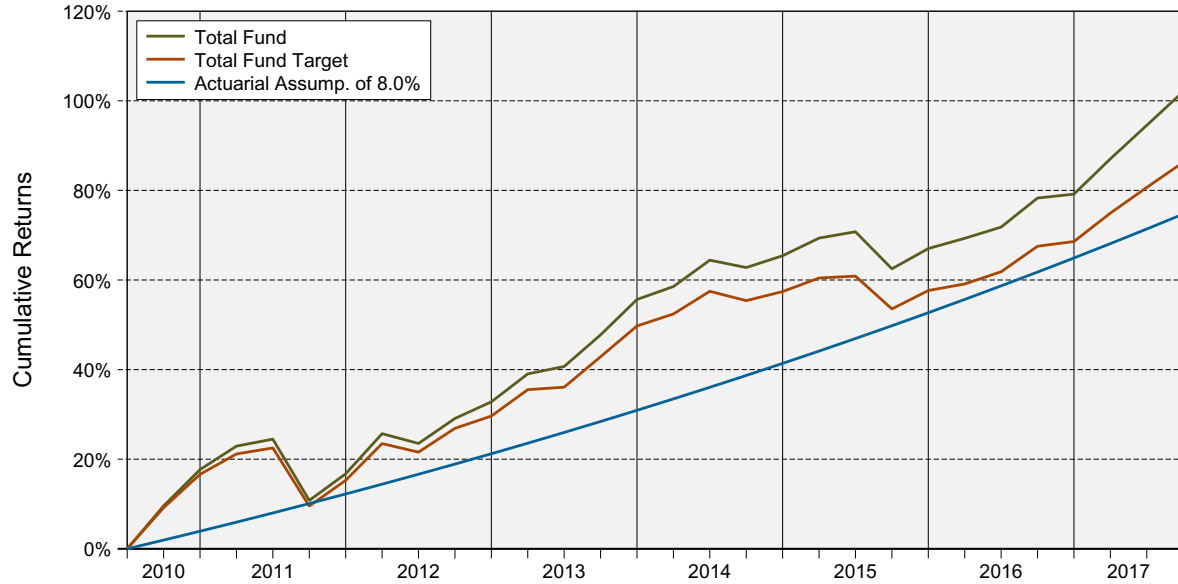
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|--------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Domestic Equity | 26% | 25% | 15.60% | 15.39% | 0.01% | 0.09% | 0.10% |
| Domestic Fixed Income | 18% | 17% | 6.22% | 4.57% | 0.29% | (0.02%) | 0.26% |
| Real Estate | 10% | 10% | 14.30% | 11.42% | 0.27% | 0.02% | 0.30% |
| Timber | 3% | 4% | - | - | (0.26%) | (0.00%) | (0.26%) |
| Infrastructure | 3% | 4% | - | - | 0.17% | 0.09% | 0.26% |
| International Equity | 17% | 17% | 9.34% | 7.12% | 0.40% | (0.01%) | 0.39% |
| International Fixed Inc. | 5% | 5% | 4.21% | 2.04% | 0.12% | (0.01%) | 0.11% |
| World Equity | 11% | 11% | - | - | 0.08% | (0.03%) | 0.06% |
| Private Equity | 5% | 5% | 3.44% | 3.44% | 0.00% | 0.00% | 0.00% |
| Cash & Equivalents | 1% | 1% | 0.24% | 0.19% | 0.00% | (0.01%) | (0.00%) |
| Total | | | 10.19% | 8.96% | 1.09% | 0.14% | 1.23% |

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

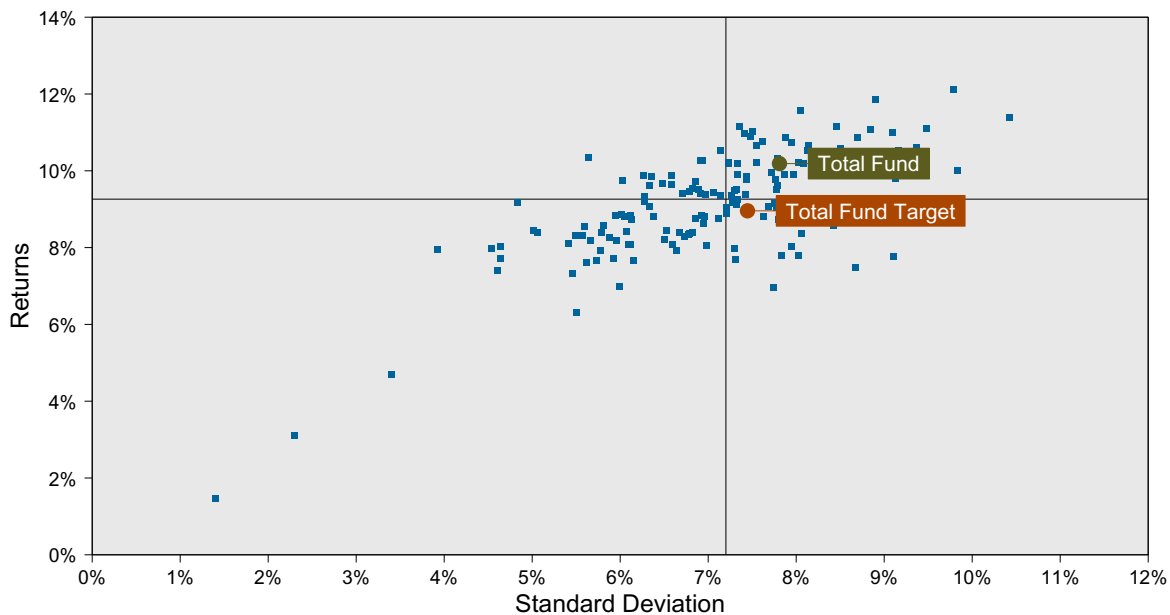
Cumulative Performance Relative to Target

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 Callan Public Fund Sponsor Database.

Cumulative Returns Actual vs Target



Seven and One-Quarter Year Annualized Risk vs Return



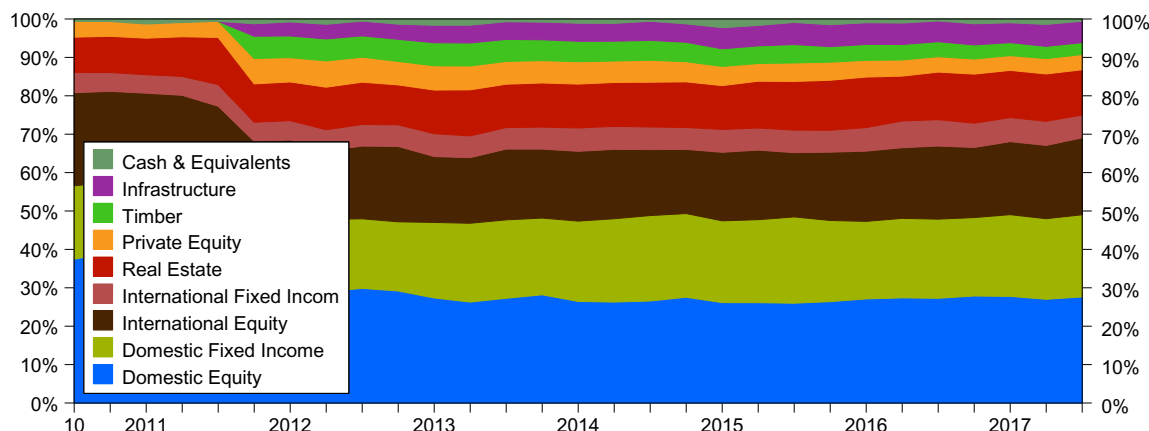
Squares represent membership of the Callan Public Fund Sponsor Database

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

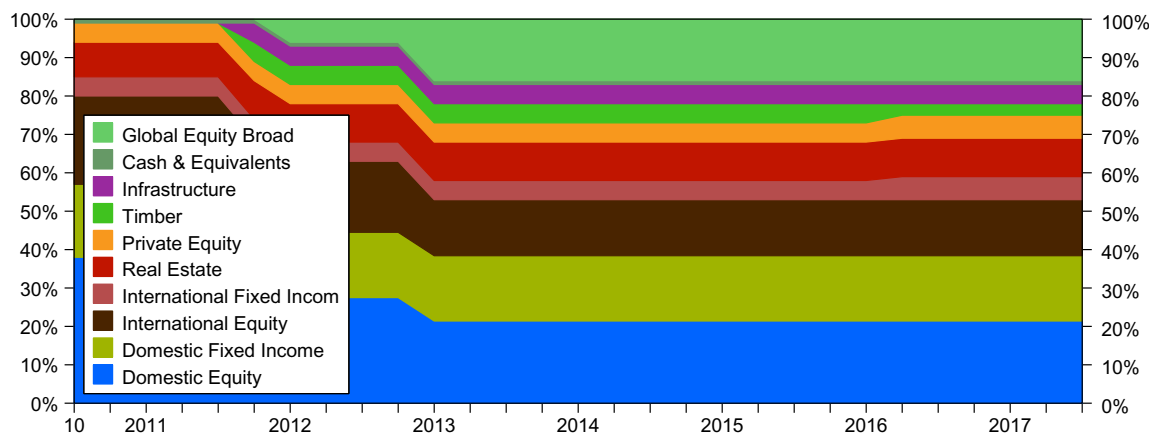
Actual vs Target Historical Asset Allocation

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

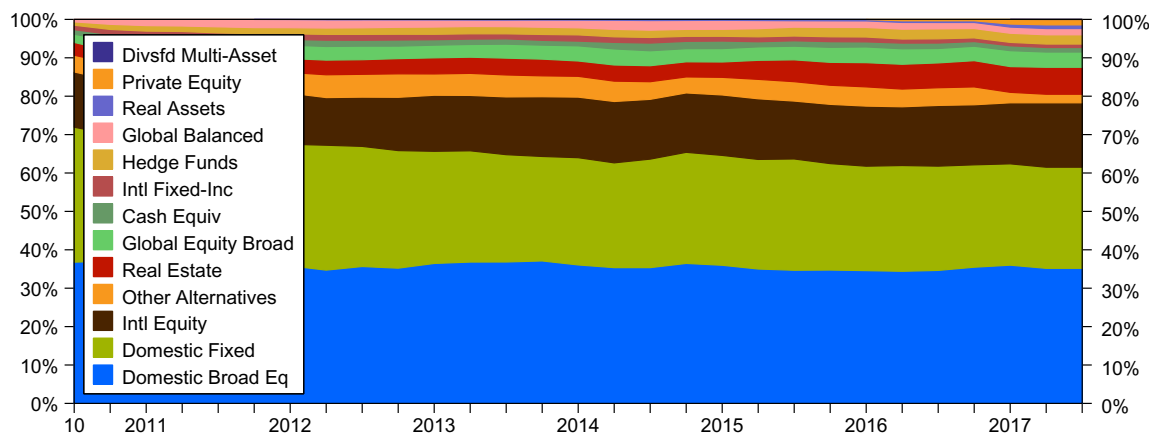
Actual Historical Asset Allocation



Target Historical Asset Allocation



Average Callan Public Fund Sponsor Database Historical Asset Allocation

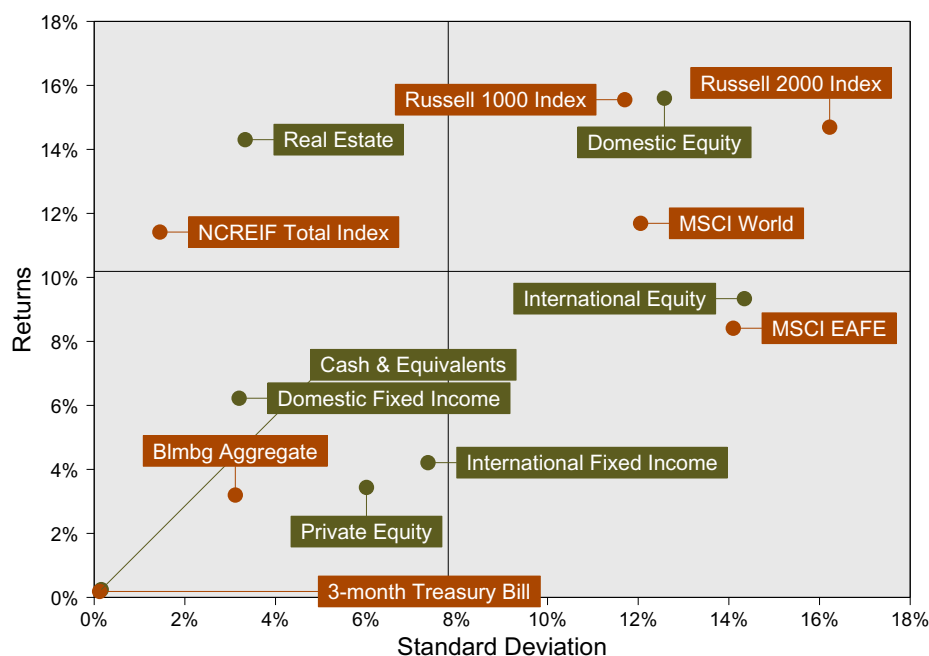


* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

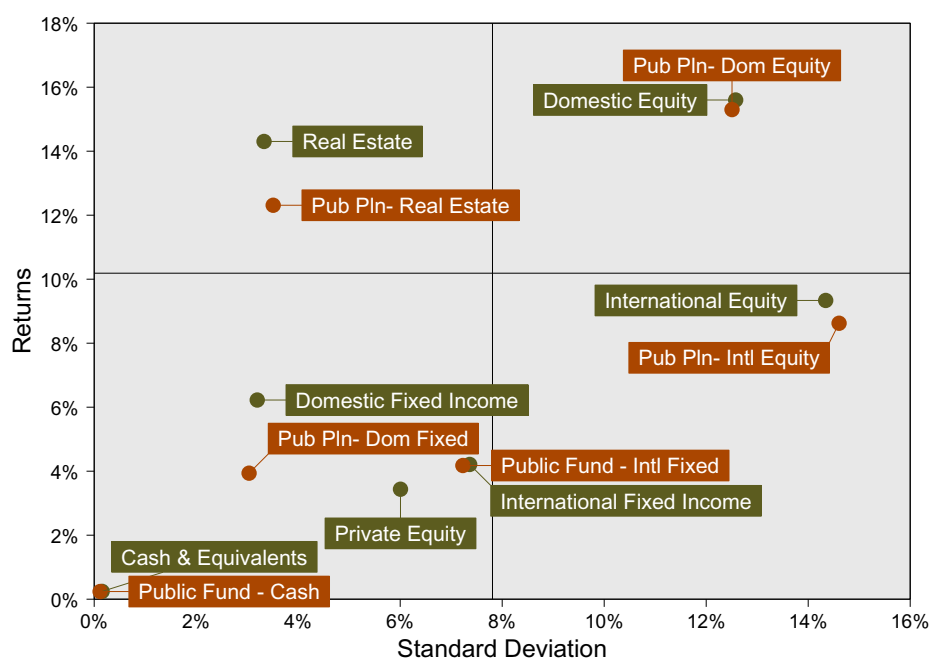
Asset Class Risk and Return

The charts below show the seven and one-quarter year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

Seven and One-Quarter Year Annualized Risk vs Return Asset Classes vs Benchmark Indices



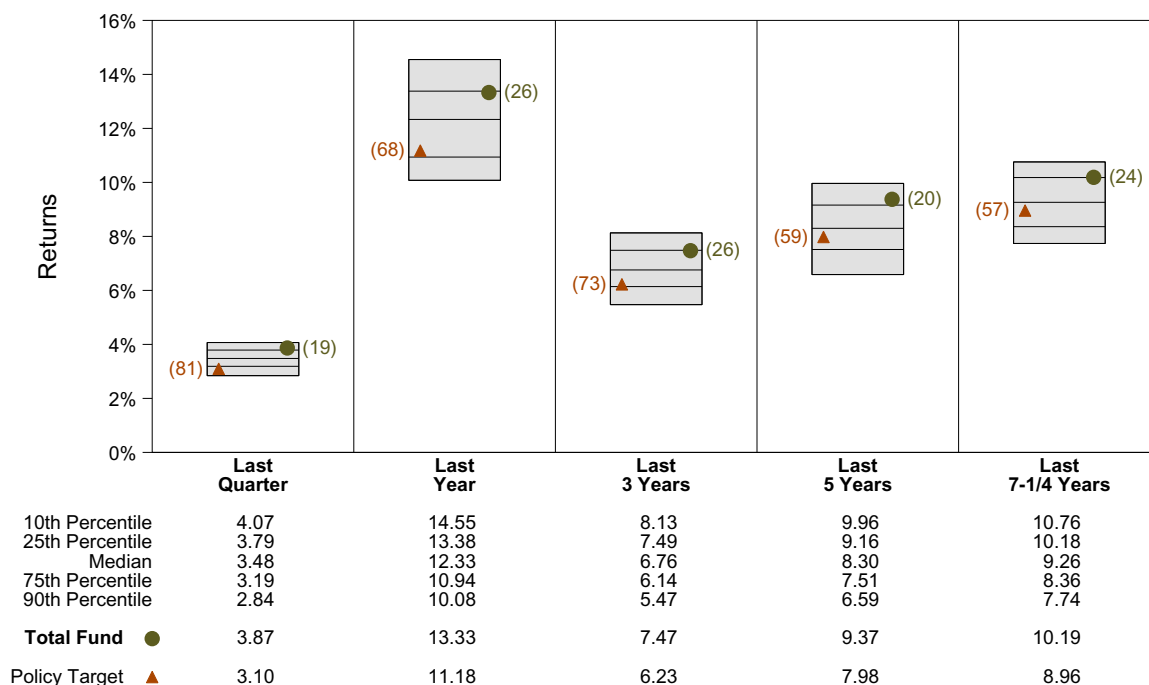
Seven and One-Quarter Year Annualized Risk vs Return Asset Classes vs Asset Class Median



Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended September 30, 2017. 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.

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking

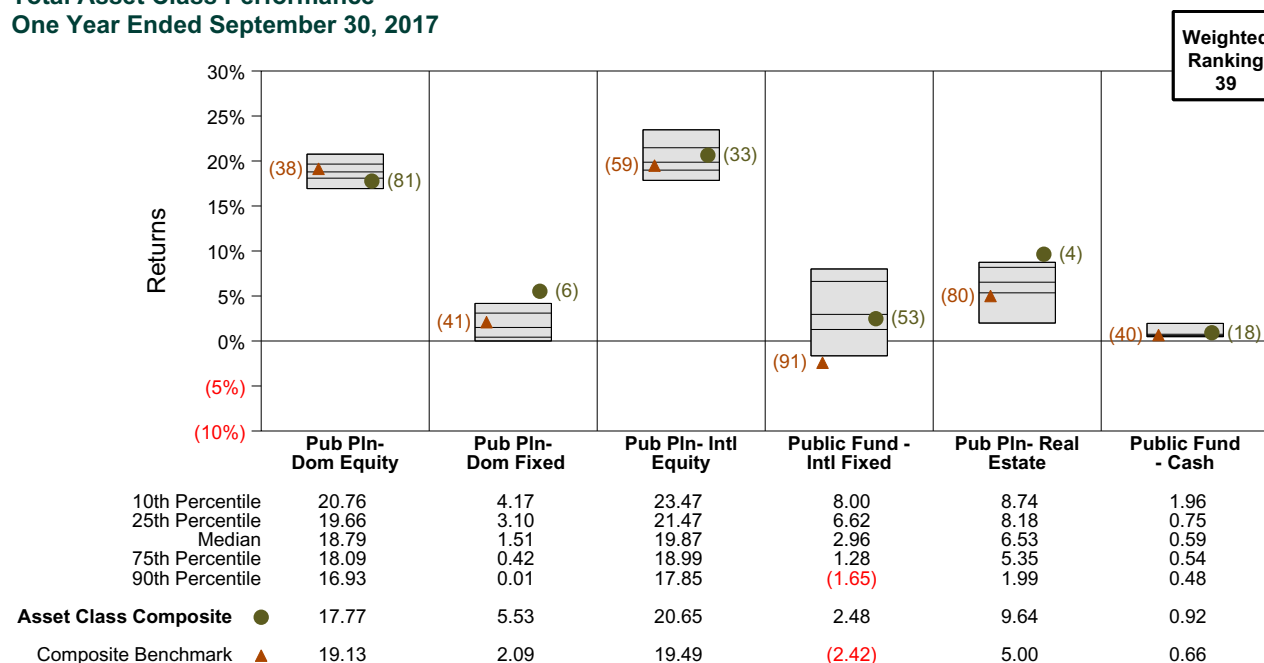


* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

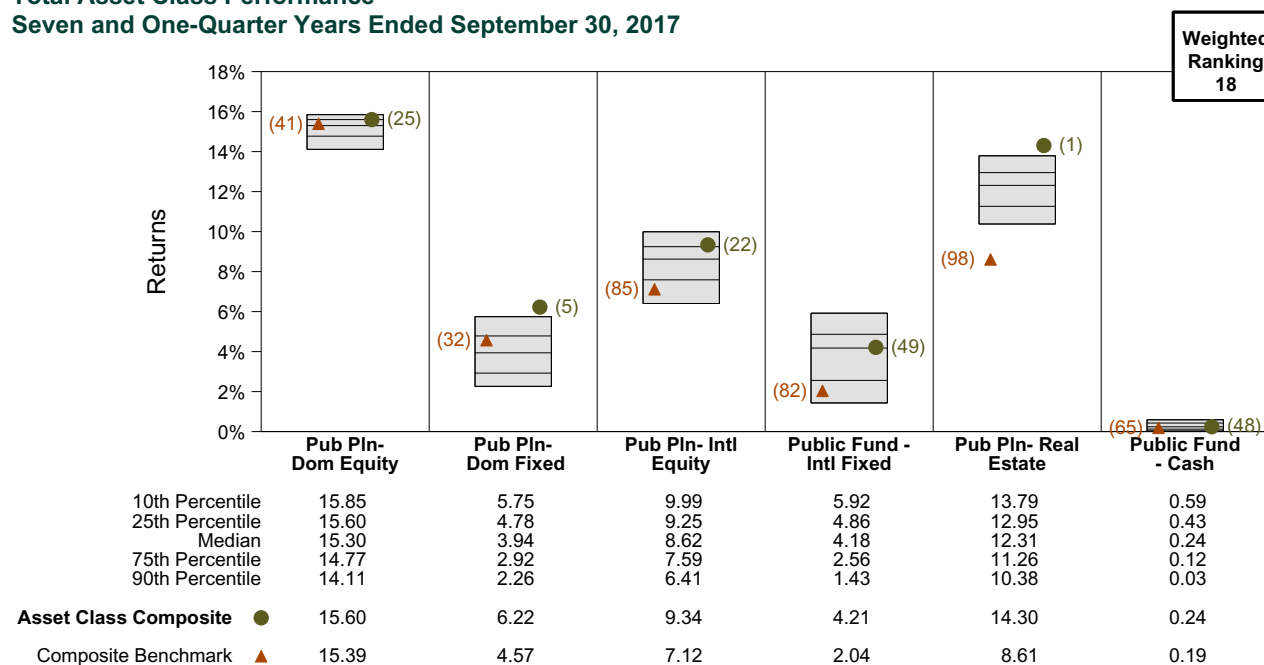
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended September 30, 2017



Total Asset Class Performance Seven and One-Quarter Years Ended September 30, 2017



* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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 Class Allocation

| | September 30, 2017 | | | | June 30, 2017 | |
|-----------------------------------|------------------------|---------------|-----------------------|----------------------|------------------------|---------------|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| GLOBAL EQUITY | \$1,433,277,296 | 60.02% | \$2,161,158 | \$76,208,258 | \$1,354,907,880 | 58.45% |
| Domestic Equity | \$545,147,073 | 22.83% | \$(293,006) | \$24,341,878 | \$521,098,201 | 22.48% |
| Large Cap | 415,937,685 | 17.42% | (120,404) | 18,259,571 | 397,798,517 | 17.16% |
| Small Cap | 129,209,388 | 5.41% | (172,602) | 6,082,307 | 123,299,684 | 5.32% |
| International Equity | \$395,334,200 | 16.56% | \$(172,945) | \$27,237,185 | \$368,269,961 | 15.89% |
| Developed Intl Equity | 307,248,285 | 12.87% | (172,945) | 19,923,114 | 287,498,117 | 12.40% |
| Emerging Markets | 88,085,915 | 3.69% | 0 | 7,314,071 | 80,771,844 | 3.48% |
| World Equity | \$414,609,208 | 17.36% | \$(523,577) | \$26,569,382 | \$388,563,403 | 16.76% |
| Private Equity | \$78,186,815 | 3.27% | \$3,150,686 | \$(1,940,187) | \$76,976,315 | 3.32% |
| GLOBAL FIXED INCOME | \$539,043,084 | 22.57% | \$2,753,784 | \$10,141,972 | \$526,147,328 | 22.70% |
| Fixed Income Comp | \$422,116,338 | 17.68% | \$10,360,516 | \$6,749,001 | \$405,006,821 | 17.47% |
| Investment Grade Fixed | 303,754,018 | 12.72% | (108,668) | 4,918,529 | 298,944,157 | 12.90% |
| Below Inv. Grade Fixed Income | 118,362,320 | 4.96% | 10,469,184 | 1,830,472 | 106,062,664 | 4.58% |
| International Fixed Income | \$116,926,746 | 4.90% | \$(7,606,732) | \$3,392,971 | \$121,140,506 | 5.23% |
| GLOBAL REAL ASSETS | \$403,926,094 | 16.92% | \$(9,234,417) | \$3,255,914 | \$409,904,597 | 17.68% |
| Real Estate | 232,987,574 | 9.76% | (8,318,151) | 3,401,475 | 237,904,250 | 10.26% |
| Timber | 61,129,515 | 2.56% | (480,299) | 16 | 61,609,798 | 2.66% |
| Infrastructure | 109,809,006 | 4.60% | (435,967) | (145,577) | 110,390,549 | 4.76% |
| Cash & Equivalents | \$11,660,110 | 0.49% | \$(15,706,682) | \$112,267 | \$27,254,525 | 1.18% |
| Securities Lending Income | \$0 | 0.00% | \$(49,853) | \$49,853 | - | - |
| Total Fund | \$2,387,906,584 | 100.0% | \$(20,076,010) | \$89,768,265 | \$2,318,214,330 | 100.0% |

PLEASE REFER TO PAGES 30-32 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 7-1/4 Years |
|-----------------------------------|-----------------|--------------|--------------------|--------------------|------------------------|
| Global Equity | | | | | |
| Gross | 5.62% | 19.35% | 8.57% | 11.59% | - |
| Net | 5.54% | 19.09% | 8.29% | 11.26% | - |
| Wtd Avg Global Equity Benchmark | 4.35% | 17.70% | 7.29% | 10.35% | - |
| Domestic Equity | | | | | |
| Gross | 4.67% | 17.77% | 11.03% | 14.74% | 15.60% |
| Net | 4.62% | 17.57% | 10.84% | 14.54% | 15.35% |
| Wtd Avg Domestic Equity Benchmark | 4.76% | 19.13% | 11.05% | 14.23% | 15.39% |
| Large Cap Equity | | | | | |
| Gross | 4.59% | 17.30% | 11.21% | 15.08% | 15.87% |
| Net | 4.56% | 17.18% | 11.07% | 14.91% | 15.63% |
| Benchmark(1) | 4.48% | 18.54% | 10.63% | 14.27% | 15.55% |
| Small Cap Equity | | | | | |
| Gross | 4.94% | 19.33% | 10.28% | 13.38% | 14.57% |
| Net | 4.79% | 18.88% | 9.96% | 13.07% | 14.27% |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 13.79% | 14.69% |
| International Equity | | | | | |
| Gross | 7.40% | 20.65% | 7.45% | 9.71% | 9.34% |
| Net | 7.35% | 20.44% | 7.25% | 9.46% | 9.03% |
| Wtd Avg Intl Equity Benchmark | 6.07% | 19.49% | 4.97% | 7.52% | 7.12% |
| Developed Intl Equity | | | | | |
| Gross | 6.93% | 20.33% | 7.42% | 10.53% | 9.80% |
| Net | 6.87% | 20.07% | 7.17% | 10.26% | 9.48% |
| Benchmark(2) | 5.62% | 18.73% | 4.88% | 8.28% | 7.55% |
| Emerging Markets | | | | | |
| Gross | 9.06% | 21.74% | 6.90% | 5.58% | 6.97% |
| Net | 9.06% | 21.74% | 6.90% | 5.41% | 6.68% |
| Benchmark(3) | 7.89% | 22.46% | 4.90% | 3.99% | 4.87% |
| World Equity | | | | | |
| Gross | 6.84% | 22.89% | 8.68% | 11.66% | - |
| Net | 6.70% | 22.43% | 8.13% | 10.97% | - |
| MSCI World Index | 4.84% | 18.17% | 7.69% | 10.99% | 11.69% |
| Private Equity | | | | | |
| Net | (2.48%) | 6.54% | (2.15%) | 0.88% | 3.36% |

(1) S&P 500 Index through 12/31/2011 and the Russell 1000 Index thereafter.

(2) 50% Hedged EAFE through 3/31/2011; MSCI EAFE through 6/30/16; MSCI World ex-US thereafter.

(3) MSCI Emerging Mkts Idx (Gross) through 6/30/2011 and MSCI Emerging Mkts Idx Net thereafter.

PLEASE REFER TO PAGES 33-37 FOR INVESTMENT MANAGER LEVEL RETURNS.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 7-1/4 Years |
|--------------------------------------|-----------------|--------------|--------------------|--------------------|------------------------|
| Global Fixed Income | | | | | |
| Gross | 1.92% | 4.72% | 4.30% | 4.36% | - |
| Net | 1.86% | 4.48% | 4.04% | 4.11% | - |
| Wtd Avg Global Fixed Inc. Benchmark | 1.47% | 0.93% | 2.67% | 2.29% | - |
| Domestic Fixed Income | | | | | |
| Gross | 1.66% | 5.53% | 5.02% | 5.30% | 6.22% |
| Net | 1.61% | 5.32% | 4.80% | 5.09% | 6.08% |
| Wtd Avg Domestic FI Benchmark | 1.12% | 2.09% | 3.41% | 3.19% | 4.57% |
| Inv. Grade Fixed Income | | | | | |
| Gross | 1.65% | 3.88% | 4.50% | 4.39% | 5.16% |
| Net | 1.61% | 3.75% | 4.36% | 4.27% | 5.00% |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 3.20% |
| Below Inv. Grade Fixed Income | | | | | |
| Gross | 1.71% | 10.16% | 6.52% | 7.70% | 9.13% |
| Net | 1.61% | 9.74% | 6.09% | 7.25% | 8.69% |
| Blmbg HY Corp 2% Issue | 1.98% | 8.87% | 5.84% | 6.37% | 8.14% |
| International Fixed Income | | | | | |
| Gross | 2.80% | 2.48% | 1.81% | 1.15% | 4.21% |
| Net | 2.71% | 2.11% | 1.42% | 0.79% | 3.84% |
| Wtd Avg Intl Fixed Income Benchmark | 2.48% | (2.42%) | 0.20% | (0.73%) | 2.04% |
| Global Real Assets | | | | | |
| Gross | 0.81% | 6.23% | 7.72% | 8.62% | - |
| Net | 0.75% | 5.81% | 7.27% | 8.19% | - |
| Wtd Avg Global Real Assets Benchmark | 1.29% | 5.00% | 6.49% | 7.22% | - |
| Real Estate | | | | | |
| Gross | 1.48% | 9.64% | 12.37% | 13.01% | 14.30% |
| Net | 1.36% | 9.12% | 11.78% | 12.47% | 13.74% |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 11.42% |
| Timber | | | | | |
| Net | 0.00% | (9.44%) | (0.60%) | 0.27% | - |
| NCREIF Timberland Index | 0.60% | 3.28% | 5.24% | 7.13% | 5.21% |
| Infrastructure | | | | | |
| Gross | (0.13%) | 9.75% | 3.63% | 6.54% | - |
| Net | (0.12%) | 9.25% | 3.08% | 5.93% | - |
| CPI-W | 0.89% | 2.31% | 0.95% | 1.09% | 1.66% |
| Cash & Equivalents - Net | 0.30% | 0.92% | 0.46% | 0.30% | 0.24% |
| 3-month Treasury Bill | 0.26% | 0.66% | 0.32% | 0.22% | 0.19% |
| Total Fund | | | | | |
| Gross | 3.87% | 13.33% | 7.47% | 9.37% | 10.19% |
| Net | 3.80% | 13.04% | 7.17% | 9.05% | 9.84% |
| Target* | 3.10% | 11.18% | 6.23% | 7.98% | 8.96% |

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Blmbg Aggregate, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 6.0% Blmbg Glob Agg ex USD, 6.0% NDSIB TFFR - Private Equity, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Blmbg HY 2% Iss Cap, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

PLEASE REFER TO PAGES 33-37 FOR INVESTMENT MANAGER LEVEL RETURNS.

Domestic Equity Period Ended September 30, 2017

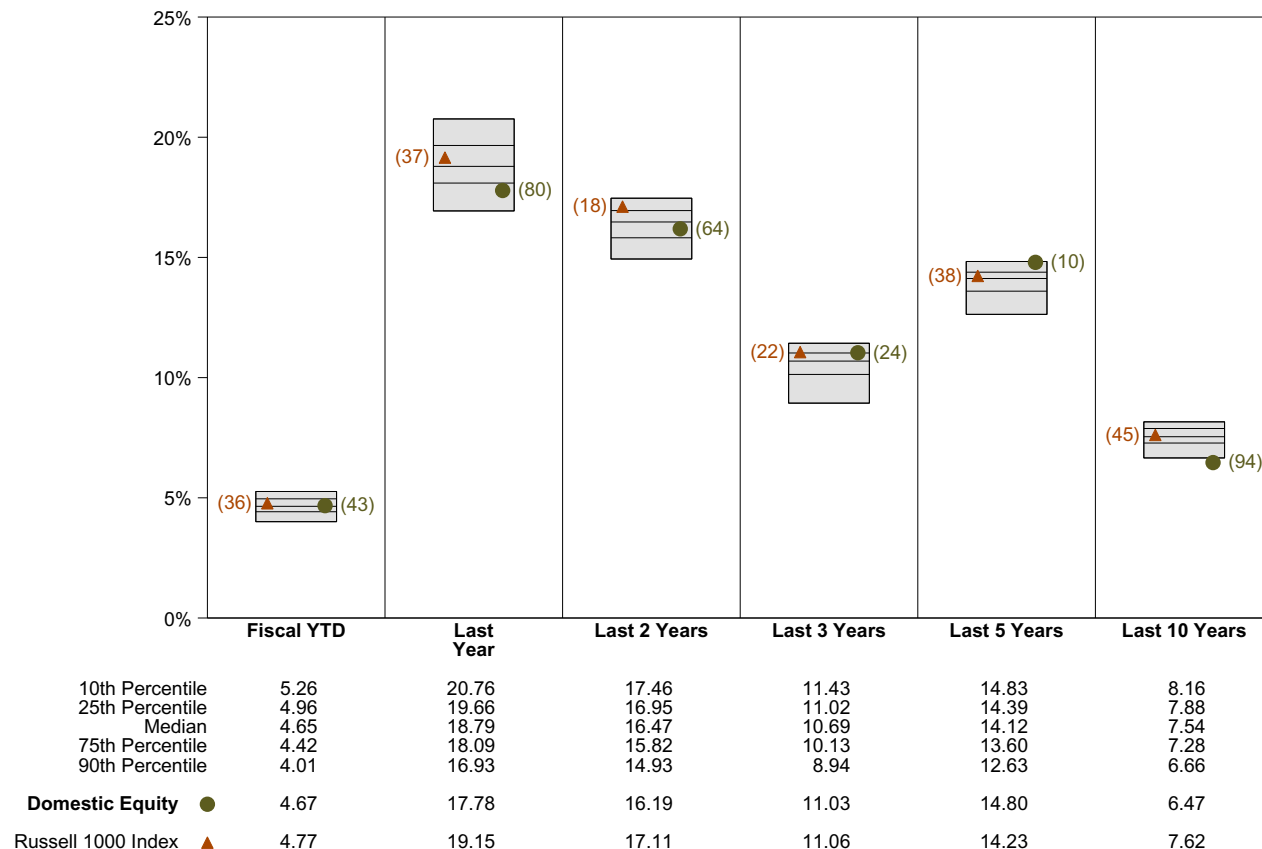
Quarterly Summary and Highlights

- Domestic Equity's portfolio posted a 4.67% return for the quarter placing it in the 43 percentile of the Pub Pln- Domestic Equity group for the quarter and in the 80 percentile for the last year.
- Domestic Equity's portfolio underperformed the Russell 1000 Index by 0.10% for the quarter and underperformed the Russell 1000 Index for the year by 1.37%.

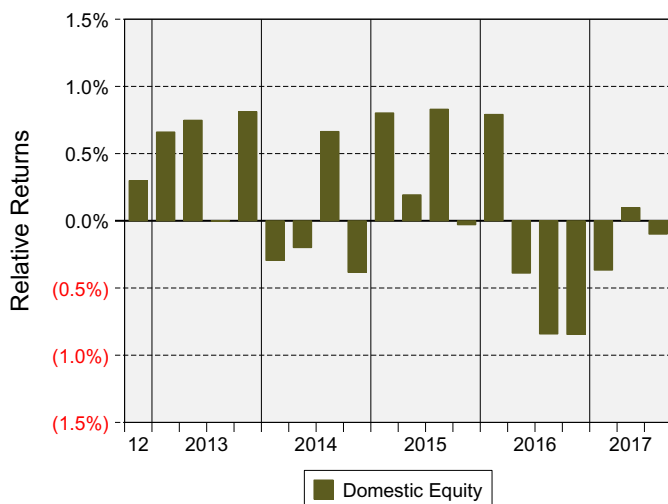
Quarterly Asset Growth

| | |
|---------------------------|-----------------|
| Beginning Market Value | \$1,193,659,217 |
| Net New Investment | \$-678,227 |
| Investment Gains/(Losses) | \$55,775,088 |
| Ending Market Value | \$1,248,756,078 |

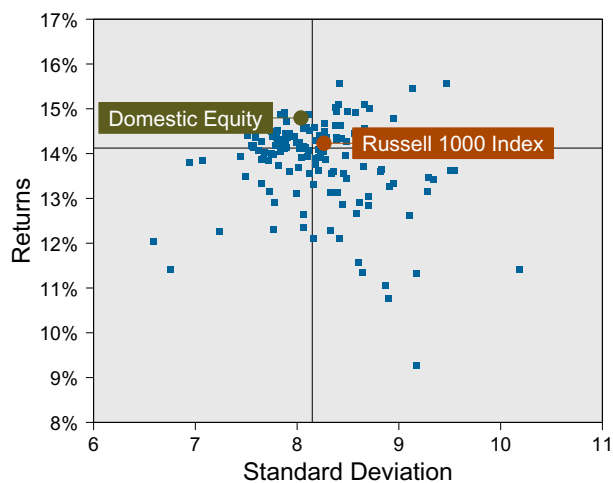
Performance vs Pub Pln- Domestic Equity (Gross)



Relative Return vs Russell 1000 Index



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



L.A. Capital Period Ended September 30, 2017

Investment Philosophy

The LA Capital Structured portfolio is a large growth portfolio benchmarked to the Russell 1000 Growth Index. It is an active assignment meaning that it targets a 2% alpha and constrains its risk budget (tracking error) to 4% relative to the benchmark. LA Capital believes that investment results are driven by Investor Preferences and thus recognize that when preferences shift a different posture related to that factor is warranted.

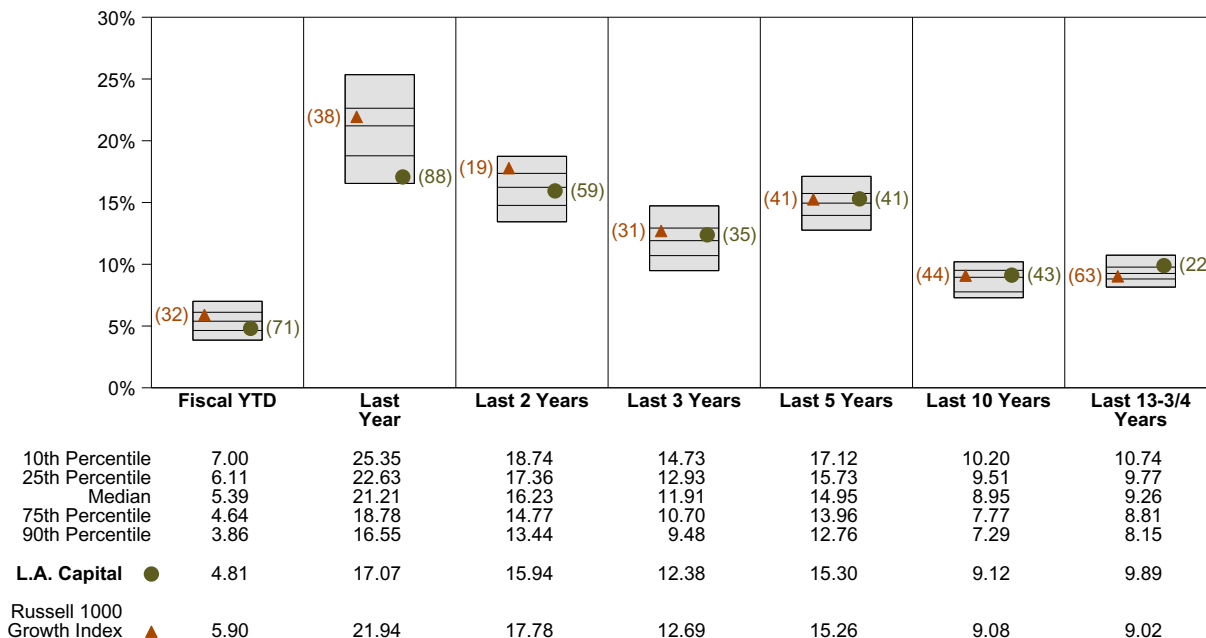
Quarterly Summary and Highlights

- L.A. Capital's portfolio posted a 4.81% return for the quarter placing it in the 71 percentile of the Callan Large Cap Growth group for the quarter and in the 88 percentile for the last year.
- L.A. Capital's portfolio underperformed the Russell 1000 Growth Index by 1.09% for the quarter and underperformed the Russell 1000 Growth Index for the year by 4.87%.

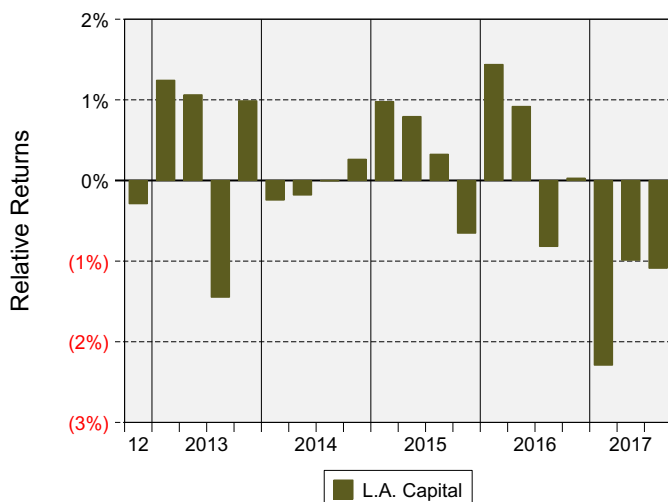
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$344,801,496 |
| Net New Investment | \$-181,653 |
| Investment Gains/(Losses) | \$16,583,887 |
| Ending Market Value | \$361,203,730 |

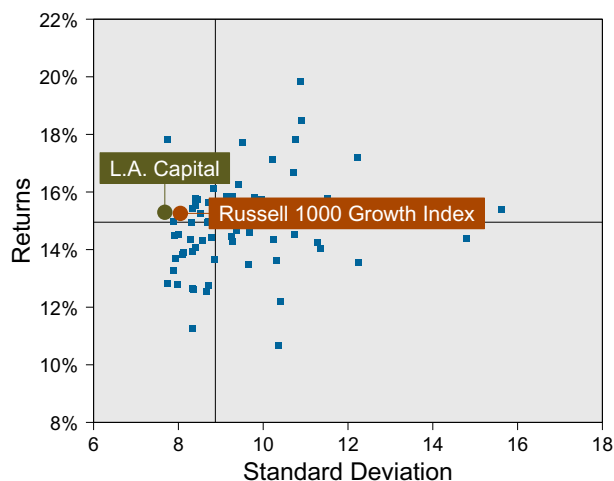
Performance vs Callan Large Cap Growth (Gross)



Relative Return vs Russell 1000 Growth Index



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



L.A. Capital Management Enhanced Index Period Ended September 30, 2017

Investment Philosophy

The LA Capital Enhanced portfolio is a large core portfolio benchmarked to the Russell 1000 Index. Characterized as an enhanced index assignment, its objective is to track the benchmark with lower variability. The pension portfolio began in August of 2000 and the insurance portfolio was initiated in April of 2004. Since October of 2006 a small portion of each of the two core accounts was allocated into the Large Cap Alpha Fund with intent to add incremental alpha to the assignment given that the information ratio was expected to be higher.

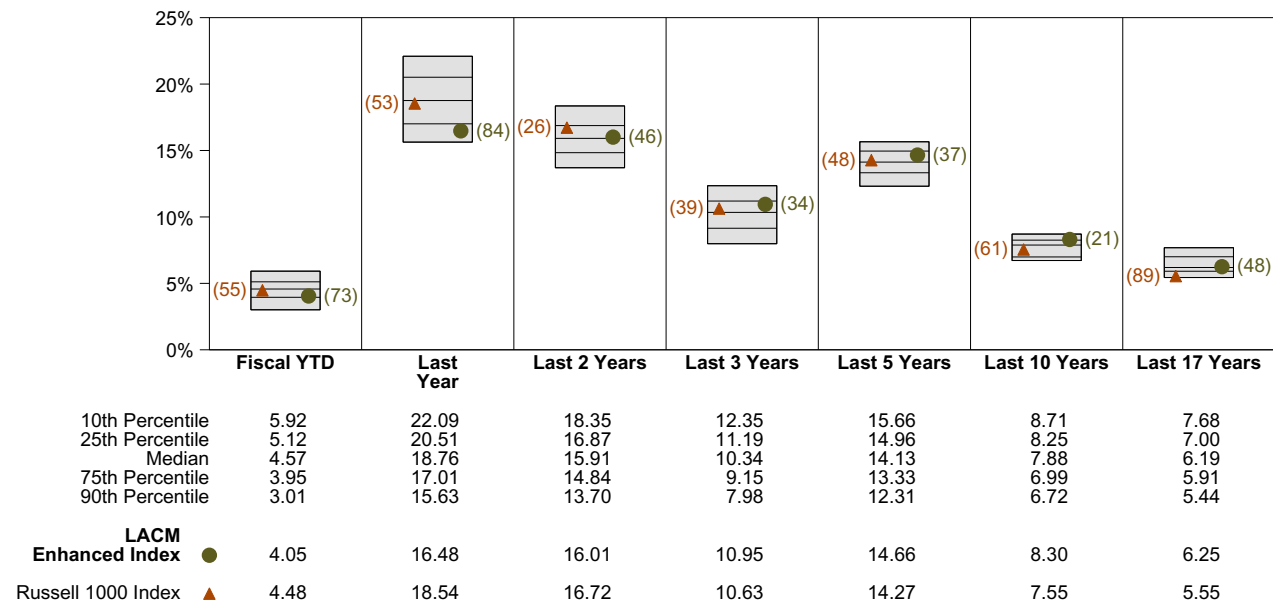
Quarterly Summary and Highlights

- LACM Enhanced Index's portfolio posted a 4.05% return for the quarter placing it in the 73 percentile of the Callan Large Cap Core group for the quarter and in the 84 percentile for the last year.
- LACM Enhanced Index's portfolio underperformed the Russell 1000 Index by 0.43% for the quarter and underperformed the Russell 1000 Index for the year by 2.06%.

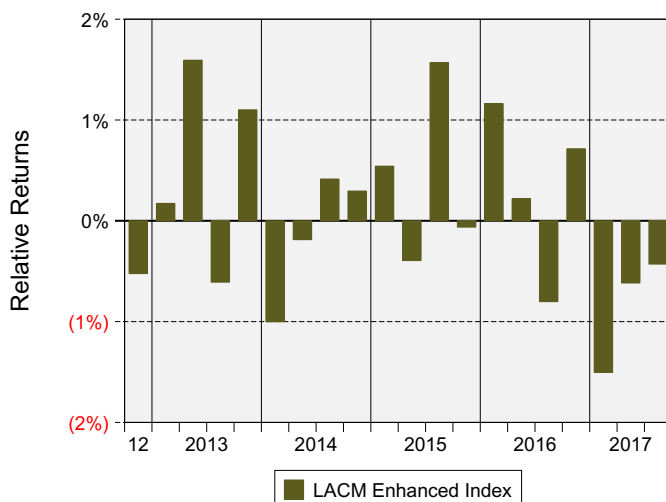
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$200,427,445 |
| Net New Investment | \$-50,490 |
| Investment Gains/(Losses) | \$8,114,499 |
| Ending Market Value | \$208,491,454 |

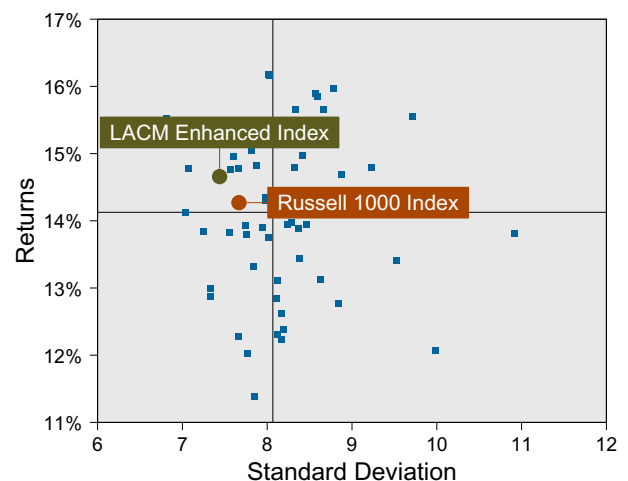
Performance vs Callan Large Cap Core (Gross)



Relative Return vs Russell 1000 Index



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



Northern Trust AM Enh S&P500 Period Ended September 30, 2017

Investment Philosophy

Northern Trust AM Enhanced S&P 500 employs a quantitative investment approach, focusing on the stock selection process as the principal source of value added. The account invests primarily in a broadly diversified portfolio of equity securities that include securities convertible into equity securities (including common stock), warrants, rights and units or shares in trusts, exchange traded funds and investment companies. The Investment Manager intends to use futures and options to manage market risk associated with the account's investments.

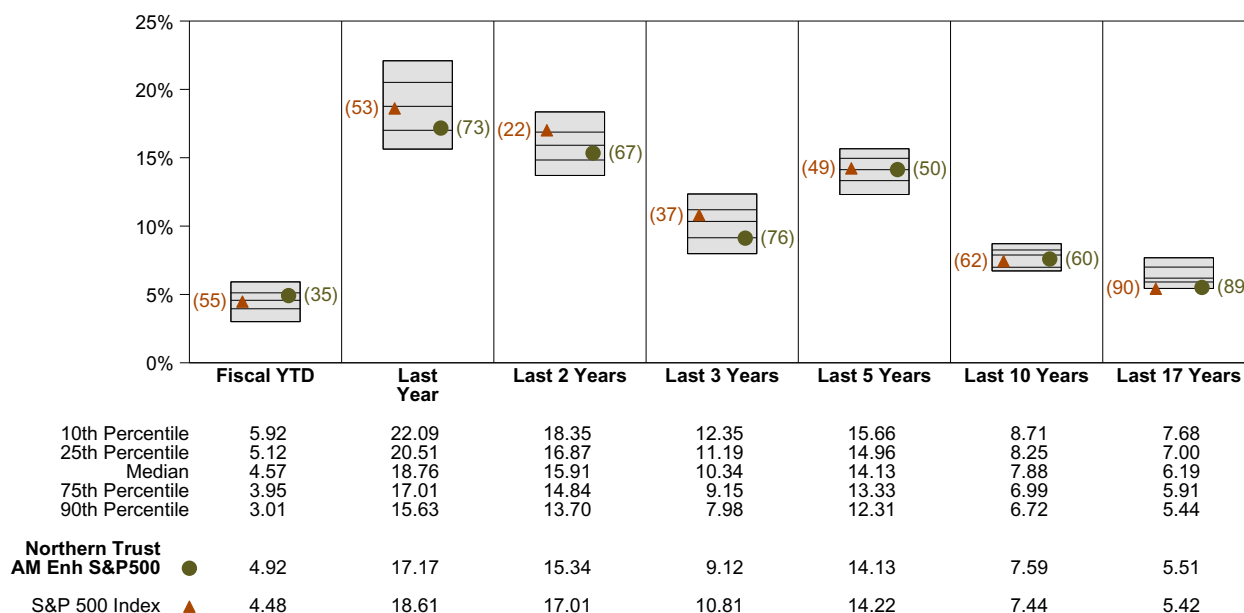
Quarterly Summary and Highlights

- Northern Trust AM Enh S&P500's portfolio posted a 4.92% return for the quarter placing it in the 35 percentile of the Callan Large Cap Core group for the quarter and in the 73 percentile for the last year.
- Northern Trust AM Enh S&P500's portfolio outperformed the S&P 500 Index by 0.44% for the quarter and underperformed the S&P 500 Index for the year by 1.44%.

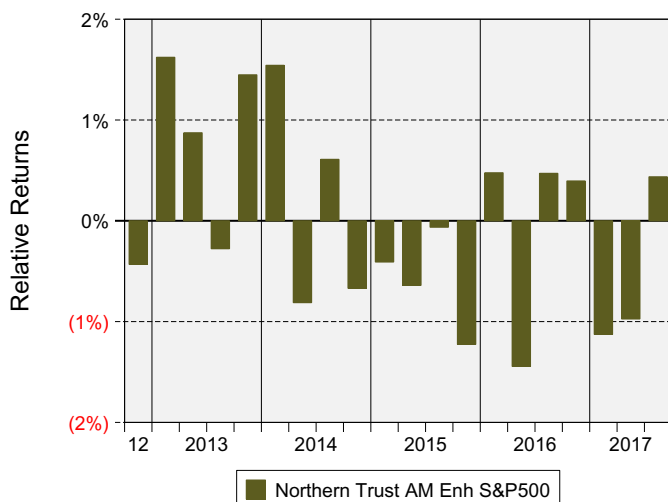
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$167,318,509 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$8,226,149 |
| Ending Market Value | \$175,544,658 |

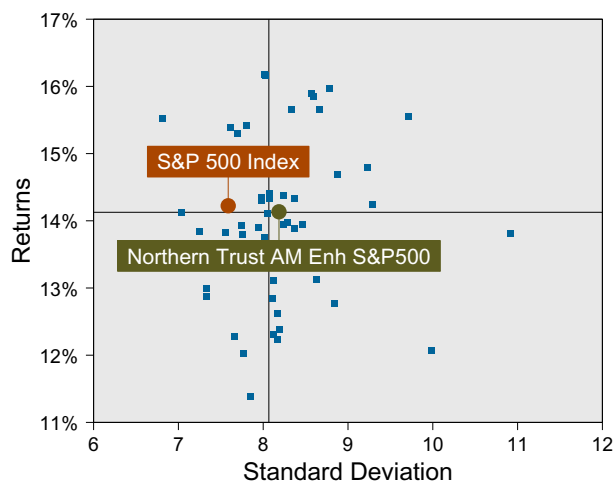
Performance vs Callan Large Cap Core (Gross)



Relative Return vs S&P 500 Index



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



Parametric Clifton Enh S&P Period Ended September 30, 2017

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

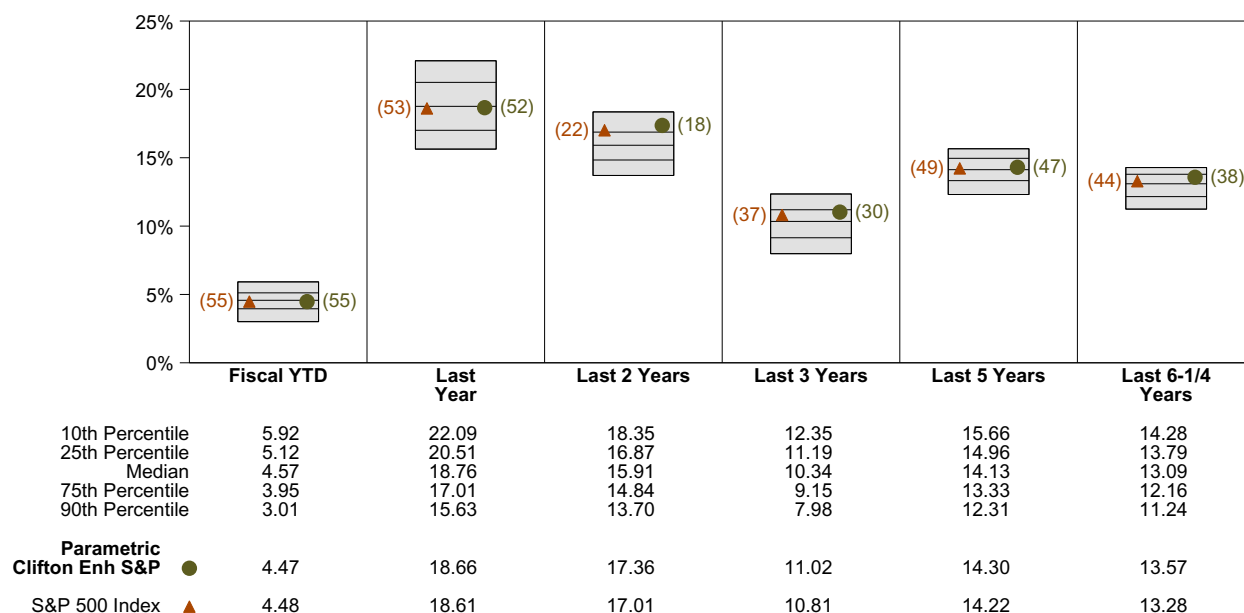
Quarterly Summary and Highlights

- Parametric Clifton Enh S&P's portfolio posted a 4.47% return for the quarter placing it in the 55 percentile of the Callan Large Cap Core group for the quarter and in the 52 percentile for the last year.
- Parametric Clifton Enh S&P's portfolio underperformed the S&P 500 Index by 0.01% for the quarter and outperformed the S&P 500 Index for the year by 0.05%.

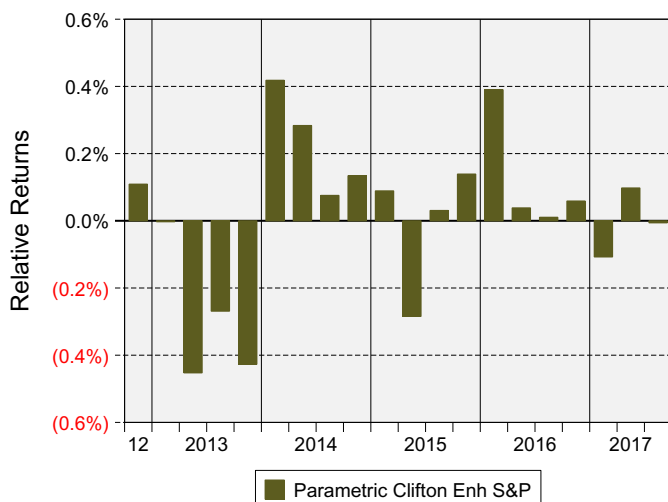
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$192,250,585 |
| Net New Investment | \$-41,718 |
| Investment Gains/(Losses) | \$8,601,187 |
| Ending Market Value | \$200,810,053 |

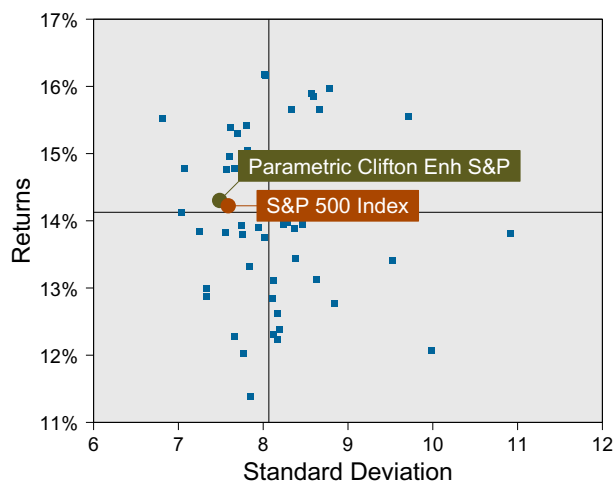
Performance vs Callan Large Cap Core (Gross)



Relative Return vs S&P 500 Index



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



Atlanta Capital

Period Ended September 30, 2017

Investment Philosophy

Atlanta believes that high quality companies produce consistently increasing earnings and dividends, thereby providing attractive returns with moderate risk over the long-term.

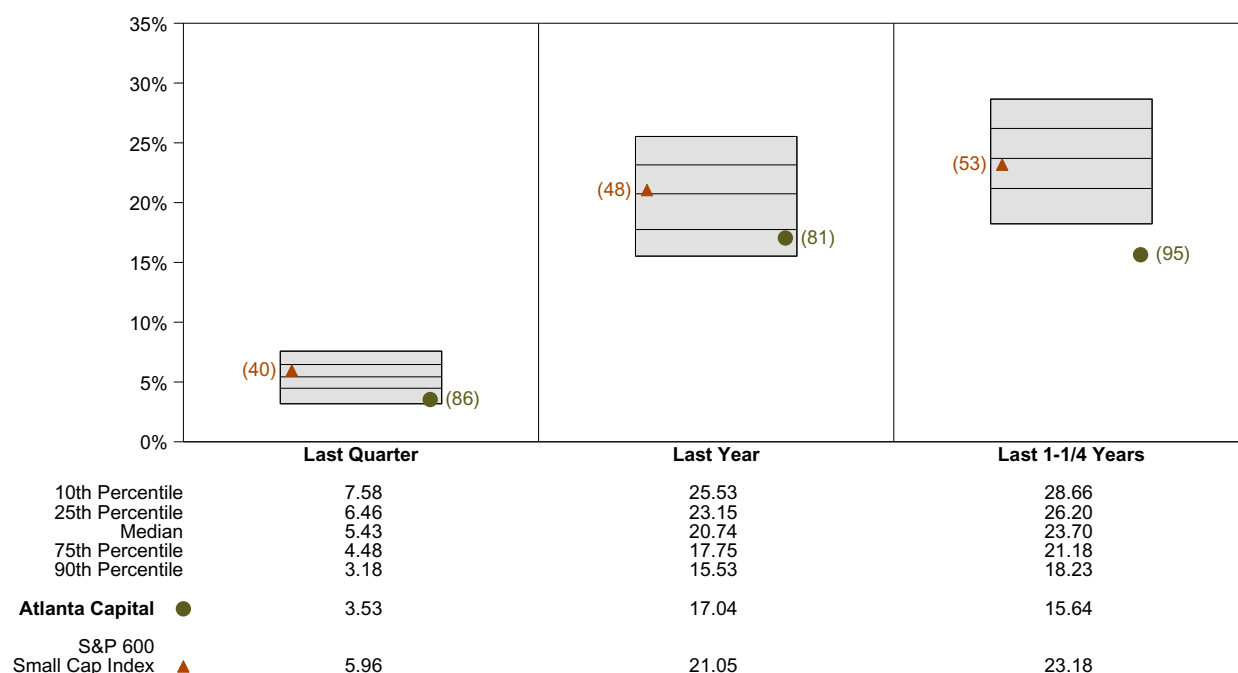
Quarterly Summary and Highlights

- Atlanta Capital's portfolio posted a 3.53% return for the quarter placing it in the 86 percentile of the Callan Small Capitalization group for the quarter and in the 81 percentile for the last year.
- Atlanta Capital's portfolio underperformed the S&P 600 Small Cap Index by 2.43% for the quarter and underperformed the S&P 600 Small Cap Index for the year by 4.01%.

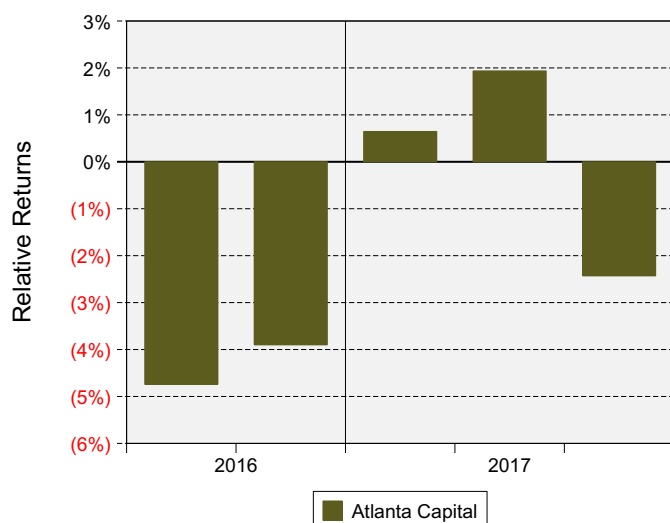
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$130,237,677 |
| Net New Investment | \$-232,857 |
| Investment Gains/(Losses) | \$4,598,919 |
| Ending Market Value | \$134,603,739 |

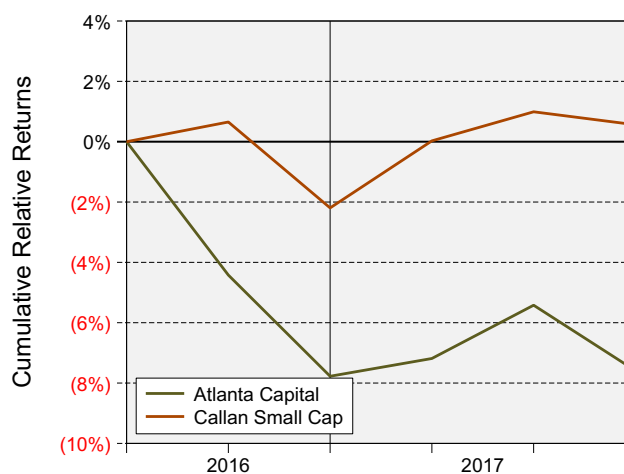
Performance vs Callan Small Capitalization (Gross)



Relative Return vs S&P 600 Small Cap Index



Cumulative Returns vs S&P 600 Small Cap Index



Parametric Clifton Enh SmCap Period Ended September 30, 2017

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

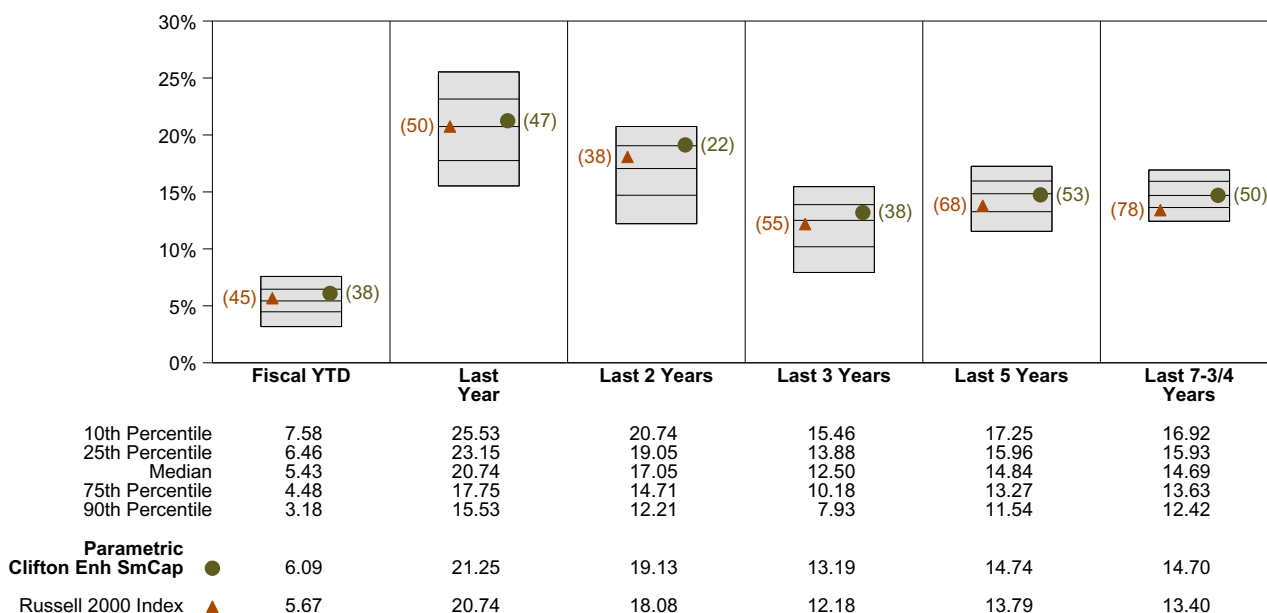
Quarterly Summary and Highlights

- Parametric Clifton Enh SmCap's portfolio posted a 6.09% return for the quarter placing it in the 38 percentile of the Callan Small Capitalization group for the quarter and in the 47 percentile for the last year.
- Parametric Clifton Enh SmCap's portfolio outperformed the Russell 2000 Index by 0.42% for the quarter and outperformed the Russell 2000 Index for the year by 0.51%.

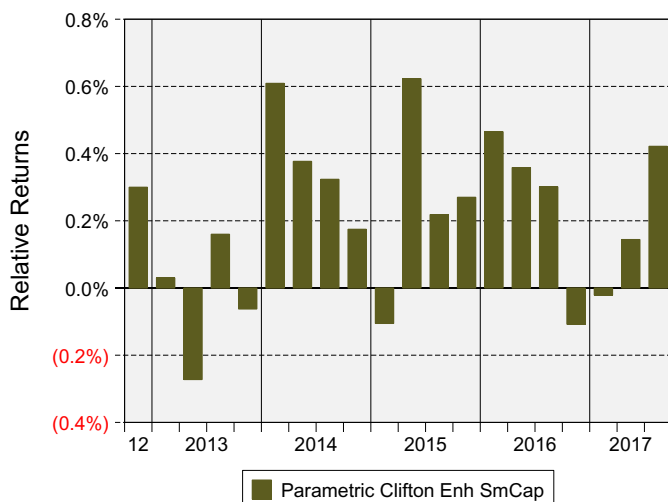
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$158,623,505 |
| Net New Investment | \$-171,509 |
| Investment Gains/(Losses) | \$9,650,448 |
| Ending Market Value | \$168,102,443 |

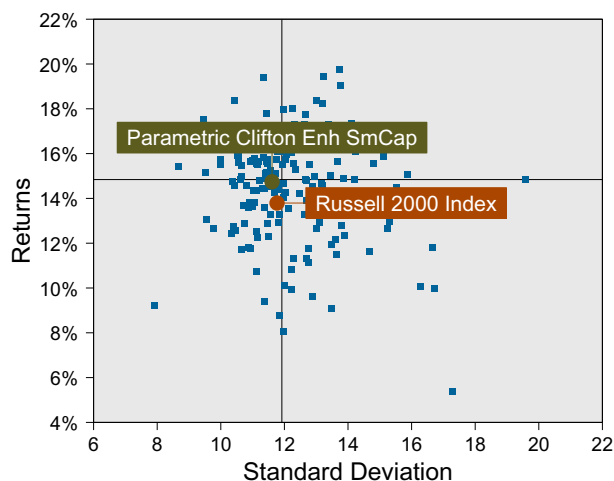
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



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



International Equity Period Ended September 30, 2017

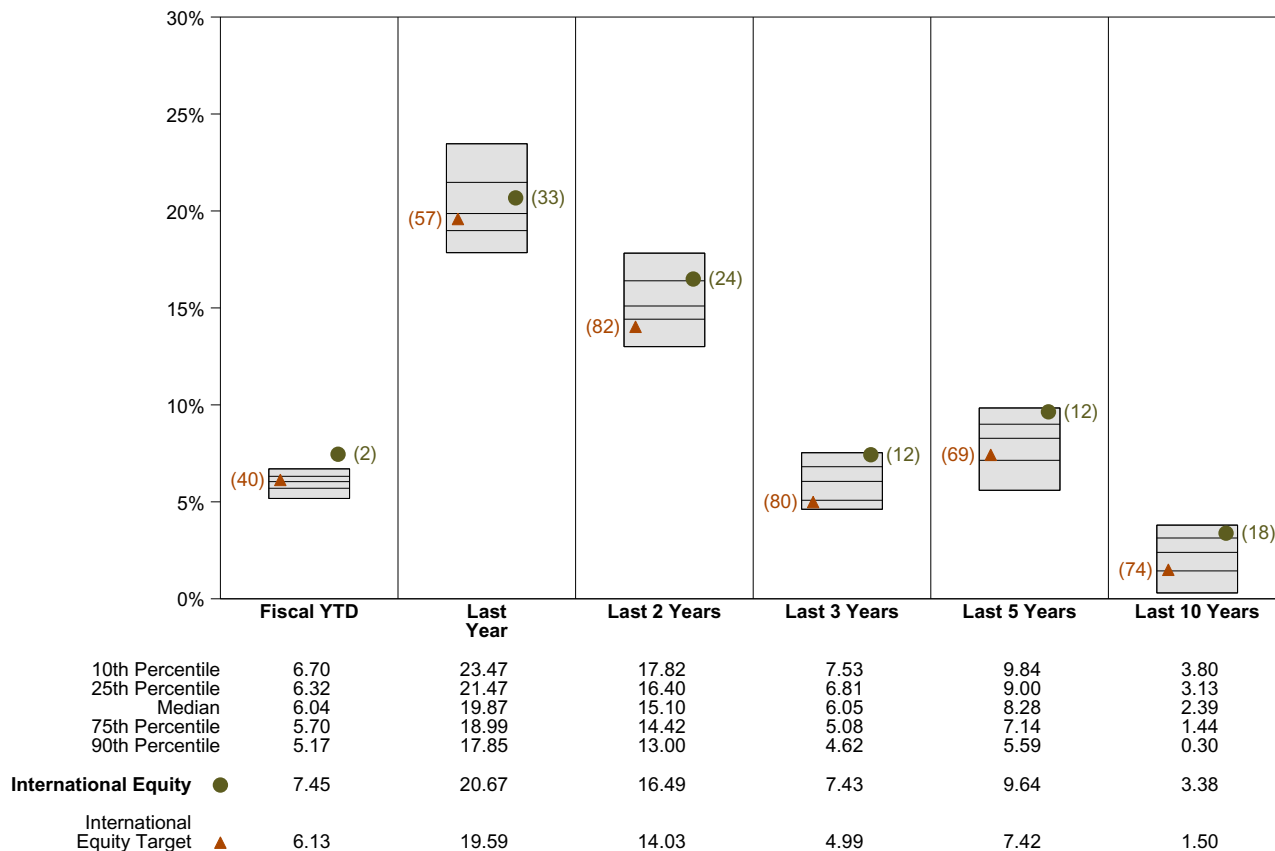
Quarterly Summary and Highlights

- International Equity's portfolio posted a 7.45% return for the quarter placing it in the 2 percentile of the Pub Pln-International Equity group for the quarter and in the 33 percentile for the last year.
- International Equity's portfolio outperformed the International Equity Target by 1.32% for the quarter and outperformed the International Equity Target for the year by 1.09%.

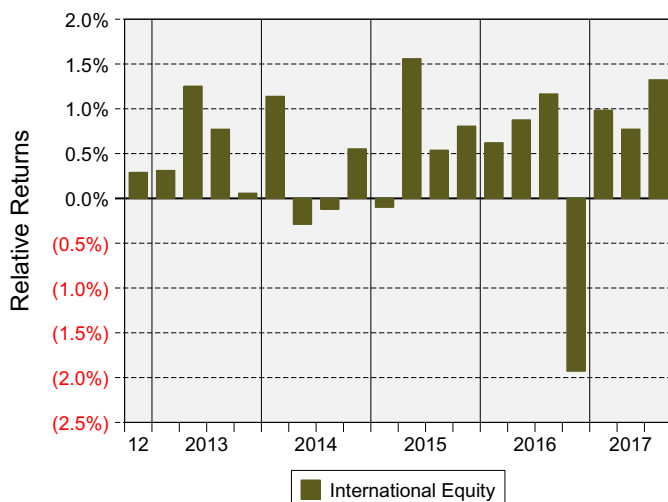
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$838,649,370 |
| Net New Investment | \$-380,387 |
| Investment Gains/(Losses) | \$62,501,693 |
| Ending Market Value | \$900,770,675 |

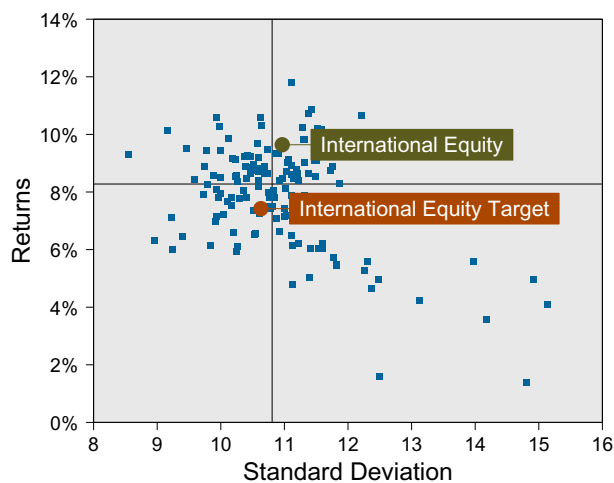
Performance vs Pub Pln- International Equity (Gross)



Relative Return vs International Equity Target



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



DFA International Small Cap Value Fund

Period Ended September 30, 2017

Investment Philosophy

The International Small Cap Value Portfolio invests in the stocks of small, non-US developed markets companies that Dimensional believes to be value stocks at the time of purchase. Specifically, it looks at companies that fall within the smallest 8-10% of each country's market capitalization, and who's shares have a high book value in relation to their market value (BtM). It does not invest in emerging markets.

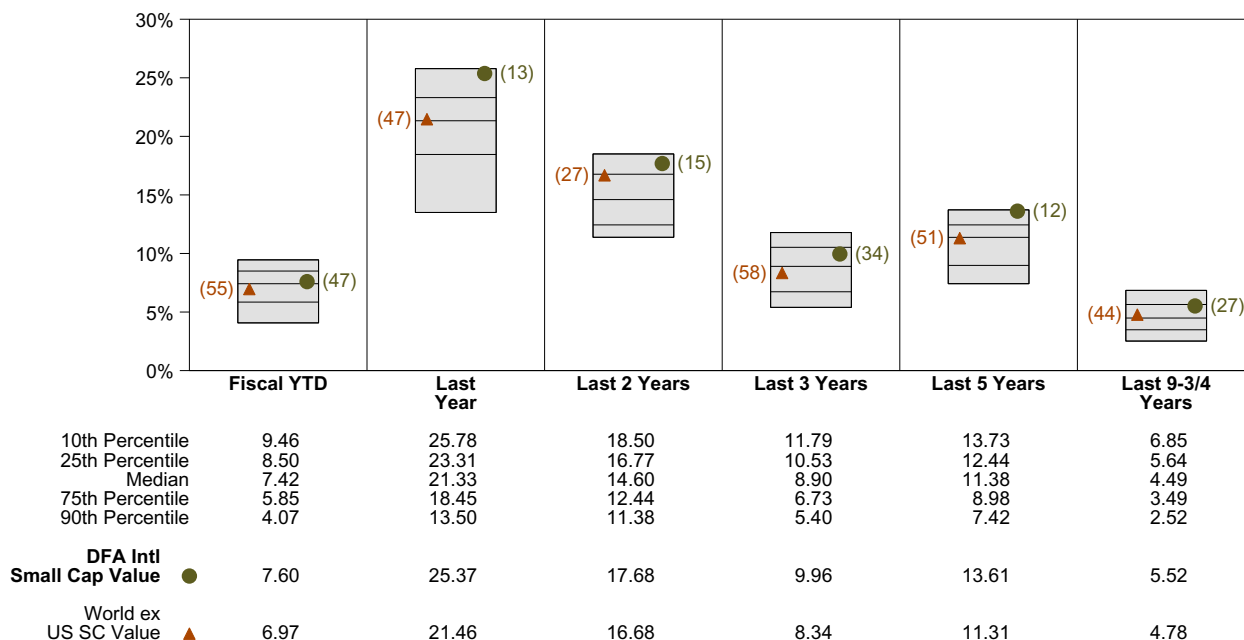
Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a 7.60% return for the quarter placing it in the 47 percentile of the Callan International Small Cap Mutual Fu group for the quarter and in the 13 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 0.63% for the quarter and outperformed the World ex US SC Value for the year by 3.90%.

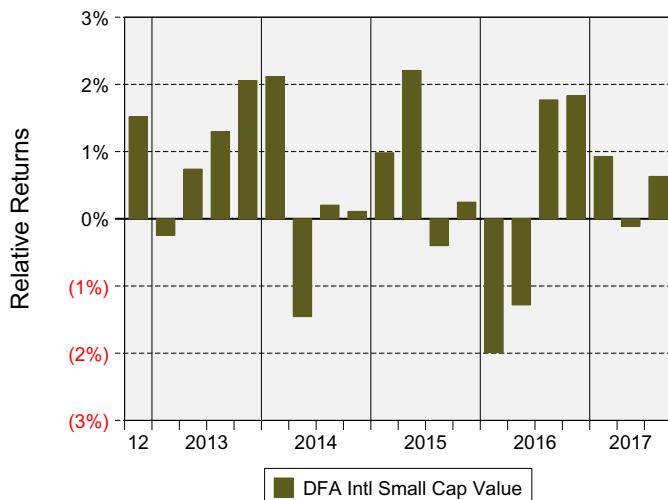
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$87,623,184 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$6,655,587 |
| Ending Market Value | \$94,278,772 |

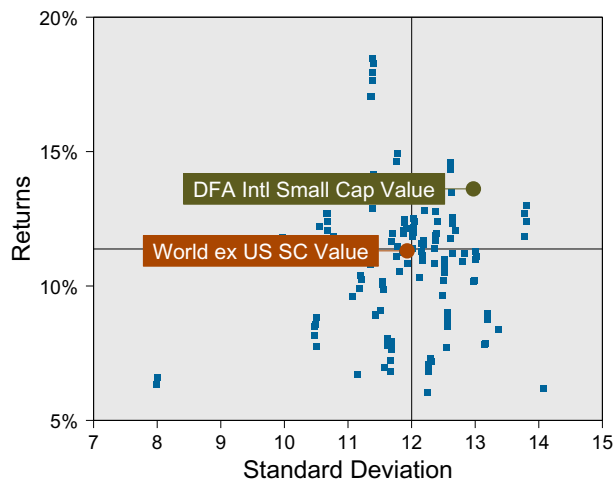
Performance vs Callan International Small Cap Mutual Fu (Net)



Relative Return vs World ex US SC Value



Callan International Small Cap Mutual Fu (Net) Annualized Five Year Risk vs Return



Northern Tr AM Wrld ex US Period Ended September 30, 2017

Investment Philosophy

The Fund's objective is to provide investment results that approximate the overall performance of the MSCI World ex-US Equity Index.

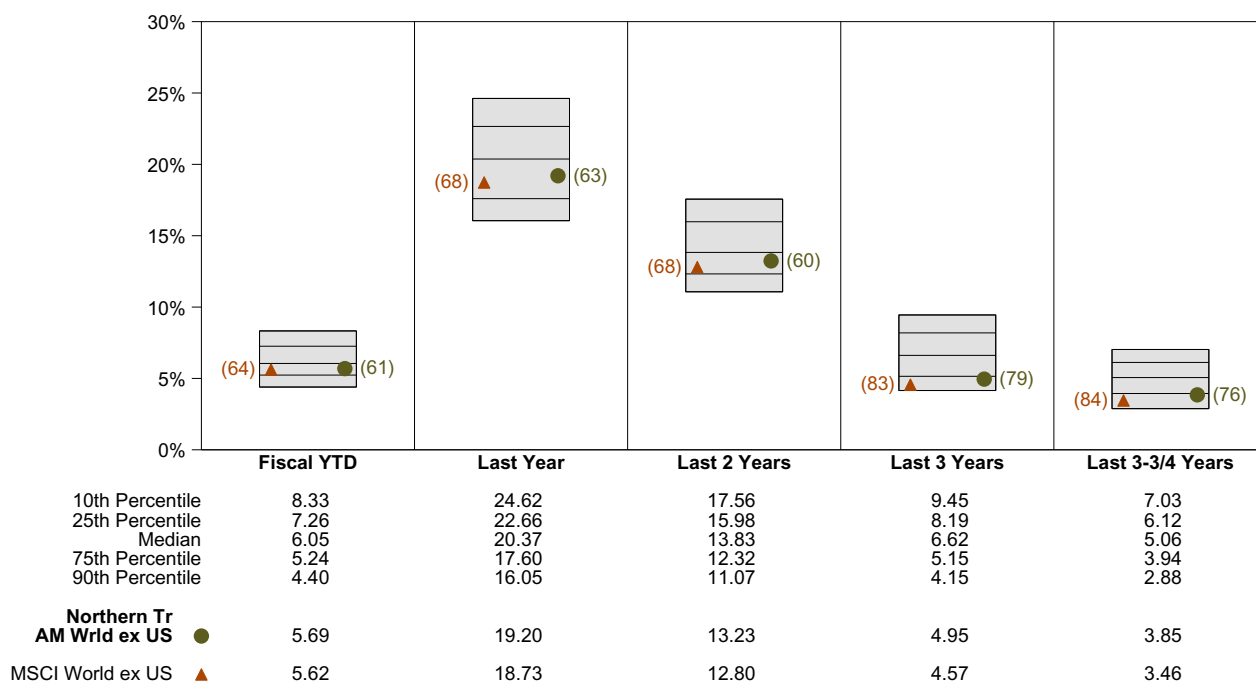
Quarterly Summary and Highlights

- Northern Tr AM Wrld ex US's portfolio posted a 5.69% return for the quarter placing it in the 61 percentile of the Callan Non-US Equity group for the quarter and in the 63 percentile for the last year.
- Northern Tr AM Wrld ex US's portfolio outperformed the MSCI World ex US by 0.07% for the quarter and outperformed the MSCI World ex US for the year by 0.47%.

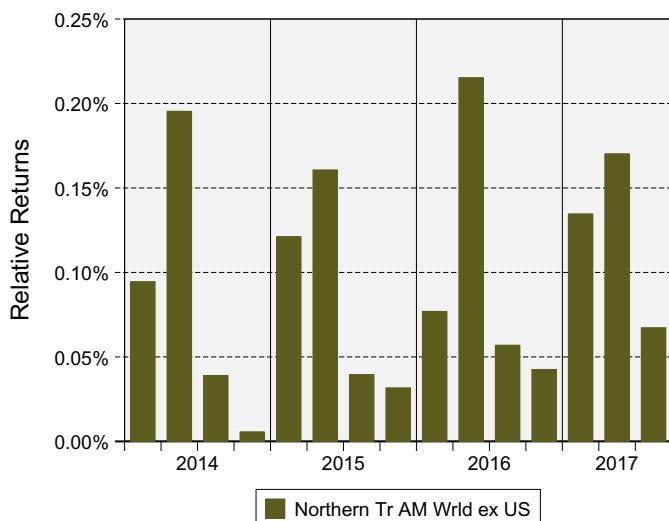
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$301,033,064 |
| Net New Investment | \$-46,979 |
| Investment Gains/(Losses) | \$17,126,081 |
| Ending Market Value | \$318,112,166 |

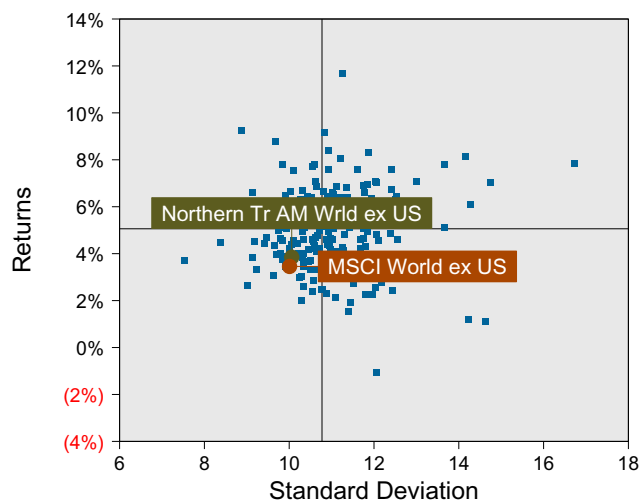
Performance vs Callan Non-US Equity (Gross)



Relative Return vs MSCI World ex US



Callan Non-US Equity (Gross) Annualized Three and Three-Quarter Year Risk vs Return



Wellington Management

Period Ended September 30, 2017

Investment Philosophy

The International Small Cap Opportunities investment approach is bottom-up focused, and leverages the global research resources at Wellington Management. In implementing purchase decisions, consideration is given to the size, liquidity, and volatility of these prospects. Sell decisions are based on changing fundamentals or valuations, or on finding better opportunities elsewhere. The assets are not hedged.

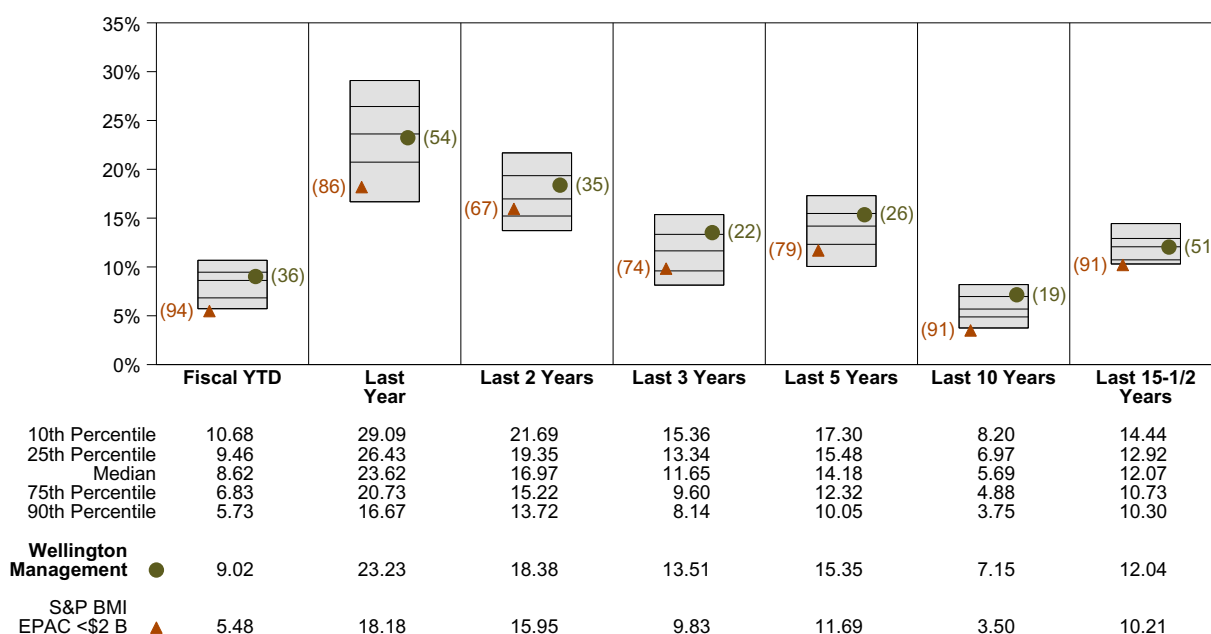
Quarterly Summary and Highlights

- Wellington Management's portfolio posted a 9.02% return for the quarter placing it in the 36 percentile of the Callan International Small Cap group for the quarter and in the 54 percentile for the last year.
- Wellington Management's portfolio outperformed the S&P BMI EPAC <\$2 B by 3.54% for the quarter and outperformed the S&P BMI EPAC <\$2 B for the year by 5.05%.

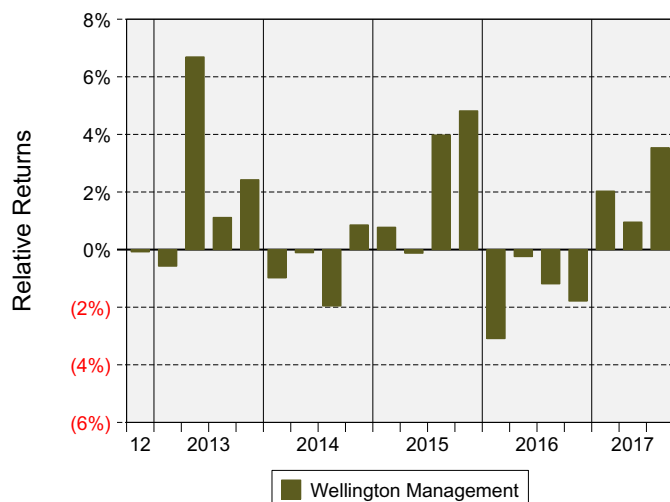
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$97,530,440 |
| Net New Investment | \$-199,432 |
| Investment Gains/(Losses) | \$8,787,245 |
| Ending Market Value | \$106,118,253 |

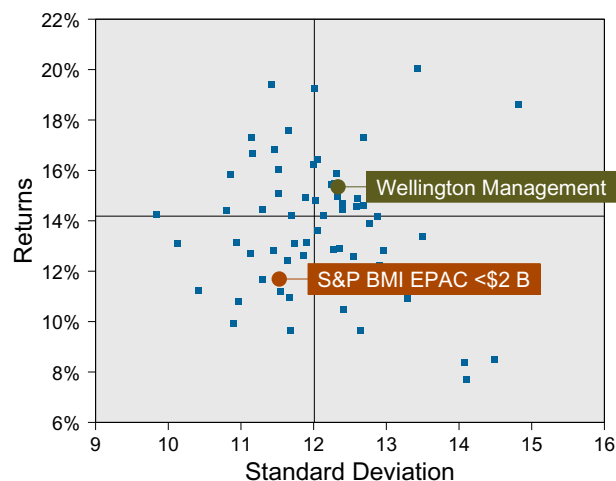
Performance vs Callan International Small Cap (Gross)



Relative Return vs S&P BMI EPAC <\$2 B



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



William Blair Period Ended September 30, 2017

Investment Philosophy

One of the basic investment tenets of William Blair & Company has been its focus on quality growth companies. They believe that investing in quality growth companies will generate above average results with generally less risk than the market. This opportunity exists because they believe the market underestimates the durability and rate of growth in companies that have the following characteristics: strong management with a unique vision, competitive advantages that prolong the duration and size of earnings growth, and conservative financing. Internationally, they believe that this philosophy can be combined with strategic flexibility in managing geographic exposure, capitalization, sector emphasis, and relative growth and valuation at the portfolio level in order to provide an appropriate degree of adaptability to cyclical conditions.

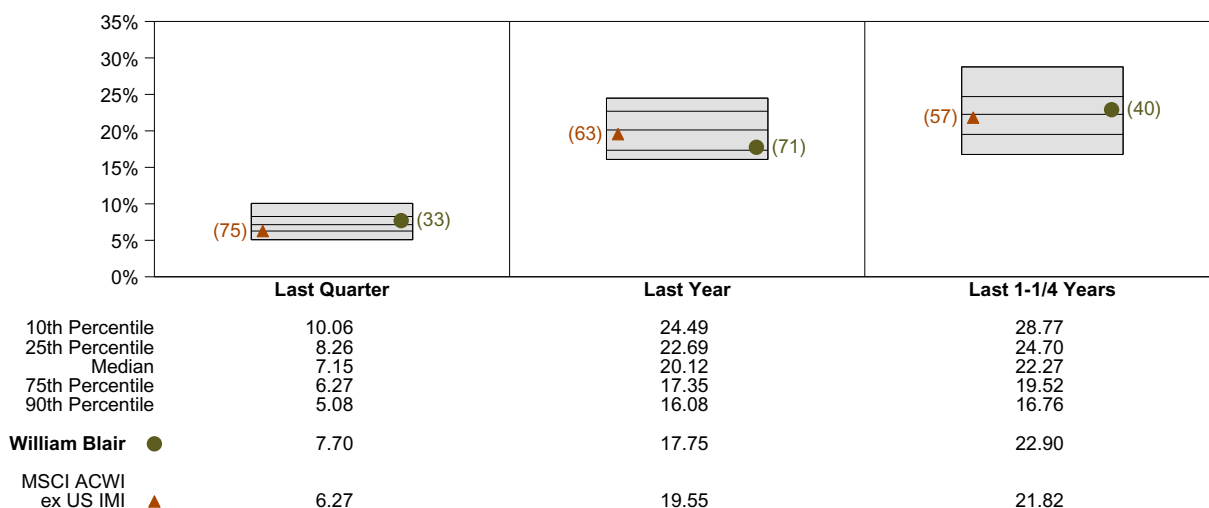
Quarterly Summary and Highlights

- William Blair's portfolio posted a 7.70% return for the quarter placing it in the 33 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 71 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 1.43% for the quarter and underperformed the MSCI ACWI ex US IMI for the year by 1.80%.

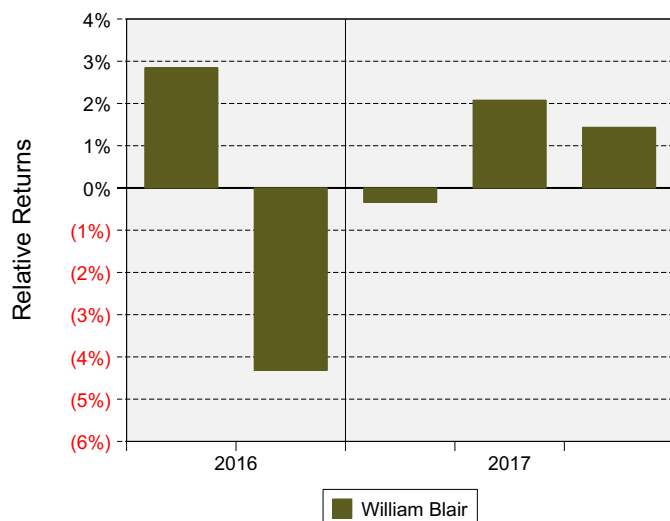
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$146,159,414 |
| Net New Investment | \$-133,975 |
| Investment Gains/(Losses) | \$11,251,557 |
| Ending Market Value | \$157,276,996 |

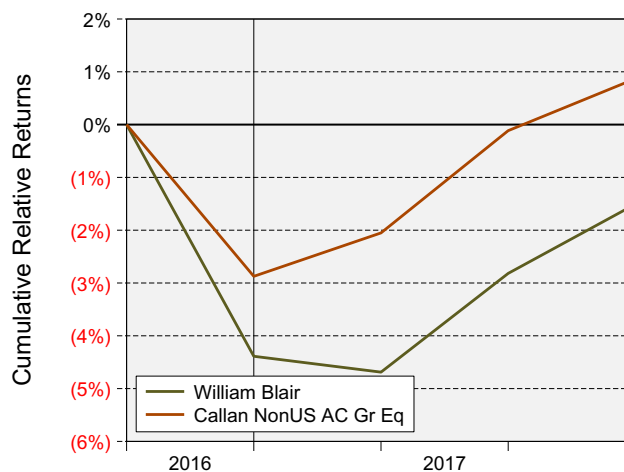
Performance vs Callan Non-US All Country Growth Equity (Gross)



Relative Return vs MSCI ACWI ex US IMI



Cumulative Returns vs MSCI ACWI ex US IMI



Axiom Emerging Markets

Period Ended September 30, 2017

Investment Philosophy

The Emerging Markets Equity strategy seeks to invest in emerging market securities issued by companies whose key business drivers are both improving and exceeding expectations, as determined by Axiom's stock selection techniques focused on fundamental company analysis. The strategy considers companies either (i) located in countries that are not included in the MSCI Developed Markets Index series or (ii) that derive a majority of their revenues or assets from a country or countries not included in the MSCI Developed Markets Index series, in each case at the time of investment. Although the Manager generally expects the strategy's investment portfolio to be geographically diverse, there are no prescribed limits on geographic distribution of the strategy's investments and the strategy has the authority to invest in securities traded in securities markets or any country in the world.

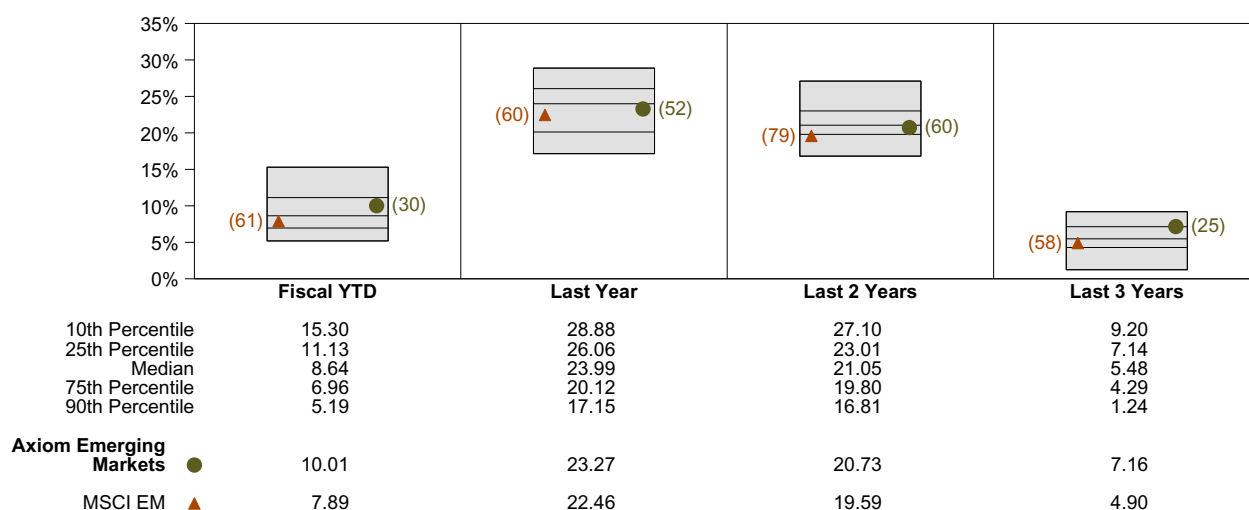
Quarterly Summary and Highlights

- Axiom Emerging Markets's portfolio posted a 10.01% return for the quarter placing it in the 30 percentile of the Callan Emerging Markets Equity Mutual Fu group for the quarter and in the 52 percentile for the last year.
- Axiom Emerging Markets's portfolio outperformed the MSCI EM by 2.12% for the quarter and outperformed the MSCI EM for the year by 0.82%.

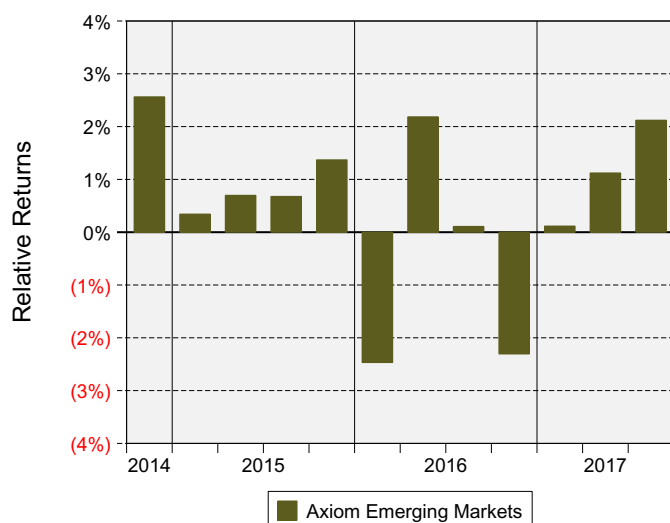
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$156,217,685 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$15,643,099 |
| Ending Market Value | \$171,860,784 |

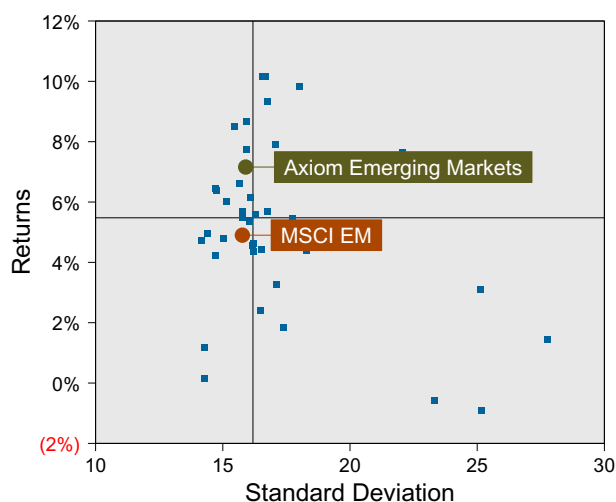
Performance vs Callan Emerging Markets Equity Mutual Fu (Net)



Relative Return vs MSCI EM



Callan Emerging Markets Equity Mutual Fu (Net) Annualized Three Year Risk vs Return



DFA Emerging Markets Period Ended September 30, 2017

Investment Philosophy

The Emerging Markets Small Cap Portfolio invests in small cap emerging markets companies. Presently, this means investment in companies whose market capitalization is less than \$2.3 billion at the time of purchase. Dimensional considers, among other things, information disseminated by the International Finance Corporation in determining and approving emerging market countries.

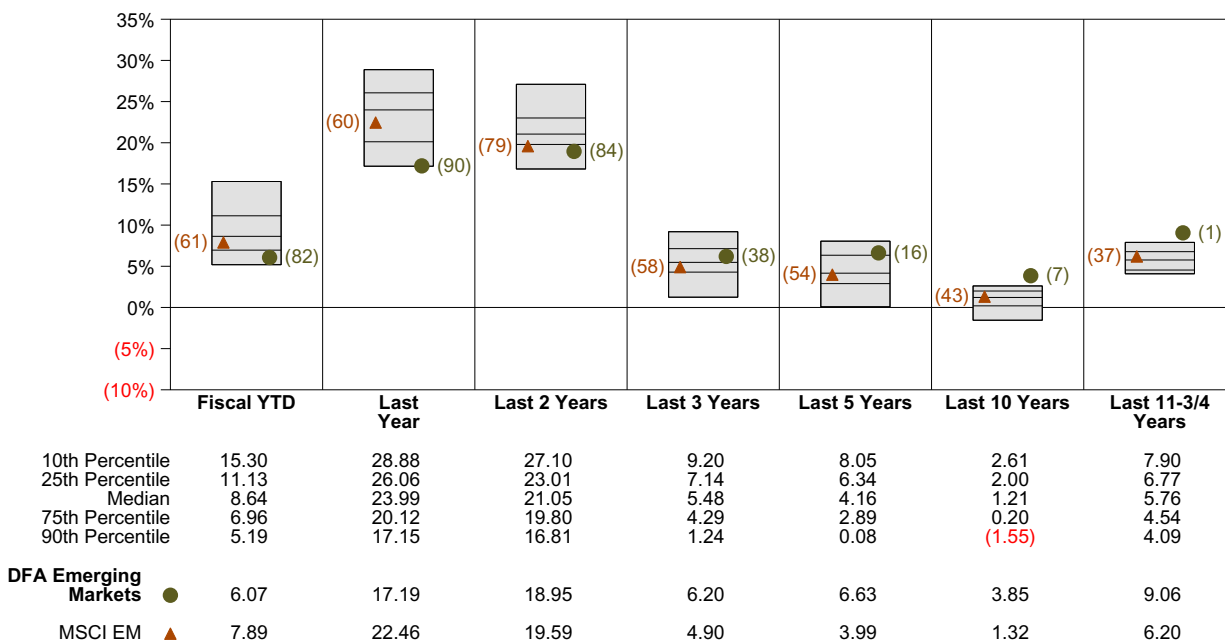
Quarterly Summary and Highlights

- DFA Emerging Markets's portfolio posted a 6.07% return for the quarter placing it in the 82 percentile of the Callan Emerging Markets Equity Mutual Fu group for the quarter and in the 90 percentile for the last year.
- DFA Emerging Markets's portfolio underperformed the MSCI EM by 1.83% for the quarter and underperformed the MSCI EM for the year by 5.27%.

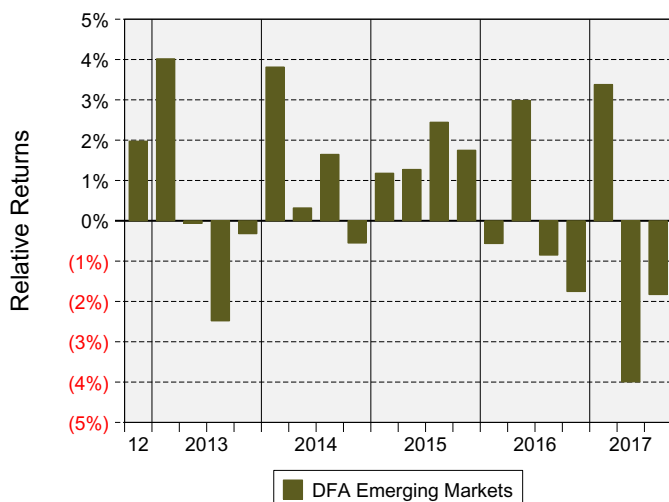
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$50,085,582 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$3,038,123 |
| Ending Market Value | \$53,123,705 |

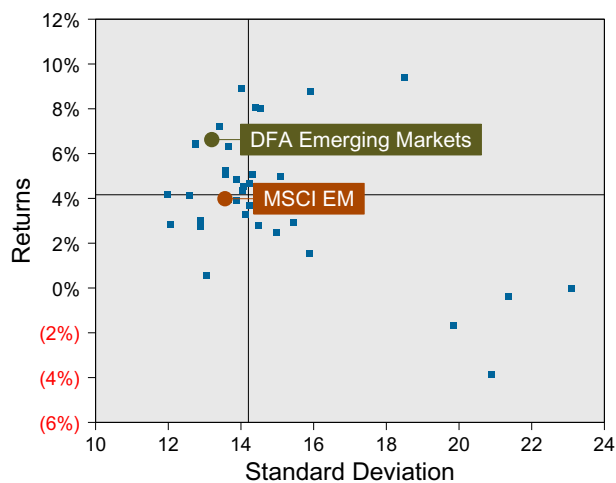
Performance vs Callan Emerging Markets Equity Mutual Fu (Net)



Relative Return vs MSCI EM



Callan Emerging Markets Equity Mutual Fu (Net) Annualized Five Year Risk vs Return



EPOCH Investment Period Ended September 30, 2017

Investment Philosophy

Epoch seeks to produce superior risk adjusted returns by building portfolios of businesses with outstanding risk/reward profiles without running a high degree of capital risk. They analyze businesses in the same manner private investors would in looking to purchase the entire company. The strategy only invests in businesses that are understood and where they have confidence in the financial statements. They seek businesses that generate "free cash flow" and securities that have unrecognized potential yet possess a combination of above average yield, above average free cash flow growth, and/or below average valuation. Global Choice is a "best ideas" portfolio at Epoch with every stock held in other strategies managed by the firm. **The EPOCH Blended Benchmark consists of the S&P 500 Index through 12/31/2011 and the MSCI World Index thereafter.**

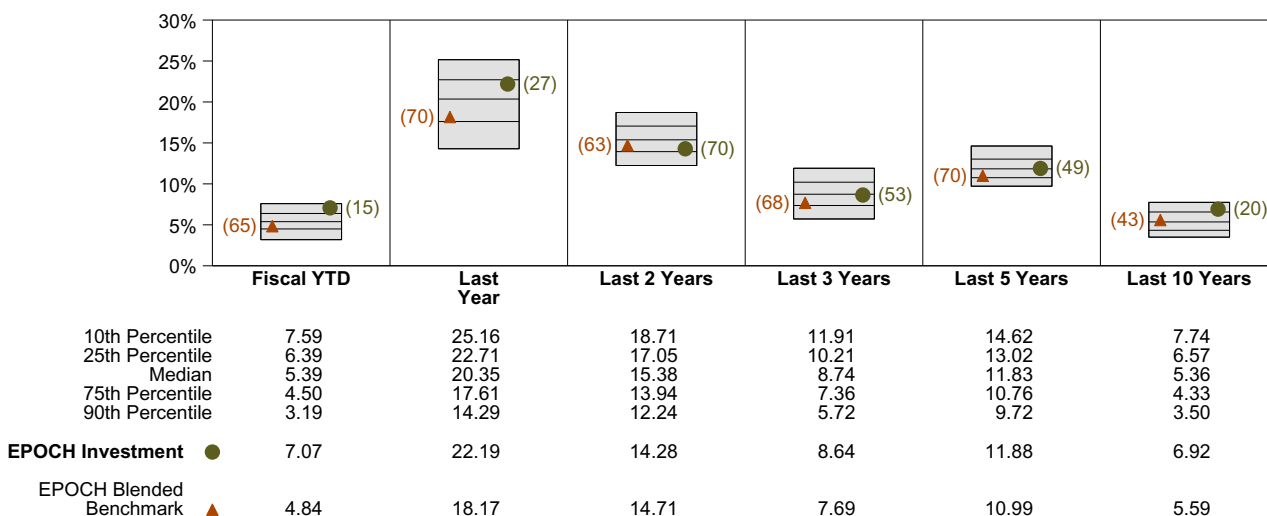
Quarterly Summary and Highlights

- EPOCH Investment's portfolio posted a 7.07% return for the quarter placing it in the 15 percentile of the Callan Global Equity group for the quarter and in the 27 percentile for the last year.
- EPOCH Investment's portfolio outperformed the EPOCH Blended Benchmark by 2.23% for the quarter and outperformed the EPOCH Blended Benchmark for the year by 4.02%.

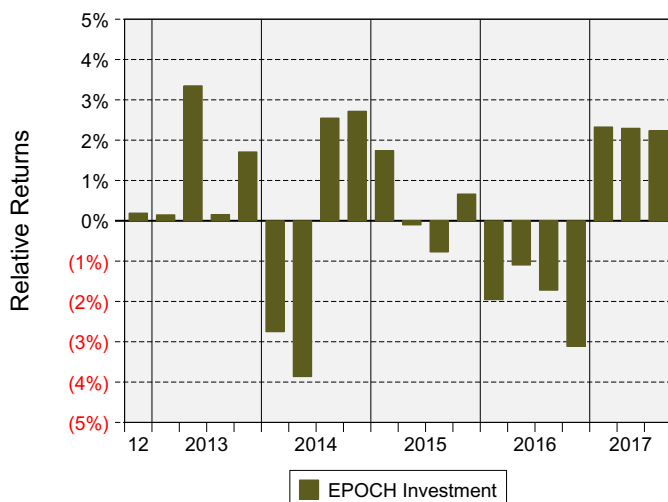
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$395,944,967 |
| Net New Investment | \$-630,592 |
| Investment Gains/(Losses) | \$27,968,499 |
| Ending Market Value | \$423,282,874 |

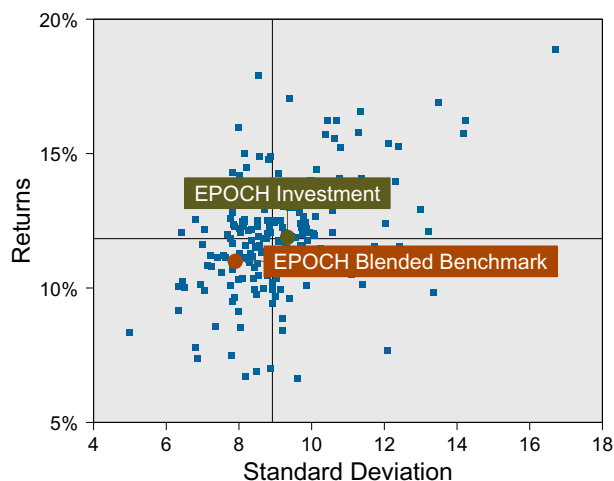
Performance vs Callan Global Equity (Gross)



Relative Returns vs EPOCH Blended Benchmark



Callan Global Equity (Gross) Annualized Five Year Risk vs Return



LSV Asset Management

Period Ended September 30, 2017

Investment Philosophy

The Global Value (ACWI) Equity strategy is managed using quantitative techniques to select individual securities in a risk-controlled, bottom-up approach. Value factors and security selection dominate sector/industry factors as explanators of performance.

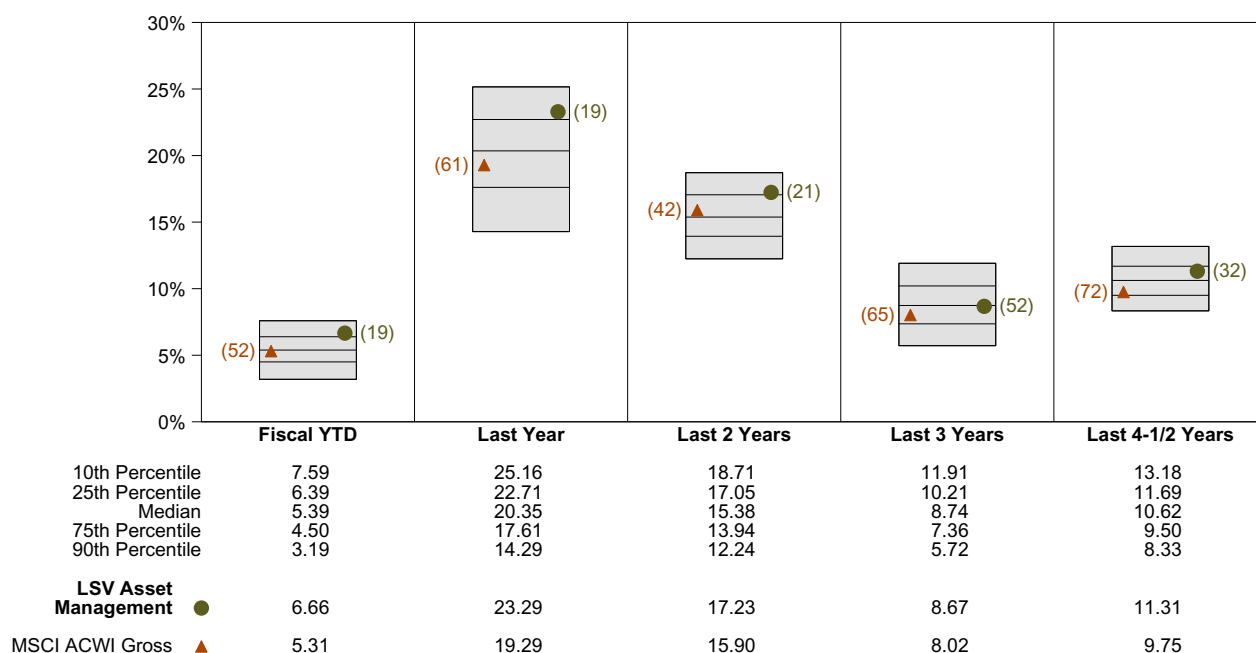
Quarterly Summary and Highlights

- LSV Asset Management's portfolio posted a 6.66% return for the quarter placing it in the 19 percentile of the Callan Global Equity group for the quarter and in the 19 percentile for the last year.
- LSV Asset Management's portfolio outperformed the MSCI ACWI Gross by 1.35% for the quarter and outperformed the MSCI ACWI Gross for the year by 4.00%.

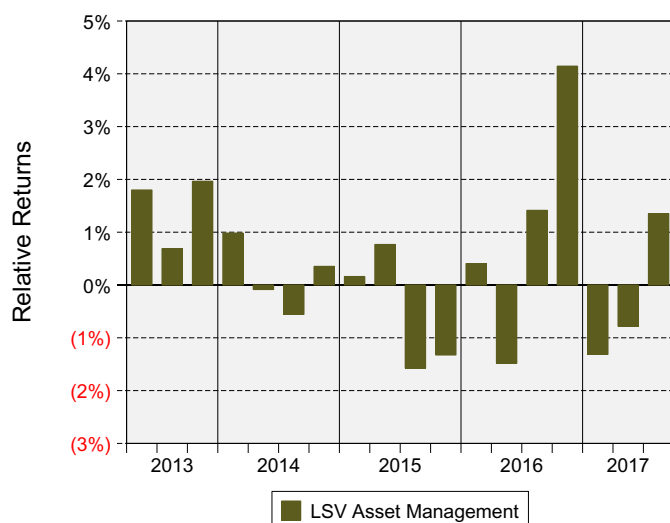
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$493,628,676 |
| Net New Investment | \$-568,081 |
| Investment Gains/(Losses) | \$32,859,212 |
| Ending Market Value | \$525,919,808 |

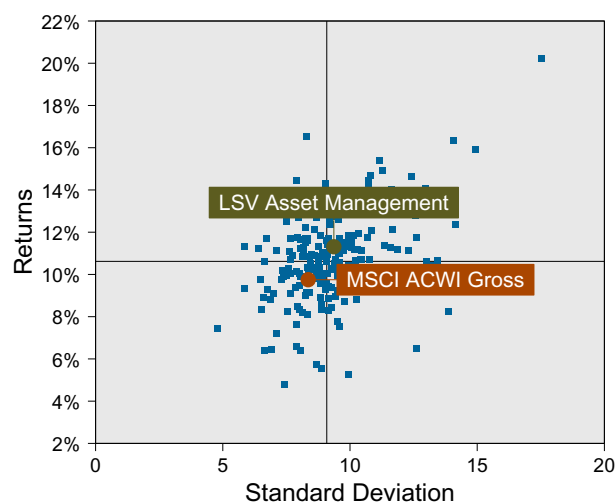
Performance vs Callan Global Equity (Gross)



Relative Return vs MSCI ACWI Gross



Callan Global Equity (Gross) Annualized Four and One-Half Year Risk vs Return



Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 16-3/4 Years |
|----------------------------------|-----------------|--------------|--------------------|--------------------|-------------------------|
| Private Equity | (2.49%) | 6.53% | (2.15%) | 0.91% | 2.18% |
| Adams Street Direct Co-Invest Fd | 2.78% | (1.45%) | 9.20% | 11.24% | - |
| Adams Street Direct Fd 2010 | 0.00% | 12.03% | 7.95% | 11.92% | - |
| Adams Street 1998 Partnership | (0.41%) | (0.23%) | 0.77% | 3.74% | 1.62% |
| Adams Street 1999 Partnership | (3.62%) | (0.27%) | (3.07%) | 1.91% | 2.47% |
| Adams Street 2000 Partnership | (1.33%) | 1.94% | (2.49%) | (0.04%) | 3.08% |
| Adams Street 2001 Partnership | (2.74%) | 6.23% | (1.49%) | 4.77% | 3.47% |
| Adams Street 2002 Partnership | 2.71% | 22.14% | 4.45% | 6.62% | - |
| Adams Street 2003 Partnership | 0.37% | 11.72% | 7.33% | 11.66% | - |
| Adams Street 2010 Partnership | 0.81% | 16.05% | 13.41% | 13.16% | - |
| Adams Street 2008 Fund | 2.68% | 18.76% | 12.64% | 12.63% | - |
| Adams Street 1999 Non-US | 0.00% | 10.53% | 0.34% | 4.33% | 6.12% |
| Adams Street 2000 Non-US | 0.00% | 9.39% | 0.29% | 0.62% | 3.10% |
| Adams Street 2001 Non-US | 0.00% | (3.12%) | 8.34% | 15.70% | - |
| Adams Street 2002 Non-US | (2.24%) | (6.98%) | 2.80% | 4.39% | - |
| Adams Street 2003 Non-US | 4.72% | 28.86% | 13.82% | 17.18% | - |
| Adams Street 2004 Non-US | (0.60%) | 4.51% | (2.27%) | 6.60% | - |
| Adams Street 2010 Non-US | 4.16% | 26.69% | 10.66% | 10.66% | - |
| Adams Street 2010 NonUS Emg | 2.76% | 13.17% | 13.33% | 8.63% | - |
| Adams Street 2015 Global Fd | (0.13%) | 51.56% | - | - | - |
| Adams Street 2016 Global Fd | (0.63%) | - | - | - | - |
| Adams Street BVCF IV Fund | (3.37%) | 4.27% | 1.31% | 18.00% | 17.39% |
| BlackRock | 0.00% | - | - | - | - |
| Capital International V | (1.19%) | (49.78%) | (31.38%) | (20.26%) | - |
| Capital International VI | (0.36%) | 10.11% | (4.40%) | (8.23%) | - |
| CorsAir III | (1.00%) | 6.21% | 9.16% | 3.06% | - |
| CorsAir IV | (0.45%) | 23.74% | 16.33% | 14.58% | - |
| EIG Energy Fund XIV | 0.16% | 12.74% | (34.79%) | (23.40%) | - |
| Hearthstone Advisors MS III | 0.00% | (48.15%) | (20.26%) | 277.16% | - |
| Lewis & Clark | 0.00% | 22.03% | (26.04%) | (17.39%) | - |
| Lewis & Clark II | 0.00% | 10.83% | (1.11%) | (2.96%) | - |
| Matlin Patterson II | (0.08%) | (28.90%) | (3.02%) | (7.25%) | - |
| Matlin Patterson III | (3.94%) | 2.63% | (1.84%) | 4.30% | - |
| Quantum Energy Partners | (39.99%) | (5.78%) | (17.53%) | 0.13% | - |
| Russell 1000 Index | 4.48% | 18.54% | 10.63% | 14.27% | 6.24% |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 13.79% | 8.40% |

Domestic Fixed Income Period Ended September 30, 2017

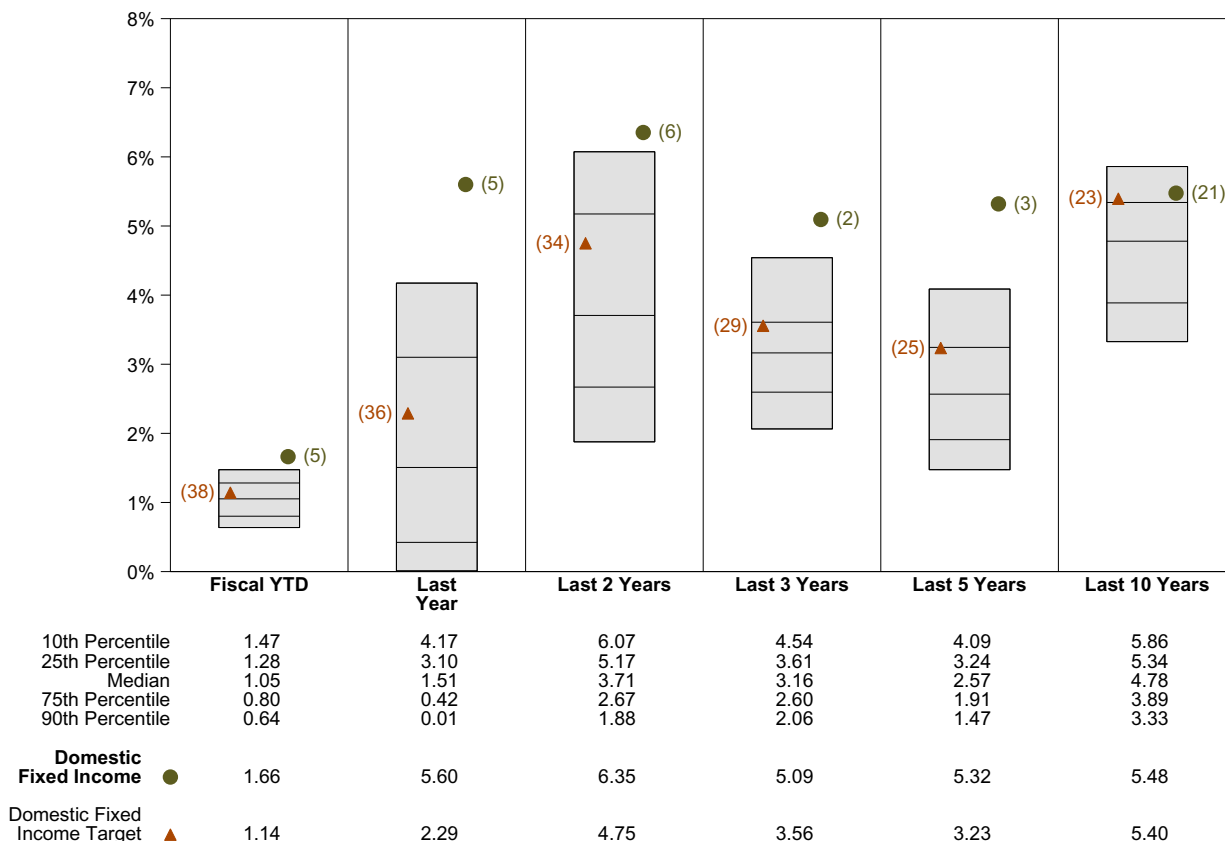
Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a 1.66% return for the quarter placing it in the 5 percentile of the Pub Pln-Domestic Fixed group for the quarter and in the 5 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Domestic Fixed Income Target by 0.52% for the quarter and outperformed the Domestic Fixed Income Target for the year by 3.31%.

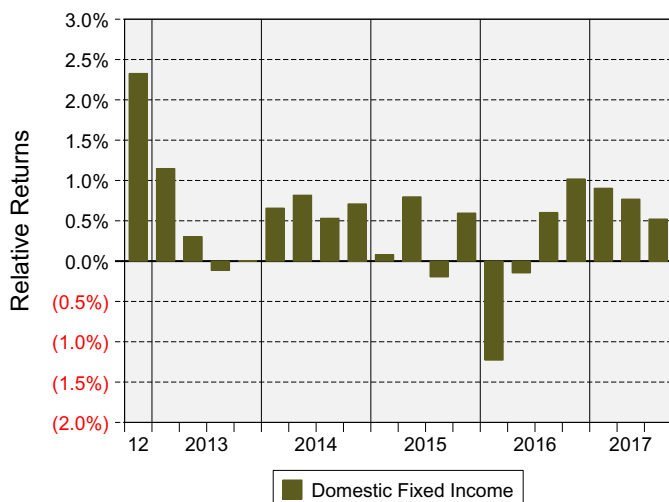
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$958,309,525 |
| Net New Investment | \$20,245,239 |
| Investment Gains/(Losses) | \$15,990,888 |
| Ending Market Value | \$994,545,652 |

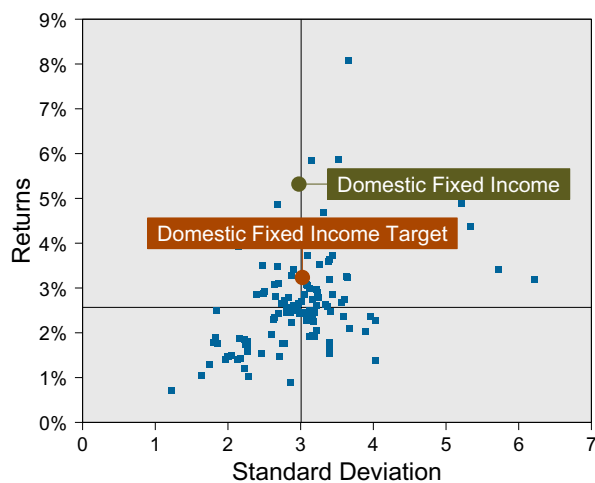
Performance vs Pub Pln- Domestic Fixed (Gross)



Relative Returns vs Domestic Fixed Income Target



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



Declaration Total Return Period Ended September 30, 2017

Investment Philosophy

The Fund's portfolio holdings consist primarily of RMBS issued by private sector companies (Non-Agency RMBS) and government agencies (Agency MBS) and CMBS issued by private sector companies. Agency MBS includes securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Government National Mortgage Association (Ginnie Mae). Portfolio holdings may range from short tenure senior classes to stressed issues or subordinated securities with substantial risk of non-payment and correspondingly higher yields. Smaller portfolio allocations may include consumer asset-backed securities (ABS), or other structured credit securities and corporate bonds. As a diversification strategy and a potential hedge to credit risk, the Fund may invest in securities which tend to benefit from slow mortgage prepayments and economic growth, such as interest only (IO) MBS.

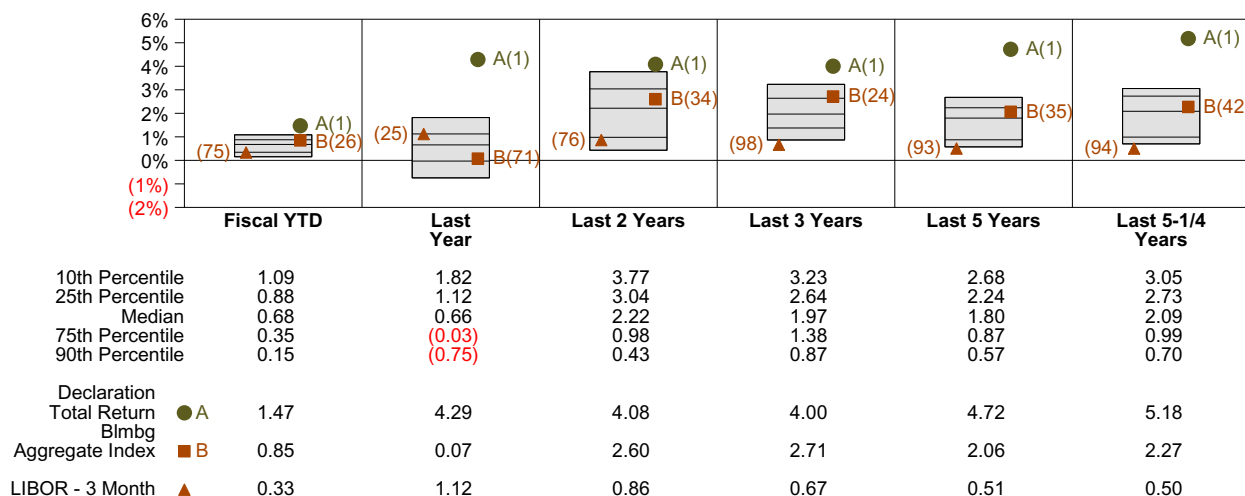
Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a 1.47% return for the quarter placing it in the 1 percentile of the Callan Intermediate Fixed Income Mutual group for the quarter and in the 1 percentile for the last year.
- Declaration Total Return's portfolio outperformed the LIBOR - 3 Month by 1.14% for the quarter and outperformed the LIBOR - 3 Month for the year by 3.17%.

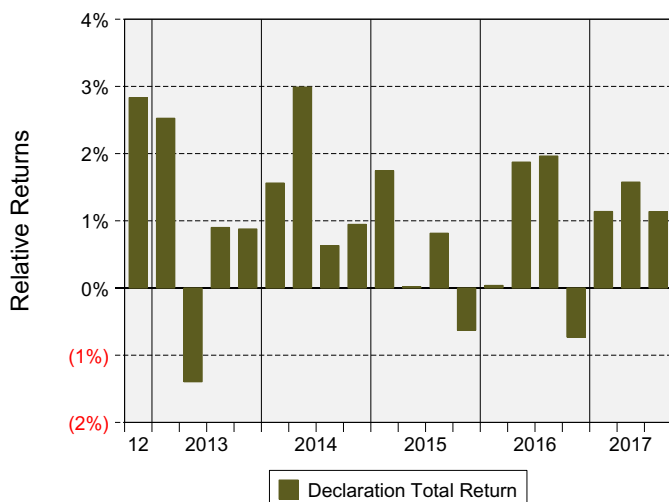
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$90,750,663 |
| Net New Investment | -\$33,834 |
| Investment Gains/(Losses) | \$1,335,108 |
| Ending Market Value | \$92,051,937 |

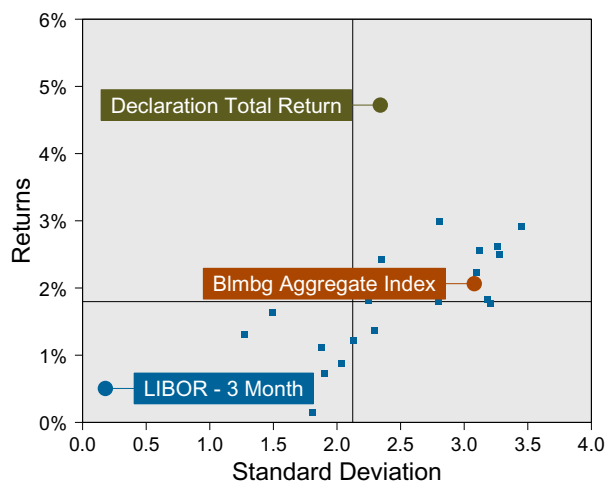
Performance vs Callan Intermediate Fixed Income Mutual (Net)



Relative Return vs LIBOR - 3 Month



Callan Intermediate Fixed Income Mutual (Net) Annualized Five Year Risk vs Return



J.P. Morgan MBS

Period Ended September 30, 2017

Investment Philosophy

JP Morgan seeks to outperform the benchmark over longer horizons regardless of the market environment.

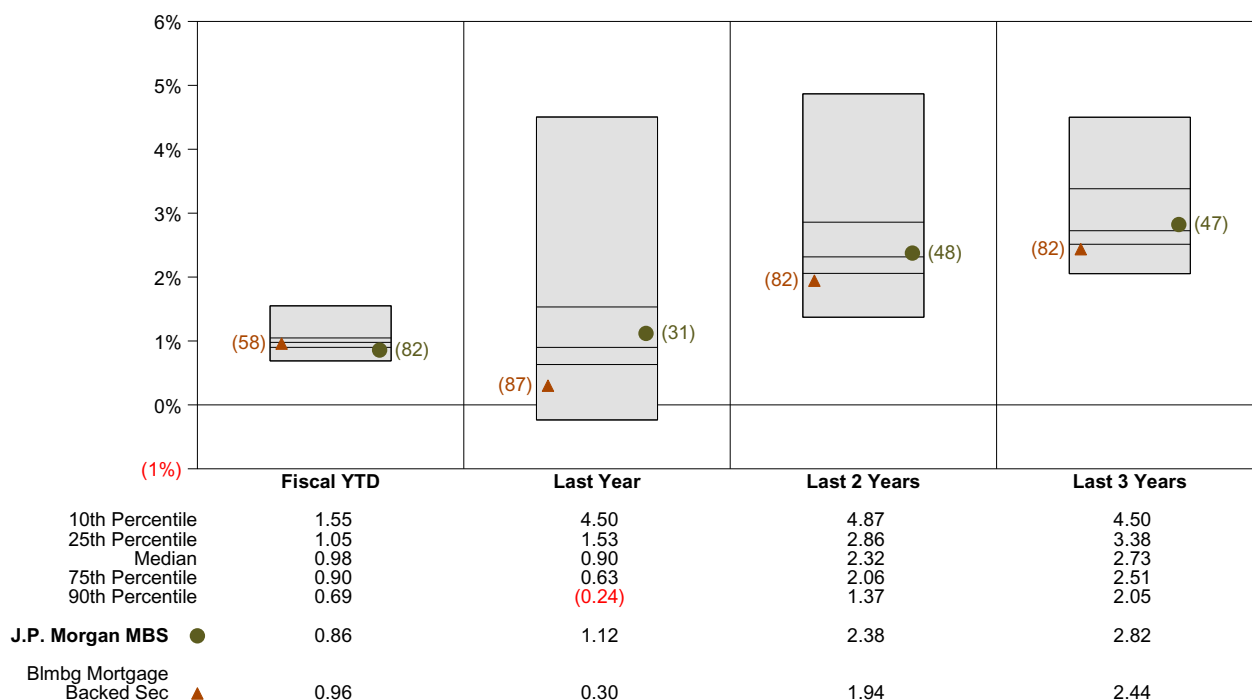
Quarterly Summary and Highlights

- J.P. Morgan MBS's portfolio posted a 0.86% return for the quarter placing it in the 82 percentile of the Callan Mortgage Backed Fixed Income group for the quarter and in the 31 percentile for the last year.
- J.P. Morgan MBS's portfolio underperformed the Blmbg Mortgage Backed Sec by 0.10% for the quarter and outperformed the Blmbg Mortgage Backed Sec for the year by 0.82%.

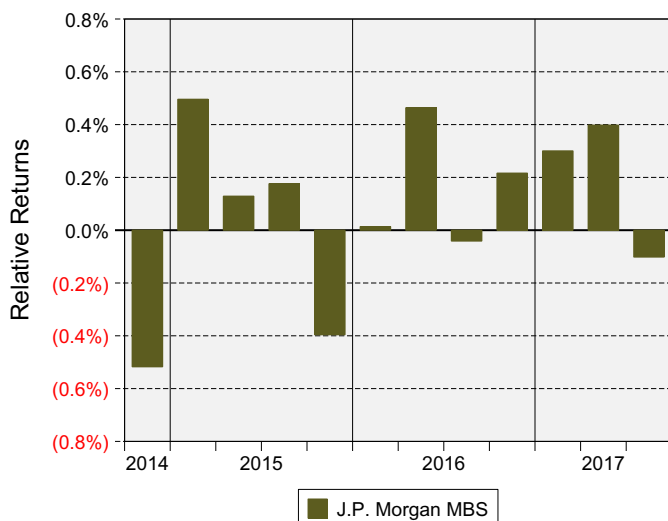
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$131,206,979 |
| Net New Investment | \$-69,214 |
| Investment Gains/(Losses) | \$1,125,326 |
| Ending Market Value | \$132,263,091 |

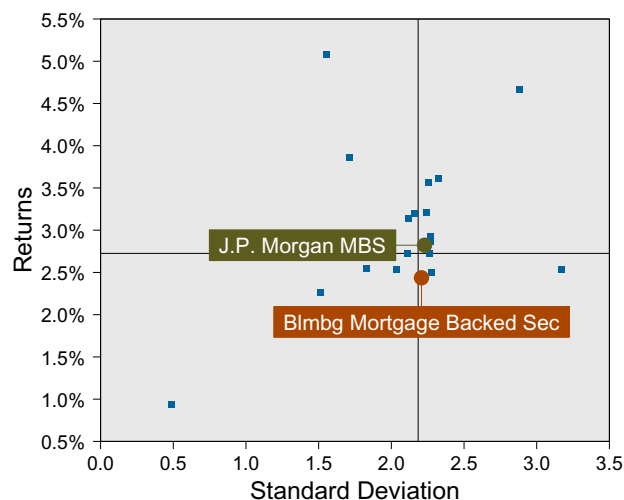
Performance vs Callan Mortgage Backed Fixed Income (Gross)



Relative Returns vs Blmbg Mortgage Backed Sec



Callan Mortgage Backed Fixed Income (Gross) Annualized Three Year Risk vs Return



PIMCO DiSCO II

Period Ended September 30, 2017

Investment Philosophy

The PIMCO Distressed Senior Credit Opportunities Fund is an opportunistic private-equity style Fund which seeks to provide investors enhanced returns principally through long-biased investments in undervalued senior and super senior structured credit securities that are expected to produce attractive levels of current income and that may also appreciate in value over the long term. The fund will look to capitalize on forced sales by liquidity constrained investors.

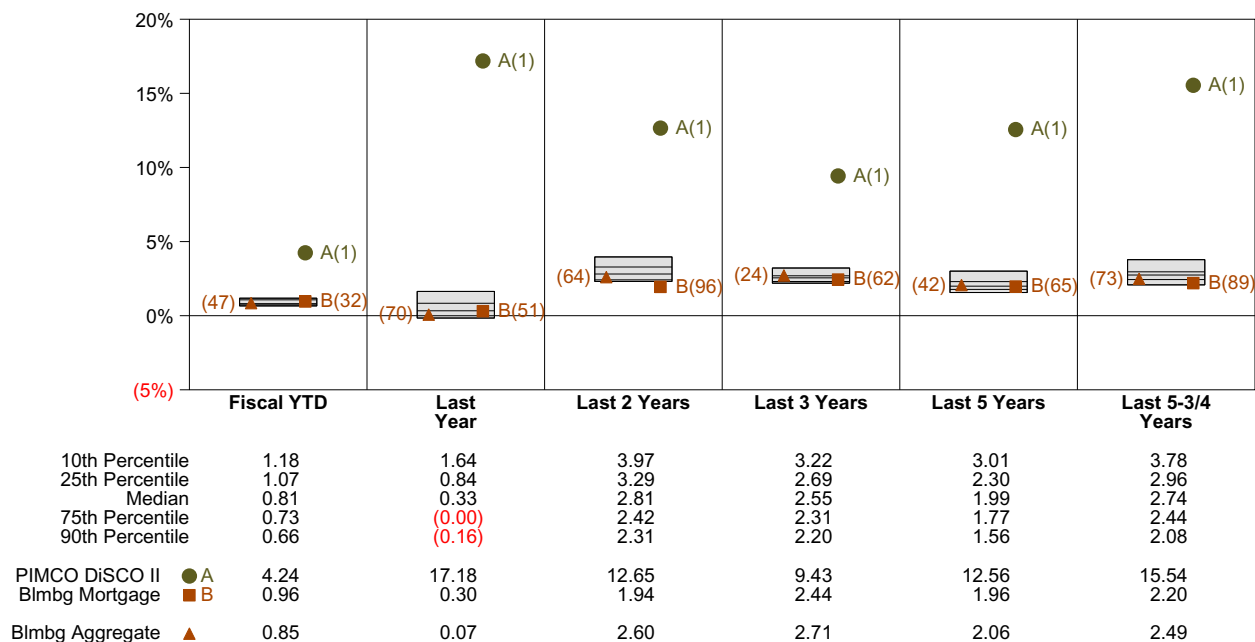
Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a 4.24% return for the quarter placing it in the 1 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 1 percentile for the last year.
- PIMCO DiSCO II's portfolio outperformed the Blmbg Aggregate by 3.39% for the quarter and outperformed the Blmbg Aggregate for the year by 17.11%.

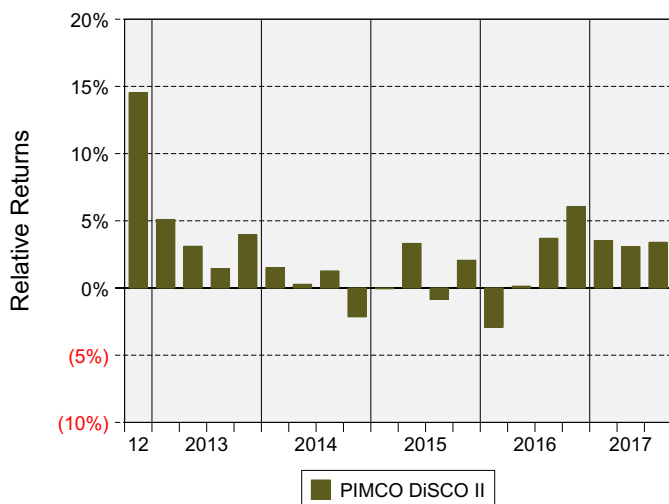
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$107,377,713 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$4,555,545 |
| Ending Market Value | \$111,933,258 |

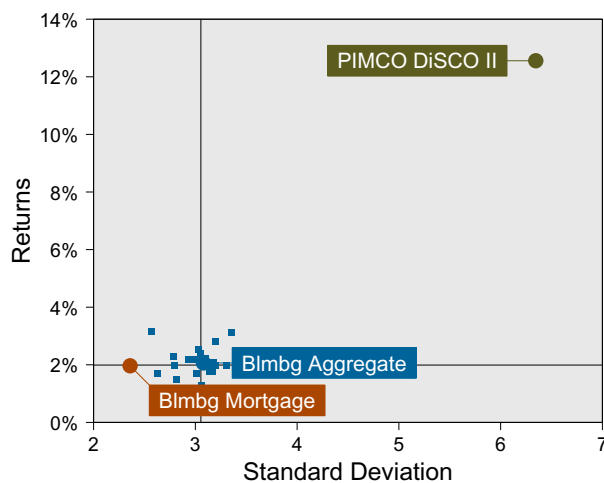
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



PIMCO MBS

Period Ended September 30, 2017

Investment Philosophy

The PIMCO Mortgage-Backed Securities Strategy is an actively managed bond portfolio that invests in high quality, short to intermediate duration mortgage-backed securities. The fund invests primarily in securities that are highly rated, such as US Government guaranteed Ginnie Mae securities and Agency-guaranteed Fannie Mae and Freddie Mac mortgage-backed securities.

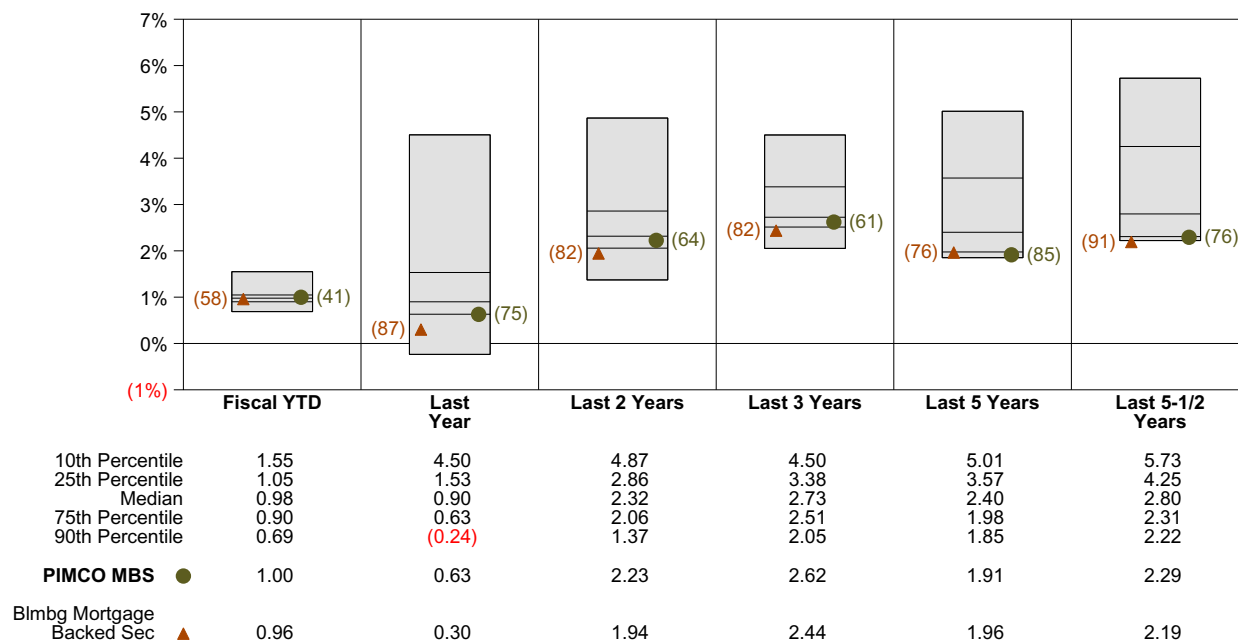
Quarterly Summary and Highlights

- PIMCO MBS's portfolio posted a 1.00% return for the quarter placing it in the 41 percentile of the Callan Mortgage Backed Fixed Income group for the quarter and in the 75 percentile for the last year.
- PIMCO MBS's portfolio outperformed the Blmbg Mortgage Backed Sec by 0.04% for the quarter and outperformed the Blmbg Mortgage Backed Sec for the year by 0.33%.

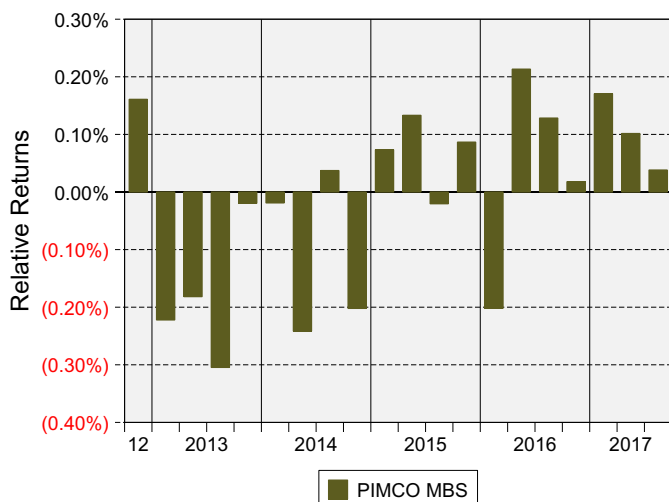
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$183,534,800 |
| Net New Investment | \$-76,153 |
| Investment Gains/(Losses) | \$1,830,717 |
| Ending Market Value | \$185,289,364 |

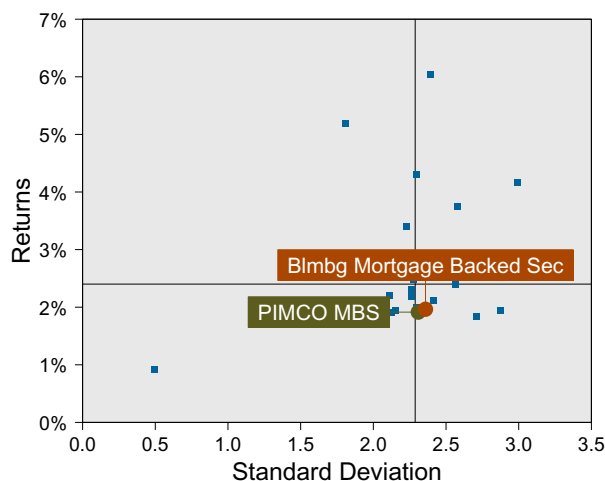
Performance vs Callan Mortgage Backed Fixed Income (Gross)



Relative Returns vs Blmbg Mortgage Backed Sec



Callan Mortgage Backed Fixed Income (Gross) Annualized Five Year Risk vs Return



PIMCO Unconstrained Period Ended September 30, 2017

Investment Philosophy

The PIMCO Unconstrained Bond Strategy is an absolute return-oriented, investment grade quality fixed income strategy that leverages PIMCO's secular thinking, global themes, and integrated investment process without the constraints of a benchmark or significant sector/instrument limitations. The strategy focuses on long-term economic, social and political trends. Over shorter cyclical time frames, the unconstrained nature of the strategy allows PIMCO to take on more risk when tactical opportunities are identified, and it allows for reduction and diversification of risk at times when the outlook may be more challenging for traditional fixed income benchmarks. **The product changed from Commingled Fund to Separate Account in March 2014. *Libor-3 month through February 28, 2014; Fund's performance through March 31, 2014; Libor-3 month thereafter.**

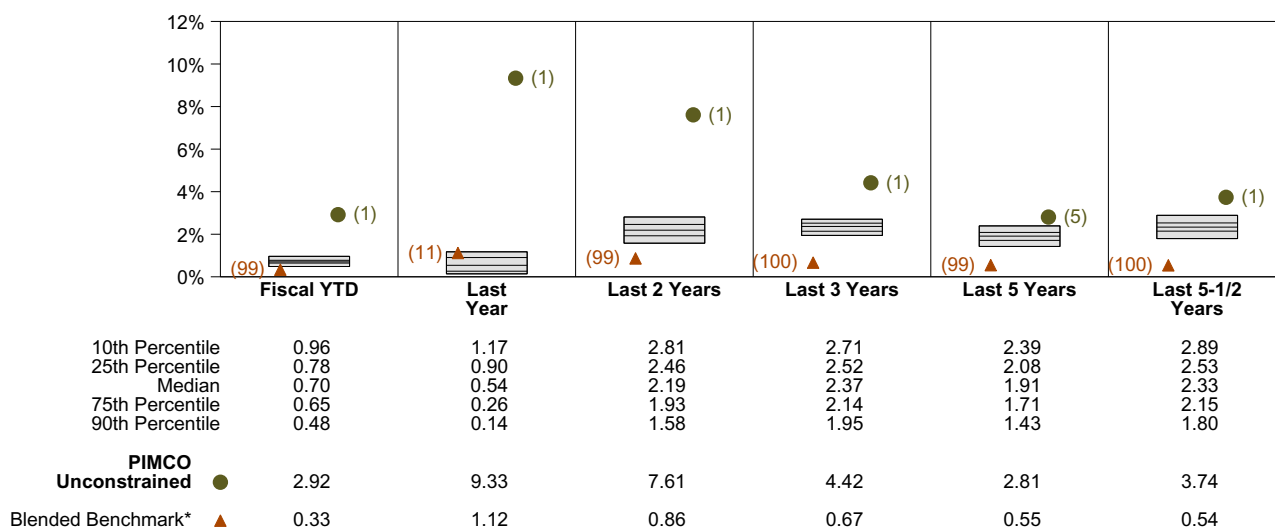
Quarterly Summary and Highlights

- PIMCO Unconstrained's portfolio posted a 2.92% return for the quarter placing it in the 1 percentile of the Callan Intermediate Fixed Income group for the quarter and in the 1 percentile for the last year.
- PIMCO Unconstrained's portfolio outperformed the Blended Benchmark* by 2.59% for the quarter and outperformed the Blended Benchmark* for the year by 8.21%.

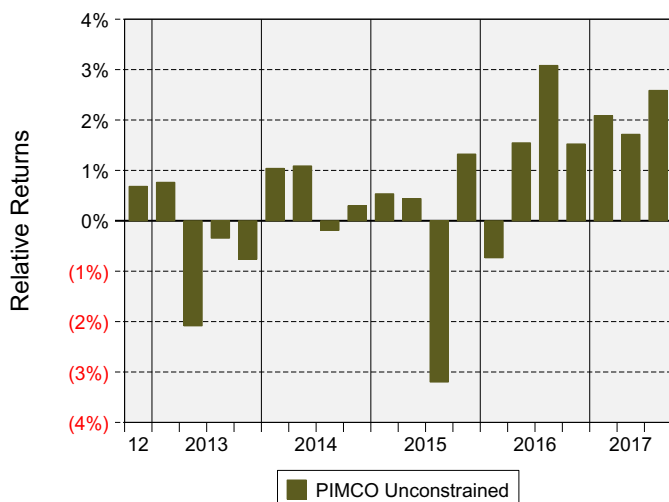
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$67,365,621 |
| Net New Investment | \$-74,677 |
| Investment Gains/(Losses) | \$1,966,250 |
| Ending Market Value | \$69,257,194 |

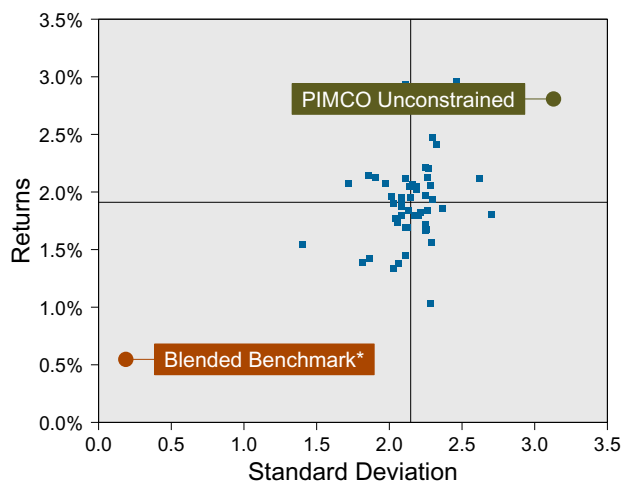
Performance vs Callan Intermediate Fixed Income (Gross)



Relative Return vs Blended Benchmark*



Callan Intermediate Fixed Income (Gross) Annualized Five Year Risk vs Return



SSgA Long US Treas Index Period Ended September 30, 2017

Investment Philosophy

The Fund seeks an investment return that approximates as closely as practicable, before expenses, the performance of the Barclays Capital U.S. Long Treasury Bond Index over the long term.

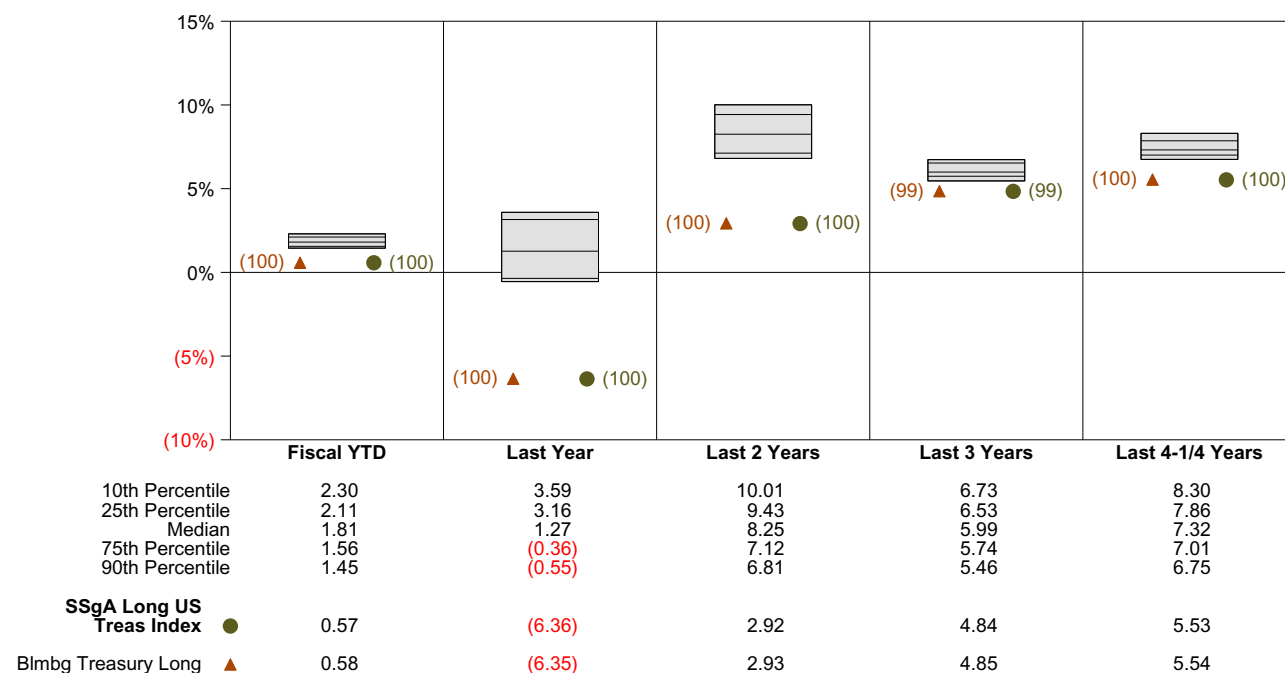
Quarterly Summary and Highlights

- SSgA Long US Treas Index's portfolio posted a 0.57% return for the quarter placing it in the 100 percentile of the Callan Extended Maturity Fixed Income group for the quarter and in the 100 percentile for the last year.
- SSgA Long US Treas Index's portfolio underperformed the Blmbg Treasury Long by 0.00% for the quarter and underperformed the Blmbg Treasury Long for the year by 0.01%.

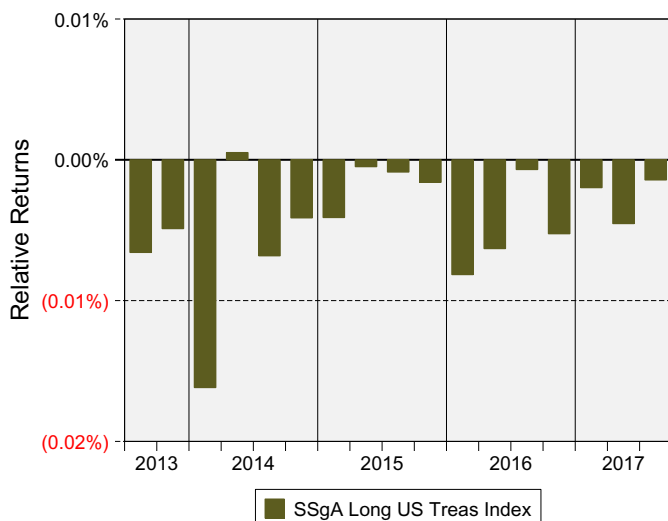
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$118,180,932 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$678,104 |
| Ending Market Value | \$118,859,035 |

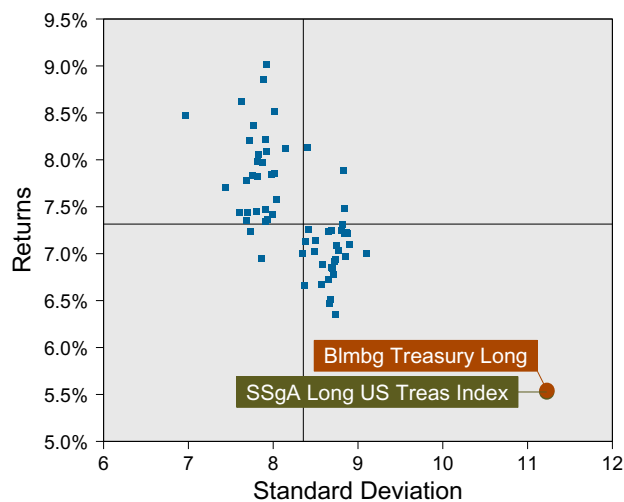
Performance vs Callan Extended Maturity Fixed Income (Gross)



Relative Return vs Blmbg Treasury Long



Callan Extended Maturity Fixed Income (Gross) Annualized Four and One-Quarter Year Risk vs Return



Goldman Sachs 2006 Offshore Period Ended September 30, 2017

Investment Philosophy

GS Mezzanine Partners seeks large-sized mezzanine investments comprised generally of fixed income securities and an associated equity component. They focus on providing "private high yield" capital for mid- to large-sized leveraged and management buyout transactions, recapitalizations, financings, re-financings, acquisitions and restructurings for private equity firms, private family companies and corporate issuers.

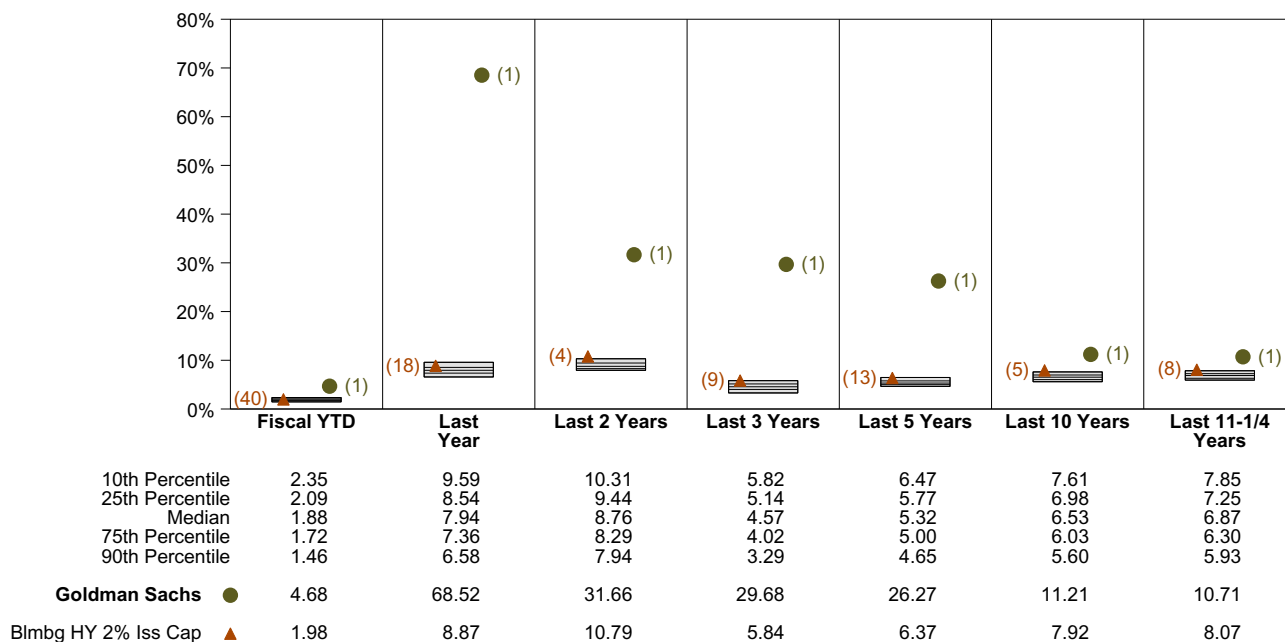
Quarterly Summary and Highlights

- Goldman Sachs's portfolio posted a 4.68% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Goldman Sachs's portfolio outperformed the Blmbg HY 2% Iss Cap by 2.71% for the quarter and outperformed the Blmbg HY 2% Iss Cap for the year by 59.65%.

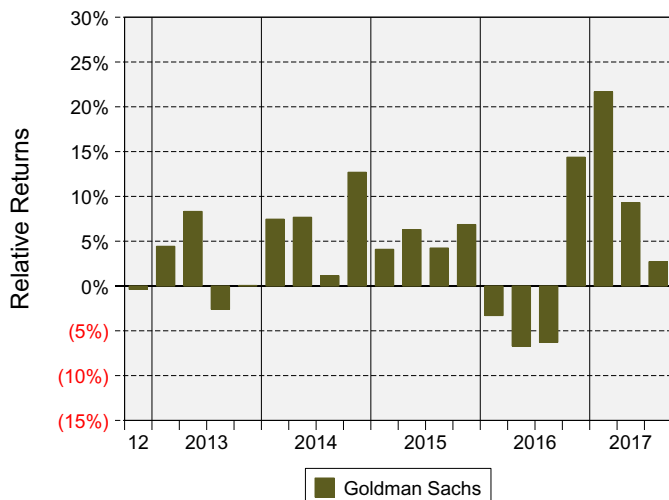
Quarterly Asset Growth

| | |
|---------------------------|-----------|
| Beginning Market Value | \$381,850 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$17,878 |
| Ending Market Value | \$399,728 |

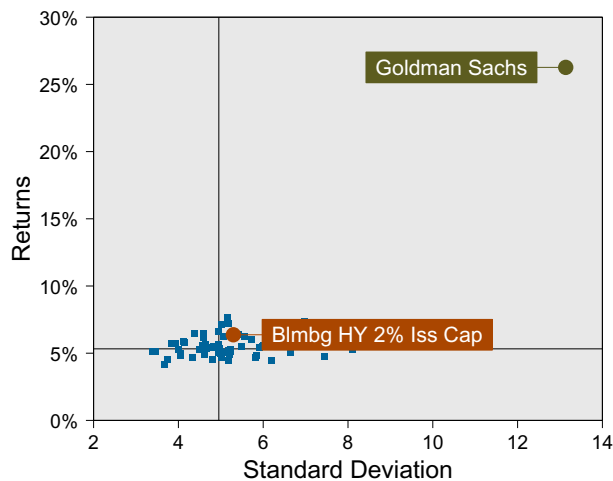
Performance vs Callan High Yield Mutual Funds (Net)



Relative Return vs Blmbg HY 2% Iss Cap



Callan High Yield Mutual Funds (Net) Annualized Five Year Risk vs Return



Goldman Sachs Offshore Fund V Period Ended September 30, 2017

Investment Philosophy

GS Mezzanine Partners seeks large-sized mezzanine investments comprised generally of fixed income securities and an associated equity component. They focus on providing "private high yield" capital for mid- to large-sized leveraged and management buyout transactions, recapitalizations, financings, re-financings, acquisitions and restructurings for private equity firms, private family companies and corporate issuers.

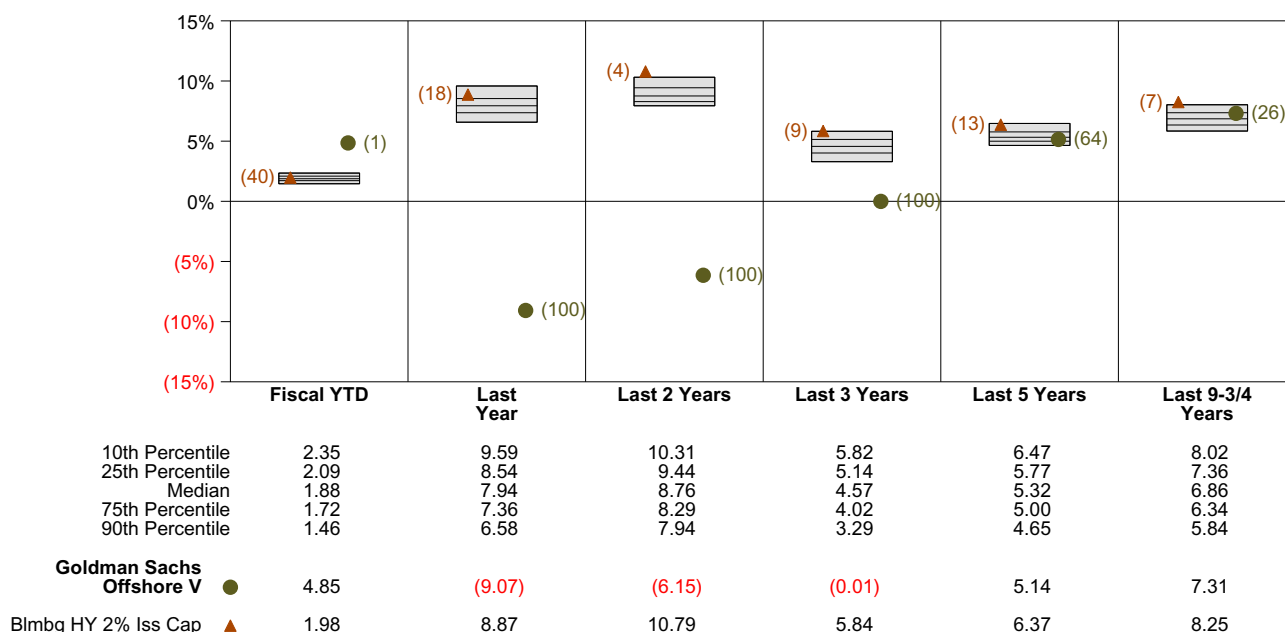
Quarterly Summary and Highlights

- Goldman Sachs Offshore V's portfolio posted a 4.85% return for the quarter placing it in the 1 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 100 percentile for the last year.
- Goldman Sachs Offshore V's portfolio outperformed the Blmbg HY 2% Iss Cap by 2.88% for the quarter and underperformed the Blmbg HY 2% Iss Cap for the year by 17.94%.

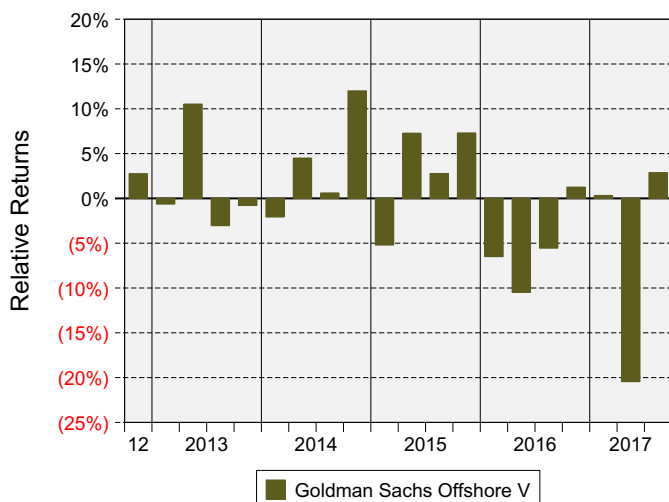
Quarterly Asset Growth

| | |
|---------------------------|-------------|
| Beginning Market Value | \$1,398,900 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$67,865 |
| Ending Market Value | \$1,466,765 |

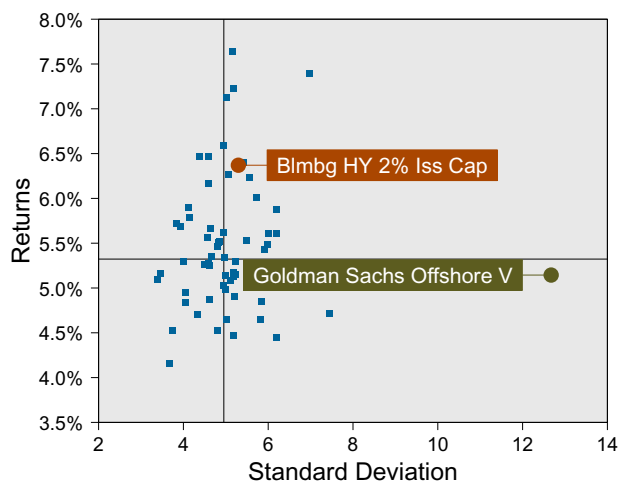
Performance vs Callan High Yield Mutual Funds (Net)



Relative Return vs Blmbg HY 2% Iss Cap



Callan High Yield Mutual Funds (Net) Annualized Five Year Risk vs Return



Loomis Sayles Period Ended September 30, 2017

Investment Philosophy

The High Yield Full Discretion Strategy seeks to identify attractive sectors and specific investment opportunities primarily within the global fixed income market through a global economic and interest rate framework. Portfolio managers incorporate a long-term macroeconomic view along with a stringent bottom-up investment evaluation process that drives security selection and resulting sector allocations. Opportunistic investments in non-benchmark sectors including investment grade corporate, emerging market, and non-US dollar debt and convertible bonds help to manage overall portfolio risk and enhance total return potential.

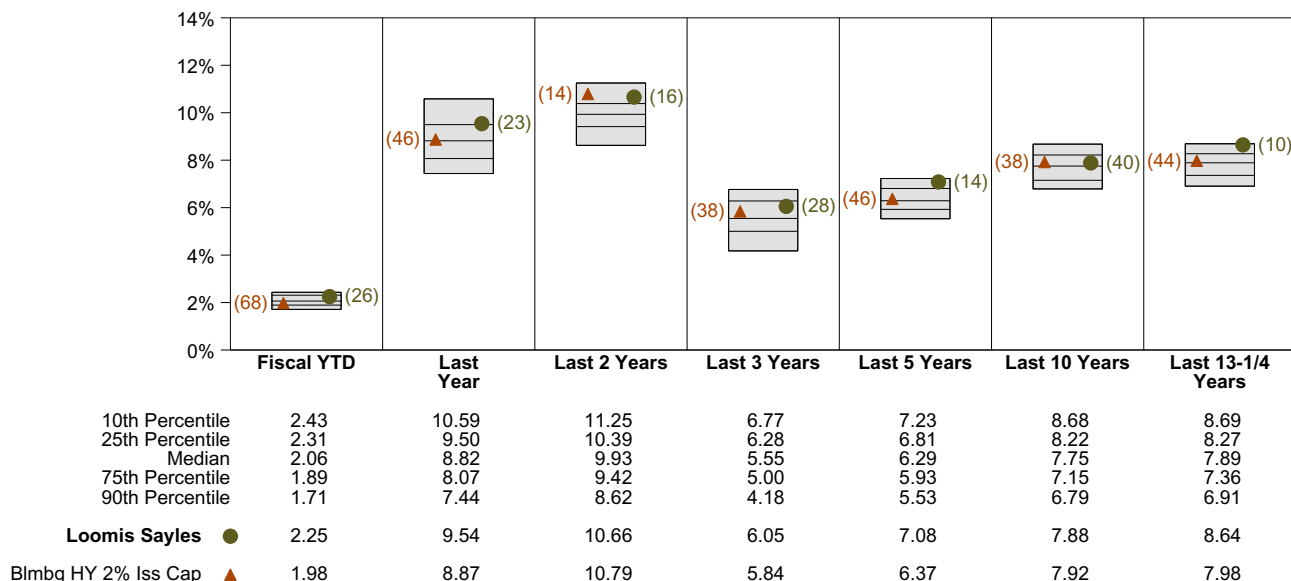
Quarterly Summary and Highlights

- Loomis Sayles's portfolio posted a 2.25% return for the quarter placing it in the 26 percentile of the Callan High Yield Fixed Income group for the quarter and in the 23 percentile for the last year.
- Loomis Sayles's portfolio outperformed the Blmbg HY 2% Iss Cap by 0.27% for the quarter and outperformed the Blmbg HY 2% Iss Cap for the year by 0.67%.

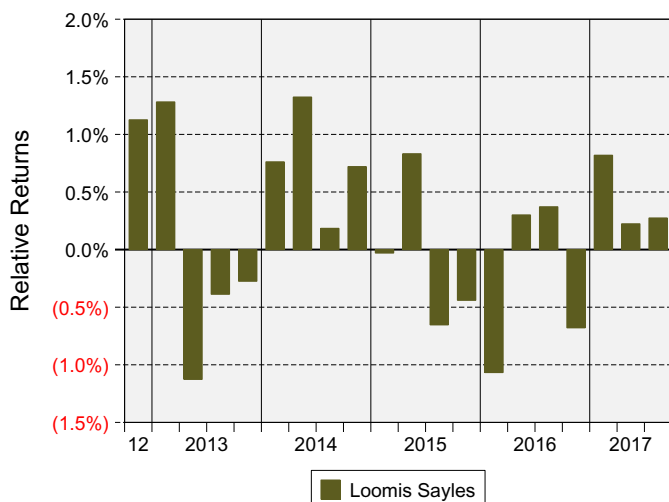
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$200,807,828 |
| Net New Investment | \$-21,026,010 |
| Investment Gains/(Losses) | \$4,414,095 |
| Ending Market Value | \$184,195,913 |

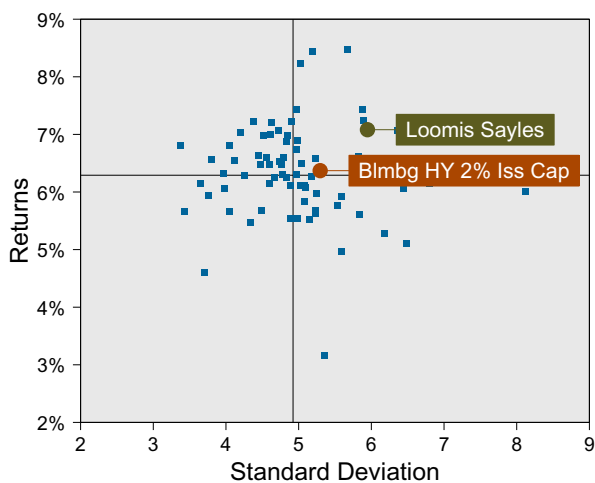
Performance vs Callan High Yield Fixed Income (Gross)



Relative Return vs Blmbg HY 2% Iss Cap



Callan High Yield Fixed Income (Gross) Annualized Five Year Risk vs Return



PIMCO Bravo II Fund

Period Ended September 30, 2017

Investment Philosophy

The BRAVO II Fund is a private equity style fund targeting an annualized IRR of 15-20% and multiple of 1.8-2x, net of fees and carried interest with an initial 5-year term. The fund will seek to capitalize on non-economic asset sale decisions by global financial institutions. The fund will have the flexibility to acquire attractively discounted, less liquid loans, structured credit and other assets tied to residential or commercial real estate markets in the U.S. and Europe.

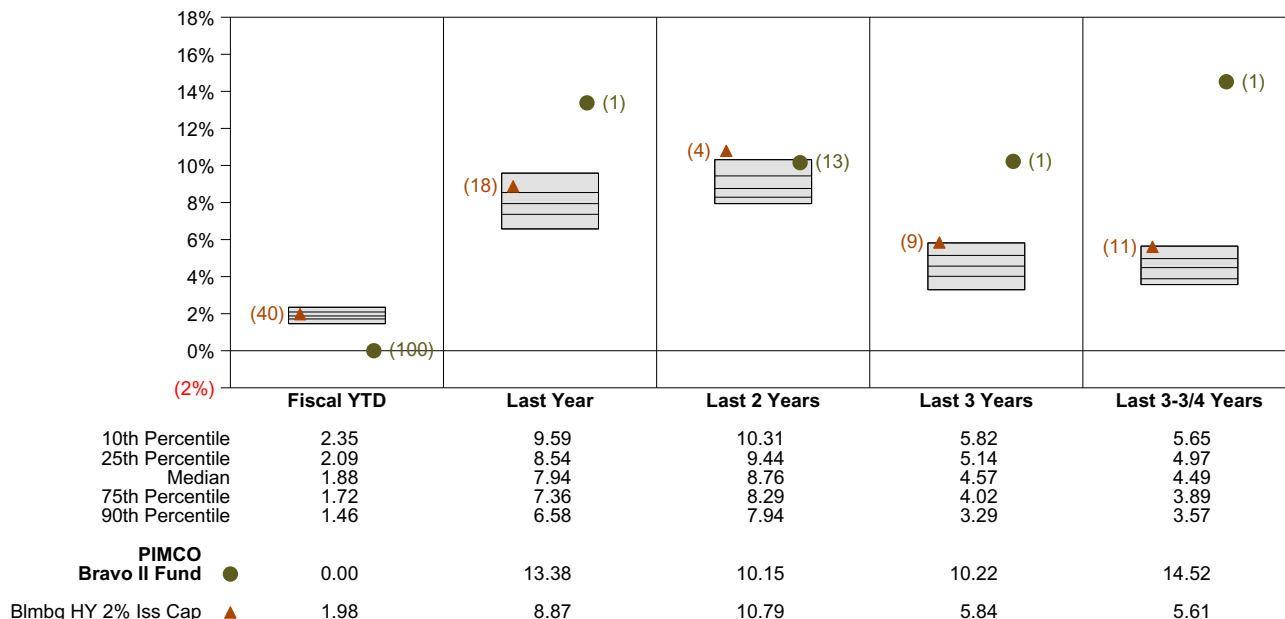
Quarterly Summary and Highlights

- PIMCO Bravo II Fund's portfolio posted a 0.00% return for the quarter placing it in the 100 percentile of the Callan High Yield Mutual Funds group for the quarter and in the 1 percentile for the last year.
- PIMCO Bravo II Fund's portfolio underperformed the Blmbg HY 2% Iss Cap by 1.98% for the quarter and outperformed the Blmbg HY 2% Iss Cap for the year by 4.50%.

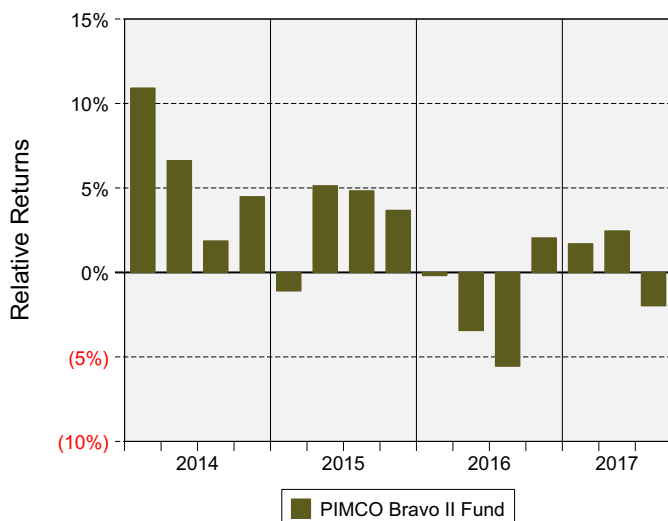
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$57,304,239 |
| Net New Investment | \$-2,274,873 |
| Investment Gains/(Losses) | \$0 |
| Ending Market Value | \$55,029,366 |

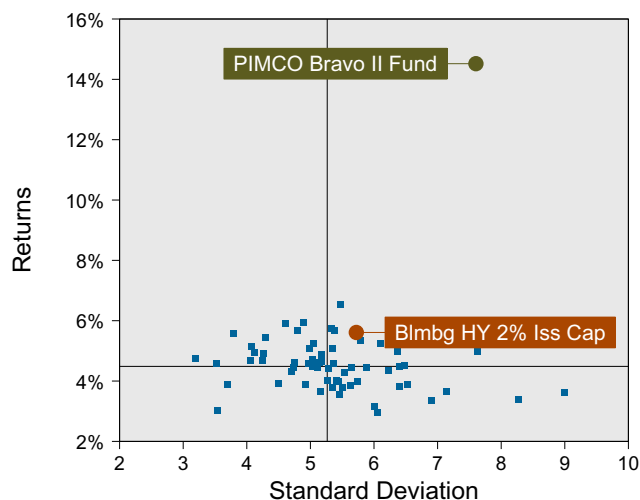
Performance vs Callan High Yield Mutual Funds (Net)



Relative Return vs Blmbg HY 2% Iss Cap



Callan High Yield Mutual Funds (Net) Annualized Three and Three-Quarter Year Risk vs Return



International Fixed Income Period Ended September 30, 2017

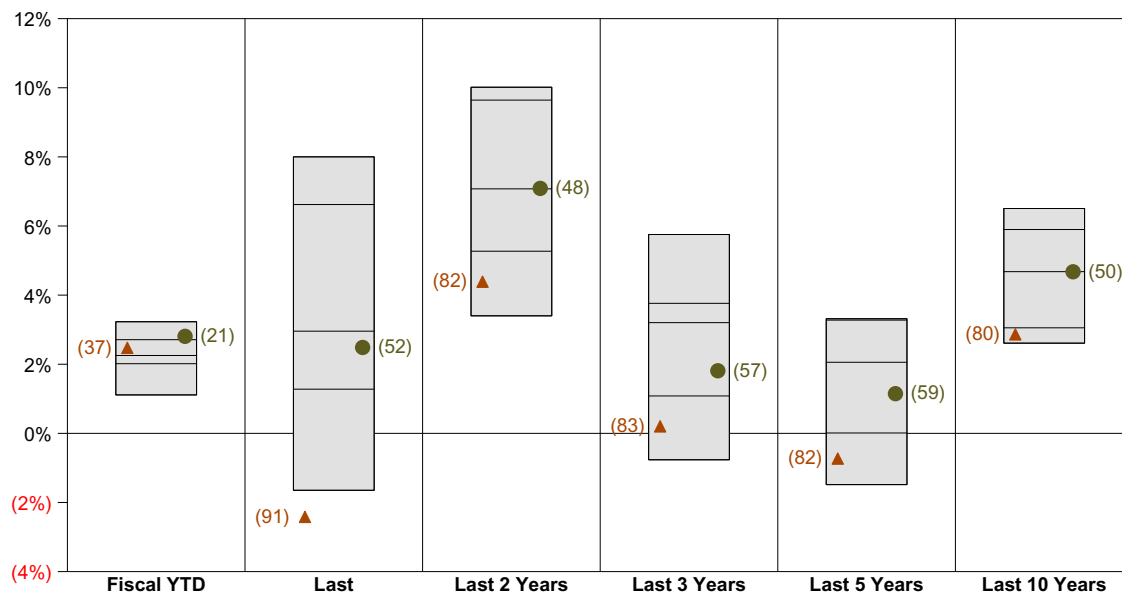
Quarterly Summary and Highlights

- International Fixed Income's portfolio posted a 2.81% return for the quarter placing it in the 21 percentile of the Public Fund - International Fixed group for the quarter and in the 52 percentile for the last year.
- International Fixed Income's portfolio outperformed the International Fixed Income Target by 0.33% for the quarter and outperformed the International Fixed Income Target for the year by 4.90%.

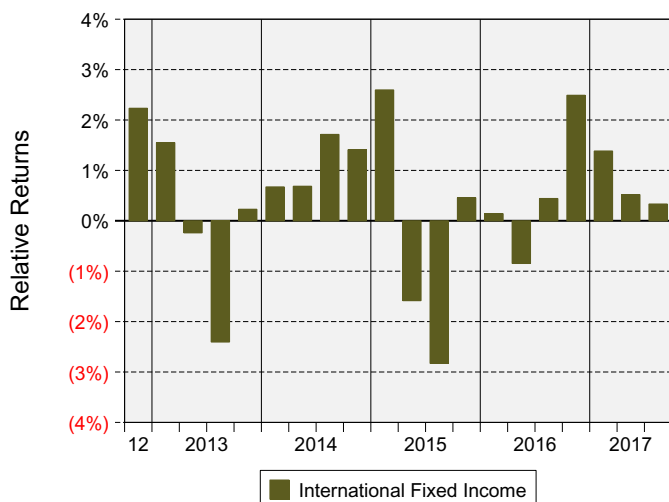
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$259,749,878 |
| Net New Investment | \$-15,228,854 |
| Investment Gains/(Losses) | \$7,274,660 |
| Ending Market Value | \$251,795,684 |

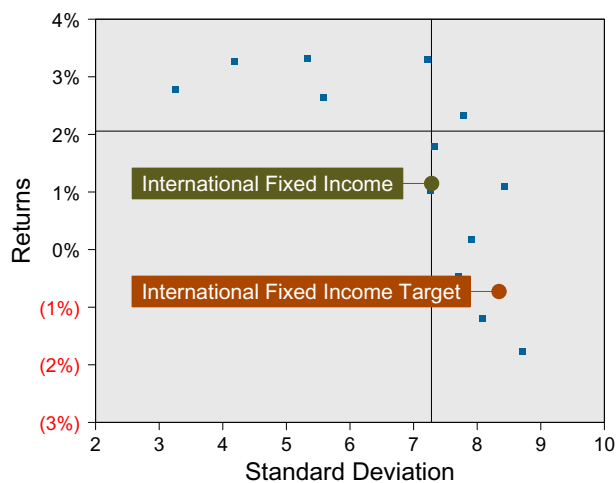
Performance vs Public Fund - International Fixed (Gross)



Relative Returns vs International Fixed Income Target



Public Fund - International Fixed (Gross) Annualized Five Year Risk vs Return



Brandywine Asset Management Period Ended September 30, 2017

Investment Philosophy

Brandywine engages in a disciplined, active, value-driven, strategic approach. Their investment strategy concentrates on top-down analysis of macro-economic conditions in order to determine where the most attractive valuations exist. Specifically, they invest in bonds with the highest real yields globally. They manage currency to protect principal and increase returns, patiently rotated among countries and attempt to control risk by purchasing undervalued securities.

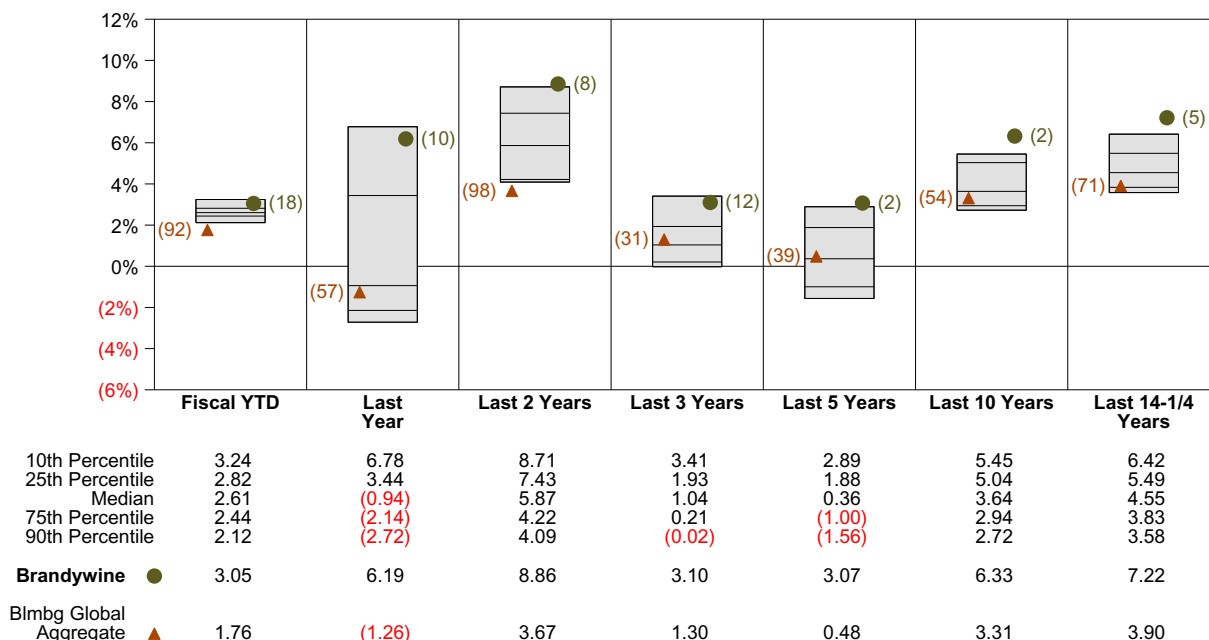
Quarterly Summary and Highlights

- Brandywine's portfolio posted a 3.05% return for the quarter placing it in the 18 percentile of the Callan Non US Fixed Income (Unhedged) group for the quarter and in the 10 percentile for the last year.
- Brandywine's portfolio outperformed the Blmbg Global Aggregate by 1.29% for the quarter and outperformed the Blmbg Global Aggregate for the year by 7.45%.

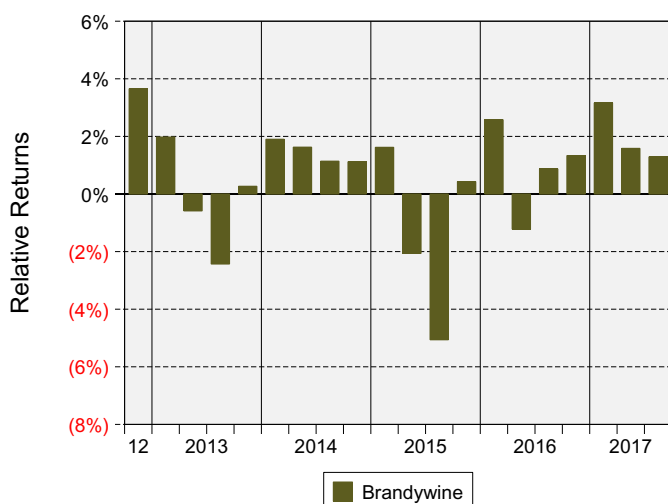
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$153,803,731 |
| Net New Investment | \$-146,149 |
| Investment Gains/(Losses) | \$4,693,264 |
| Ending Market Value | \$158,350,846 |

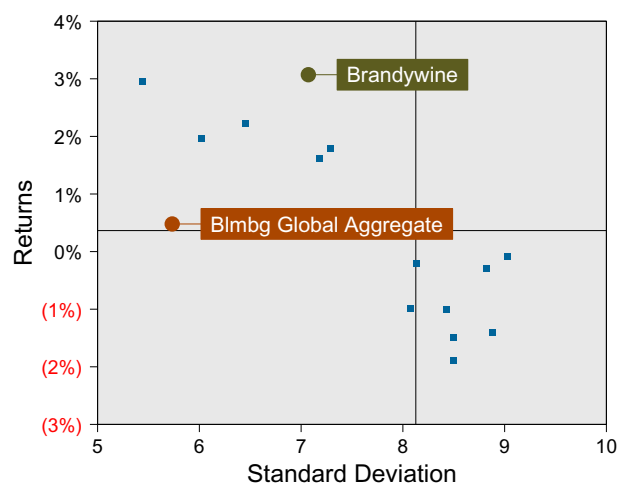
Performance vs Callan Non US Fixed Income (Unhedged) (Gross)



Relative Return vs Blmbg Global Aggregate



Callan Non US Fixed Income (Unhedged) (Gross) Annualized Five Year Risk vs Return



UBS Global Asset Management Period Ended September 30, 2017

Investment Philosophy

UBS Global Asset Management's non-US fixed income portfolio's assets are invested in emerging markets debt on an opportunistic basis up to the stated maximum allocation of 5%. The account's non-US fixed income assets will be fully-invested at all times, but such assets may be invested in the UBS US Cash Management Prime Collective Fund for operational and risk management purposes. *Citigroup Non-US Govt Index through 12/31/2009; Bloomberg Aggregate ex-US Index thereafter.

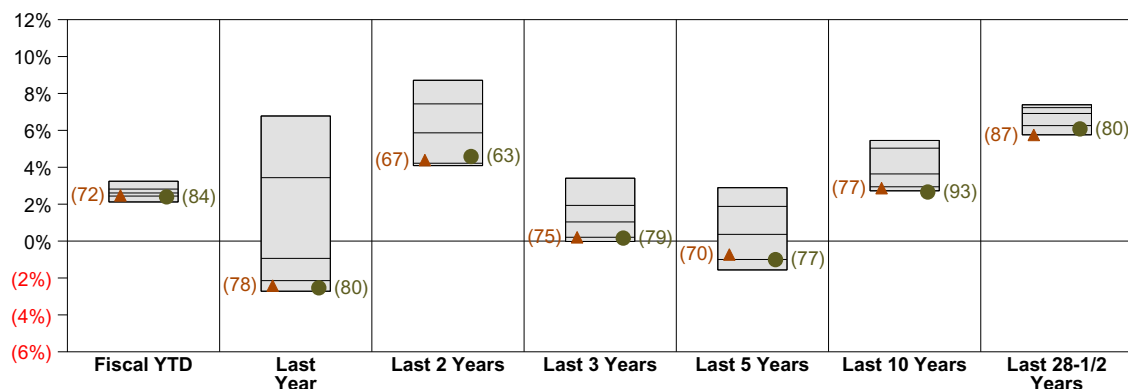
Quarterly Summary and Highlights

- UBS Global Asset Management's portfolio posted a 2.40% return for the quarter placing it in the 84 percentile of the Callan Non US Fixed Income (Unhedged) group for the quarter and in the 80 percentile for the last year.
- UBS Global Asset Management's portfolio underperformed the Blended Benchmark* by 0.08% for the quarter and underperformed the Blended Benchmark* for the year by 0.12%.

Quarterly Asset Growth

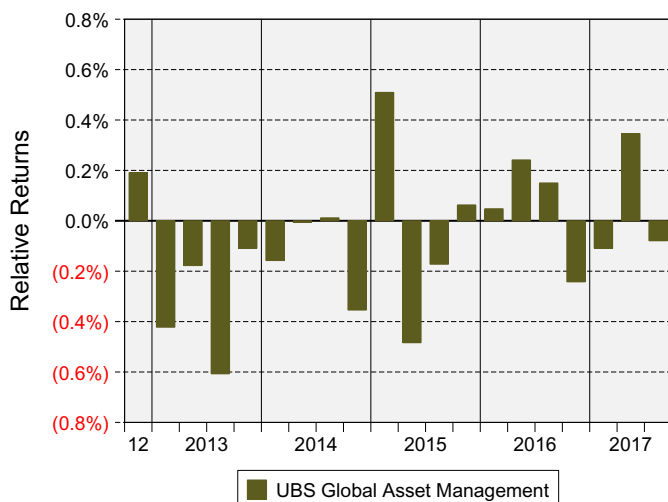
| | |
|---------------------------|---------------|
| Beginning Market Value | \$105,946,147 |
| Net New Investment | \$-15,082,705 |
| Investment Gains/(Losses) | \$2,581,396 |
| Ending Market Value | \$93,444,838 |

Performance vs Callan Non US Fixed Income (Unhedged) (Gross)

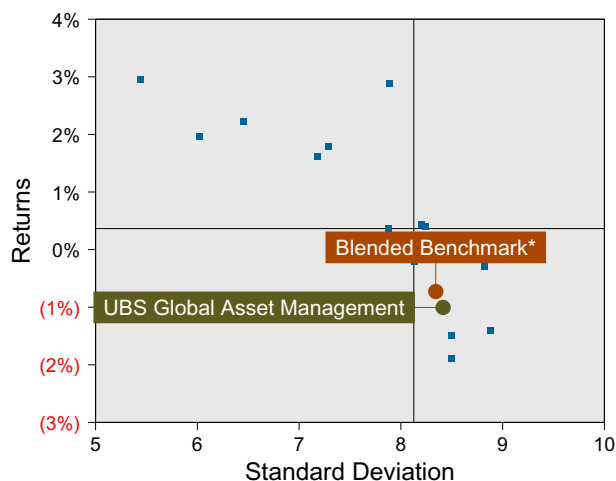


| | | | | | | | |
|-----------------------------|------|--------|------|--------|--------|------|------|
| 10th Percentile | 3.24 | 6.78 | 8.71 | 3.41 | 2.89 | 5.45 | 7.39 |
| 25th Percentile | 2.82 | 3.44 | 7.43 | 1.93 | 1.88 | 5.04 | 7.23 |
| Median | 2.61 | (0.94) | 5.87 | 1.04 | 0.36 | 3.64 | 6.92 |
| 75th Percentile | 2.44 | (2.14) | 4.22 | 0.21 | (1.00) | 2.94 | 6.26 |
| 90th Percentile | 2.12 | (2.72) | 4.09 | (0.02) | (1.56) | 2.72 | 5.76 |
| UBS Global Asset Management | 2.40 | (2.53) | 4.58 | 0.16 | (1.00) | 2.66 | 6.08 |
| Blended Benchmark* | 2.48 | (2.42) | 4.39 | 0.20 | (0.73) | 2.87 | 5.75 |

Relative Return vs Blended Benchmark*



Callan Non US Fixed Income (Unhedged) (Gross) Annualized Five Year Risk vs Return



Global Real Estate Composite Period Ended September 30, 2017

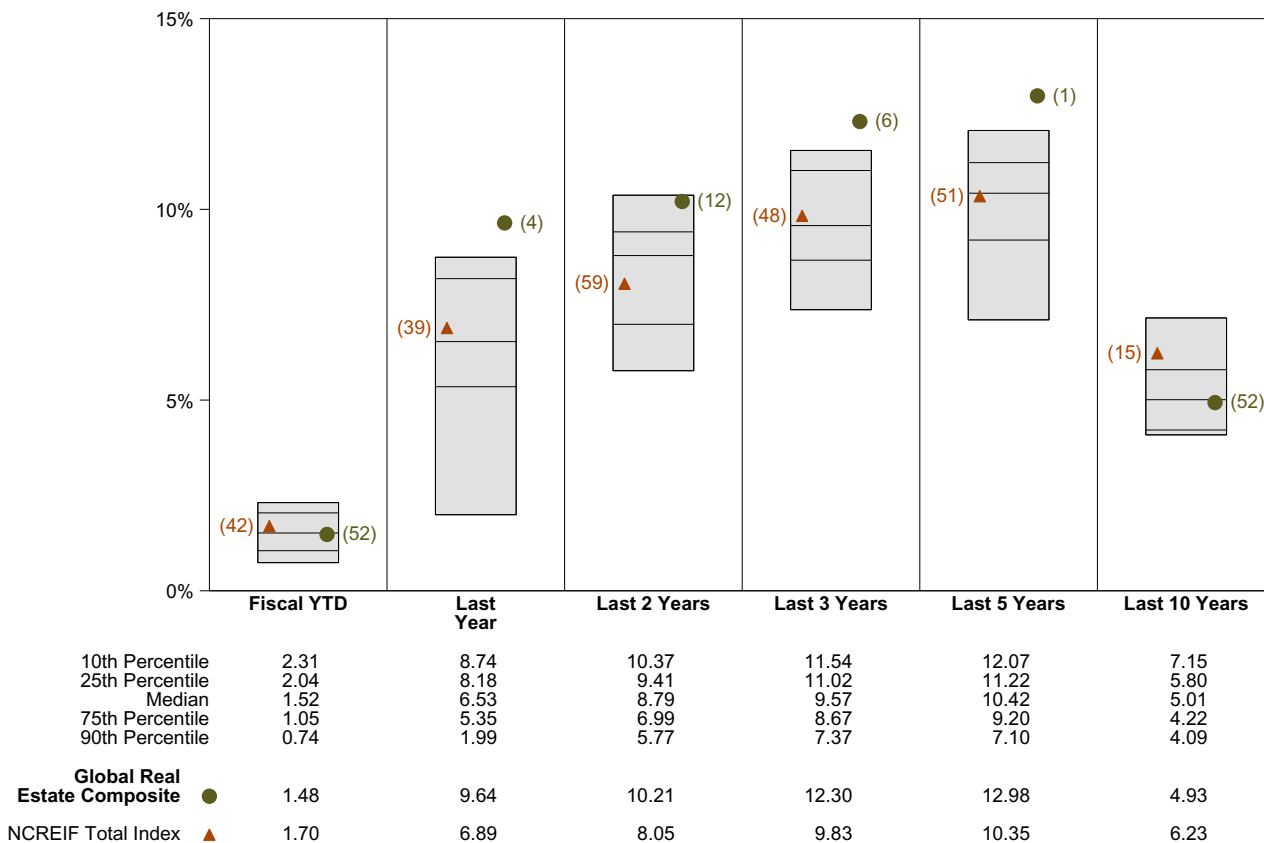
Quarterly Summary and Highlights

- Global Real Estate Composite's portfolio posted a 1.48% return for the quarter placing it in the 52 percentile of the Pub Pln- Real Estate group for the quarter and in the 4 percentile for the last year.
- Global Real Estate Composite's portfolio underperformed the NCREIF Total Index by 0.22% for the quarter and outperformed the NCREIF Total Index for the year by 2.75%.

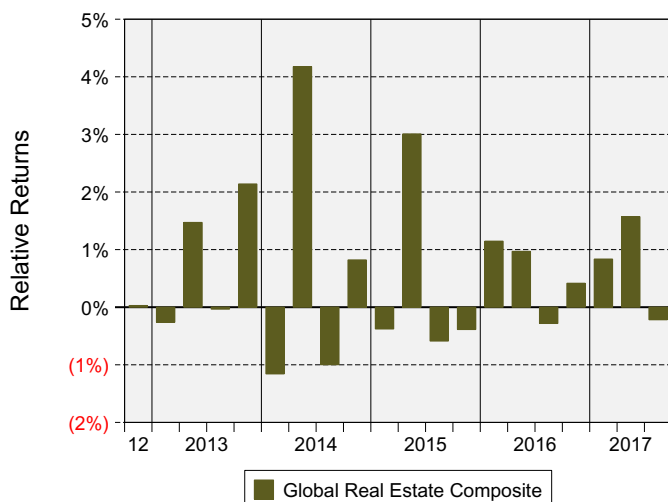
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$569,154,356 |
| Net New Investment | \$-19,900,073 |
| Investment Gains/(Losses) | \$8,137,578 |
| Ending Market Value | \$557,391,861 |

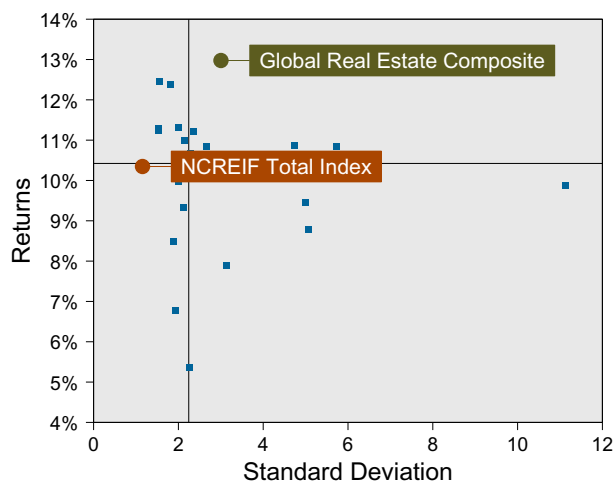
Performance vs Pub Pln- Real Estate (Gross)



Relative Return vs NCREIF Total Index



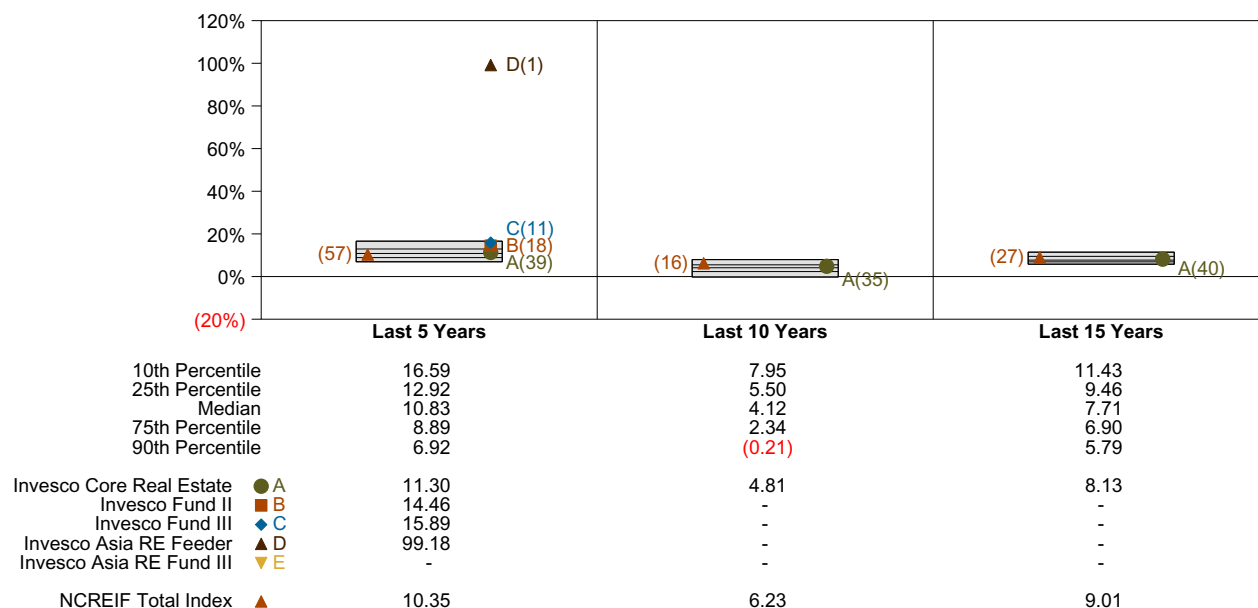
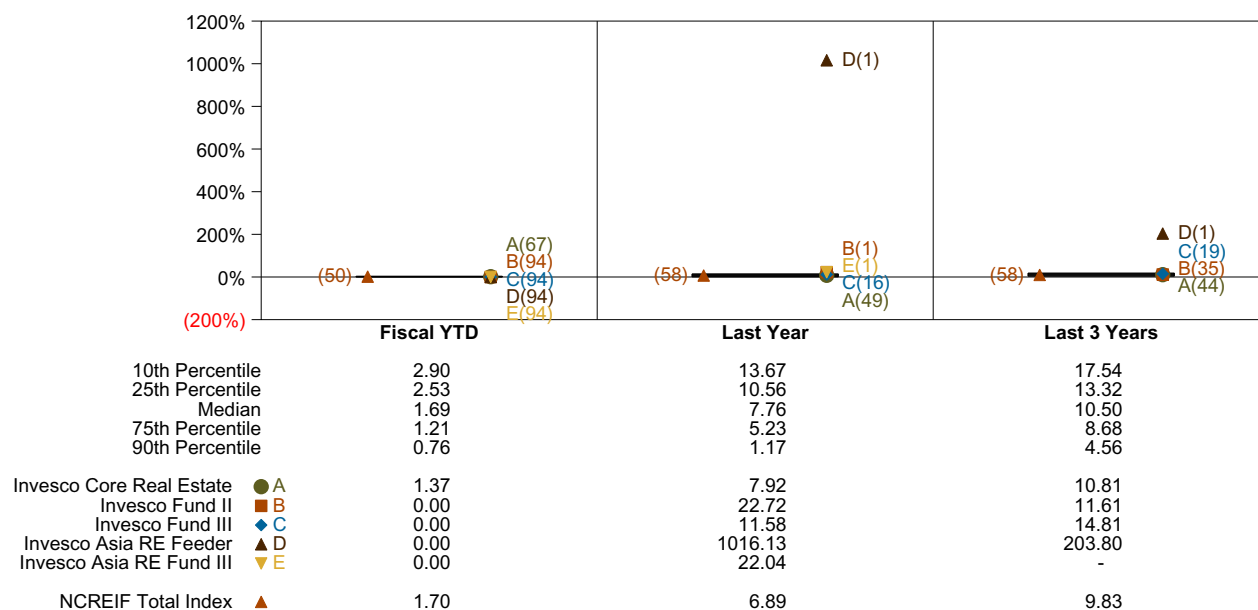
Pub Pln- Real Estate (Gross) Annualized Five Year Risk vs Return



North Dakota State Investment Board Pension Funds Performance vs Callan Total Domestic Real Estate Databa Periods Ended September 30, 2017

Return Ranking

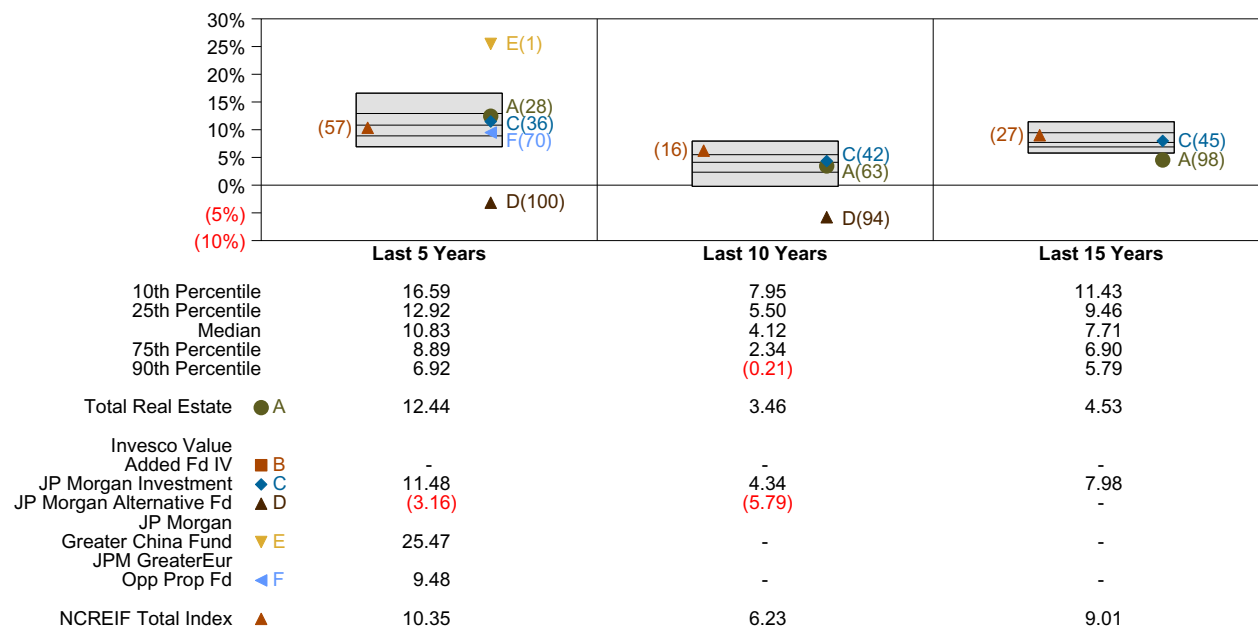
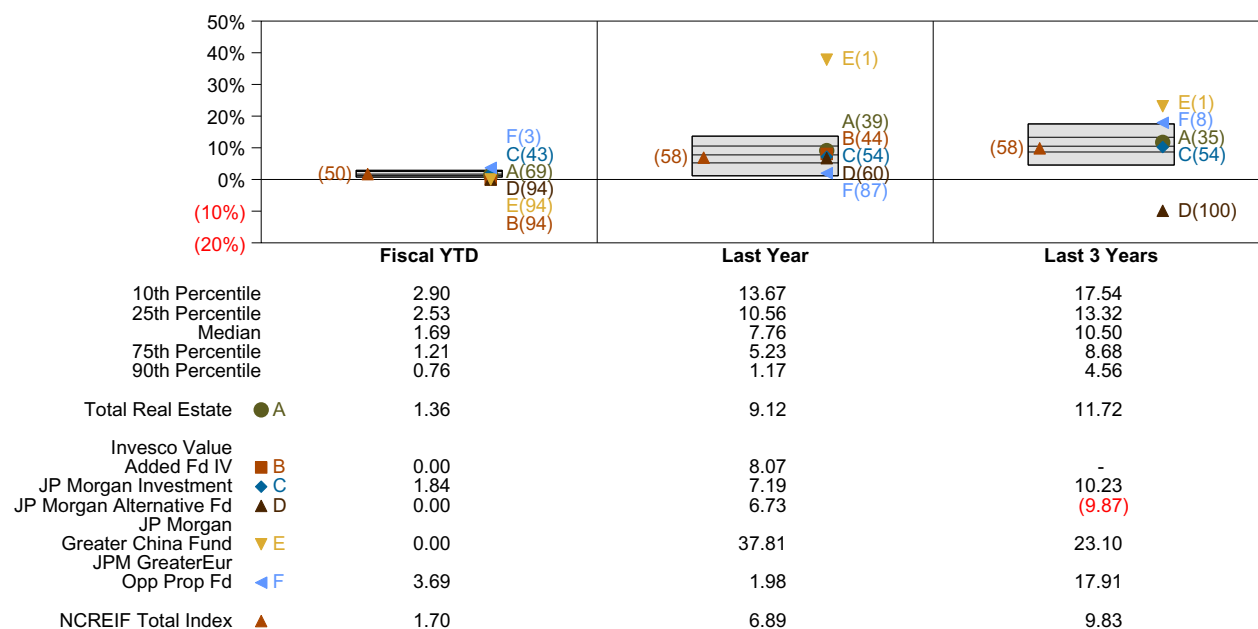
The chart below illustrates fund rankings over various periods versus the Callan Total Domestic Real Estate Databa. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Callan Total Domestic Real Estate Databa. The numbers to the right of the bar represent the percentile rankings of the funds being analyzed. The table below the chart details the rates of return plotted in the graph above.



North Dakota State Investment Board Pension Funds Performance vs Callan Total Domestic Real Estate Databa Periods Ended September 30, 2017

Return Ranking

The chart below illustrates fund rankings over various periods versus the Callan Total Domestic Real Estate Databa. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Callan Total Domestic Real Estate Databa. The numbers to the right of the bar represent the percentile rankings of the funds being analyzed. The table below the chart details the rates of return plotted in the graph above.



TIR Teredo Period Ended September 30, 2017

Investment Philosophy

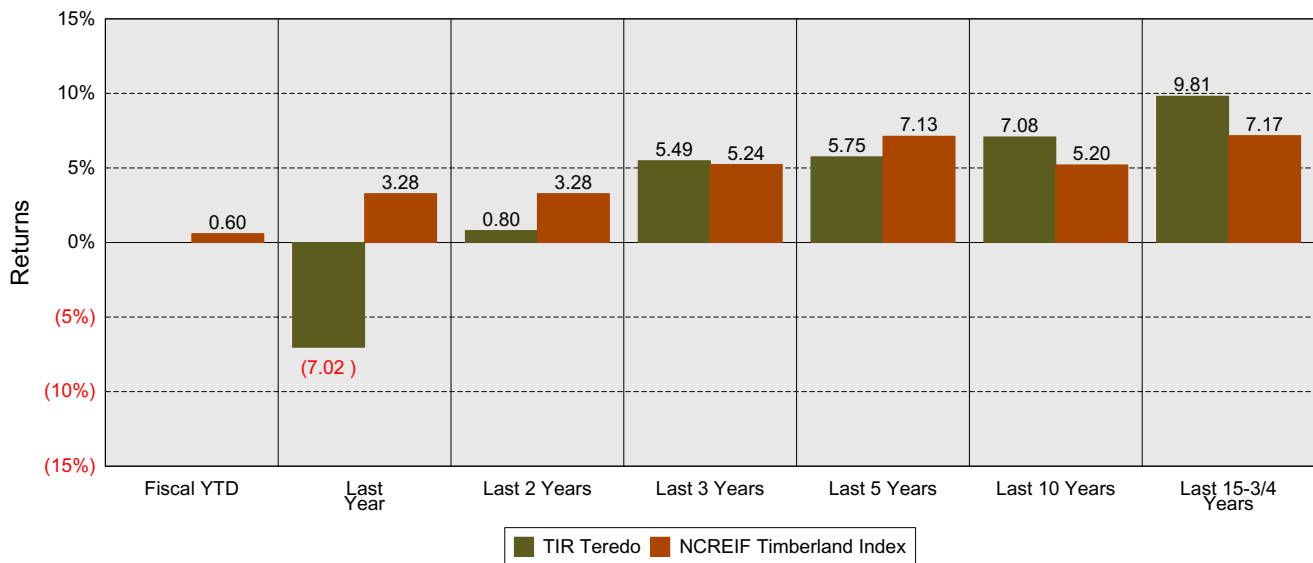
Teredo Timber LLC - The investment objective of Teredo is to provide competitive investment returns from increasing saw timber production through the 20 year term of the partnership. TIR's management strategy is to maximize saw timber volume by applying intensive forest management techniques which accelerate growth through the diameter class distribution. Periodic cash flows are produced from thinning and final harvests of the individual timber stands.

Quarterly Summary and Highlights

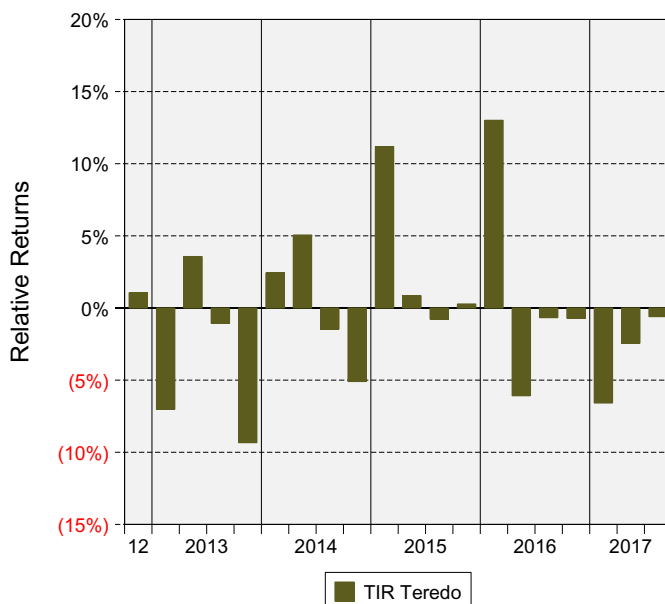
- TIR Teredo's portfolio underperformed the NCREIF Timberland Index by 0.60% for the quarter and underperformed the NCREIF Timberland Index for the year by 10.30%.

Quarterly Asset Growth

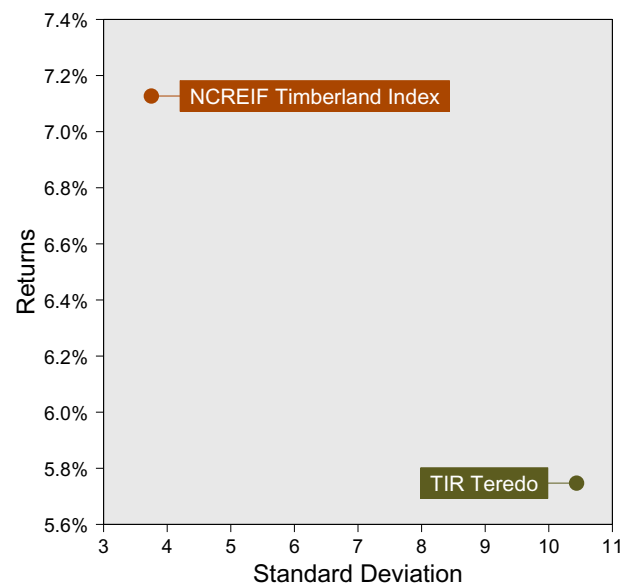
| | |
|---------------------------|--------------|
| Beginning Market Value | \$31,445,437 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$0 |
| Ending Market Value | \$31,445,437 |



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



TIR Springbank Period Ended September 30, 2017

Investment Philosophy

Springbank LLC - The investment objective of Springbank is to maximize long-term investment potential by means of the formation of a dedicated land management group, intensive timber management to increase timber production, the coordination of timber harvesting with land management activities and direct marketing and selective real estate partnerships.

Quarterly Summary and Highlights

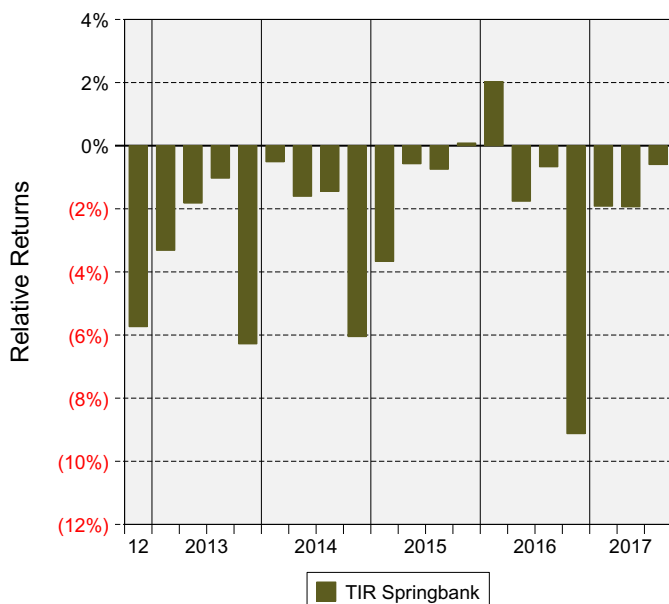
- TIR Springbank's portfolio underperformed the NCREIF Timberland Index by 0.60% for the quarter and underperformed the NCREIF Timberland Index for the year by 13.41%.

Quarterly Asset Growth

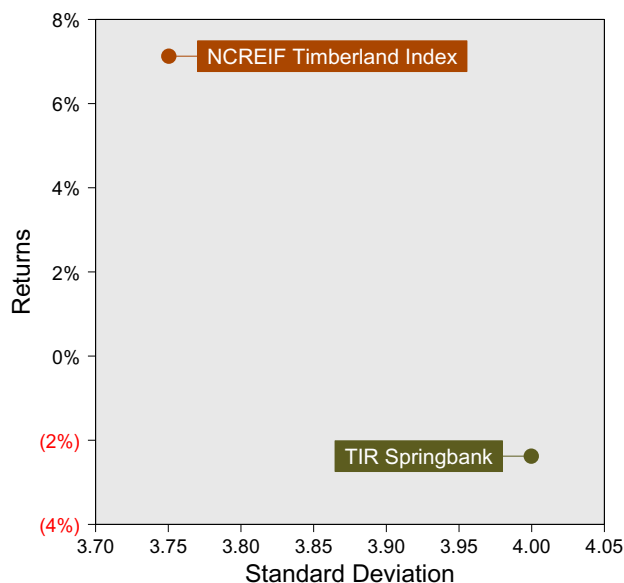
| | |
|---------------------------|---------------|
| Beginning Market Value | \$105,042,460 |
| Net New Investment | \$-1,064,035 |
| Investment Gains/(Losses) | \$35 |
| Ending Market Value | \$103,978,460 |



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



JP Morgan Asian Infrastructure Period Ended September 30, 2017

Investment Philosophy

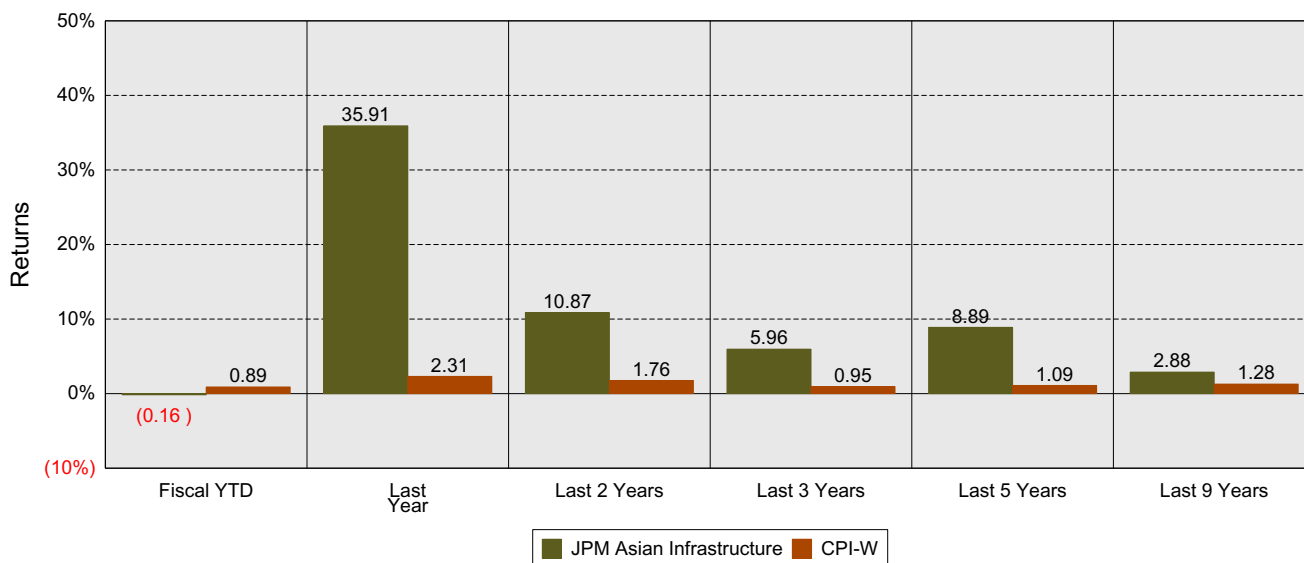
The JPMorgan Asian Infrastructure & Related Resources Opportunity ("AIRRO") Fund seeks to invest in infrastructure and related resources opportunities across the greater Asia Pacific region. The Fund seeks to invest in a broad range of assets, including: core infrastructure, power both from conventional and renewable sources, communications, water and waste-water, public works, urban development and other "social" infrastructure assets and related resources.

Quarterly Summary and Highlights

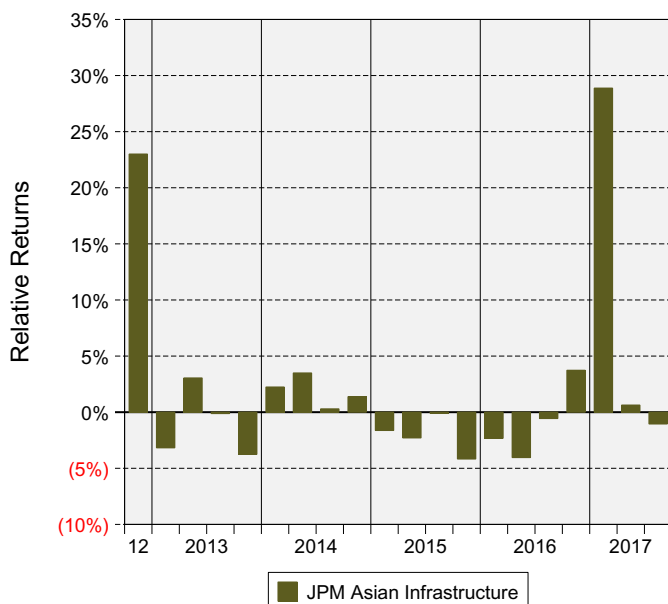
- JPM Asian Infrastructure's portfolio underperformed the CPI-W by 1.05% for the quarter and outperformed the CPI-W for the year by 33.60%.

Quarterly Asset Growth

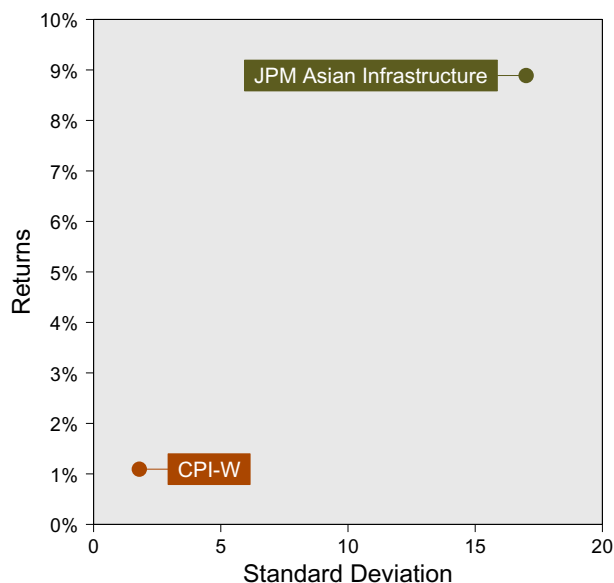
| | |
|---------------------------|--------------|
| Beginning Market Value | \$23,570,946 |
| Net New Investment | \$-17,016 |
| Investment Gains/(Losses) | \$-36,643 |
| Ending Market Value | \$23,517,287 |



Relative Return vs CPI-W



Annualized Five Year Risk vs Return



JPM Infrastructure Fund Period Ended September 30, 2017

Investment Philosophy

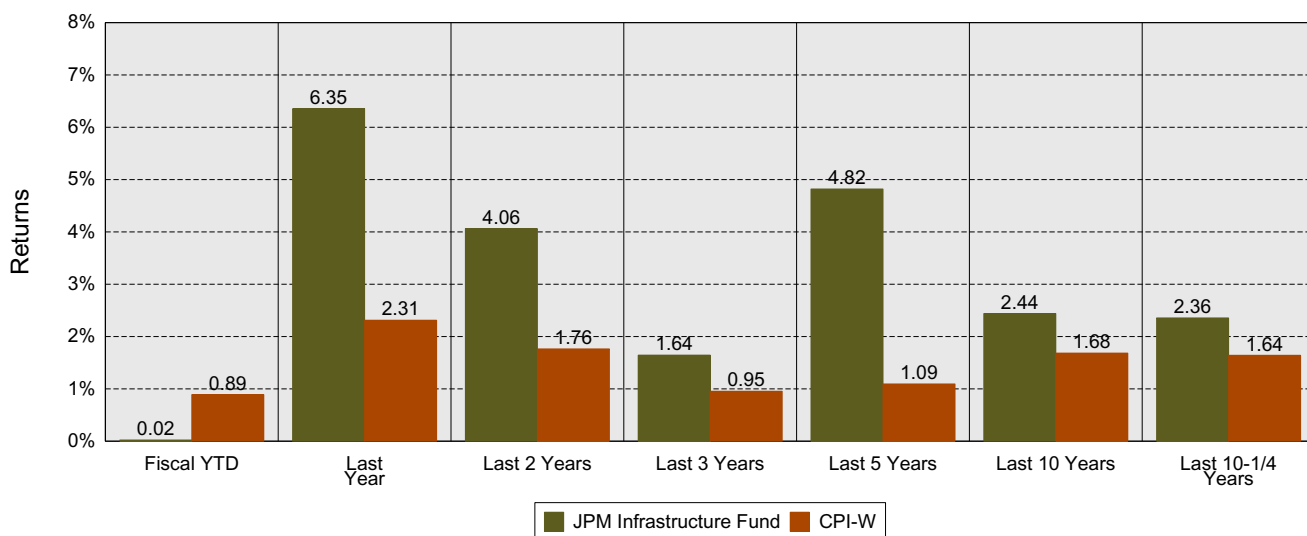
The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas pipelines; electricity transmission and distribution facilities; contracted power generation assets; water distribution; waste-water collection and processing; railway lines and rapid rail links; and seaports and airports.

Quarterly Summary and Highlights

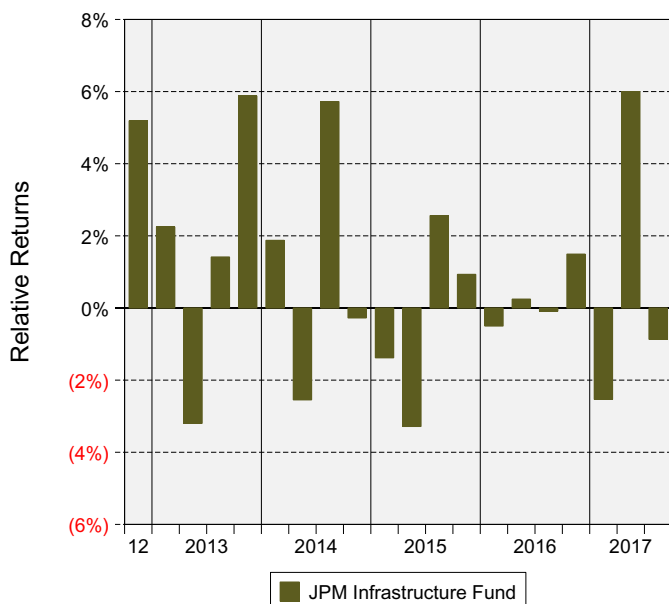
- JPM Infrastructure Fund's portfolio underperformed the CPI-W by 0.87% for the quarter and outperformed the CPI-W for the year by 4.04%.

Quarterly Asset Growth

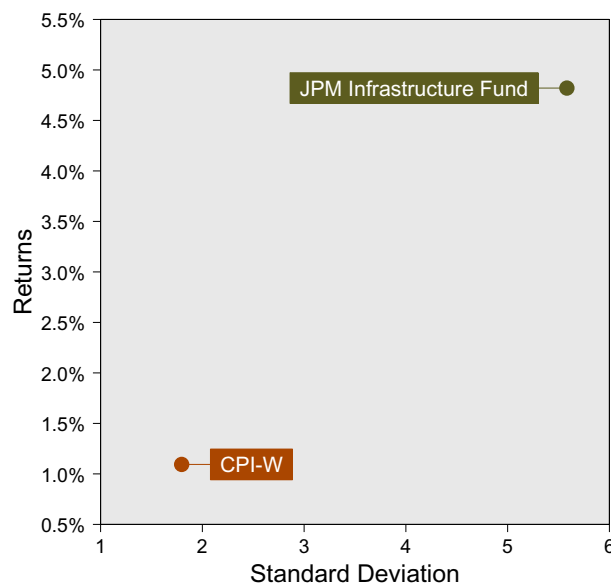
| | |
|---------------------------|---------------|
| Beginning Market Value | \$178,979,737 |
| Net New Investment | \$-40,850 |
| Investment Gains/(Losses) | \$40,204 |
| Ending Market Value | \$178,979,091 |



Relative Return vs CPI-W



Annualized Five Year Risk vs Return



Grosvenor Cust. Infrastructure Period Ended September 30, 2017

Investment Philosophy

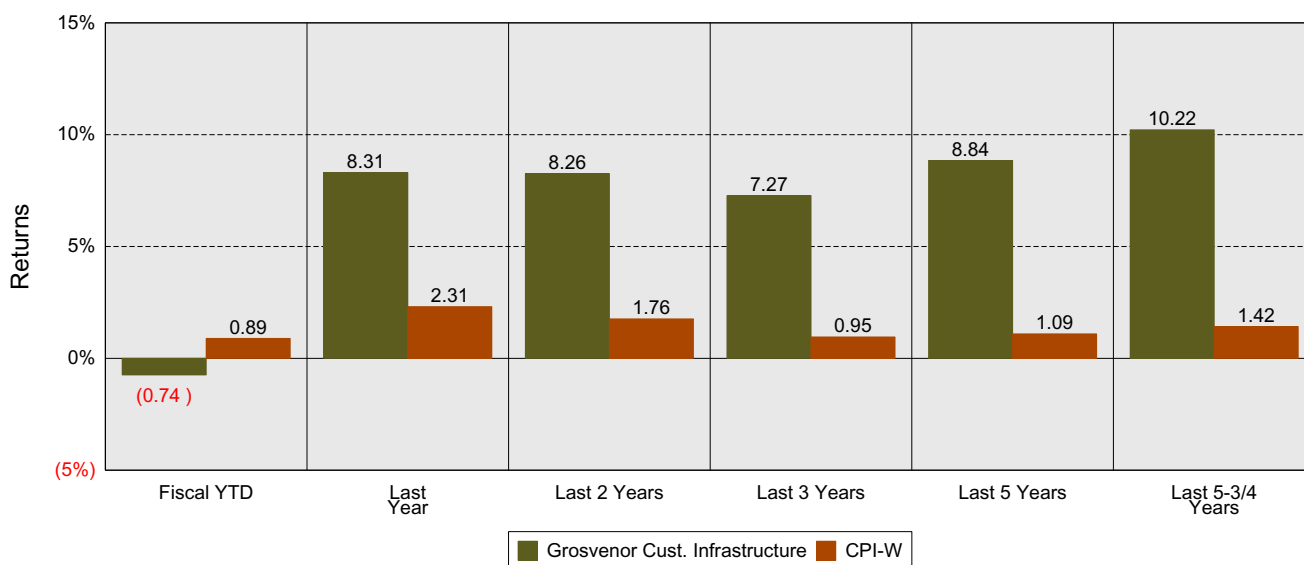
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%).

Quarterly Summary and Highlights

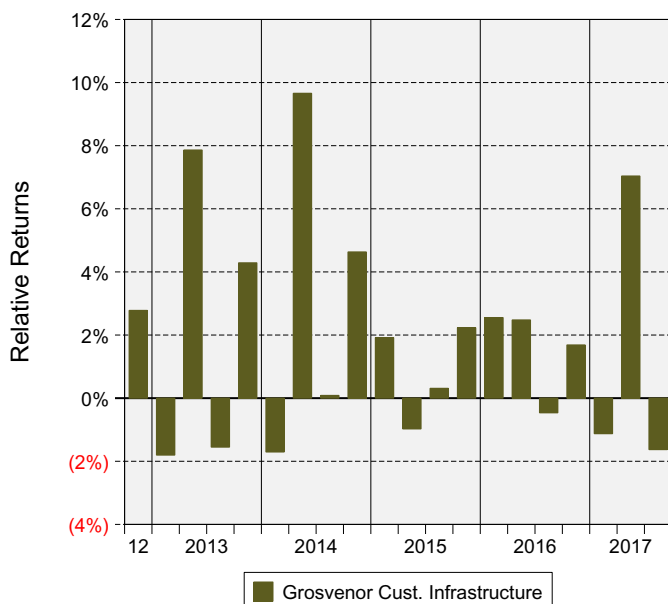
- Grosvenor Cust. Infrastructure's portfolio underperformed the CPI-W by 1.63% for the quarter and outperformed the CPI-W for the year by 5.99%.

Quarterly Asset Growth

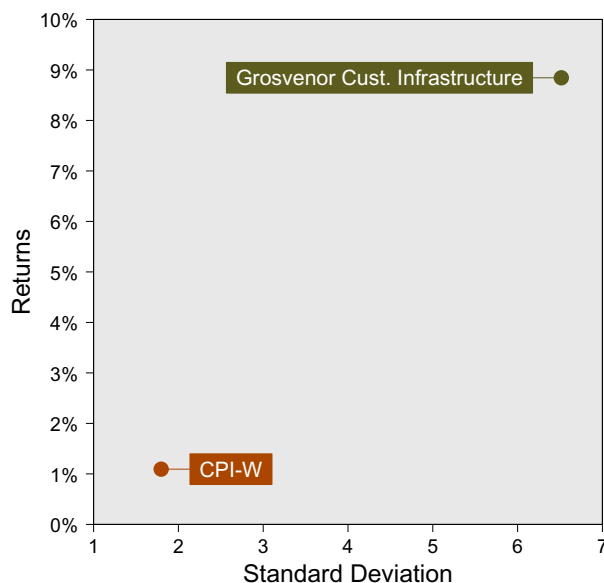
| | |
|---------------------------|--------------|
| Beginning Market Value | \$37,507,235 |
| Net New Investment | \$-3,138,127 |
| Investment Gains/(Losses) | \$-272,327 |
| Ending Market Value | \$34,096,781 |



Relative Return vs CPI-W



Annualized Five Year Risk vs Return



Grosvenor Cust. Infrastructure II Period Ended September 30, 2017

Investment Philosophy

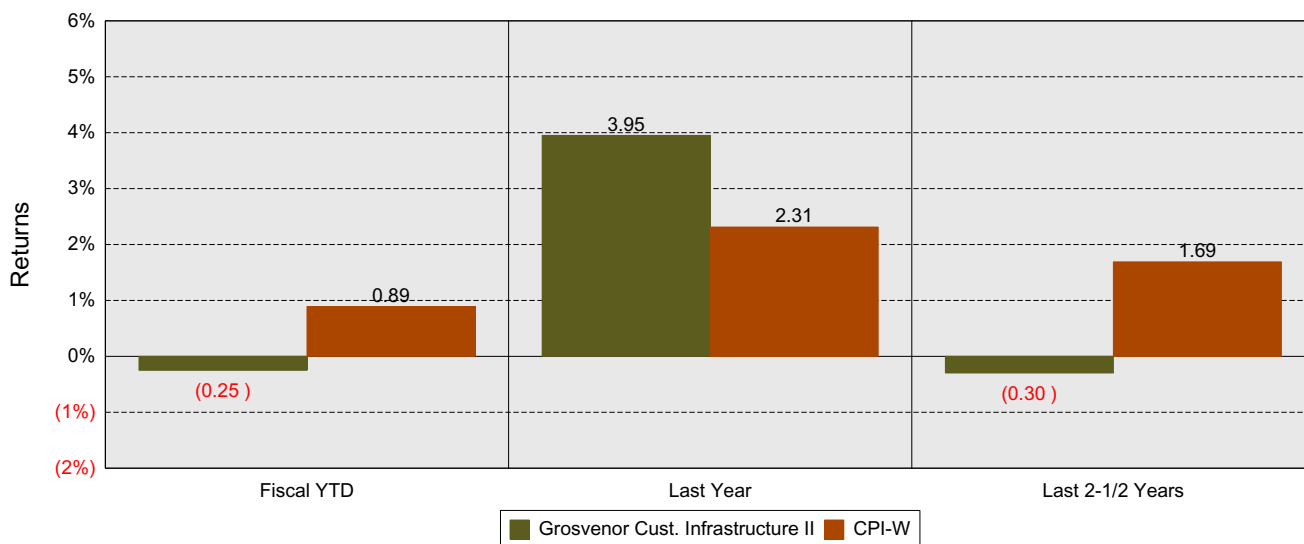
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%).

Quarterly Summary and Highlights

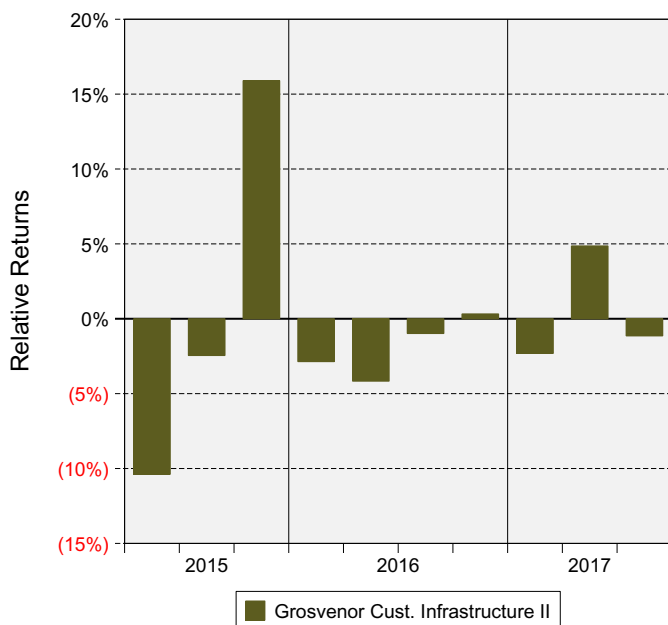
- Grosvenor Cust. Infrastructure II's portfolio underperformed the CPI-W by 1.14% for the quarter and outperformed the CPI-W for the year by 1.64%.

Quarterly Asset Growth

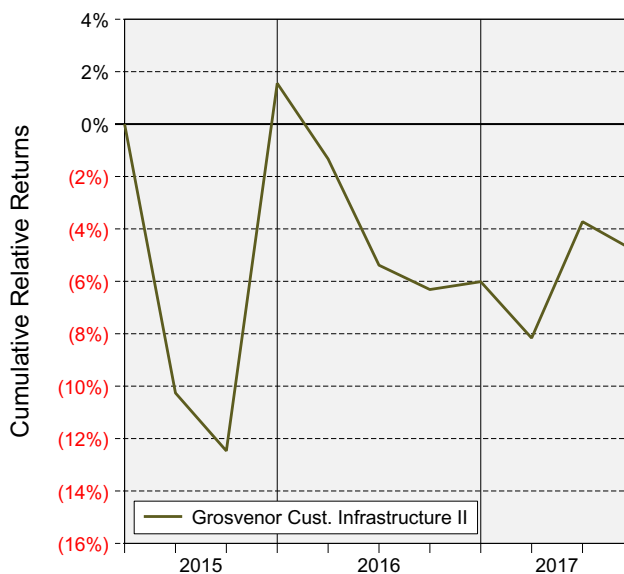
| | |
|---------------------------|-------------|
| Beginning Market Value | \$7,472,221 |
| Net New Investment | \$2,179,507 |
| Investment Gains/(Losses) | \$-18,751 |
| Ending Market Value | \$9,632,977 |



Relative Return vs CPI-W



Cumulative Returns vs CPI-W



Research and Educational Programs

The Callan Institute provides both research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Anna West at 415.974.5060 / institute@callan.com.

New Research from Callan's Experts



The Private Debt Pie: Do You Want a Slice? Do You Need One? | As institutional investors consider the merits and risks of constructing private debt allocations in their portfolios, Callan's Jay Kloepfer, the director of Capital Markets Research; and Jay Nayak, a consultant in our Private Equity Research

group, prepared a set of answers to some key questions about private debt.

Callan 2017 Nuclear Decommissioning Funding Study | This study, done annually, offers key insights into the status of nuclear decommissioning funding in the U.S. The 2017 study covers 54 utilities with an ownership interest in the 99 operating nuclear reactors and 11 of the non-operating reactors in the U.S. It found that the health of nuclear decommissioning funding has remained fairly stable, hovering near 70% over the past decade.



Callan 2017 Private Equity Survey
Callan conducted a survey of institutional private equity investors. We focused on deployment models, patterns of investment and commitment activities

over time, governance and oversight, staffing and resources, and responsibilities for program administration functions. Our Survey included 69 institutional investors with private equity programs totaling \$103.3 billion. Our Survey found that an array of administration issues affect how institutional private equity portfolios are constructed, monitored, and managed. We found these factors led to less than ideal choices for implementing the programs, often including sub-optimal use of the discretionary consultant/fund-of-funds model for certain private equity programs.

The Triple Play: Adding Timberland, Farmland, and Infrastructure to Portfolios | Timberland, farmland, and infrastructure offer diversification, stable income, and inflation protection for institutional investor portfolios. Callan believes a combination of these three real assets offers distinct advantages.

Reaching for Higher Ground: The Evolution of TDFs | Target date funds (TDFs) are an improvement over former common defaults, but they need to evolve. The solutions include using uncorrelated asset classes, in-plan annuities, "dynamic" qualified default investment alternatives, or guaranteed income products.

Periodicals

Private Markets Trends, Summer 2017 | Gary Robertson discusses the surge of money into the private markets as high prices persist.

Hedge Fund Monitor, 3rd Quarter 2017 | Jim McKee discusses four major secular trends that are on a predictable course to increasingly weigh on markets over the longer term: demographics, fiscal policy, monetary policy, and market valuations.

Market Pulse Flipbook, 2nd Quarter 2017 | A quarterly market reference guide covering investment and fund sponsor trends in the U.S. economy, U.S. and non-U.S. equities and fixed income, alternatives, and defined contribution plans.

Capital Market Review, 2nd Quarter 2017 | A quarterly newsletter providing insights on the economy and recent performance in equity, fixed income, alternatives, international, real estate, and other capital markets.

Monthly Periodic Table of Investment Returns | This update reflects the latest results for major indices.

Events

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

Mark your calendars for our upcoming **Regional Workshops**, October 24 in New York and October 26 in Chicago, where we'll cover highlights from our soon-to-be published *Investment Management Fee Survey* and other aspects of fees.

Callan's **National Conference** will be held January 29–31, 2018, 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 sessions are:

Introduction to Investments

San Francisco, April 10-11, 2018

San Francisco, July 24-25, 2018

Chicago, October 2-3, 2018

This program familiarizes fund sponsor trustees, staff, and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals who have less than two years of experience with 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 www.callan.com/events/callan-college-intro or contact Kathleen Cunnie: 415.274.3029 / cunnie@callan.com

Education: By the Numbers

525

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

50+

Unique pieces of research the Institute generates each year

3,500

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, Executive Chairman

List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

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

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

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

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|---|
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| AEGON USA Investment Management |
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| Affiliated Managers Group, Inc. |
| Alcentra |
| AllianceBernstein |
| Allianz Global Investors |
| Allianz Life Insurance Company of North America |
| American Century Investments |
| AMP Capital Investors Limited |
| Amundi Smith Breeden LLC |
| 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 |
| Baillie Gifford Overseas Limited |
| Baird Advisors |
| Bank of America |
| Barings LLC |
| Baron Capital Management, Inc. |
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| BlackRock |
| BMO Global Asset Management |
| BNP Paribas Investment Partners |
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| Boston Partners |
| Brandes Investment Partners, L.P. |
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|--|
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| Cambiar Investors, LLC |
| Capital Group |
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| Causeway Capital Management |
| CBRE Global Investors |
| Chartwell Investment Partners |
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| Conning Asset Management Company |
| Corbin Capital Partners, L.P. |
| Cornerstone Capital Management |
| Cramer Rosenthal McGlynn, LLC |
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| Crestline Investors, Inc. |
| D.E. Shaw Investment Management, L.L.C. |
| DePrince, Race & Zollo, Inc. |
| Deutsche Asset Management |
| Diamond Hill Capital Management, Inc. |
| Dimensional Fund Advisors LP |
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| Fayez Sarofim & Company |
| Federated Investors |
| Fidelity Institutional Asset Management |
| Fiera Capital Corporation |
| First Eagle Investment Management, LLC |
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| Fisher Investments |

| Manager Name |
|---|
| Franklin Templeton |
| Franklin Templeton Institutional |
| Fred Alger Management, Inc. |
| Fuller & Thaler Asset Management, Inc. |
| GAM (USA) Inc. |
| GMO |
| Goldman Sachs Asset Management |
| Goodwin Capital Advisers |
| Guggenheim Investments |
| Guggenheim Partners Asset Management |
| GW&K Investment Management |
| Harbor Capital Group Trust |
| Hartford Funds |
| Hartford Investment Management Co. |
| Heitman LLC |
| Henderson Global Investors |
| Holland Capital Management |
| Hotchkis & Wiley Capital Management, LLC |
| HSBC Global Asset Management |
| Income Research + Management, Inc. |
| Insight Investment Management Limited |
| INTECH Investment Management, LLC |
| Invesco |
| Investec Asset Management |
| Ivy Investments |
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| Jensen Investment Management |
| Jobs Peak Advisors |
| Johnson Institutional Management |
| J.P. Morgan Asset Management |
| J.P. Morgan Chase & Company |
| Kayne Anderson Capital Advisors LP |
| KeyCorp |
| Lazard Asset Management |
| Legal & General Investment Management America |
| Lincoln National Corporation |
| LM Capital Group, LLC |
| LMCG Investments, LLC |
| Longview Partners |
| Loomis, Sayles & Company, L.P. |
| Lord Abbett & Company |
| Los Angeles Capital Management |
| LSV Asset Management |
| Mackay Shields LLC |
| Macquarie Investment Management (formerly Delaware Investments) |
| Man Investments Inc. |
| Manulife Asset Management |
| McKinley Capital Management, LLC |
| MFS Investment Management |
| MidFirst Bank |
| Mondrian Investment Partners Limited |
| Montag & Caldwell, LLC |
| Morgan Stanley Investment Management |
| Mountain Lake Investment Management LLC |
| MUFG Union Bank, N.A. |
| Neuberger Berman |
| Newton Investment Management (fka Newton Capital Mgmt) |
| Nicholas Investment Partners |

| Manager Name |
|---|
| Nikko Asset Management Co., Ltd. |
| Northern Trust Asset Management |
| Nuveen Investments, Inc. |
| OFI Global Asset Management |
| Old Mutual Asset Management |
| O'Shaughnessy Asset Management, LLC |
| Pacific Investment Management Company |
| Parametric Portfolio Associates |
| Peregrine Capital Management, Inc. |
| PGIM |
| PGIM Fixed Income |
| PGIM Real Estate |
| PineBridge Investments |
| Pioneer Investments |
| PNC Capital Advisors, LLC |
| PPM America |
| 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. |
| Rockpoint Group |
| Rothschild Asset Management, Inc. |
| Russell Investments |
| Santander Global Facilities |
| Schroder Investment Management North America Inc. |
| 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. |
| T. Rowe Price Associates, Inc. |
| Taplin, Canida & Habacht |
| Teachers Insurance & Annuity Association of America |
| The Boston Company Asset Management, LLC |
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| Victory Capital Management Inc. |
| Vontobel Asset Management, Inc. |
| Voya Financial |
| Voya Investment Management (fka ING) |
| WCM Investment Management |
| WEDGE Capital Management |
| Wellington Management Company, LLP |
| Wells Capital Management |
| Western Asset Management Company |
| William Blair & Company |

September 30, 2017



North Dakota State Investment Board Insurance Trust

**Investment Measurement Service
Quarterly Review**

The following report was prepared by Callan using information from sources that include the following: fund trustee(s); fund custodian(s); investment manager(s); Callan computer software; Callan investment manager and fund sponsor database; third party data vendors; and other outside sources as directed by the client. Callan assumes no responsibility for the accuracy or completeness of the information provided, or methodologies employed, by any information providers external to Callan. Reasonable care has been taken to assure the accuracy of the Callan 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, Callan 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 2017 by Callan.

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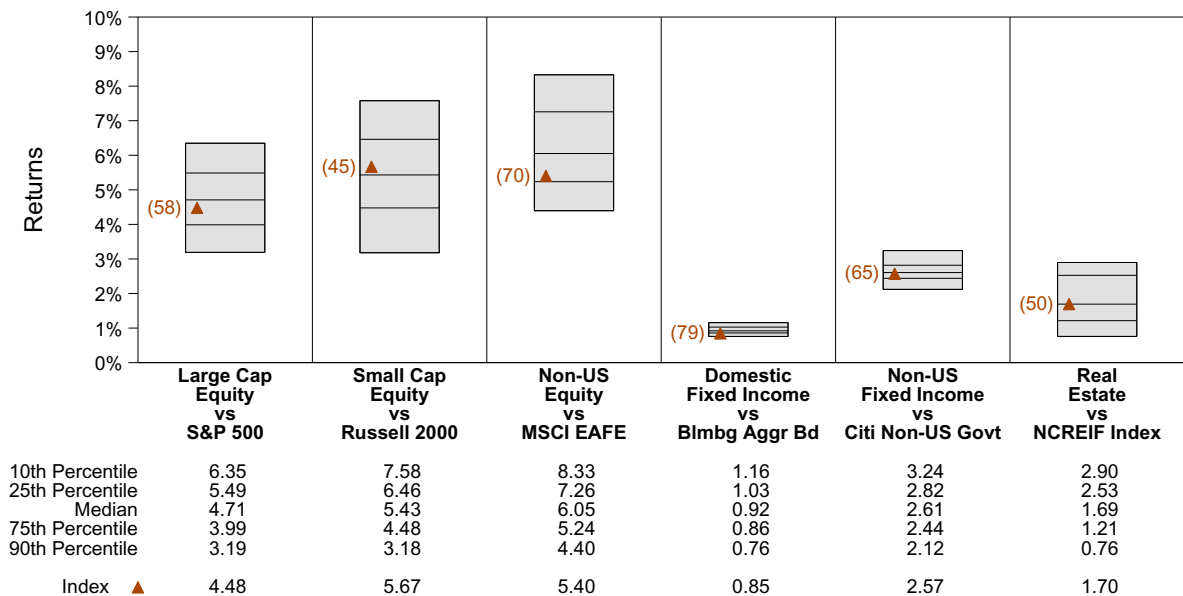
Market Overview

Active Management vs Index Returns

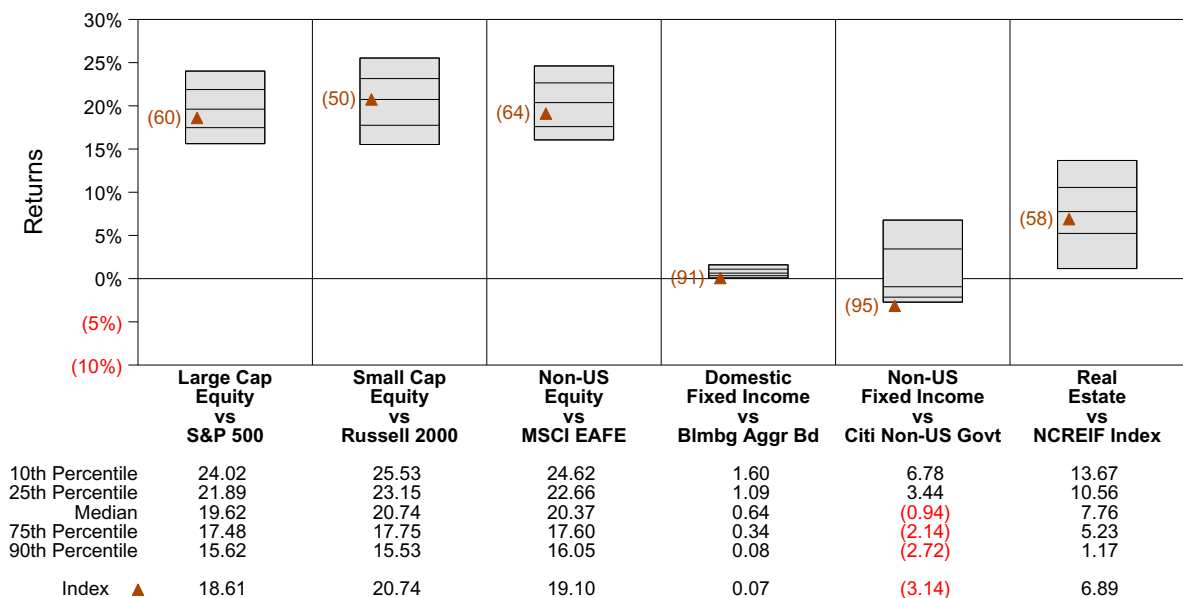
Market Overview

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

Range of Separate Account Manager Returns by Asset Class One Quarter Ended September 30, 2017



Range of Separate Account Manager Returns by Asset Class One Year Ended September 30, 2017



Third Quarter 2017

Why So Sad?

ECONOMY

2 The disconnect sharpened in the quarter between the state of the economy, which is pretty good, and sentiment, which is not so good. Global geopolitical upheaval dominates the news cycle. But the world economy is in much better shape than this sentiment might suggest.

Managing Risk While Hunting for Returns

FUND SPONSOR

4 Endowments and foundations performed best over the one-year period ending with the third quarter, while Taft-Hartley plans surpassed other groups over the past three- and five-year periods. Corporate plans did best over a 10-year period.

Up, Up, Up, and Away for Global Stocks

EQUITY

6 The **S&P 500**, **Russell 2000**, and **Nasdaq Composite** all hit record highs on the final trading day of the quarter. Non-U.S. developed equity outperformed the U.S. for the third consecutive quarter; emerging markets outperformed developed ones, also for the third straight quarter.

Healthy Risk Appetite Drove Yields

FIXED INCOME

9 Global fixed income markets generally performed well in the third quarter. Moderate growth and inflation kept long-term rates low and range-bound in the U.S. Rates were also low outside the U.S., but dollar weakness boosted returns, especially for emerging market debt.

Best Location? Europe These Days

REAL ESTATE

11 The **NCREIF Property Index** notched 35 straight quarters of gains, while the **NCREIF Open End Diversified Core Equity Index** rebounded from last quarter's seven-year low. Europe was the strongest-performing region, with the **FTSE EPRA/NAREIT Europe Index** up 4.8%.

PE Market Sees 'Golden Era'

PRIVATE EQUITY

13 Low volatility and gently rising markets fostered ongoing "Golden Era" conditions in the private equity market. Fundraising is on pace to best last year's post-GFC high; buyout and venture investments slowed slightly but dollar volume remained healthy.

Kickin' It with Risk

HEDGE FUNDS

14 The **Credit Suisse Hedge Fund Index** rose 1.8% in the quarter, while the median manager in the *Callan Hedge Fund-of-Funds Database* advanced 2.0%. The median *Callan Long/Short Equity FoF* (+3.1%) handily beat the *Callan Absolute Return FOF* (+1.8%).

Strongest First Half in DC Index History

DEFINED CONTRIBUTION

15 The **Callan DC Index™** rose 3.1% during the second quarter and is now up 7.9% year-to-date—its strongest first-half performance since its 2006 inception. Still, the Index trailed the typical Age 45 Target Date Fund, up 3.7% in the second quarter and 9.4% in the first half.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000

+4.6%

Non-U.S. Equity
MSCI ACWI ex USA

+6.2%

U.S. Fixed Income
Bloomberg Barclays Agg

+0.8%

Non-U.S. Fixed Income
Bloomberg Barclays GBI ex US

+2.5%

Sources: Bloomberg Barclays, MSCI, Russell Investment Group

Why So Sad?

ECONOMY | Jay Kloepfer

The disconnect sharpened in the third quarter of 2017 between the state of the underlying economy, which is pretty good, and sentiment, which is not so good, teetering on downright gloomy.

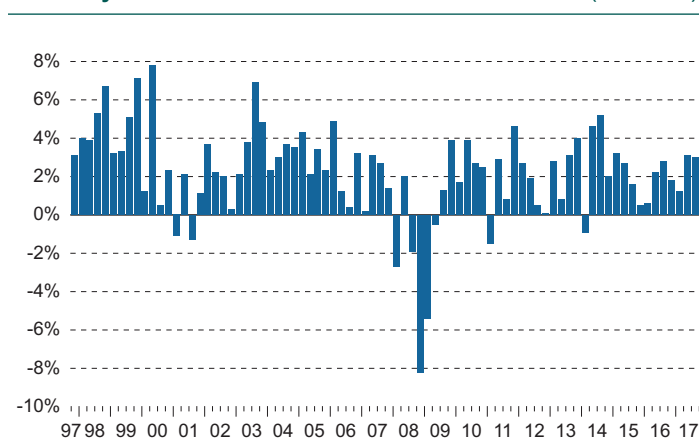
Geopolitical upheaval across the globe dominated the news cycle, feeding anxieties about the future of monetary and fiscal policy, taxes, trade, and conflict. Tension remained high with North Korea and continued to escalate with Russia. Richly priced capital markets spurred concerns about an “inevitable” correction. Comparisons to the pre-Global Financial Crisis (GFC) period in 2007, to before the Dot-Com Bubble in 2000, and particularly to 1987 before the 20% one-day drop in the U.S. stock market abound. Then two hurricanes of historic proportions slammed the Caribbean, the Gulf of Mexico, and the U.S. mainland within a couple weeks of each other in September.

Stepping back from the conjecture and hand-wringing, the state of the global economy as we head into the fourth quarter of 2017 is much better than this general sentiment might suggest. Investors are certainly less concerned about the economy than the news would lead us to believe. The U.S. economy has actually gathered momentum as 2017 progressed. After a relatively weak first quarter (1.4% growth), GDP was revised up to 3.1% in the second quarter and grew an astounding 3.0% in the third quarter *after* accounting for the impact of Harvey and Irma. Without the hurricanes, real GDP would likely have seen a robust gain in excess of 4%, perhaps as strong as 4.5%. Initial estimates for fourth quarter growth are equally lofty.

What gives? Is this growth spurt the last, exuberant gasp before the economy collapses from exhaustion? First and foremost, we should recall that expansions do not die of old age; they typically expire under the weight of imbalances in spending versus income, a run-up in debt, a build-up in inventory for demand that wanes, or over-building for economic activity that doesn't materialize. These imbalances are obvious in hindsight but difficult to spot in the moment. The current cycle is particularly hard to pin down; the expansion may be getting long in the tooth

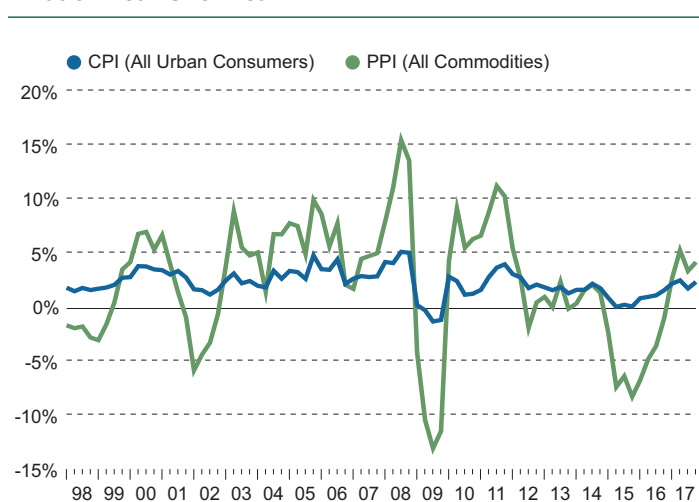
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

after more than seven years, but the GDP gains since the GFC (2.2% per year) are substantially lower than those enjoyed in previous recoveries (above 3%). Consumers spent the first several years following the GFC deleveraging, whether voluntarily or involuntarily. Businesses have been persistently reluctant to invest in capital, except perhaps for equipment replacement and technology.

Consumer spending is finally leading GDP growth, fueled by tight labor markets, a long-awaited nudge upward in wages and salaries, and in a perhaps less sanguine development, a renewed interest in and ability to borrow. While mortgage debt is still more difficult to obtain than pre-GFC, consumer credit as a percentage of disposable income has regained its pre-GFC peak of 24% and then some, reaching past 26% in the third quarter of 2017. Business spending is also finally accelerating after years of fits and starts. The ISM Report on Business for September shows strength across almost all measures of manufacturing and non-manufacturing activity. The Purchasing Managers' Index came in at 58.8 in August and 60.8 in September, well above 50, the dividing line between expansion and contraction. The new orders, production, and employment indices are even stronger, and coupled with a sharp decline in inventories following the hurricanes, activity is poised to be even stronger in the fourth quarter.

The sustainability of the 2017 burst in growth will certainly fall under scrutiny. Hopes for near-term fiscal stimulus in the U.S. are diminished, and tight labor markets suggest limited potential for further growth from the existing set of labor and capital inputs available in the U.S. economy.

Outside the U.S., euro zone GDP for the second quarter was revised upwards to 2.3% from 1.7%, and preliminary data support continued improvement in the third quarter. The long-awaited response to the stimulus appears to have arrived. In China, annual growth increased by 6.9% in the second quarter, identical to the first quarter and slightly ahead of expectations. Initial data on industrial production and investment in fixed

The Long-Term View

| Index | 2017 3rd Qtr | Periods ended Dec. 31, 2016 | | | |
|---------------------------------|-----------------|-----------------------------|-------|--------|--------|
| | | Year | 5 Yrs | 10 Yrs | 25 Yrs |
| U.S. Equity | | | | | |
| Russell 3000 | 4.57 | 12.74 | 14.67 | 7.07 | 9.29 |
| S&P 500 | 4.48 | 11.96 | 14.66 | 6.95 | 9.15 |
| Russell 2000 | 5.67 | 21.31 | 14.46 | 7.07 | 9.69 |
| Non-U.S. Equity | | | | | |
| MSCI ACWI ex USA | 6.16 | 4.50 | 5.00 | 0.96 | – |
| MSCI Emerging Markets | 7.89 | 11.19 | 1.28 | 1.84 | – |
| MSCI ACWI ex USA Small Cap | 6.90 | 3.91 | 7.74 | 2.89 | – |
| Fixed Income | | | | | |
| Bloomberg Barclays Agg | 0.85 | 2.65 | 2.23 | 4.34 | 5.63 |
| 90-Day T-Bill | 0.26 | 0.33 | 0.12 | 0.80 | 2.71 |
| Bloomberg Barclays Long G/C | 1.53 | 6.67 | 4.07 | 6.85 | 7.58 |
| Bloomberg Barclays GI Agg ex US | 2.48 | 1.49 | -1.39 | 2.44 | 4.73 |
| Real Estate | | | | | |
| NCREIF Property | 1.70 | 7.97 | 10.91 | 6.93 | 8.63 |
| FTSE NAREIT Equity | 0.94 | 8.52 | 12.01 | 5.08 | 11.13 |
| Alternatives | | | | | |
| CS Hedge Fund | 1.81 | 1.25 | 4.34 | 3.75 | – |
| Cambridge PE* | -- | 9.26 | 12.77 | 9.40 | 15.39 |
| Bloomberg Commodity | 2.52 | 11.77 | -8.95 | -5.57 | 2.55 |
| Gold Spot Price | 3.42 | 8.63 | -5.97 | 6.08 | 4.82 |
| Inflation – CPI-U | 0.76 | 2.07 | 1.36 | 1.81 | 2.26 |

*Most recent quarterly data not available.

Sources: Bloomberg Barclays, Bloomberg, Credit Suisse, FTSE, MSCI, NCREIF, Russell Investment Group, Standard & Poor's, Thomson Reuters/Cambridge, Bureau of Economic Analysis.

assets released in July and August are consistent with a third quarter slowdown. Robust gains in developed non-U.S. and emerging equity markets are fueled by renewed optimism, or at least reduced skepticism, about growth prospects in many markets around the globe.

Recent Quarterly Economic Indicators

| | 3Q17 | 2Q17 | 1Q17 | 4Q16 | 3Q16 | 2Q16 | 1Q16 | 4Q15 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Employment Cost–Total Compensation Growth | 2.5% | 2.4% | 2.4% | 2.2% | 2.3% | 2.3% | 1.9% | 2.0% |
| Nonfarm Business–Productivity Growth | 1.6%* | 1.5% | 0.1% | 1.3% | 2.5% | 0.8% | -1.2% | -2.6% |
| GDP Growth | 3.0% | 3.1% | 1.2% | 1.8% | 2.8% | 2.2% | 0.6% | 0.5% |
| Manufacturing Capacity Utilization | 75.2% | 75.7% | 75.4% | 75.1% | 74.9% | 75.1% | 75.4% | 75.4% |
| Consumer Sentiment Index (1966=100) | 95.1 | 96.4 | 97.2 | 93.2 | 90.3 | 92.4 | 91.5 | 91.3 |

*Estimate.

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

Managing Risk While Hunting for Returns

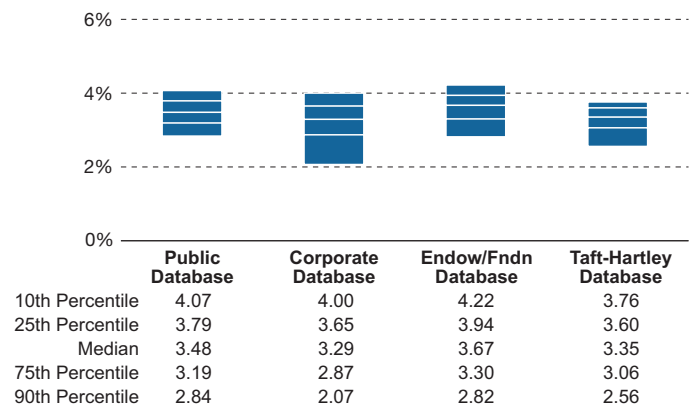
FUND SPONSOR

Low interest rates and low return expectations continued to drive strategic allocation discussions for fund sponsors. Many felt compelled to take on market risk to reach return targets. Sponsors are now examining if there is anything they can do to tamp down the risk within their large growth allocation short of actually reducing it.

For instance, to offset risk in a crisis situation, plans have examined strategies including Treasury bond allocations, momentum, multi-asset class (MACs), and even gold.

These discussions, as we have noted before, turn diversification on its head: Investors are looking for investments with similar underlying return factors (in this case equity) while seeking at least some diversification to smooth the ride within that large growth allocation. A broader growth allocation can then consider investments like high yield, convertibles, low volatility equity, hedge funds, MACs, and option-based strategies. This approach also allows for new strategies to be brought into the fold, based on prospective diversification or return enhancement. The broadening of growth assets often leads

Callan Fund Sponsor Returns for the Quarter

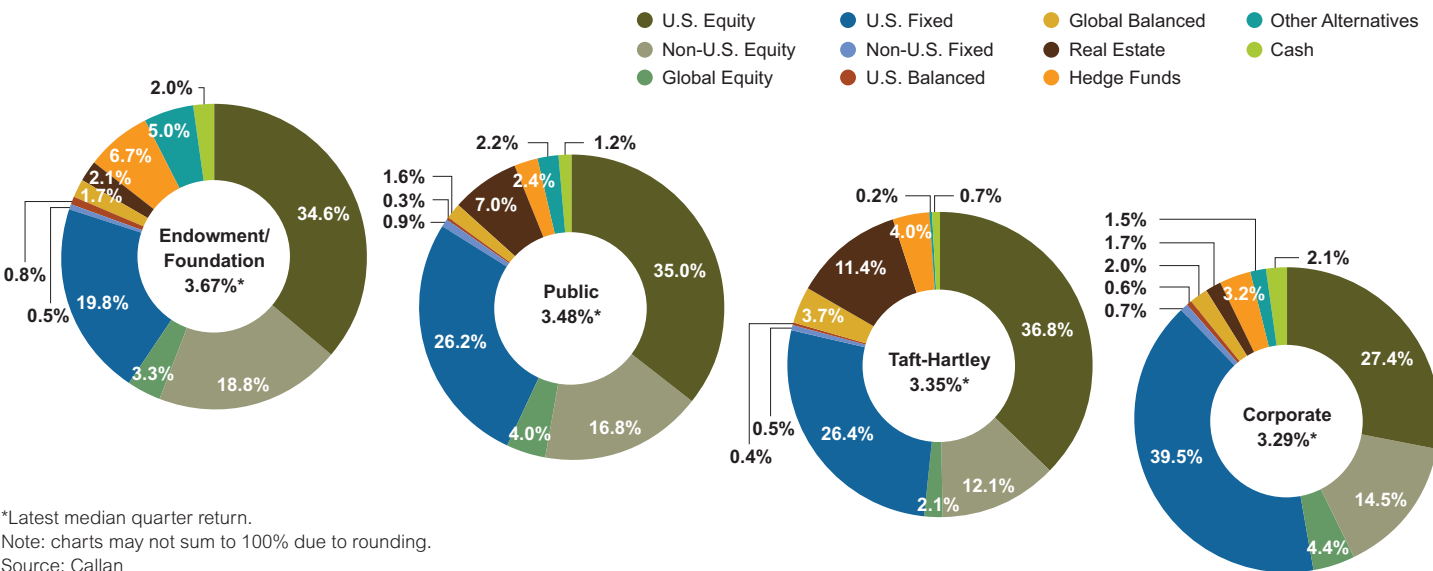


Source: Callan

to a sharper focus on refining fixed income exposure to gain a “purer” exposure to interest rates.

In addition, the active/passive discussion continues to loom large. The argument to retain active to protect in a down market and be nimble in a volatile, low-return environment is compelling, but plan sponsors are weary of historical

Callan Fund Sponsor Average Asset Allocation



underperformance in actively managed equity. And tied to that discussion is the use of passive management to control costs.

For defined contribution (DC) plans, regulations, lawsuits, and implementation are driving factors for the decision-making process. Some of this conversation has led to negotiating a reduction of fees for the plans, in some cases to a significant extent. Heightened fee sensitivity and litigation have resulted in little traction for non-traditional asset classes such as liquid alternatives.

Target date funds (TDFs) dominate asset flows in DC plans; they now account for almost 30% of DC assets, according to the Callan DC Index™. TDFs have received an average of 71% of flows into DC plans over the last three years.

Over the last five years, Callan has seen several trends in asset allocation by different types of fund sponsors:

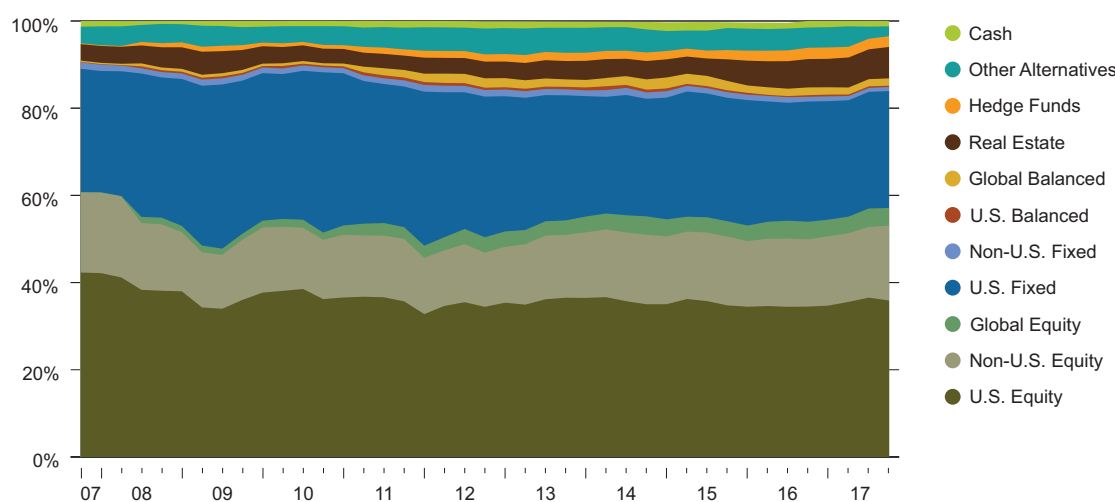
- Corporate funds: The range of U.S. fixed income allocations has widened, as these sponsors are in different stages of efforts to de-risk.

- Public funds: Many have increased their allocation to non-U.S. equity and real estate at the expense of fixed income. Capital market return expectations have created a difficult environment for total return investors.
- Endowments and foundations: They continue to move assets from fixed income to asset classes with expectations for higher returns. Global equity, non-U.S. equity, and real estate have all benefited from this shift.

The performance by fund sponsors continued to be robust. Over the one-year ending with the third quarter, only corporate sponsors did not exceed the 10.9% return of a quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio. Endowments and foundations performed best over that one-year period, while corporate plans did best over a 10-year period. Taft-Hartley plans were the best-performing group over the past three and five years, partially due to a larger home-country bias.

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.

Global Equity

U.S. Stocks: The 'Everything Rally' Marched On

+4.6%

RUSSELL 3000

The Goldilocks environment ("Not too hot, not too cold, but just right") and investor complacency continued to keep volatility at multi-decade lows and propel stock markets to new highs, in spite of escalating tensions with North Korea, several severe natural disasters, and uncertainty around the prospects for tax reform and other U.S. domestic agenda items. The **S&P 500 Index**, **Russell 2000 Index**, and **Nasdaq Composite Index** all hit record highs on the final trading day of the quarter. It was the Nasdaq's 50th record close this year.

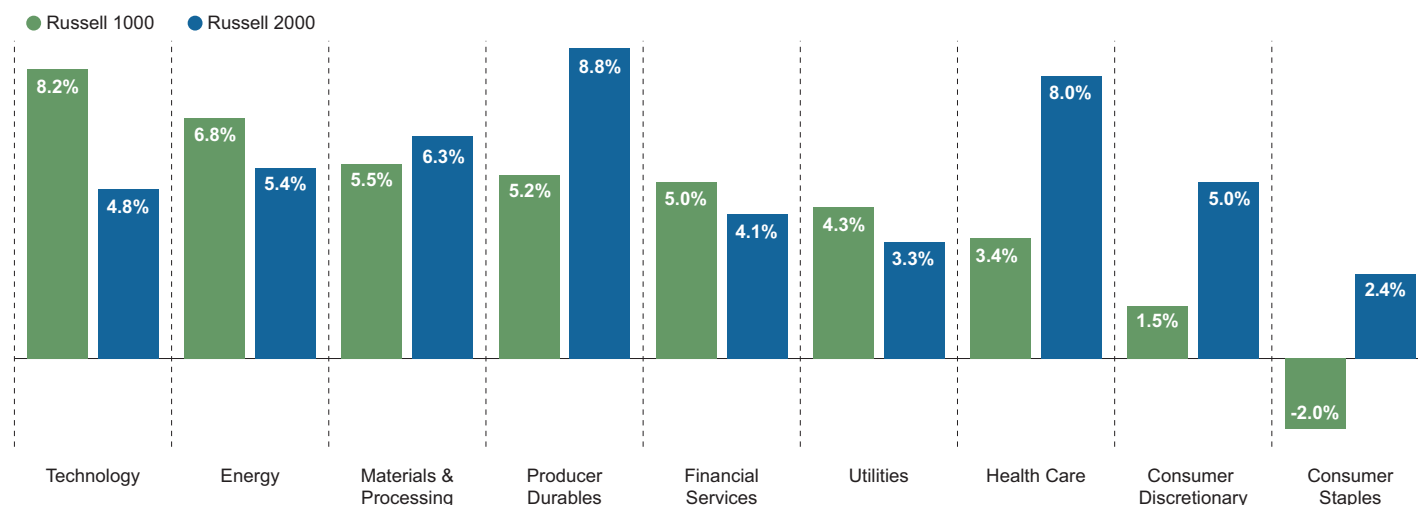
Stocks, bonds, and commodities alike rewarded investors in what's been coined the "everything rally," marked by its surprisingly low volatility. Even cash is up from its dismal 0% days and posted a +0.3% quarterly result. Investors' attention remained focused on the hopeful promise of tax reform along with the generally upbeat picture of the U.S. economy. But contrarians question where longer-term alpha can be found amid stretched equity valuations.

The Tech (+8.6%) and Energy (+6.8%) sectors led the S&P 500 (+4.5%). The globally dominant Tech names (the so-called "FAAMG" stocks, or Facebook, Amazon, Apple, Microsoft, and Google) continued to drive results in the sector, which now accounts for 23% of the S&P 500 and 38% of the **Russell 1000 Growth Index**. Tech alone has accounted for approximately 40% of the S&P 500's return year-to-date, with key drivers being strong earnings reports, increasing market share, and product innovation. Record-high valuations for several companies raised concern over their influence on the overall performance of the Index should a correction occur.

The Energy sector continued to see signs of incremental improvement during the quarter due to a backdrop of improving supply and demand. Consumer Staples (-1.3%) was the sole sector to deliver a negative result as momentum-oriented stocks and sectors garnered favor.

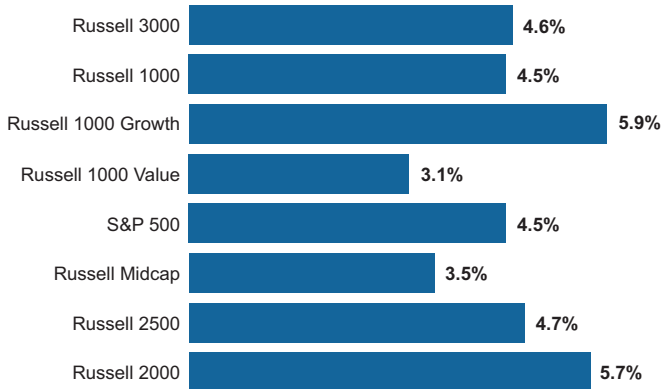
Small cap stocks outperformed large cap. In addition, growth outperformed value (Russell 1000 Growth: +5.9% vs. **Russell 1000 Value**: +3.1%; **Russell 2000 Growth**: +6.2% vs. **Russell 2000 Value**: +5.1%). Biotech (+14.5%) and a surge in small

Quarterly Performance of Select Sectors



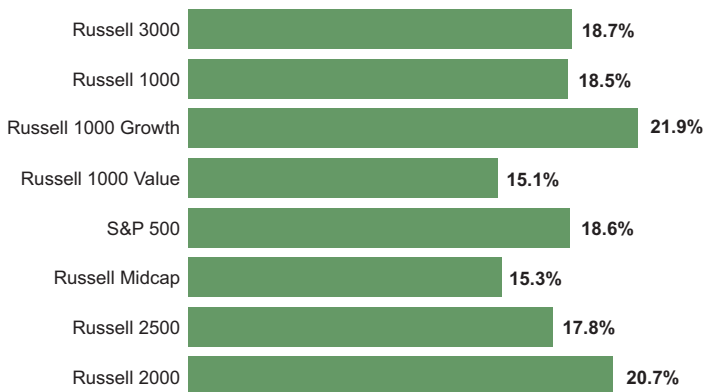
Source: Russell Investment Group

U.S. Equity: Quarterly Returns



Sources: Russell Investment Group and Standard & Poor's

U.S. Equity: One-Year Returns



Sources: Russell Investment Group and Standard & Poor's

cap value on tax reform news in September bolstered small cap stocks during the quarter. Biotech benefited from the easing of pricing risks as well as the FDA's approval of genetics-based therapeutics.

From a factor perspective, momentum (+27.5% YTD) remained the top performer while defensive (+8.5% YTD) was

the laggard. Investor behavior has had a meaningful influence on results as investors tend to project their optimism across the broad market and chase momentum during periods of strength.

Global Stocks: Stronger Outside the U.S.

+6.2%

MSCI ACWI **ex USA**

Non-U.S. developed economies continued to gain traction. Second quarter GDP growth in the euro zone was 2.3% (year-over-year) with consumer confidence and demand both showing strength. The euro gained ground versus the U.S. dollar and the pound continued to strengthen on hawkish comments from the Bank of England. Outside of Europe, Japan's economy continued to slowly recover; second quarter GDP growth was 2.5% (annualized). While this was lower than expected, the economy has now expanded for six consecutive quarters.

Non-U.S. developed equity (**MSCI World ex USA: +5.6%**) outperformed the U.S. for the third consecutive quarter as the European market (**MSCI Europe: +6.5%**) continued to post positive economic data and corporate earnings growth with some signs of political stability.

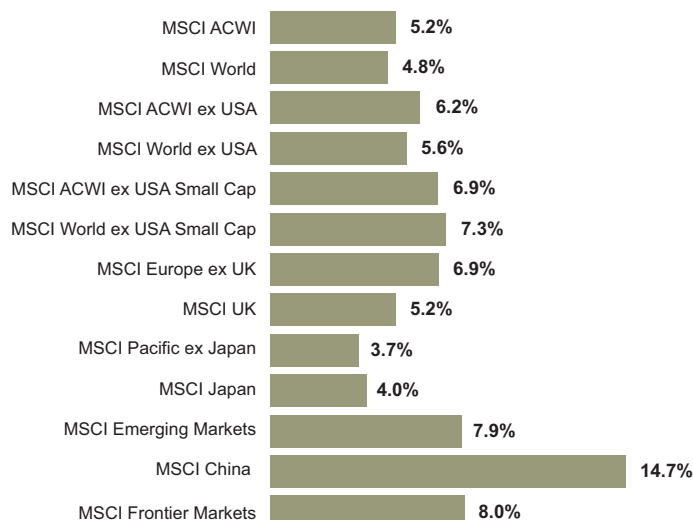
The dollar's losses against the euro stemmed from an upside surprise with European growth and market-friendly outcomes in European elections. Economically sensitive sectors outperformed defensive securities.

All sectors generated positive returns. Energy and Materials were the top two performers as a result of higher oil and commodity prices. WTI and Brent prices surged by 12% and 20%, respectively, driven by favorable supply and demand dynamics. Copper rallied 9% due to tightening supply and positive economic data from China.

Value outpaced growth as economically sensitive sectors posted strong quarterly results.

Non-U.S. Equity: Quarterly Returns

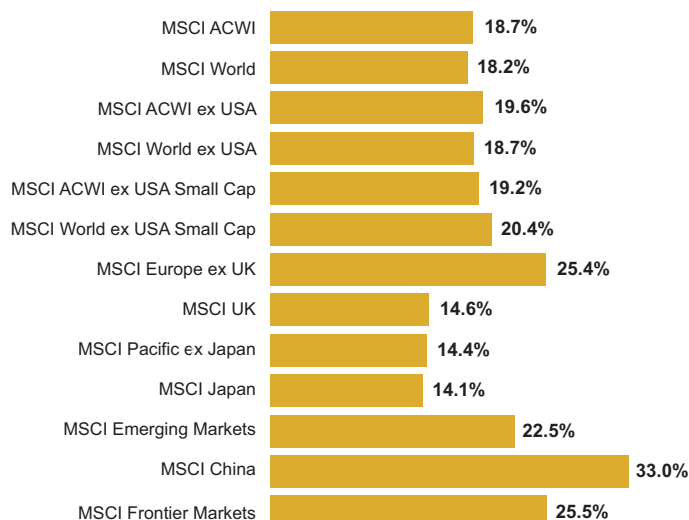
(U.S. Dollar)



Source: MSCI

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

(U.S. Dollar)



Source: MSCI

Emerging Markets: Upbeat Signs Across the Board

+7.9%

MSCI EM

Emerging markets topped developed markets for the third consecutive quarter, fueled by a soft dollar, synchronized global growth, and strong

oil and commodity prices. Brazil was the best-performing country within emerging markets given the hope of achieving fiscal reforms to spur economic growth. China continued to fare well with GDP growth of 6.9% exceeding expectations; the Chinese Tech and Real Estate sectors were top performers.

All sectors within emerging markets posted positive returns, led by economically sensitive sectors such as Real Estate, Energy, Materials, and Financials.

Brazilian and Russian banks surged during the quarter, spurred by rising oil and commodity prices and improving lending conditions.

Despite a strong showing by value factors, growth and momentum dominated the market given the returns of large cap Asian tech companies, helped in part by the demand for mobility and connectivity.

Non-U.S. Small Cap: Mixed Messages

+6.9%

MSCI ACWI ex USA SC

Developed non-U.S. small cap (**MSCI World ex USA Small Cap: +7.3%**) outperformed large cap in the risk-on market environment marked by

improving economic activity in Europe. The top three performing countries were Germany (+17.0%), Norway (+16.4%), and Italy (+13.5%). All sectors posted positive returns, led by Energy and Technology.

Small cap (**MSCI Emerging Markets Small Cap: +5.6%**) lagged large cap in emerging markets due to the strong performance of large cap Asian technology companies. The top three performing countries were Peru (+42.8%), Brazil (+31.8%), and Chile (+19.8%), all benefiting from higher oil and commodity prices.

Growth outperformed value in developed small cap, propelled by optimism surrounding European growth. Conversely, value outpaced growth in emerging market small cap, supported by positive oil and commodity prices.

Global Fixed Income

U.S. Bonds: Low Volatility Drove Returns

+0.8%

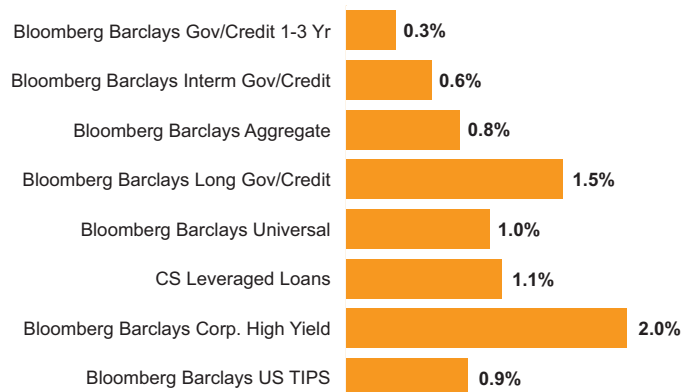
BB AGGREGATE

Yields rose modestly, particularly on the short end of the U.S. Treasury yield curve. The 10-year Treasury yield touched 2.00% during the quarter on geopolitical risks related to North Korea, but ended the quarter at 2.33%. Moderate growth and inflation kept long-term rates low and range-bound. Volatility in fixed income markets (as well as equities) sat at near historic lows; the overall risk appetite remained strong. And in general, lower-rated credits again outperformed investment grade.

The **Bloomberg Barclays U.S. Aggregate Bond Index** was up 0.8% in the quarter. The **Bloomberg Barclays U.S. Corporate Bond Index** rose 1.3%. High yield corporates fared even better, with the **Bloomberg Barclays U.S. Corporate High Yield Bond Index** up 2.0%. TIPS rebounded from their underperformance in the previous quarter.

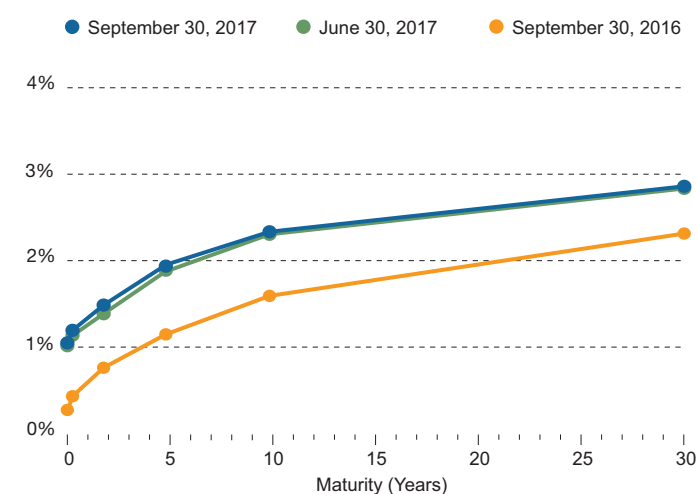
The **Bloomberg Barclays U.S. TIPS Index** rose 0.9% and the 10-year breakeven spread (the difference between nominal and real yields) rose to 1.84% as of quarter-end from 1.73% at the end of the second quarter.

U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

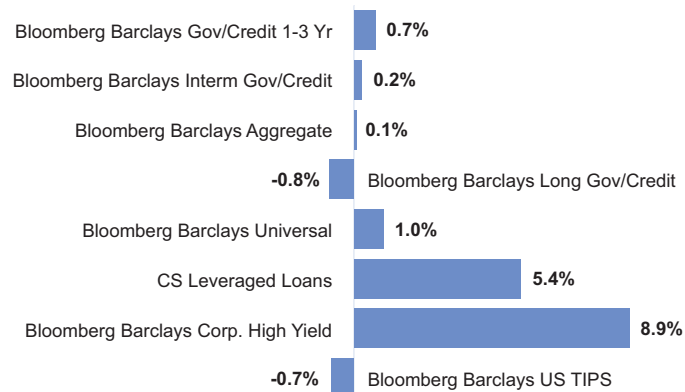
U.S. Treasury Yield Curves



Source: Bloomberg

Corporate credit spreads tightened on strong demand and robust corporate earnings. Financials and Utilities were the leading sectors during the quarter. High yield credit continued to perform well, aided by the hunt for yield. The upward trend in earnings along with corporate discipline has led to the highest rating agency upgrade-downgrade ratio since 2013.

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

GLOBAL FIXED INCOME (Continued)

The municipal bond market also performed well; the **Bloomberg Barclays Municipal Bond Index** returned 1.1% for the quarter and the shorter duration 1-10 Year Blend Index was up 0.7%.

Global Bonds: Many Reasons to Cheer

+2.5%

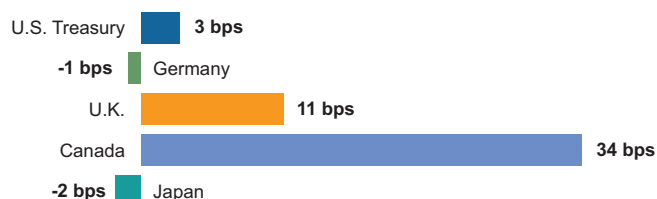
BB GBL AGG EX US

Rates were also steady overseas, though dollar weakness boosted returns. The **Bloomberg Barclays Global Aggregate Index** returned +1.8% (unhedged) versus +0.8% for the hedged version. Emerging market debt posted solid returns. The **JPM EMBI Global Diversified Index** (\$ denominated) was up 2.6%. Gains were broad-based with only beleaguered Venezuela (-11%) down. The local currency **JPM GBI-EM Global Diversified**

Index increased 3.6%. Returns were mixed for this index, with Brazil (+11%) being the best performer and Argentina's first-ever local bonds (-4%) being the worst on worries over the success of reforms.

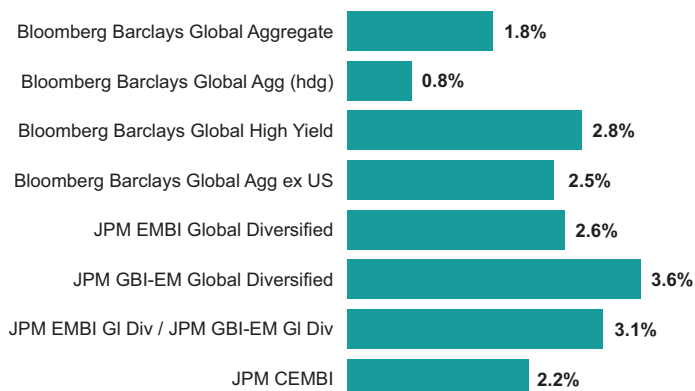
Change in 10-year Global Government Bond Yields

2Q17 to 3Q17



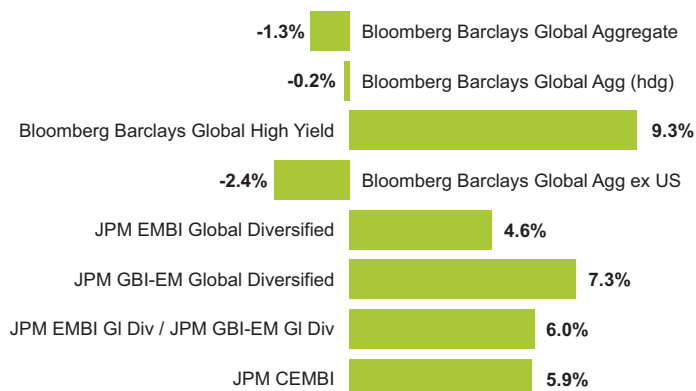
Source: Bloomberg Barclays

Non-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JP Morgan

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



Sources: Bloomberg Barclays and JP Morgan

Europe Continues as Best-Performing Region

REAL ESTATE | Kevin Nagy

The **NCREIF Property Index** advanced 1.7% during the third quarter (1.1% from income and 0.6% from appreciation). This marked the 35th consecutive quarter of positive returns for the Index. Appreciation return resumed its decreasing trend after an increase during the second quarter.

Industrial (+3.3%) was the best-performing sector for the sixth consecutive quarter followed by Hotel (+2.3%), Multi-Family (+1.7%), and Office (+1.4%); Retail (+1.2%) was the worst performer.

The West was the strongest region for the fourth quarter in a row, increasing 2.2%, and the East brought up the rear with a +1.3% return.

Transaction volume increased to \$11.8 billion, up 53% from the second quarter and 22% from the third quarter of 2016. Appraisal capitalization rates fell 8 basis points to 4.39%. Transaction capitalization suffered a steeper decline, falling 83 bps to 5.26%. The spread between appraisal and transaction rates decreased to 87 bps.

Occupancy rates fell to 93.3%. Industrial and Retail occupancy rates increased slightly while Apartment and Office rates decreased.

The **NCREIF Open End Diversified Core Equity Index** rose 1.9% (1.1% from income and 0.8% from appreciation), a 17 bps increase from the second quarter. Appreciation return increased by 18 bps from the second quarter's seven-year low.

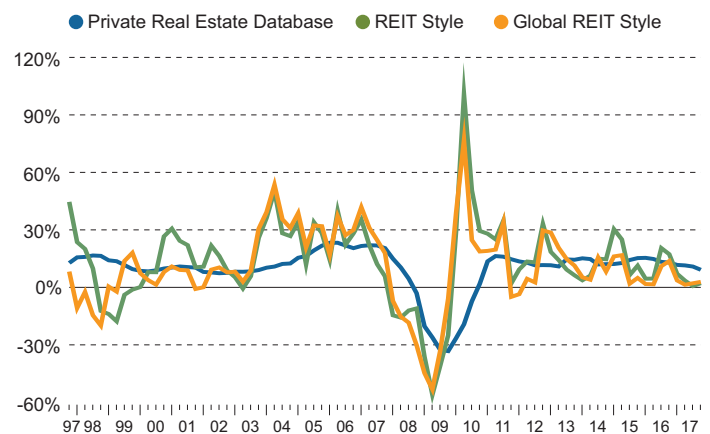
Global real estate investment trusts (REITs), tracked by the **FTSE EPRA/NAREIT Developed REIT Index** (USD), outperformed

U.S. REITs and posted a 1.8% return. U.S. REITs, as measured by the **FTSE NAREIT Equity REITs Index**, advanced 0.9% for the quarter.

In the U.S., REITs started the quarter with a strong July but then surrendered most of the gains with poor showings in August and September. Sectors experiencing strong secular demand, such as Industrial (+6.5%) and Data Centers (+5.2%), were the best performers as the continued rise of e-commerce and cloud storage provided ample tailwind. Hotels (+2.8%) and Self-Storage (+4.7%) also did well, buoyed by expectations of inflation and rising interest rates. Health Care (-5.4%) was the worst-performing sector.

Europe, as represented by the **FTSE EPRA/NAREIT Europe Index**, was again the strongest-performing region, rising 4.8% in U.S. dollar terms. Strong, diversified growth across the majority of the region's economies was the main driver of positive returns. The region largely shrugged off destabilizing political events such as the Catalan independence referendum.

Rolling One-Year Returns



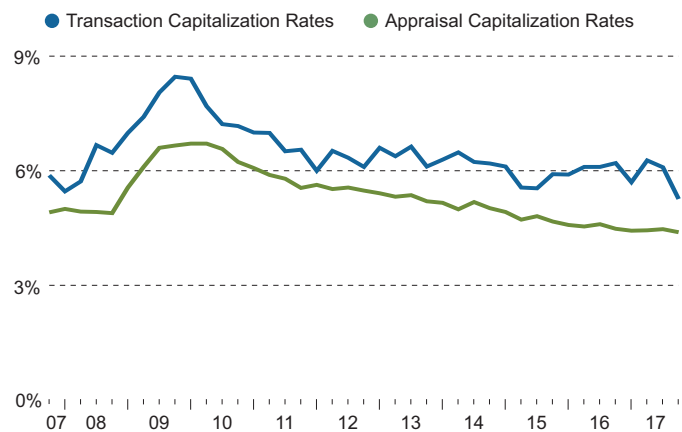
Source: Callan

REAL ESTATE (Continued)

For the second quarter in a row, the Asia-Pacific region outperformed the U.S. but underperformed Europe. Hong Kong

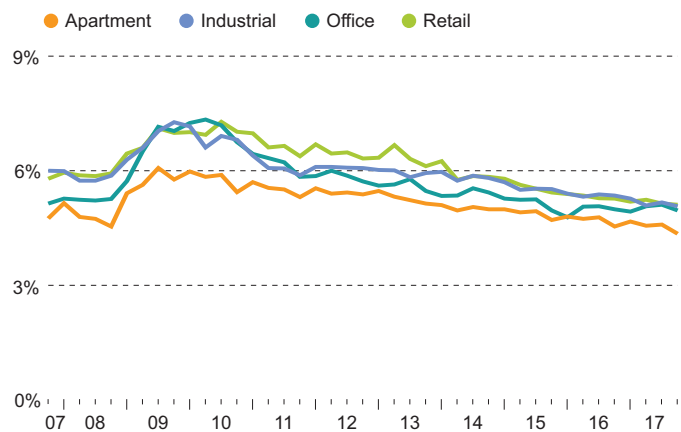
provided the best regional performance while Japan lagged behind, hurt by a strengthening yen.

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.

Low Volatility + Rising Markets = Strong Liquidity

PRIVATE EQUITY | Gary Robertson

Third quarter private equity partnership commitments totaled \$84.0 billion, with 210 new partnerships formed, according to *Private Equity Analyst*. The number of funds raised decreased 34% from 319 in the second quarter, but the dollar volume dipped only 2% from \$85.0 billion. Apollo IX is the largest fund raised so far in 2017, holding a \$24.6 billion final close in the third quarter—and it is the largest buyout fund ever raised.

Investments by buyout funds into companies totaled 446 deals, down 12% from 504 in the prior quarter, according to *Buyouts* newsletter. The announced total volume was \$51 billion, up 6% from \$48 billion in the second quarter. The quarter's largest deal was the \$7.5 billion take-private of Panera Bread by JAB, a family-owned holding company. Sixteen deals with announced values of \$1 billion or more closed in the quarter.

New investments in venture capital companies totaled 1,706 rounds of financing with \$21.5 billion of announced value, according to the National Venture Capital Association (NVCA). The number of rounds declined 21% from the 2,164 in the second quarter, and announced dollar value decreased 6% from \$22.9 billion.

Buyouts reported that there were 446 private M&A exits of buyout-backed companies, with 43 deals disclosing values totaling

Funds Closed January 1 to September 30, 2017

| Strategy | No. of Funds | Amt (\$mm) | Percent |
|---------------------|--------------|----------------|-------------|
| Venture Capital | 382 | 29,109 | 12% |
| Buyouts | 272 | 167,111 | 67% |
| Subordinated Debt | 52 | 22,627 | 9% |
| Distressed Debt | 17 | 9,601 | 4% |
| Secondary and Other | 31 | 9,869 | 4% |
| Fund-of-funds | 85 | 11,122 | 4% |
| Totals | 839 | 249,439 | 100% |

Source: Private Equity Analyst
Figures may not total due to rounding.

\$50.8 billion. The M&A exits were down 12% from the prior quarter's 504, but the announced value increased 6% from \$48.1 billion. Buyout-backed IPOs in the third quarter fell to only one raising \$43 million, a sharp decrease compared to last quarter's seven IPOs (a two-year high), raising an aggregate \$2.0 billion.

Venture-backed exits (both private sales and IPOs) totaled 182 transactions, and disclosed value totaled \$11.2 billion. The number of exits rose 2% from the second quarter's 179, and the announced dollar volume increased 9% from \$10.3 billion.

Please see our upcoming issue of *Private Markets Trends* for more in-depth coverage.

Private Equity Performance Database (%) (Pooled Horizon IRRs through June 30, 2017*)

| Strategy | 3 Months | Year | 3 Years | 5 Years | 10 Years | 15 Years | 20 Years |
|---------------------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------|
| All Venture | 2.01 | 8.79 | 11.89 | 14.74 | 9.37 | 8.32 | 19.63 |
| Growth Equity | 3.69 | 14.51 | 9.51 | 12.74 | 9.94 | 11.84 | 13.20 |
| All Buyouts | 6.51 | 18.69 | 10.43 | 14.36 | 8.71 | 13.86 | 12.55 |
| Mezzanine | 4.00 | 11.72 | 8.63 | 9.91 | 8.73 | 9.47 | 8.79 |
| Distressed | 4.30 | 17.77 | 8.19 | 11.95 | 9.15 | 11.29 | 11.36 |
| All Private Equity | 4.96 | 15.79 | 10.35 | 13.94 | 8.98 | 12.19 | 13.15 |
| S&P 500 | 3.09 | 17.90 | 9.61 | 14.63 | 7.18 | 8.35 | 7.15 |
| Russell 3000 | 3.02 | 18.51 | 9.10 | 14.58 | 7.26 | 8.66 | 7.44 |

Private equity returns are net of fees.

Sources: Standard & Poor's and Thomson Reuters/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.

Kickin' It with Risk

HEDGE FUNDS | Jim McKee

Discarding worries of stubbornly slow global economic growth and other distractions, markets focused on positive economic news and hopes of U.S. tax reform this quarter, suggesting rising stock prices ahead. Volatility as a measure of perceived market risk reached cyclical lows across the major markets. Amid this risk-on environment, hedge funds got some traction. Illustrating raw hedge fund performance without implementation costs, the asset-weighted **Credit Suisse Hedge Fund Index** (CS HFI) rose 1.8%. As a proxy for live hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Database** advanced 2.0%, net of all fees and expenses.

Within CS HFI, the best-performing strategy was *Emerging Markets* (+5.6%), where embedded market beta explained some but not all of the gains. Other strategies performing particularly well were *Equity Market Neutral* (+4.4%) and *Long/Short Equity* (+3.0%); both benefited from an improved stock-picking environment. *Managed Futures* (+1.3%) and *Global Macro* (+1.8%) benefited modestly from top-down trends and discretionary calls, particularly in the equity markets.

Within Callan's Hedge Fund-of-Funds Database, market exposures meaningfully affected performance in the quarter. Supported by the equity rally, the median *Callan Long/Short Equity FOF* (+3.1%) handily beat the *Callan Absolute Return FOF* (+1.8%). With exposures to both non-directional and directional styles, the *Core Diversified FOF* advanced 1.9%.

Callan Style Group Quarterly Returns



Sources: Callan and Merrill Lynch

Callan Database Median and Index Returns* for Periods ended September 30, 2017

| | Quarter | YTD | Year | 3 Years | 5 Years | 10 Years | 15 Years |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Hedge Fund-of-Funds Database | 2.02 | 5.47 | 7.26 | 2.87 | 4.97 | 3.11 | 5.16 |
| CS Hedge Fund Index | 1.81 | 4.70 | 5.91 | 1.96 | 4.16 | 3.24 | 6.00 |
| CS Equity Market Neutral | 4.38 | 7.00 | 4.16 | 1.37 | 2.48 | -2.89 | 0.55 |
| CS Convertible Arbitrage | 1.61 | 4.10 | 4.54 | 2.76 | 3.51 | 3.61 | 4.76 |
| CS Fixed Income Arbitrage | 0.22 | 4.20 | 6.12 | 3.02 | 3.86 | 3.57 | 4.04 |
| CS Multi-Strategy | 1.38 | 6.56 | 7.80 | 5.33 | 6.97 | 5.01 | 7.06 |
| CS Distressed | 1.56 | 5.52 | 9.29 | 1.27 | 5.47 | 3.70 | 7.68 |
| CS Risk Arbitrage | 1.66 | 5.70 | 6.52 | 3.37 | 3.44 | 3.10 | 4.38 |
| CS Event-Driven Multi-Strategy | 0.58 | 4.27 | 6.12 | -1.19 | 3.47 | 2.73 | 6.49 |
| CS Long/Short Equity | 2.99 | 9.81 | 9.59 | 3.94 | 6.86 | 3.91 | 6.88 |
| CS Global Macro | 1.83 | 0.26 | 4.86 | 1.48 | 2.53 | 4.58 | 7.31 |
| CS Managed Futures | 1.32 | -3.12 | -8.59 | -0.17 | 0.00 | 2.09 | 3.25 |
| CS Emerging Markets | 5.58 | 13.02 | 12.72 | 5.88 | 6.21 | 3.53 | 8.63 |

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

DC Index Closes Strongest First Half in Its History

DEFINED CONTRIBUTION | Tom Szkwarla

The Callan DC Index™ rose a healthy 3.1% during the second quarter, reflecting strong equity market performance, and is now up 7.9% year-to-date—its best first-half performance since its 2006 inception. Still, the Index trailed the typical Age 45 Target Date Fund (TDF), which gained 3.7% in the second quarter and 9.4% in the first half. TDFs have benefited from higher exposures to non-U.S. equity and emerging markets, which are both up sharply year to date, than the typical DC participant.

Since the Index's inception in 2006, the average TDF has outperformed DC plans by 76 basis points annually. Due to their heavier equity exposure, TDFs have tended to outperform in strong markets and underperform in weak markets.

For the quarter, plan balances rose 3.19%, almost entirely due to return growth (3.06%) rather than inflows (plan sponsor and participant contributions), which contributed just 0.13%.

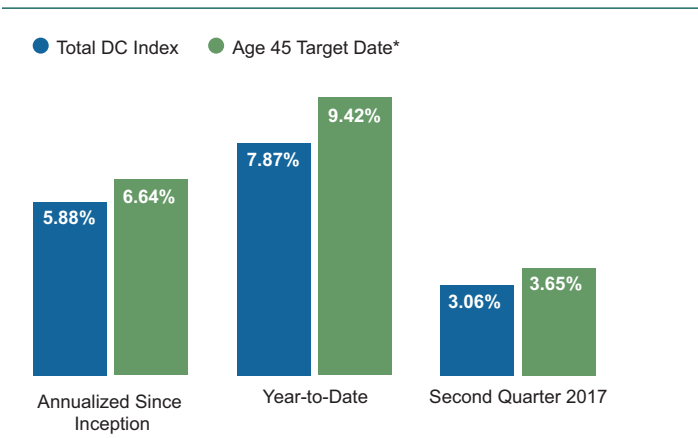
The proportion of net flows into non-U.S. equities during the quarter was the highest since late 2007. Money primarily flowed out of stable value, U.S. small/mid cap equity, and company stock. As usual, TDFs attracted the lion's share of net flows, with 69 cents of every dollar of flows moving into these funds.

Index turnover (i.e., net transfer activity levels within DC plans) came in at 0.43% in the quarter compared to average historical quarterly turnover levels of 0.63%.

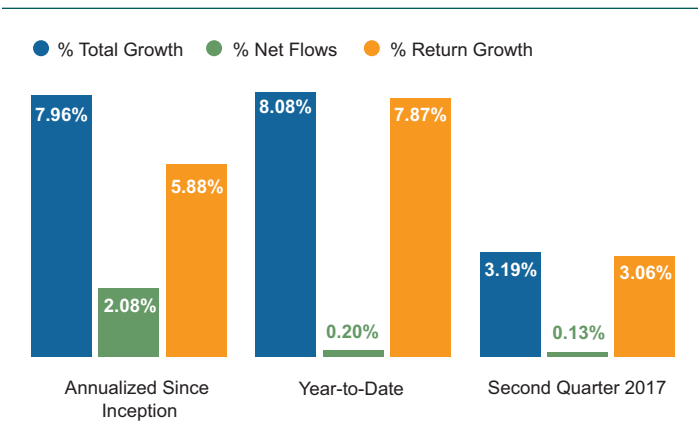
The Callan DC Index's overall equity allocation edged up from last quarter to nearly 70%, slightly above the Index's historical average of 67%. Still, the Index has yet to achieve its pre-Global Financial Crisis equity allocation peak of 73% (fourth quarter of 2007).

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 (Second Quarter 2017) (Top Two and Bottom Two Asset Gatherers)

| Asset Class | Flows as % of Total Net Flows |
|------------------------|-------------------------------|
| Target Date Funds | 69.47% |
| Emerging Market Equity | 1.94% |
| U.S. Small/Mid Cap | -28.57% |
| Stable Value | -31.80% |
| Total Turnover** | 0.43% |

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

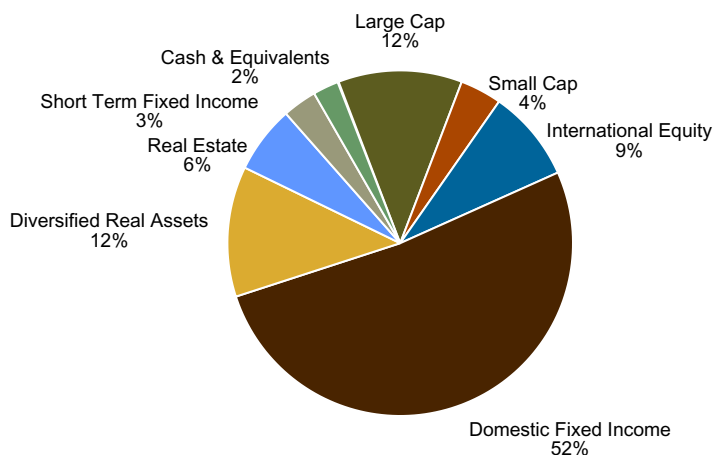
* The Age 45 Fund transitioned from the average 2030 TDF to the 2035 TDF in June 2013.

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

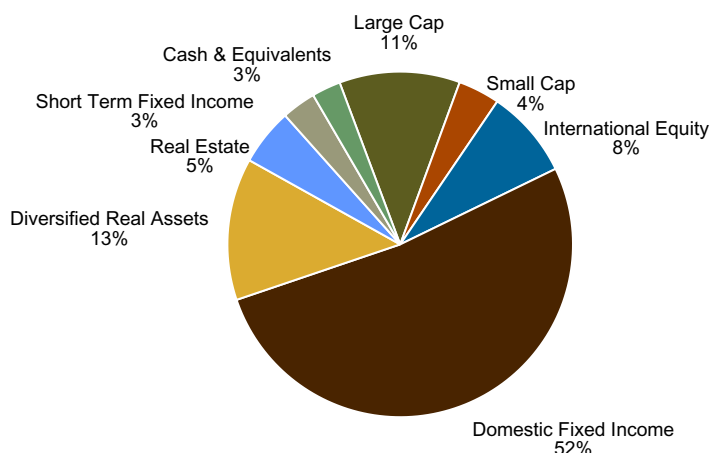
Actual vs Target Asset Allocation As of September 30, 2017

The first chart below shows the Fund's asset allocation as of September 30, 2017. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



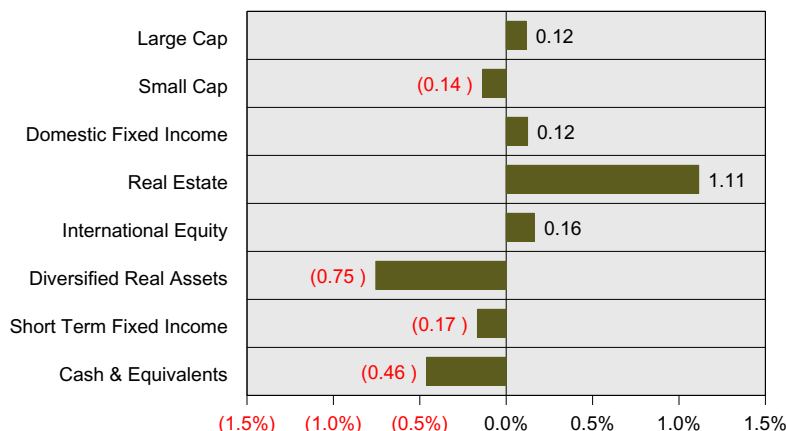
| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-------------------------|------------------|------------------|--------|-----------------------|----------------------|
| Large Cap | 253,742 | 11.6% | 11.3% | 0.3% | 5,684 |
| Small Cap | 85,916 | 3.9% | 3.9% | 0.0% | 304 |
| International Equity | 189,523 | 8.6% | 8.3% | 0.3% | 7,321 |
| Domestic Fixed Income | 1,135,197 | 51.7% | 52.0% | (0.3%) | (6,308) |
| Diversified Real Assets | 268,898 | 12.2% | 13.3% | (1.1%) | (23,064) |
| Real Estate | 137,994 | 6.3% | 5.3% | 1.0% | 21,648 |
| Short Term Fixed Income | 70,717 | 3.2% | 3.2% | 0.0% | 471 |
| Cash & Equivalents | 53,216 | 2.4% | 2.7% | (0.3%) | (6,055) |
| Total | 2,195,203 | 100.0% | 100.0% | | |

* Current Quarter Target = 52.0% Bimbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Bimbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

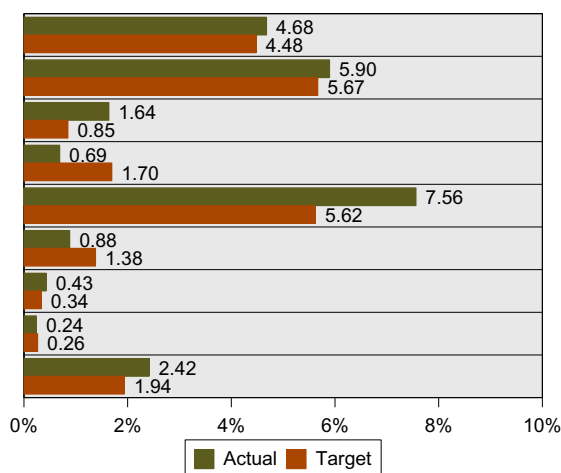
Quarterly Total Fund Relative Attribution - September 30, 2017

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

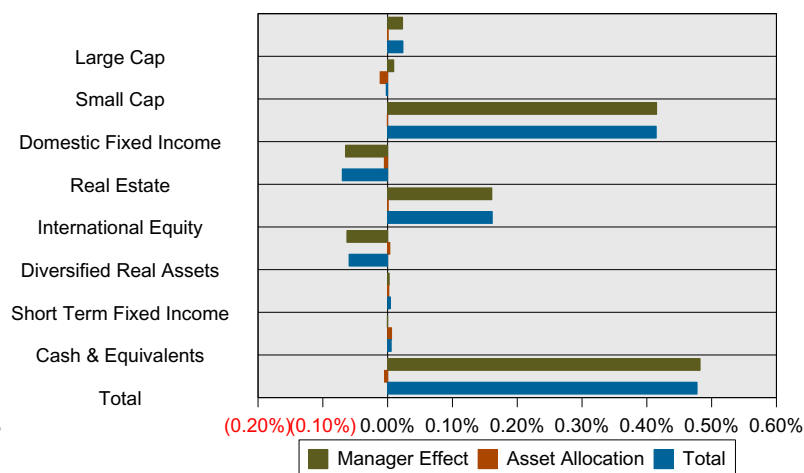
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2017

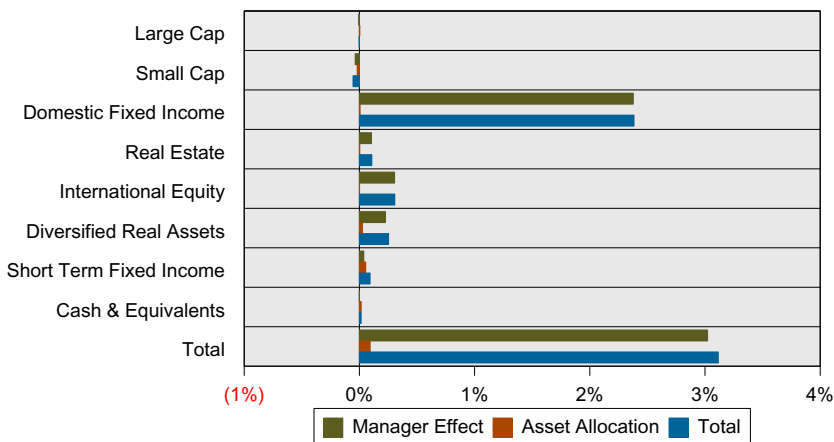
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap | 11% | 11% | 4.68% | 4.48% | 0.02% | 0.00% | 0.02% |
| Small Cap | 4% | 4% | 5.90% | 5.67% | 0.01% | (0.01%) | (0.00%) |
| Domestic Fixed Income | 52% | 52% | 1.64% | 0.85% | 0.42% | (0.00%) | 0.41% |
| Real Estate | 6% | 5% | 0.69% | 1.70% | (0.06%) | (0.01%) | (0.07%) |
| International Equity | 9% | 8% | 7.56% | 5.62% | 0.16% | 0.00% | 0.16% |
| Diversified Real Assets | 13% | 13% | 0.88% | 1.38% | (0.06%) | 0.00% | (0.06%) |
| Short Term Fixed Income | 3% | 3% | 0.43% | 0.34% | 0.00% | 0.00% | 0.00% |
| Cash & Equivalents | 2% | 3% | 0.24% | 0.26% | (0.00%) | 0.01% | 0.01% |
| Total | | | 2.42% | 1.94% | + 0.48% | + (0.00%) | 0.48% |

* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

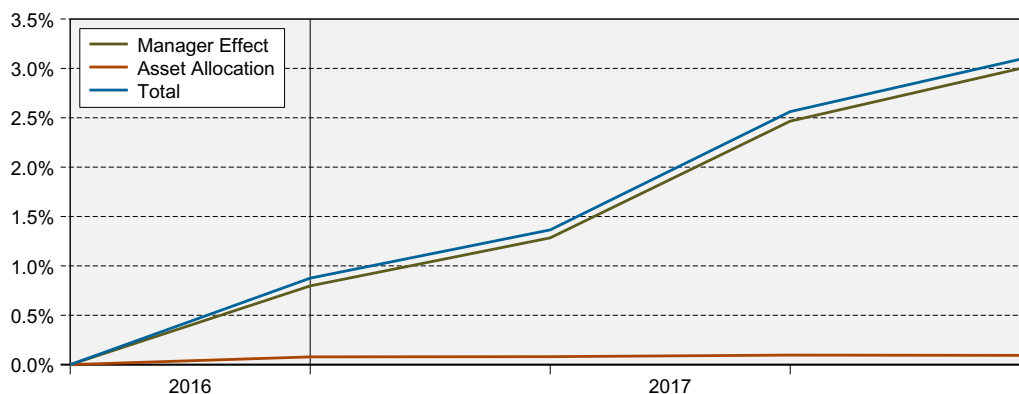
Cumulative Total Fund Relative Attribution - September 30, 2017

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

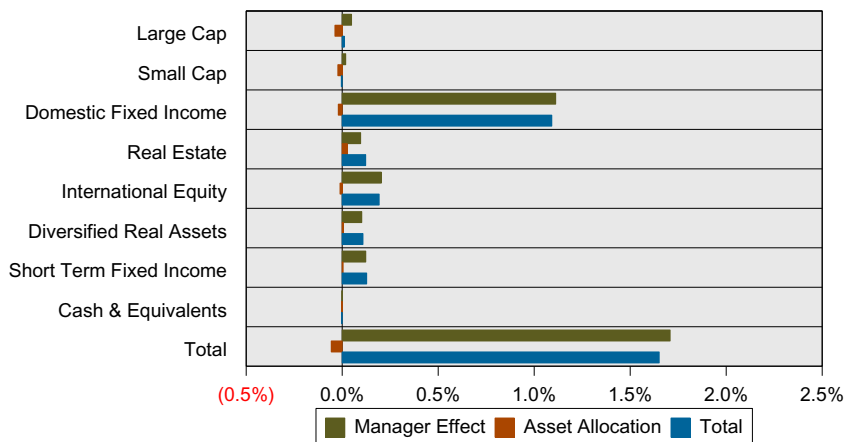
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap | 11% | 11% | 18.52% | 18.54% | (0.01%) | 0.00% | (0.00%) |
| Small Cap | 4% | 4% | 19.69% | 20.74% | (0.04%) | (0.02%) | (0.06%) |
| Domestic Fixed Income | 51% | 52% | 4.62% | 0.07% | 2.38% | 0.01% | 2.38% |
| Real Estate | 6% | 5% | 8.61% | 6.89% | 0.10% | 0.00% | 0.11% |
| International Equity | 8% | 8% | 22.75% | 18.73% | 0.31% | 0.00% | 0.31% |
| Diversified Real Assets | 12% | 13% | 3.32% | 1.52% | 0.23% | 0.03% | 0.25% |
| Short Term Fixed Income | 5% | 4% | 0.96% | 0.48% | 0.04% | 0.05% | 0.09% |
| Cash & Equivalents | 2% | 3% | 0.63% | 0.66% | (0.00%) | 0.02% | 0.02% |
| Total | | | 8.11% | 4.99% | + 3.02% | + 0.09% | 3.12% |

* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

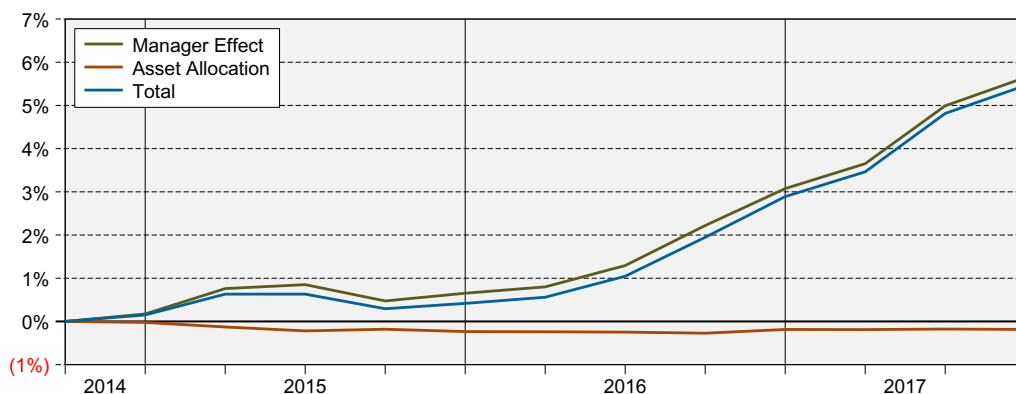
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

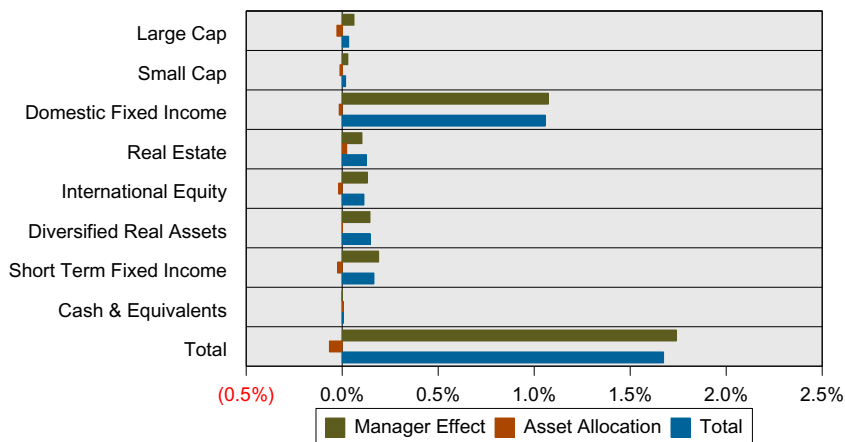
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap | 12% | 12% | 11.18% | 10.63% | 0.05% | (0.04%) | 0.01% |
| Small Cap | 4% | 4% | 12.84% | 12.18% | 0.02% | (0.02%) | (0.00%) |
| Domestic Fixed Income | 44% | 45% | 5.04% | 2.71% | 1.11% | (0.02%) | 1.09% |
| Real Estate | 5% | 5% | 11.54% | 9.83% | 0.10% | 0.03% | 0.12% |
| International Equity | 8% | 8% | 7.85% | 4.88% | 0.20% | (0.01%) | 0.19% |
| Diversified Real Assets | 11% | 11% | 2.56% | 1.73% | 0.10% | 0.01% | 0.11% |
| Short Term Fixed Income | 14% | 13% | 1.63% | 0.85% | 0.12% | 0.00% | 0.13% |
| Cash & Equivalents | 3% | 3% | 0.27% | 0.32% | (0.00%) | (0.00%) | (0.00%) |
| Total | | | 5.82% | 4.17% | 1.71% | (0.06%) | 1.65% |

* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

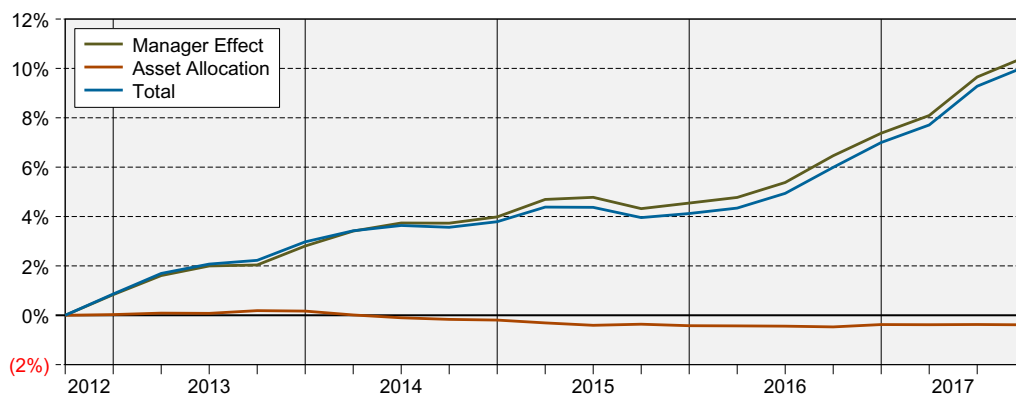
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

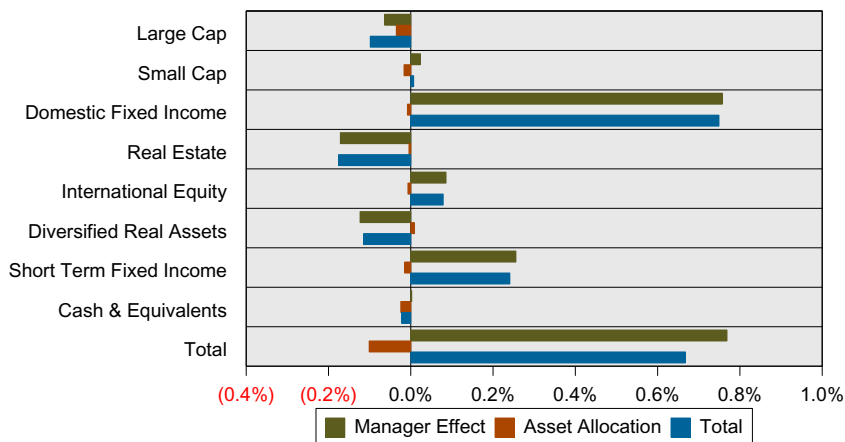
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap | 11% | 11% | 15.21% | 14.27% | 0.06% | (0.03%) | 0.03% |
| Small Cap | 3% | 3% | 14.99% | 13.79% | 0.03% | (0.01%) | 0.02% |
| Domestic Fixed Income | 38% | 39% | 4.77% | 2.06% | 1.07% | (0.02%) | 1.06% |
| Real Estate | 5% | 4% | 12.86% | 10.35% | 0.10% | 0.02% | 0.13% |
| International Equity | 7% | 8% | 10.58% | 8.28% | 0.13% | (0.02%) | 0.11% |
| Diversified Real Assets | 10% | 11% | 3.25% | 1.89% | 0.14% | 0.00% | 0.15% |
| Short Term Fixed Income | 22% | 22% | 1.48% | 0.69% | 0.19% | (0.02%) | 0.17% |
| Cash & Equivalents | 3% | 3% | 0.20% | 0.22% | (0.00%) | 0.01% | 0.01% |
| Total | | | 5.57% | 3.89% | 1.74% | (0.07%) | 1.67% |

* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

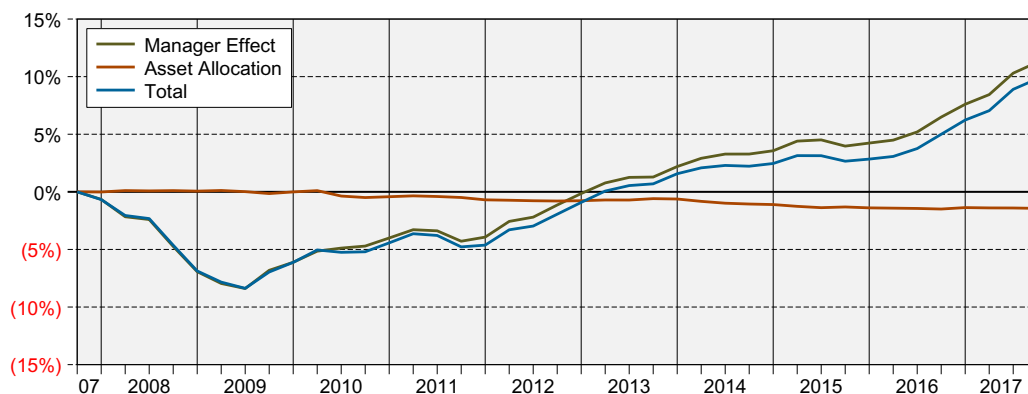
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Ten Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Ten Year Annualized Relative Attribution Effects

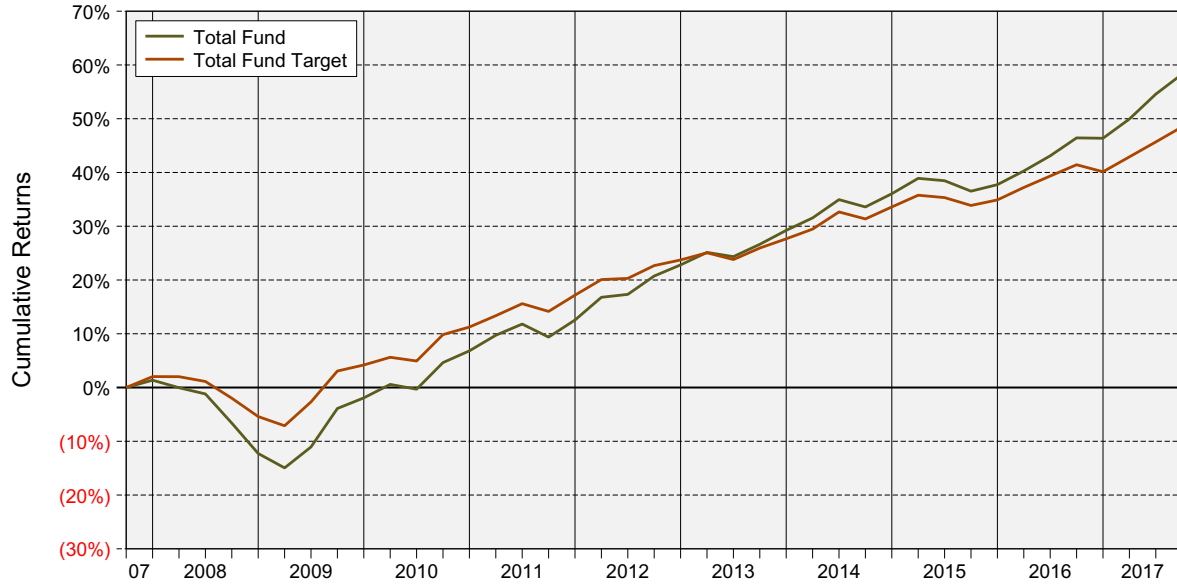
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap | 10% | 10% | 6.98% | 7.44% | (0.06%) | (0.04%) | (0.10%) |
| Small Cap | 3% | 3% | 8.57% | 7.85% | 0.02% | (0.02%) | 0.01% |
| Domestic Fixed Income | 41% | 41% | 6.41% | 4.27% | 0.76% | (0.01%) | 0.75% |
| Real Estate | 5% | 5% | 2.22% | 6.23% | (0.17%) | (0.00%) | (0.18%) |
| International Equity | 7% | 7% | 2.57% | 1.25% | 0.09% | (0.01%) | 0.08% |
| Diversified Real Assets | 14% | 15% | 3.82% | 4.12% | (0.12%) | 0.01% | (0.11%) |
| Short Term Fixed Income | 16% | 16% | 2.38% | 0.98% | 0.26% | (0.01%) | 0.24% |
| Cash & Equivalents | 3% | 3% | 0.52% | 0.47% | 0.00% | (0.02%) | (0.02%) |
| Total | | | 4.70% | 4.03% | + 0.77% | + (0.10%) | 0.67% |

* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

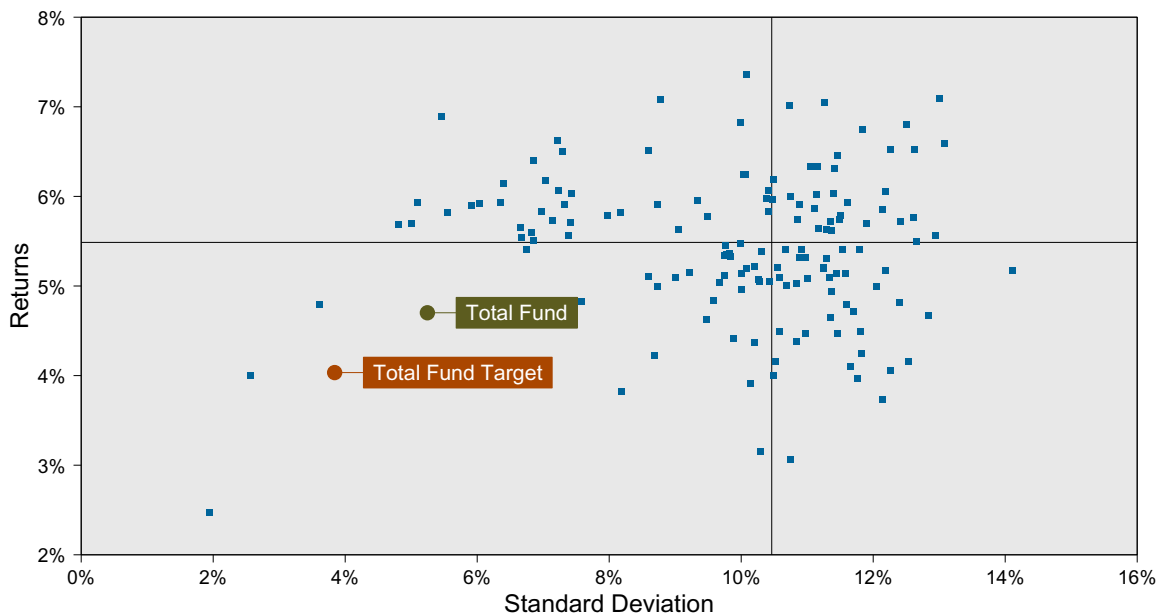
Cumulative Performance Relative to Target

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 Callan Public Fund Sponsor Database.

Cumulative Returns Actual vs Target



Ten Year Annualized Risk vs Return



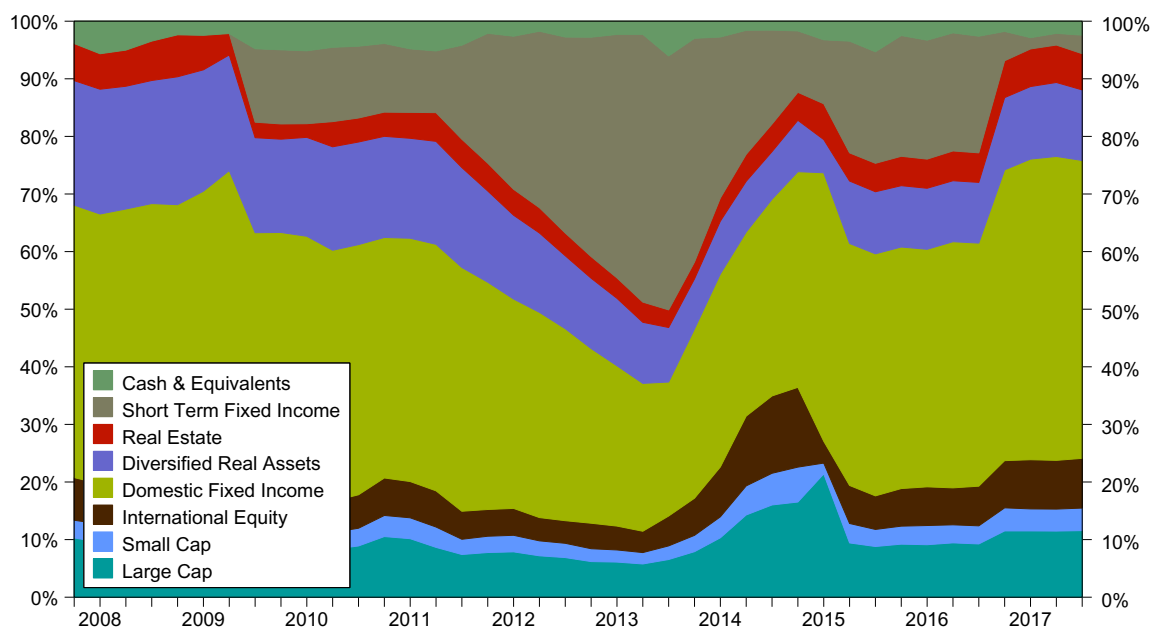
Squares represent membership of the Callan Public Fund Sponsor Database

* Current Quarter Target = 52.0% Bimbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Bimbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

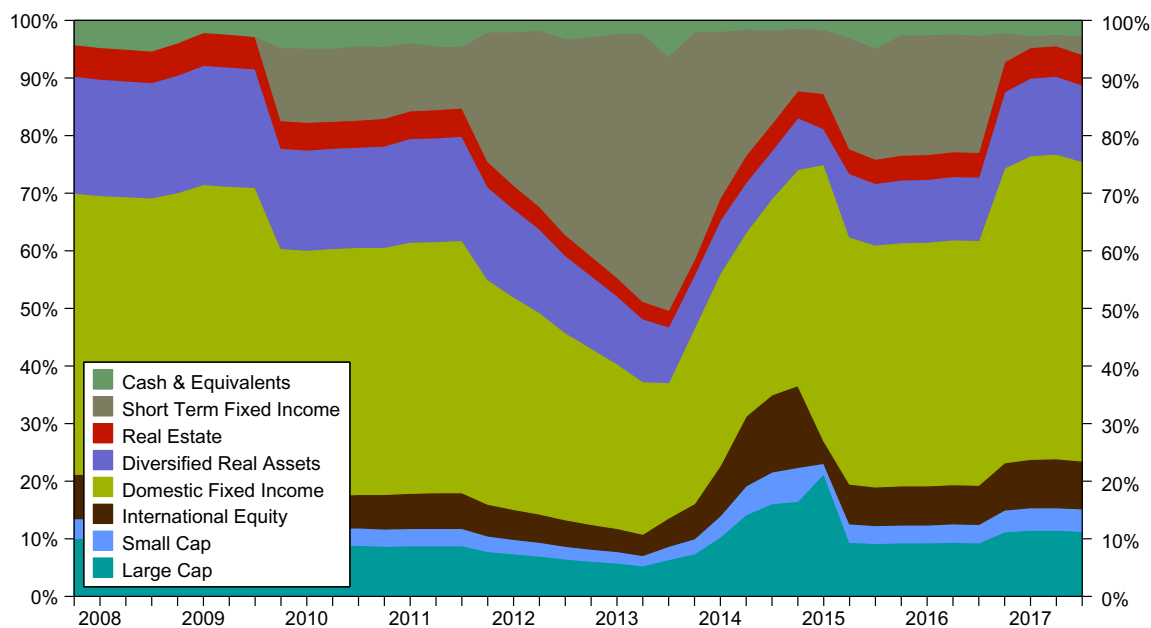
Actual vs Target Historical Asset Allocation

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

Actual Historical Asset Allocation



Target Historical Asset Allocation

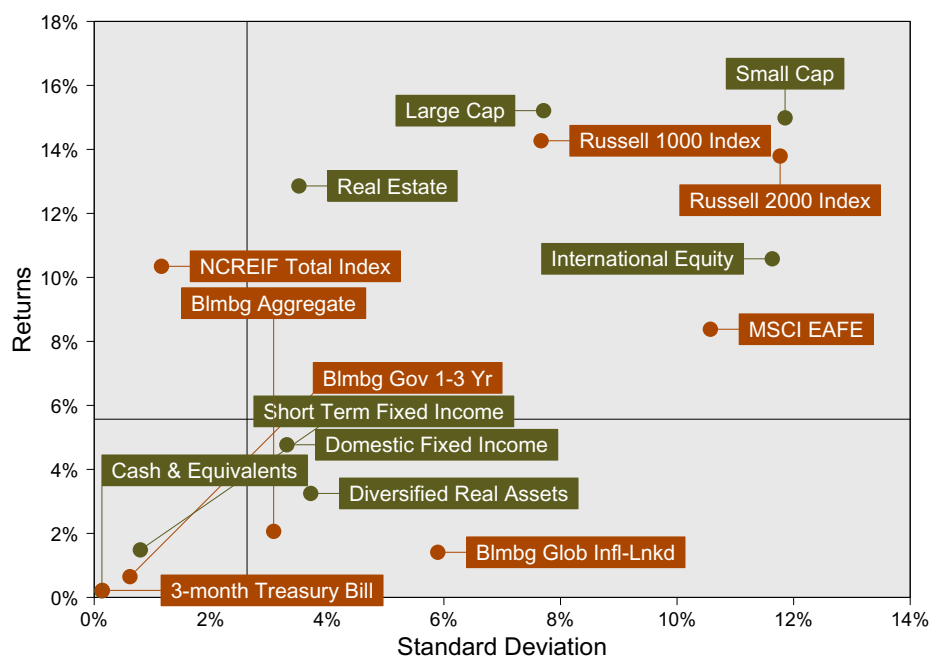


* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

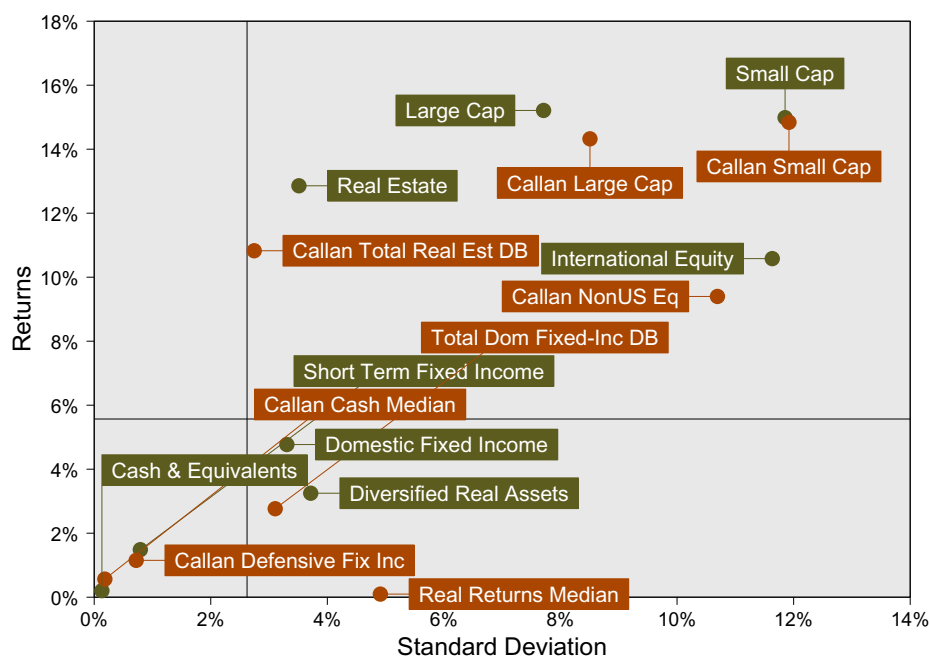
Asset Class Risk and Return

The charts below show the five year annualized risk and return for each asset class component of the Total Fund. The first graph contrasts these values with those of the appropriate index for each asset class. The second chart contrasts them with the risk and return of the median portfolio in each of the appropriate CAI comparative databases. In each case, the crosshairs on the chart represent the return and risk of the Total Fund.

Five Year Annualized Risk vs Return Asset Classes vs Benchmark Indices



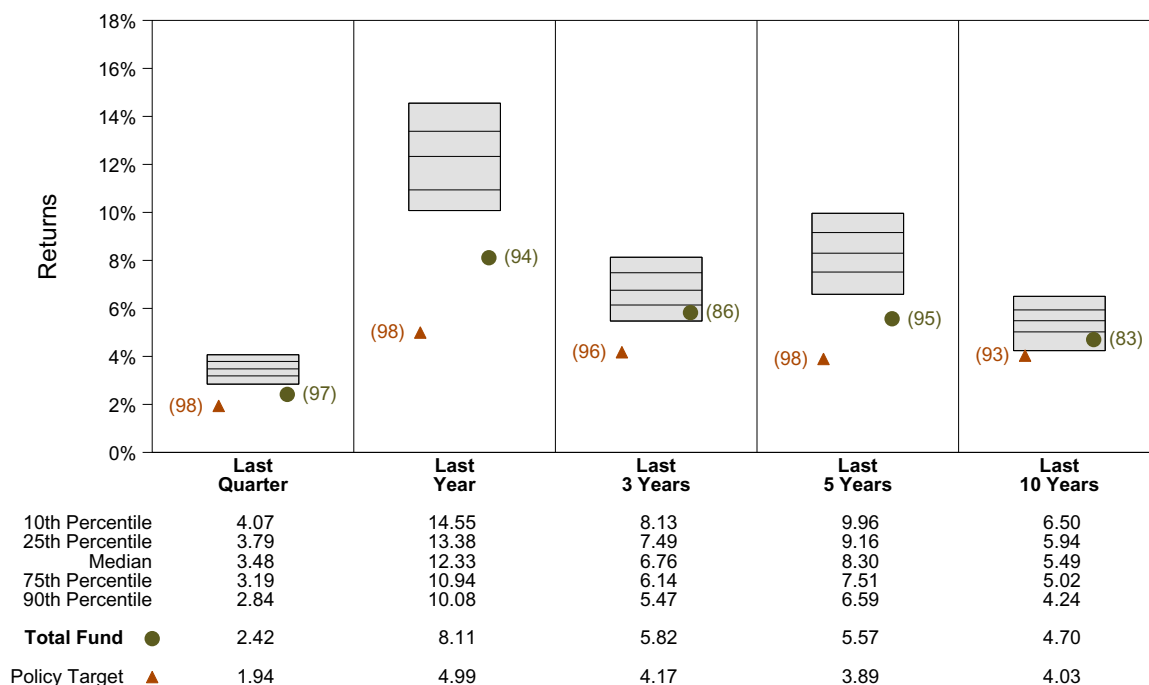
Five Year Annualized Risk vs Return Asset Classes vs Asset Class Median



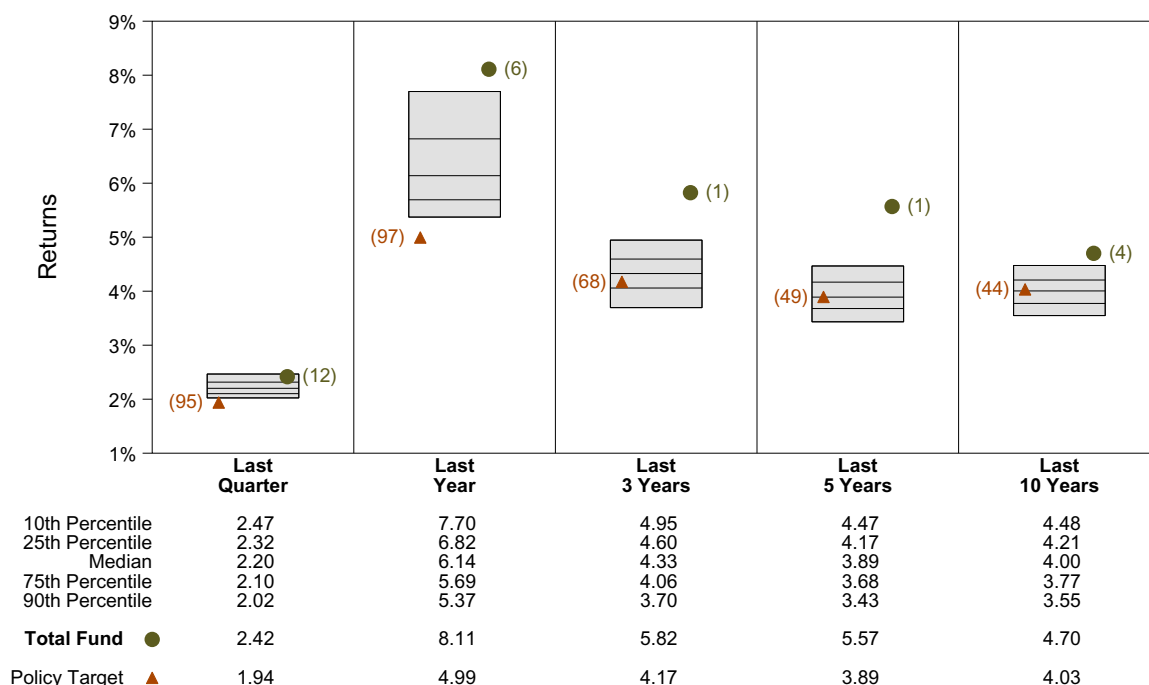
Total Fund Ranking

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended September 30, 2017. 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.

Callan Public Fund Sponsor Database



Asset Allocation Adjusted Ranking

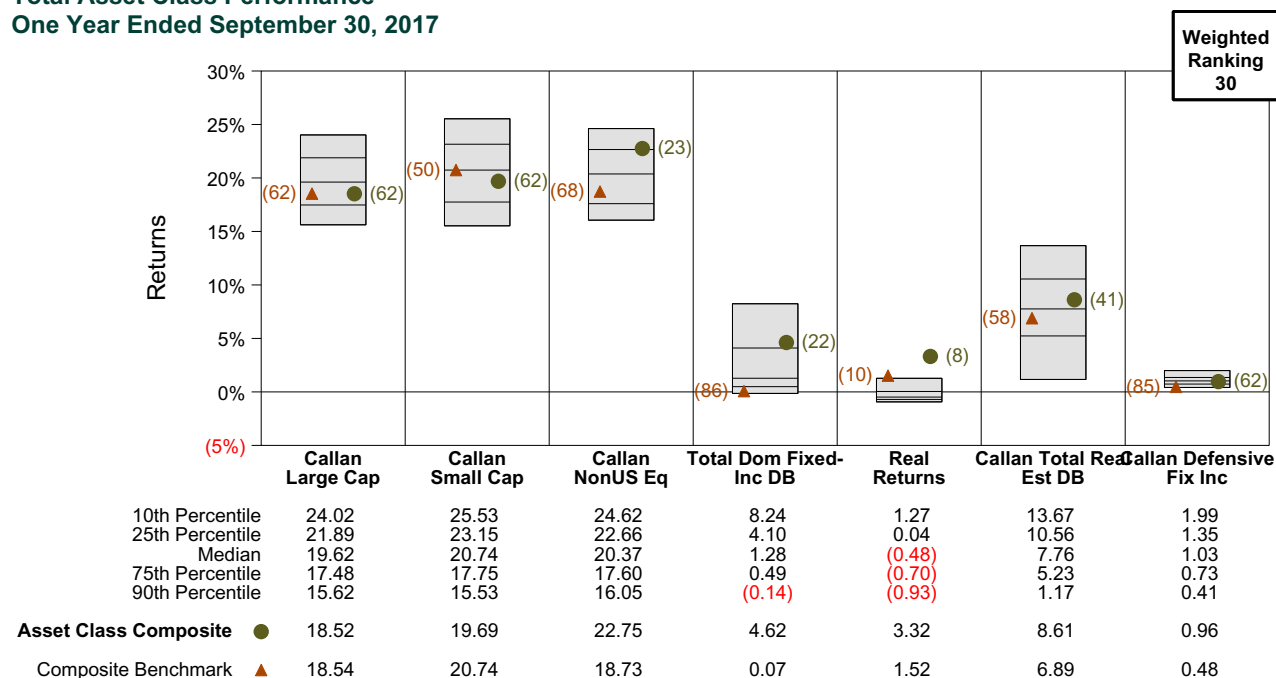


* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

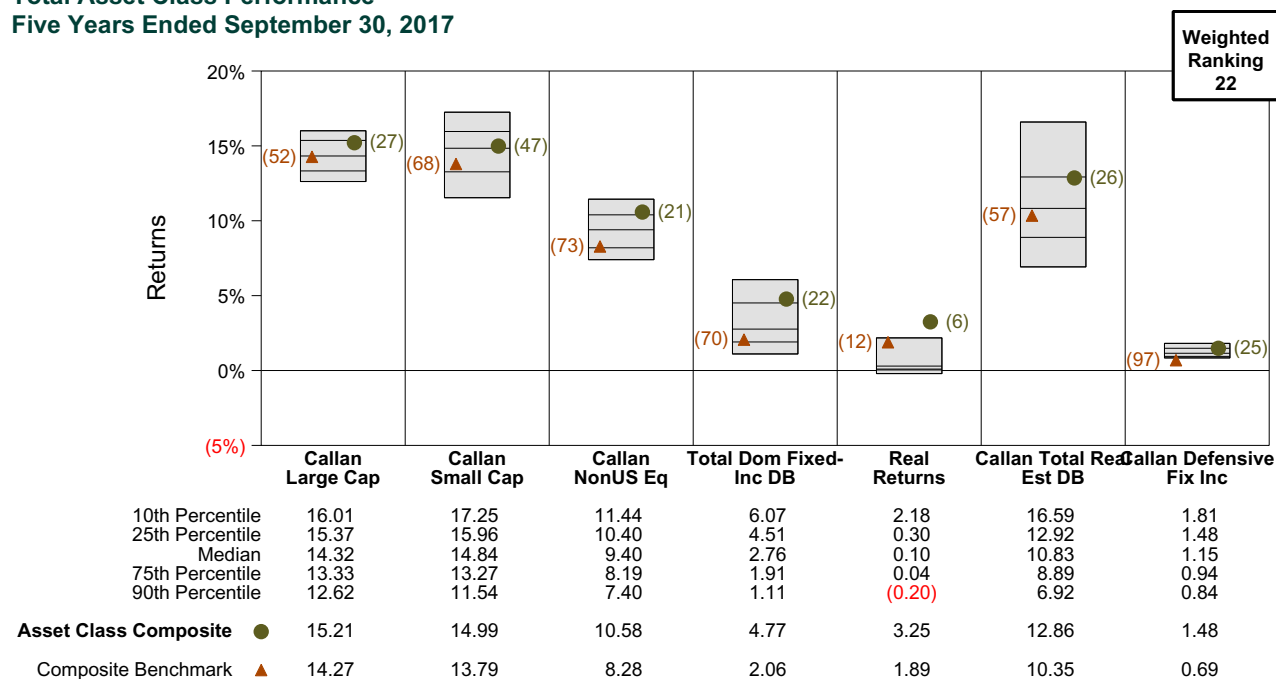
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended September 30, 2017



Total Asset Class Performance Five Years Ended September 30, 2017



* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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

| | September 30, 2017 | | | | June 30, 2017 | |
|----------------------------------|------------------------|---------------|----------------------|---------------------|------------------------|---------------|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| Domestic Equity | \$339,658,838 | 15.47% | \$(2,227,009) | \$16,198,312 | \$325,687,534 | 15.30% |
| Large Cap | \$253,742,338 | 11.56% | \$(2,116,105) | \$11,415,321 | \$244,443,123 | 11.48% |
| Parametric Clifton Large Cap | 51,117,149 | 2.33% | (6,800) | 2,191,051 | 48,932,899 | 2.30% |
| L.A. Capital Large Cap Growth | 74,343,290 | 3.39% | (2,038,699) | 3,350,811 | 73,031,178 | 3.43% |
| L.A. Capital Enhanced | 50,210,658 | 2.29% | (15,147) | 1,960,419 | 48,265,386 | 2.27% |
| LSV Large Cap Value | 78,071,240 | 3.56% | (55,460) | 3,913,040 | 74,213,660 | 3.49% |
| Small Cap | \$85,916,500 | 3.91% | \$(110,903) | \$4,782,992 | \$81,244,411 | 3.82% |
| Parametric Clifton Small Cap | 43,376,519 | 1.98% | (85,563) | 2,494,636 | 40,967,446 | 1.92% |
| PIMCO RAE | 42,539,980 | 1.94% | (25,340) | 2,288,355 | 40,276,965 | 1.89% |
| International Equity | \$189,522,987 | 8.63% | \$(4,143,973) | \$13,560,140 | \$180,106,820 | 8.46% |
| DFA Int'l Small Cap Value | 19,009,339 | 0.87% | (2,000,000) | 1,447,452 | 19,561,888 | 0.92% |
| LSV Intl Value | 76,039,005 | 3.46% | (2,074,986) | 5,275,921 | 72,838,070 | 3.42% |
| Vanguard Intl Explorer Fund | 18,351,048 | 0.84% | 0 | 1,358,388 | 16,992,660 | 0.80% |
| William Blair | 76,123,595 | 3.47% | (68,987) | 5,478,380 | 70,714,202 | 3.32% |
| Domestic Fixed Income | \$1,135,197,124 | 51.71% | \$(6,605,377) | \$18,398,730 | \$1,123,403,771 | 52.76% |
| Declaration Total Return | 85,113,751 | 3.88% | (31,284) | 1,234,477 | 83,910,558 | 3.94% |
| PIMCO DiSCO II | 100,628,396 | 4.58% | 0 | 4,095,451 | 96,532,945 | 4.53% |
| PIMCO Bravo II Fund | 55,029,366 | 2.51% | (2,274,873) | 0 | 57,304,239 | 2.69% |
| Prudential | 117,194,878 | 5.34% | (75,322) | 1,981,984 | 115,288,216 | 5.41% |
| SSgA US Govt Credit Bd Idx | 142,989,912 | 6.51% | 0 | 1,145,627 | 141,844,286 | 6.66% |
| Wells Capital | 318,066,360 | 14.49% | (2,122,454) | 5,864,592 | 314,324,221 | 14.76% |
| Western Asset Management | 316,174,460 | 14.40% | (2,101,445) | 4,076,600 | 314,199,305 | 14.76% |
| Diversified Real Assets | \$268,897,797 | 12.25% | \$(6,935,169) | \$2,410,391 | \$273,422,575 | 12.84% |
| Western Asset Management | 116,537,298 | 5.31% | (36,816) | 2,546,554 | 114,027,560 | 5.36% |
| JP Morgan Infrastructure | 85,292,003 | 3.89% | 0 | 0 | 85,292,003 | 4.01% |
| Eastern Timber Opportunities | 50,020,115 | 2.28% | (5,329,289) | () | 55,349,404 | 2.60% |
| Grosvenor Cust. Infrastructure | 17,048,381 | 0.78% | (1,569,063) | (136,164) | 18,753,608 | 0.88% |
| Real Estate | \$137,993,680 | 6.29% | \$(1,402,229) | \$946,332 | \$138,449,576 | 6.50% |
| Invesco Core Real Estate | 65,892,865 | 3.00% | (534,491) | 946,302 | 65,481,054 | 3.08% |
| JP Morgan RE | 72,100,814 | 3.28% | (867,738) | 31 | 72,968,522 | 3.43% |
| Short Term Fixed Income | \$70,717,079 | 3.22% | \$27,482,098 | \$173,550 | \$43,061,431 | 2.02% |
| JP Morgan Short Term Bonds | 70,717,079 | 3.22% | 27,482,098 | 173,550 | 43,061,431 | 2.02% |
| Cash & Equivalents | \$53,215,620 | 2.42% | \$8,036,691 | \$128,657 | \$45,050,272 | 2.12% |
| Northern Trust Cash Account | 28,000,964 | 1.28% | 8,036,691 | 56,851 | 19,907,422 | 0.93% |
| Bank of ND | 25,214,655 | 1.15% | 0 | 71,806 | 25,142,849 | 1.18% |
| Securities Lending Income | \$0 | 0.00% | \$(49,776) | \$49,776 | - | - |
| Total Fund | \$2,195,203,124 | 100.0% | \$14,155,257 | \$51,865,889 | \$2,129,181,978 | 100.0% |

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|--------------------------------------|-----------------|--------------|--------------------|--------------------|---------------------|
| Domestic Equity | | | | | |
| Gross | 4.99% | 18.85% | 11.58% | 15.15% | 7.38% |
| Net | 4.92% | 18.61% | 11.32% | 14.89% | 7.02% |
| Large Cap Equity | | | | | |
| Gross | 4.68% | 18.52% | 11.18% | 15.21% | 6.98% |
| Net | 4.63% | 18.30% | 10.97% | 15.00% | 6.67% |
| Benchmark(1) | 4.48% | 18.54% | 10.63% | 14.27% | 7.44% |
| Parametric Clifton Large Cap - Gross | 4.48% | 18.56% | 11.18% | 14.45% | - |
| Parametric Clifton Large Cap - Net | 4.46% | 18.54% | 11.08% | 14.35% | - |
| S&P 500 Index | 4.48% | 18.61% | 10.81% | 14.22% | 7.44% |
| L.A. Capital - Gross | 4.58% | 16.43% | 12.09% | 15.11% | 9.16% |
| L.A. Capital - Net | 4.52% | 16.18% | 11.87% | 14.88% | 8.96% |
| Russell 1000 Growth Index | 5.90% | 21.94% | 12.69% | 15.26% | 9.08% |
| L.A. Capital Enhanced - Gross | 4.06% | 16.46% | 11.10% | 14.69% | 8.65% |
| L.A. Capital Enhanced - Net | 4.03% | 16.30% | 10.96% | 14.54% | 8.48% |
| Russell 1000 Index | 4.48% | 18.54% | 10.63% | 14.27% | 7.55% |
| LSV Asset Management - Gross | 5.28% | 21.71% | 10.20% | 16.05% | 7.29% |
| LSV Asset Management - Net | 5.20% | 21.34% | 9.88% | 15.72% | 6.98% |
| Russell 1000 Value Index | 3.11% | 15.12% | 8.53% | 13.20% | 5.92% |
| Small Cap Equity | | | | | |
| Gross | 5.90% | 19.69% | 12.84% | 14.99% | 8.57% |
| Net | 5.75% | 19.42% | 12.44% | 14.58% | 8.06% |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 13.79% | 7.85% |
| Parametric Clifton Small Cap - Gross | 6.10% | 21.36% | 13.57% | 14.95% | - |
| Parametric Clifton SmallCap - Net | 5.88% | 21.11% | 13.11% | 14.53% | - |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 13.79% | 7.85% |
| PIMCO RAE - Gross | 5.68% | 18.31% | 11.91% | 14.84% | 8.81% |
| PIMCO RAE - Net | 5.62% | 18.02% | 11.60% | 14.48% | 8.42% |
| Russell 2000 | 5.67% | 20.74% | 12.18% | 13.79% | 7.85% |
| International Equity | | | | | |
| Gross | 7.56% | 22.75% | 7.85% | 10.58% | 2.57% |
| Net | 7.48% | 22.37% | 7.50% | 10.20% | 2.29% |
| Benchmark(2) | 5.62% | 18.73% | 4.88% | 8.28% | 1.25% |
| DFA Intl Small Cap Value - Net | 7.60% | 25.37% | 9.96% | 13.61% | - |
| World ex US SC Va | 6.97% | 21.46% | 8.34% | 11.31% | 4.01% |
| LSV Asset Management - Gross | 7.30% | 25.69% | 7.77% | 10.59% | 1.67% |
| LSV Asset Management - Net | 7.19% | 25.19% | 7.34% | 10.14% | 1.36% |
| Benchmark(3) | 5.40% | 19.10% | 5.04% | 8.38% | 1.29% |
| Vanguard Intl Explorer Fund - Net | 7.99% | 26.09% | 10.63% | 13.37% | 4.41% |
| BMI, EPAC, <\$2 B | 5.48% | 18.18% | 9.83% | 11.69% | 3.50% |
| William Blair - Gross | 7.75% | 17.71% | - | - | - |
| William Blair - Net | 7.65% | 17.25% | - | - | - |
| MSCI ACWI ex US IMI | 6.27% | 19.55% | 5.16% | 7.32% | 1.59% |

(1) S&P 500 Index through 12/31/2011 and Russell 1000 Index thereafter.

(2) MSCI EAFE through 9/30/2000; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again through 6/30/2016; MSCI World ex-US thereafter.

(3) MSCI EAFE through 9/30/2000; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|--------------------------------------|-----------------|--------------|--------------------|--------------------|---------------------|
| Domestic Fixed Income | | | | | |
| Gross | 1.64% | 4.62% | 5.04% | 4.77% | 6.41% |
| Net | 1.61% | 4.50% | 4.91% | 4.63% | 6.23% |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 4.27% |
| Declaration Total Return - Net | 1.47% | 4.29% | 3.99% | - | - |
| Libor-3 Month | 0.33% | 1.12% | 0.67% | 0.51% | 0.88% |
| PIMCO DiSCO II - Net | 4.24% | 17.18% | 9.43% | 12.56% | - |
| PIMCO Bravo II Fund - Net | 0.00% | 13.38% | 10.22% | - | - |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 4.27% |
| Prudential - Gross | 1.72% | 2.97% | 4.76% | 3.83% | 6.43% |
| Prudential - Net | 1.65% | 2.70% | 4.48% | 3.55% | 6.28% |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 4.27% |
| Wells Capital - Gross | 1.87% | 4.88% | 5.18% | 4.78% | 7.51% |
| Wells Capital - Net | 1.83% | 4.70% | 5.00% | 4.58% | 7.29% |
| Blmbg Baa Credit 3% | 1.64% | 3.25% | 4.10% | 3.74% | 6.49% |
| Western Asset - Gross | 1.30% | 2.37% | 4.40% | 3.73% | 5.56% |
| Western Asset - Net | 1.26% | 2.23% | 4.26% | 3.58% | 5.38% |
| Blmbg Aggregate | 0.85% | 0.07% | 2.71% | 2.06% | 4.27% |
| SSgA US Govt Cr Bd Idx - Gross | 0.81% | (0.02%) | 2.84% | - | - |
| SSgA US Govt Cr Bd Idx - Net | 0.81% | (0.04%) | 2.80% | - | - |
| Blmbg Govt/Credit Bd | 0.81% | (0.01%) | 2.83% | 2.10% | 4.34% |
| Diversified Real Assets | | | | | |
| Gross | 0.88% | 3.32% | 2.56% | 3.25% | 3.82% |
| Net | 0.88% | 3.05% | 2.27% | 2.96% | 3.51% |
| Weighted Benchmark | 1.38% | 1.52% | 1.73% | 1.89% | 4.12% |
| Western TIPS - Gross | 2.23% | (0.10%) | 1.68% | 1.43% | 3.39% |
| Western TIPS - Net | 2.20% | (0.24%) | 1.55% | 1.29% | 3.22% |
| Blmbg Gbl Infln-Linked(1) | 2.22% | (0.00%) | 1.37% | 1.41% | 3.88% |
| JP Morgan Infrastructure - Gross | 0.00% | 7.04% | 2.08% | 5.50% | - |
| JP Morgan Infrastructure - Net | 0.02% | 6.34% | 1.23% | 4.56% | - |
| CPI-W | 0.89% | 2.31% | 0.95% | 1.09% | 1.68% |
| Eastern Timber Opportunities - Net | 0.00% | 3.46% | 2.81% | 4.30% | - |
| NCREIF Timberland Index | 0.60% | 3.28% | 5.24% | 7.13% | 5.20% |
| Grosvenor Cust. Infrastructure - Net | (0.74%) | 8.31% | 7.27% | 8.84% | - |
| CPI-W | 0.89% | 2.31% | 0.95% | 1.09% | 1.68% |

(1) Blmbg US TIPS through 12/31/2009 and Blmbg Global Inflation-Linked thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|-----------------|--------------|--------------------|--------------------|---------------------|
| Real Estate | | | | | |
| Gross | 0.69% | 8.61% | 11.54% | 12.86% | 2.22% |
| Net | 0.67% | 7.98% | 10.79% | 11.98% | 1.19% |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 6.23% |
| Invesco Core Real Estate - Gross | 1.46% | 8.29% | 11.19% | 11.73% | - |
| Invesco Core Real Estate - Net | 1.37% | 7.92% | 10.81% | 11.32% | - |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 6.23% |
| JP Morgan - Gross | 0.00% | 8.89% | 11.84% | 13.43% | 2.48% |
| JP Morgan - Net | 0.03% | 8.02% | 10.77% | 12.22% | 1.30% |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 6.23% |
| Short Term Fixed Income | | | | | |
| Gross | 0.43% | 0.96% | 1.63% | 1.48% | - |
| Net | 0.39% | 0.61% | 1.41% | 1.31% | - |
| Blended Benchmark(1) | 0.34% | 0.48% | 0.85% | 0.69% | - |
| JP Morgan Short Term Bds - Gross | 0.43% | 0.67% | 1.21% | 1.01% | - |
| JP Morgan Short Term Bds - Net | 0.39% | 0.39% | 1.04% | 0.88% | - |
| Blmbg Gov/Credit 1-3 Y | 0.34% | 0.66% | 1.05% | 0.91% | 2.09% |
| Cash & Equivalents - Net | 0.24% | 0.63% | 0.27% | 0.20% | 0.52% |
| Cash Account- Net | 0.20% | 0.47% | 0.21% | 0.17% | 0.51% |
| Bank of ND - Net | 0.29% | 0.80% | - | - | - |
| 90 Day Treasury Bills | 0.26% | 0.66% | 0.32% | 0.22% | 0.47% |
| Total Fund | | | | | |
| Gross | 2.42% | 8.11% | 5.82% | 5.57% | 4.70% |
| Net | 2.38% | 7.90% | 5.61% | 5.35% | 4.45% |
| Target* | 1.94% | 4.99% | 4.17% | 3.89% | 4.03% |

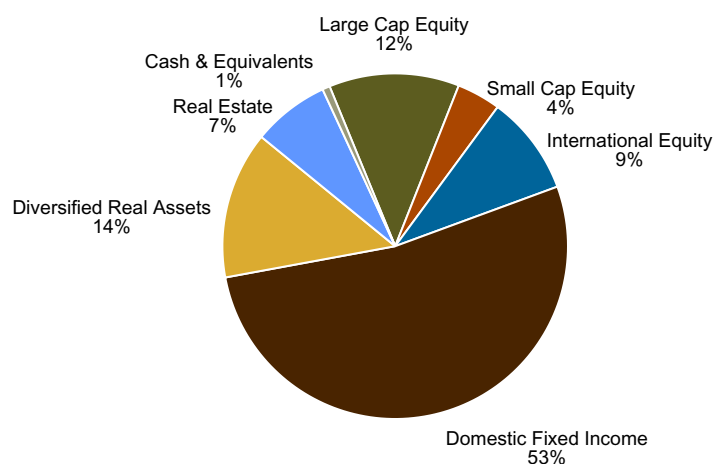
* Current Quarter Target = 52.0% Blmbg Aggregate, 13.3% NDSIB INS DRA Weighted Benchmark, 11.3% Russell 1000 Index, 8.3% MSCI World ex US, 5.3% NCREIF Total Index, 3.9% Russell 2000 Index, 3.2% Blmbg Gov/Cred 1-3 Yr and 2.7% 3-month Treasury Bill.

(1) Blmbg Gov 1-3 Yr through March 31, 2017 and Blmbg Gov/Credit 1-3 Yr thereafter.

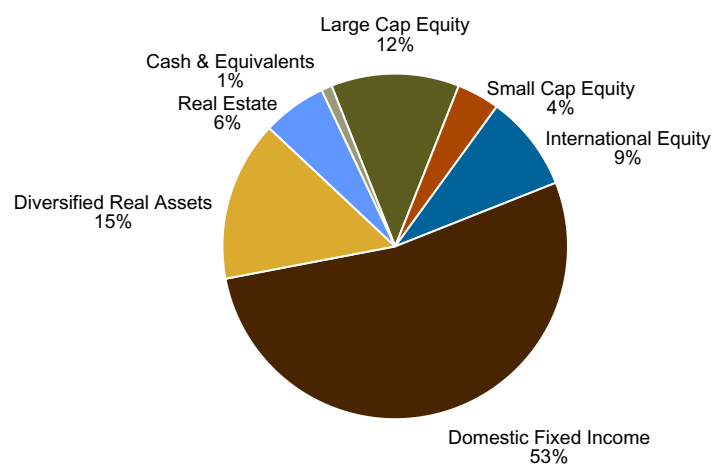
Actual vs Target Asset Allocation As of September 30, 2017

The first chart below shows the Fund's asset allocation as of September 30, 2017. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



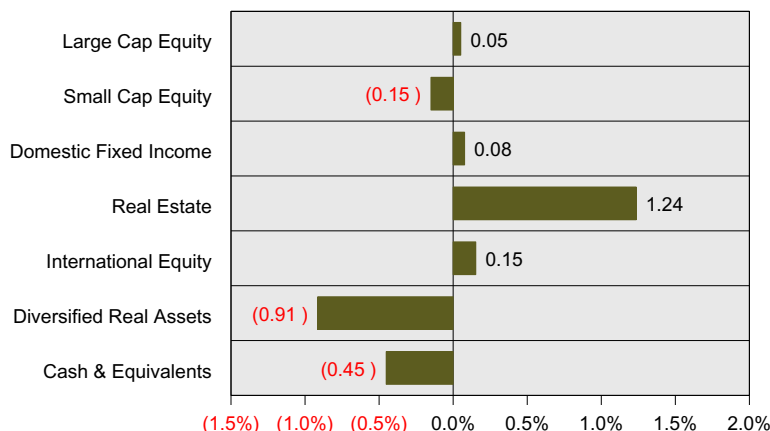
| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-------------------------|------------------|------------------|--------|-----------------------|----------------------|
| Large Cap Equity | 235,497 | 12.2% | 12.0% | 0.2% | 4,673 |
| Small Cap Equity | 77,976 | 4.1% | 4.0% | 0.1% | 1,034 |
| International Equity | 179,754 | 9.3% | 9.0% | 0.3% | 6,635 |
| Domestic Fixed Income | 1,014,375 | 52.7% | 53.0% | (0.3%) | (5,101) |
| Diversified Real Assets | 264,697 | 13.8% | 15.0% | (1.2%) | (23,834) |
| Real Estate | 137,928 | 7.2% | 6.0% | 1.2% | 22,516 |
| Cash & Equivalents | 13,312 | 0.7% | 1.0% | (0.3%) | (5,923) |
| Total | 1,923,540 | 100.0% | 100.0% | | |

* Current Quarter Target = 53.0% Blmgb Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

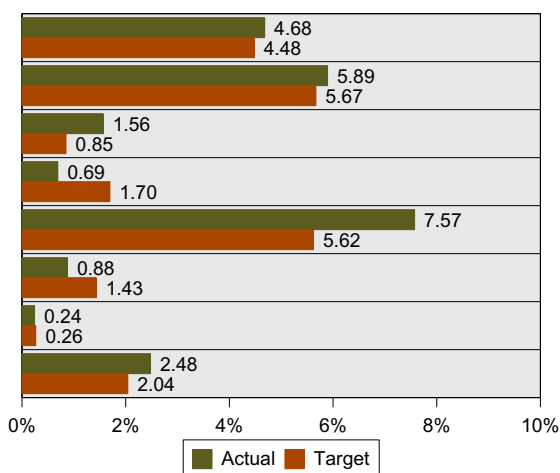
Quarterly Total Fund Relative Attribution - September 30, 2017

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

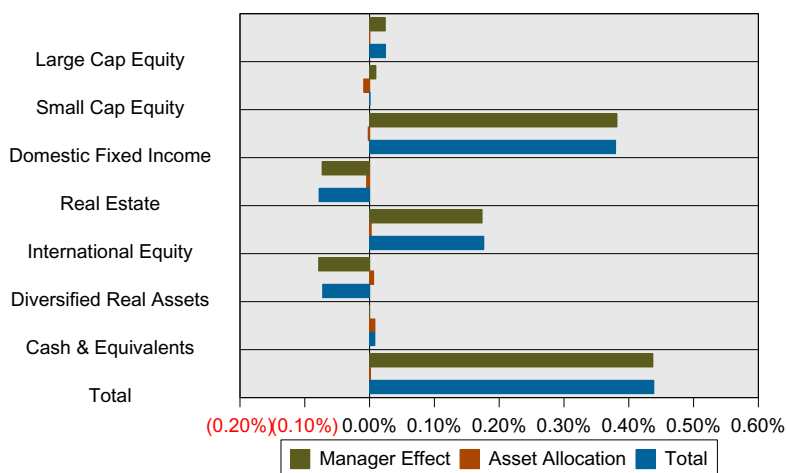
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2017

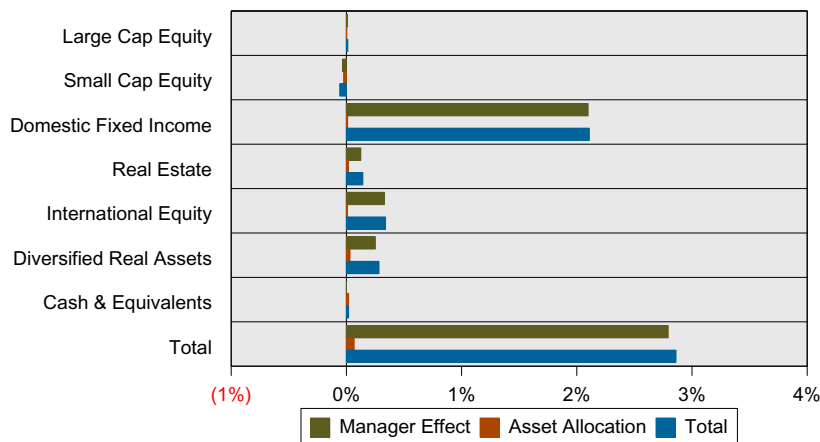
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 12% | 12% | 4.68% | 4.48% | 0.02% | 0.00% | 0.02% |
| Small Cap Equity | 4% | 4% | 5.89% | 5.67% | 0.01% | (0.01%) | 0.00% |
| Domestic Fixed Income | 53% | 53% | 1.56% | 0.85% | 0.38% | (0.00%) | 0.38% |
| Real Estate | 7% | 6% | 0.69% | 1.70% | (0.07%) | (0.00%) | (0.08%) |
| International Equity | 9% | 9% | 7.57% | 5.62% | 0.17% | 0.00% | 0.18% |
| Diversified Real Assets | 14% | 15% | 0.88% | 1.43% | (0.08%) | 0.01% | (0.07%) |
| Cash & Equivalents | 1% | 1% | 0.24% | 0.26% | (0.00%) | 0.01% | 0.01% |
| Total | | | 2.48% | 2.04% | 0.44% | 0.00% | 0.44% |

* Current Quarter Target = 53.0% Blmbg Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

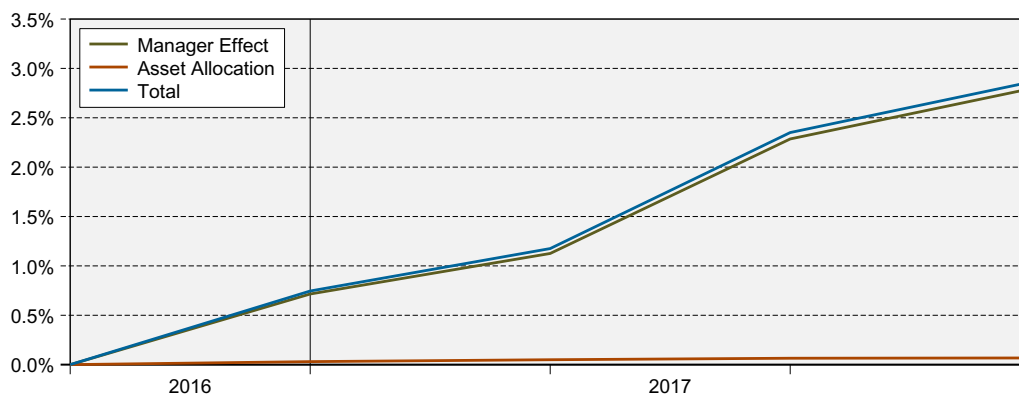
Cumulative Total Fund Relative Attribution - September 30, 2017

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

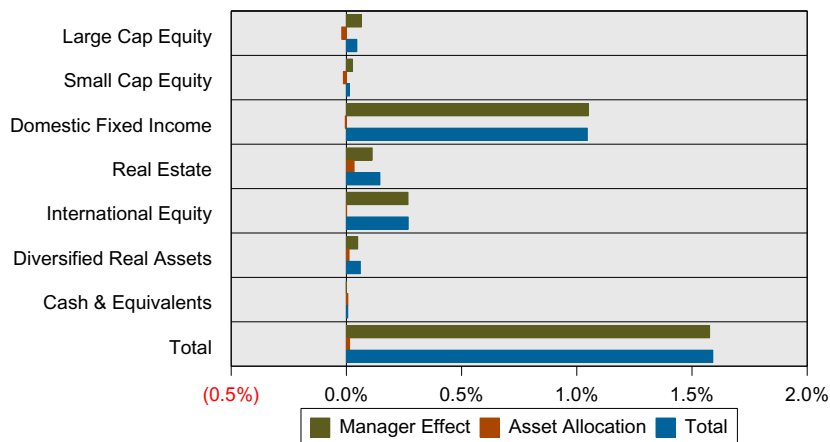
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 12% | 12% | 18.59% | 18.54% | 0.01% | 0.00% | 0.01% |
| Small Cap Equity | 4% | 4% | 19.68% | 20.74% | (0.03%) | (0.02%) | (0.06%) |
| Domestic Fixed Income | 53% | 53% | 3.90% | 0.07% | 2.10% | 0.01% | 2.11% |
| Real Estate | 7% | 6% | 8.61% | 6.89% | 0.12% | 0.02% | 0.14% |
| International Equity | 9% | 9% | 22.78% | 18.73% | 0.33% | 0.01% | 0.34% |
| Diversified Real Assets | 14% | 15% | 3.33% | 1.59% | 0.25% | 0.03% | 0.28% |
| Cash & Equivalents | 1% | 1% | 0.63% | 0.66% | (0.00%) | 0.02% | 0.02% |
| Total | | | 8.11% | 5.25% | + 2.79% | + 0.07% | 2.86% |

* Current Quarter Target = 53.0% Blmgb Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

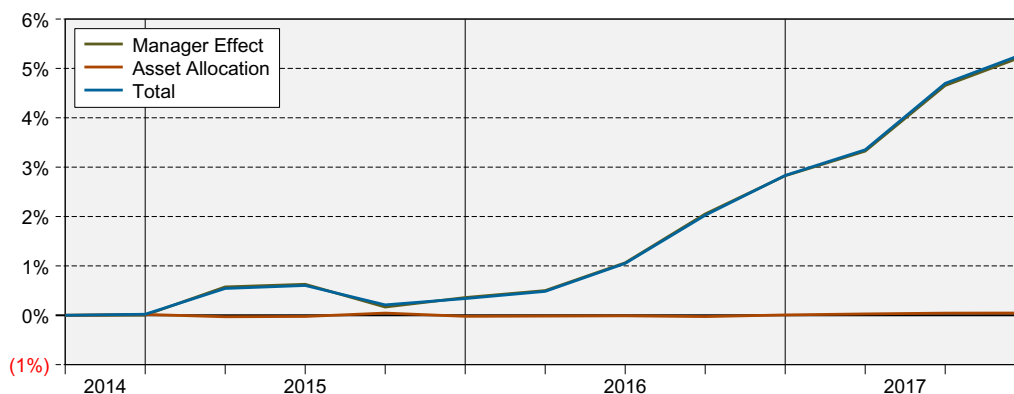
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

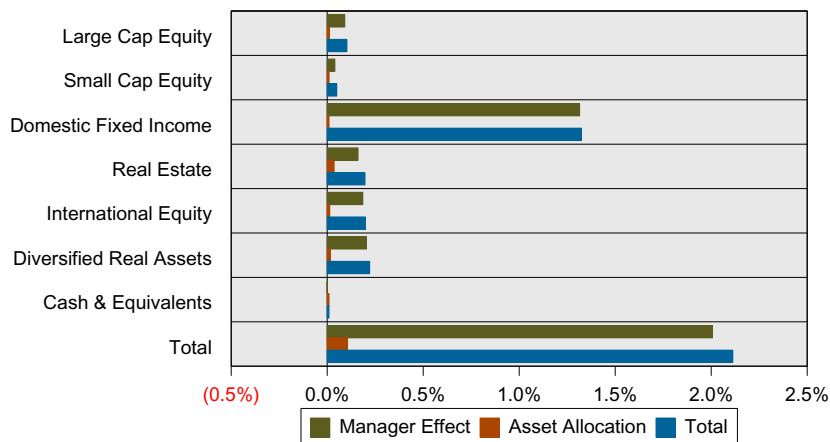
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 12% | 12% | 11.21% | 10.63% | 0.07% | (0.02%) | 0.05% |
| Small Cap Equity | 4% | 4% | 12.87% | 12.18% | 0.03% | (0.01%) | 0.01% |
| Domestic Fixed Income | 53% | 53% | 4.70% | 2.71% | 1.05% | (0.00%) | 1.05% |
| Real Estate | 7% | 6% | 11.55% | 9.83% | 0.11% | 0.03% | 0.15% |
| International Equity | 9% | 9% | 7.89% | 4.88% | 0.27% | 0.00% | 0.27% |
| Diversified Real Assets | 14% | 15% | 2.53% | 2.21% | 0.05% | 0.01% | 0.06% |
| Cash & Equivalents | 1% | 1% | 0.27% | 0.32% | (0.00%) | 0.01% | 0.01% |
| Total | | | 6.26% | 4.67% | + 1.58% | + 0.01% | 1.59% |

* Current Quarter Target = 53.0% Blmbg Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

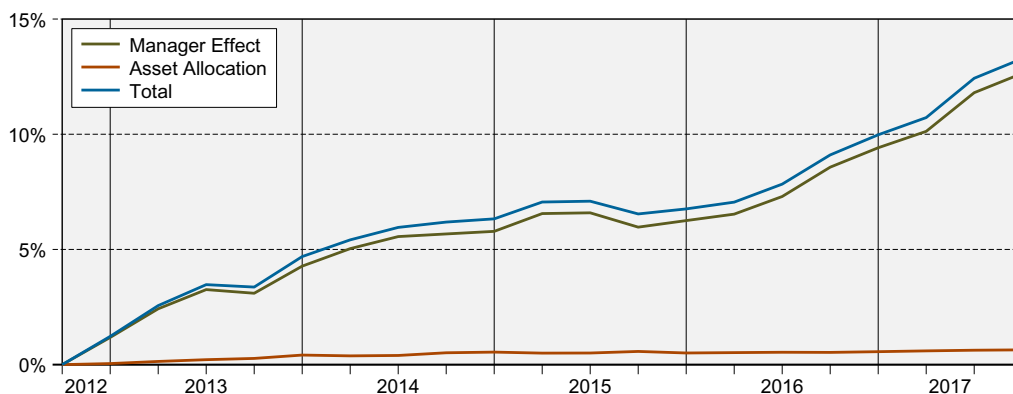
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

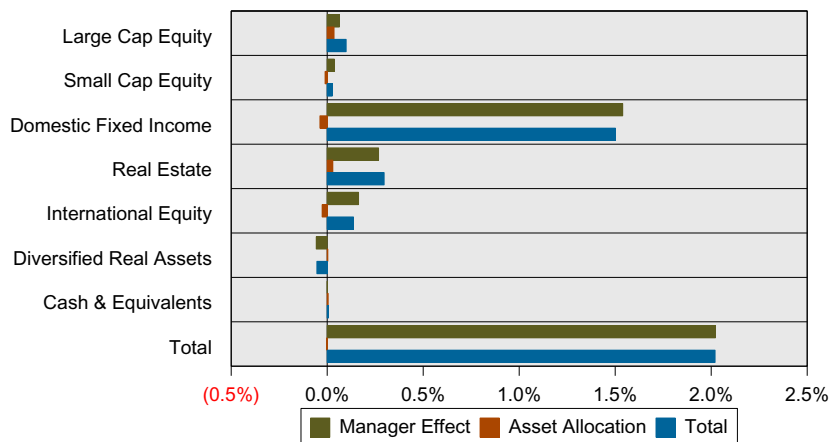
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 11% | 11% | 15.19% | 14.27% | 0.09% | 0.01% | 0.10% |
| Small Cap Equity | 4% | 4% | 15.00% | 13.79% | 0.04% | 0.01% | 0.05% |
| Domestic Fixed Income | 52% | 52% | 4.58% | 2.06% | 1.31% | 0.01% | 1.32% |
| Real Estate | 7% | 6% | 12.84% | 10.35% | 0.16% | 0.04% | 0.20% |
| International Equity | 8% | 8% | 10.48% | 8.28% | 0.19% | 0.01% | 0.20% |
| Diversified Real Assets | 17% | 17% | 3.43% | 2.33% | 0.20% | 0.02% | 0.22% |
| Cash & Equivalents | 1% | 1% | 0.21% | 0.22% | (0.00%) | 0.01% | 0.01% |
| Total | | | 6.94% | 4.83% | + 2.01% | + 0.11% | 2.11% |

* Current Quarter Target = 53.0% Blmgb Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

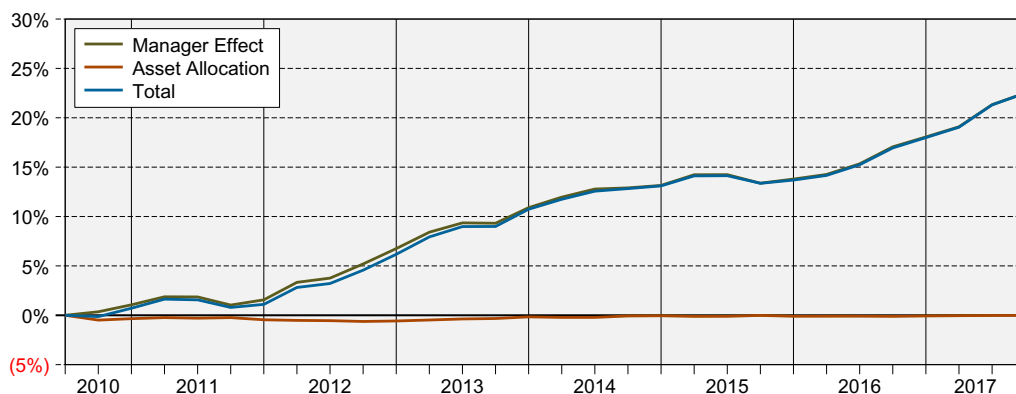
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Seven and One-Quarter Year Annualized Relative Attribution Effects



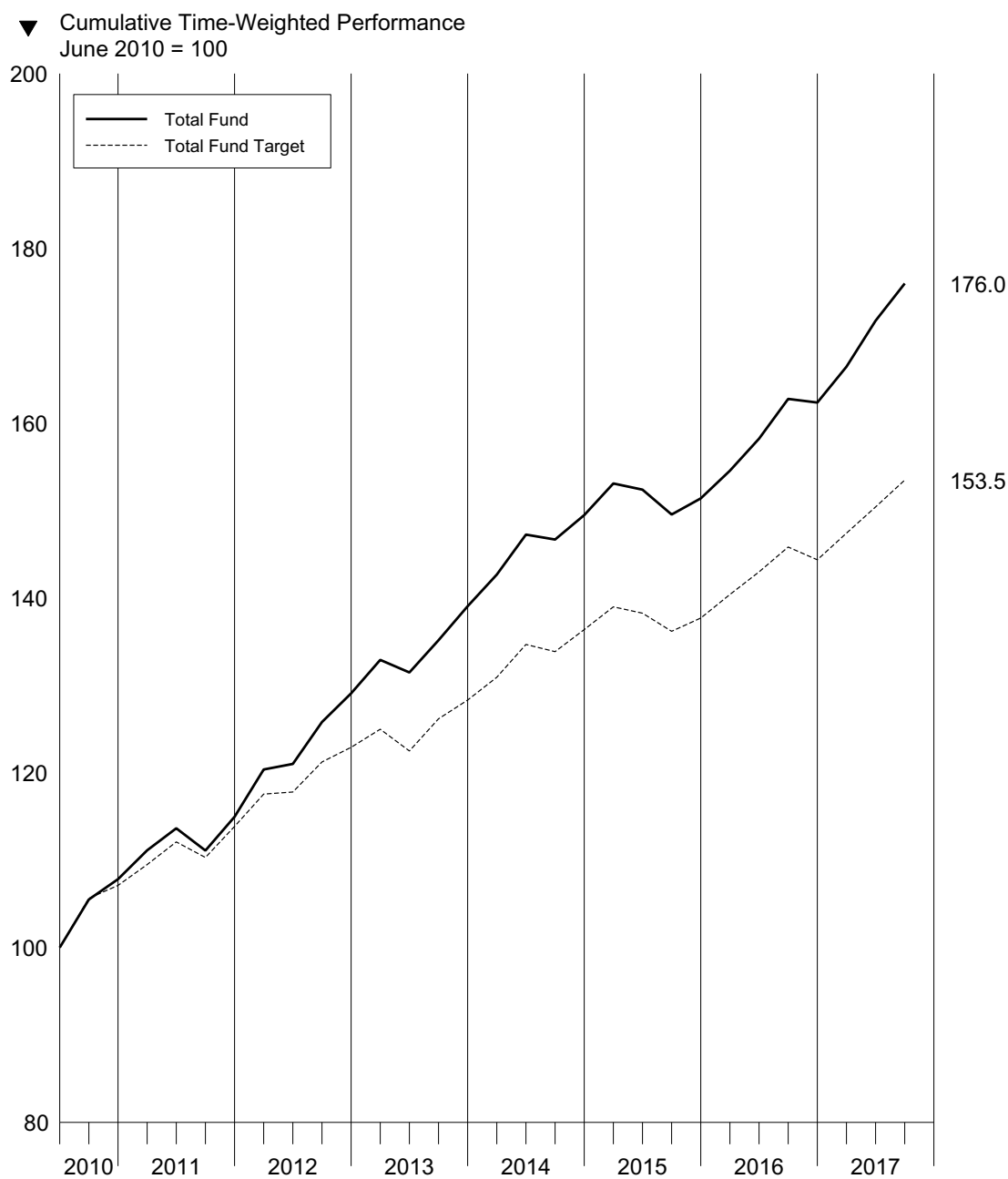
Cumulative Relative Attribution Effects



Seven and One-Quarter Year Annualized Relative Attribution Effects

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 11% | 11% | 16.16% | 15.55% | 0.06% | 0.04% | 0.10% |
| Small Cap Equity | 4% | 4% | 15.81% | 14.69% | 0.04% | (0.01%) | 0.03% |
| Domestic Fixed Income | 52% | 52% | 6.12% | 3.20% | 1.54% | (0.04%) | 1.50% |
| Real Estate | 7% | 6% | 15.91% | 11.42% | 0.27% | 0.03% | 0.30% |
| International Equity | 8% | 8% | 9.56% | 7.55% | 0.16% | (0.03%) | 0.14% |
| Diversified Real Assets | 18% | 19% | 4.41% | 4.64% | (0.06%) | 0.00% | (0.05%) |
| Cash & Equivalents | 1% | 1% | 0.23% | 0.19% | 0.00% | 0.01% | 0.01% |
| Total | | | 8.11% | 6.09% | 2.02% | (0.00%) | 2.02% |

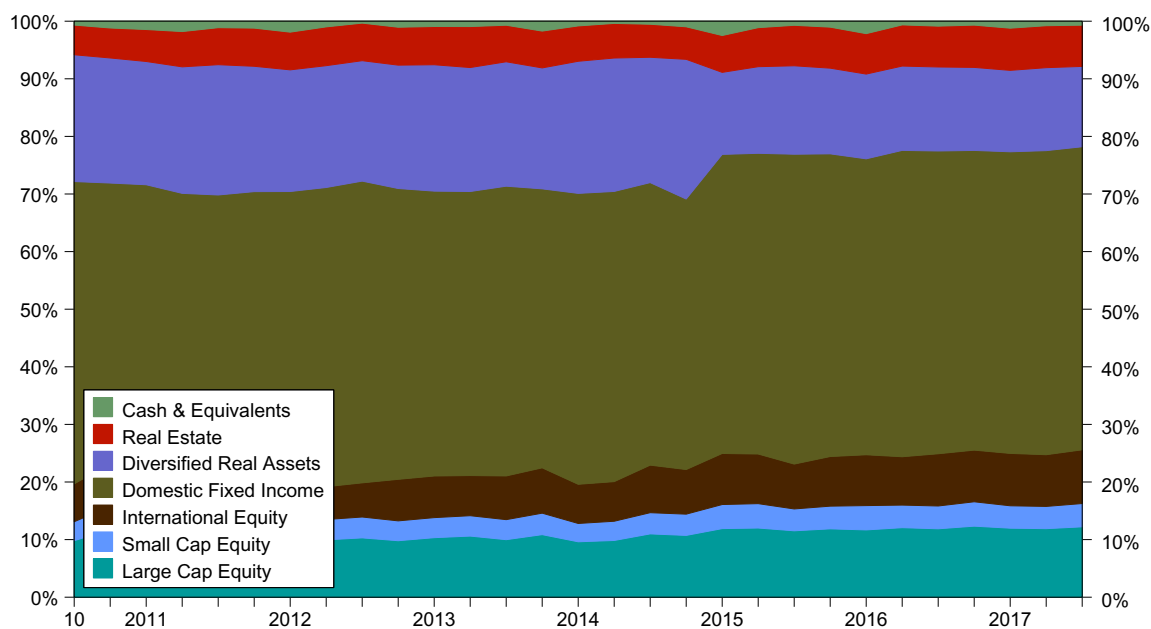
* Current Quarter Target = 53.0% Blmbg Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.



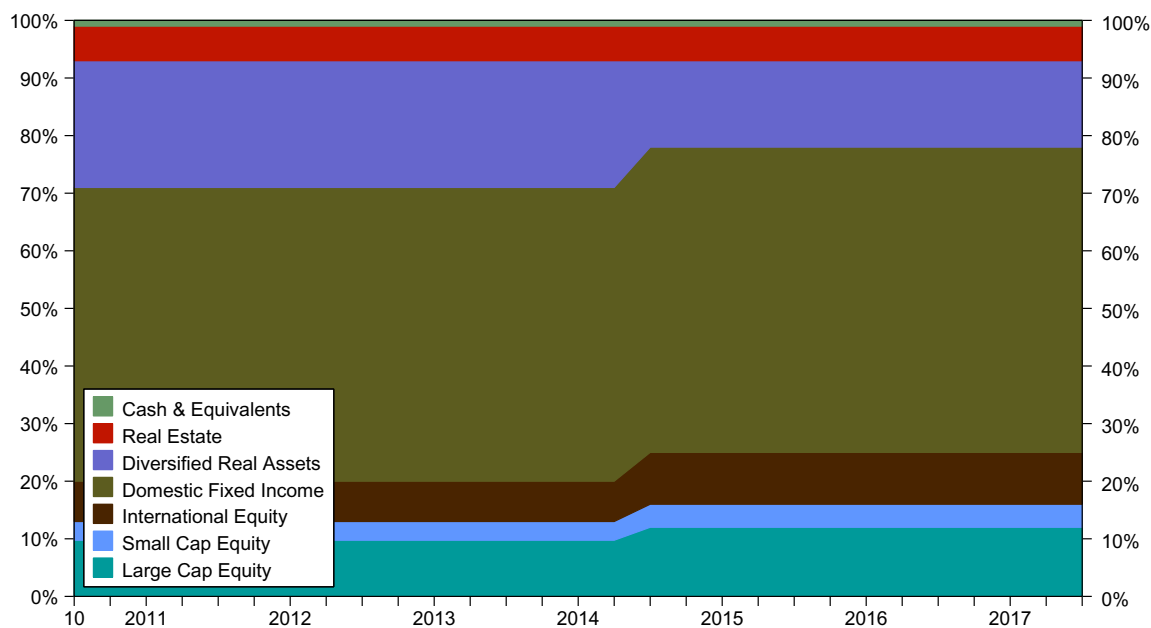
Actual vs Target Historical Asset Allocation

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

Actual Historical Asset Allocation



Target Historical Asset Allocation

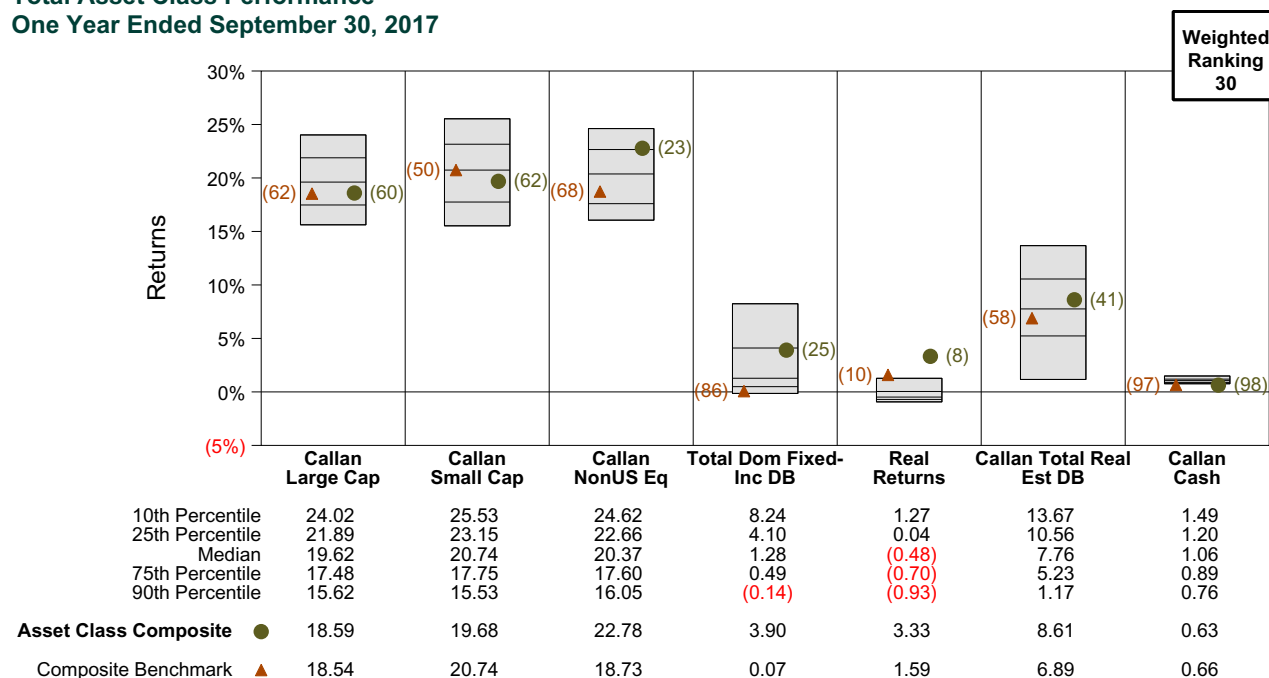


* Current Quarter Target = 53.0% Blmgb Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

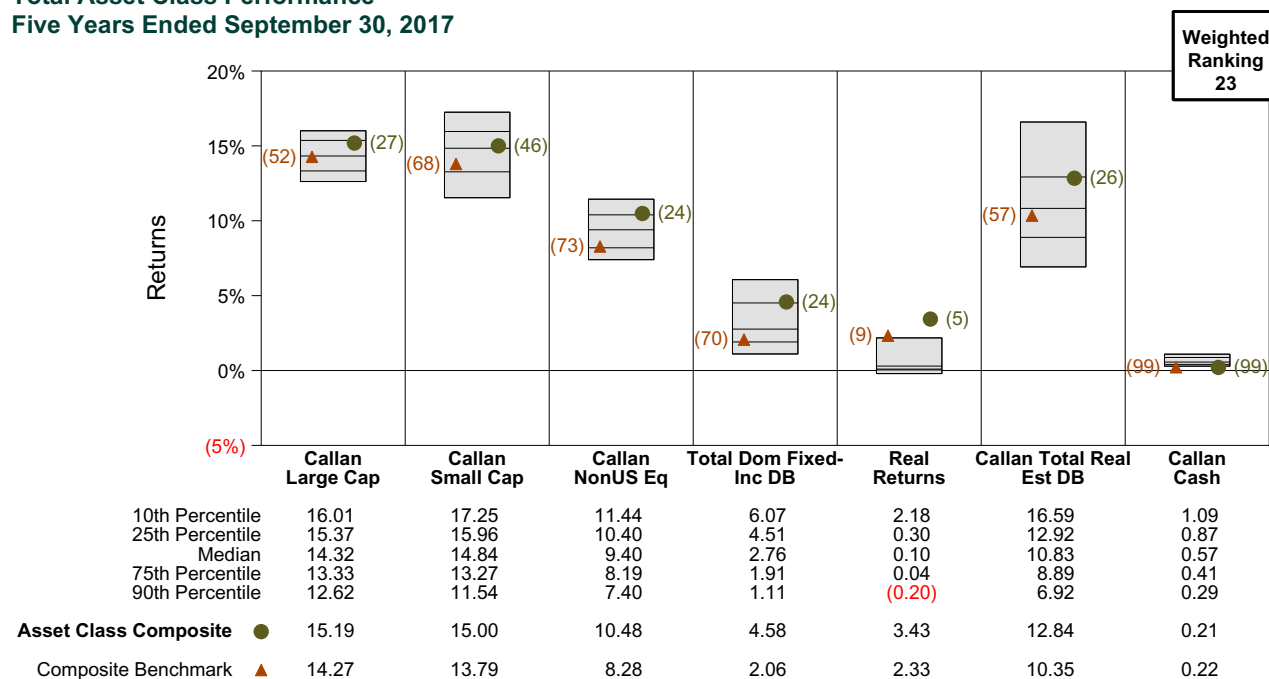
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended September 30, 2017



Total Asset Class Performance Five Years Ended September 30, 2017



* Current Quarter Target = 53.0% Blmbg Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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 Class Allocation

| | September 30, 2017 | | Net New Inv. | Inv. Return | June 30, 2017 | |
|---------------------------|------------------------|---------------|-----------------------|---------------------|------------------------|---------------|
| | Market Value | Weight | | | Market Value | Weight |
| Large Cap Equity | \$235,497,435 | 12.24% | \$(1,028,230) | \$10,558,245 | \$225,967,420 | 11.93% |
| Small Cap Equity | \$77,975,898 | 4.05% | \$366,377 | \$4,306,582 | \$73,302,938 | 3.87% |
| International Equity | \$179,753,525 | 9.34% | \$(3,503,057) | \$12,834,737 | \$170,421,845 | 9.00% |
| Domestic Fixed Income | \$1,014,375,471 | 52.73% | \$(3,782,834) | \$15,681,094 | \$1,002,477,211 | 52.91% |
| Diversified Real Assets | \$264,697,450 | 13.76% | \$(6,845,724) | \$2,353,653 | \$269,189,521 | 14.21% |
| Real Estate | \$137,928,394 | 7.17% | \$(1,401,566) | \$945,885 | \$138,384,075 | 7.30% |
| Cash & Equivalents | \$13,312,052 | 0.69% | \$(1,586,793) | \$27,071 | \$14,871,774 | 0.78% |
| Securities Lending Income | \$0 | 0.00% | \$(46,425) | \$46,425 | - | - |
| Total Fund | \$1,923,540,225 | 100.0% | \$(17,828,251) | \$46,753,691 | \$1,894,614,785 | 100.0% |

PLEASE REFER TO PAGE 30 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.

Asset Class Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 7-1/4 Years |
|-------------------------------------|-----------------|--------------|--------------------|--------------------|------------------------|
| Large Cap Equity | | | | | |
| Gross | 4.68% | 18.59% | 11.21% | 15.19% | 16.16% |
| Net | 4.63% | 18.38% | 11.00% | 14.97% | 15.90% |
| Benchmark(1) | 4.48% | 18.54% | 10.63% | 14.27% | 15.55% |
| Small Cap Equity | | | | | |
| Gross | 5.89% | 19.68% | 12.87% | 15.00% | 15.81% |
| Net | 5.75% | 19.42% | 12.47% | 14.60% | 15.22% |
| Russell 2000 | 5.67% | 20.74% | 12.18% | 13.79% | 14.69% |
| International Equity | | | | | |
| Gross | 7.57% | 22.78% | 7.89% | 10.48% | 9.56% |
| Net | 7.49% | 22.39% | 7.55% | 10.12% | 9.18% |
| Benchmark(2) | 5.62% | 18.73% | 4.88% | 8.28% | 7.55% |
| Domestic Fixed Income | | | | | |
| Gross | 1.56% | 3.90% | 4.70% | 4.58% | 6.12% |
| Net | 1.54% | 3.78% | 4.57% | 4.43% | 5.96% |
| Blmbg Aggregate | 0.85% | 0.07% | 2.71% | 2.06% | 3.20% |
| Diversified Real Assets | | | | | |
| Gross | 0.88% | 3.33% | 2.53% | 3.43% | 4.41% |
| Net | 0.87% | 3.06% | 2.23% | 3.12% | 4.06% |
| Weighted Benchmark | 1.43% | 1.59% | 2.21% | 2.33% | 4.64% |
| Real Estate | | | | | |
| Gross | 0.69% | 8.61% | 11.55% | 12.84% | 15.91% |
| Net | 0.67% | 7.98% | 10.80% | 11.99% | 14.93% |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 11.42% |
| Cash & Equivalents - Net | 0.24% | 0.63% | 0.27% | 0.21% | 0.23% |
| 90 Day Treasury Bills | 0.26% | 0.66% | 0.32% | 0.22% | 0.19% |
| Total Fund | | | | | |
| Gross | 2.48% | 8.11% | 6.26% | 6.94% | 8.11% |
| Net | 2.44% | 7.89% | 6.02% | 6.69% | 7.82% |
| Target* | 2.04% | 5.25% | 4.67% | 4.83% | 6.09% |

* Current Quarter Target = 53.0% Blmbg Aggregate, 15.0% NDSIB WSI DRA Weighted Benchmark, 12.0% Russell 1000 Index, 9.0% MSCI World ex US, 6.0% NCREIF Total Index, 4.0% Russell 2000 Index and 1.0% 3-month Treasury Bill.

(1) S&P 500 Index through 12/31/2011 and Russell 1000 Index thereafter.

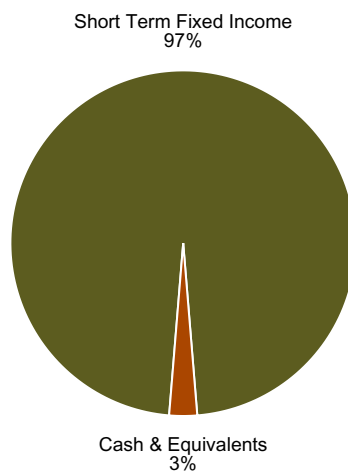
(2) MSCI EAFE through 9/30/2000; 50% Hedged EAFE through 3/31/2011; MSCI EAFE again through 6/30/2016; MSCI World ex-US thereafter.

PLEASE REFER TO PAGE 31-33 FOR INVESTMENT MANAGER LEVEL RETURNS.

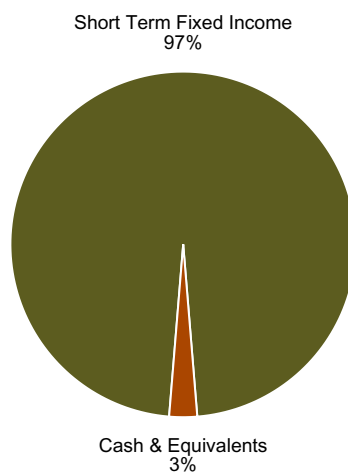
Actual vs Target Asset Allocation As of September 30, 2017

The first chart below shows the Fund's asset allocation as of September 30, 2017. 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 | Weight Actual | Target | Percent Difference | \$000s Difference |
|-------------------------|------------------|------------------|--------|-----------------------|----------------------|
| Short Term Fixed Income | 37,449 | 97.4% | 97.4% | 0.0% | (2) |
| Cash & Equivalents | 1,002 | 2.6% | 2.6% | 0.0% | 2 |
| Total | 38,451 | 100.0% | 100.0% | | |

* Current Quarter Target = 97.4% Blmbg Gov/Cred 1-3 Yr and 2.6% 3-month Treasury Bill.

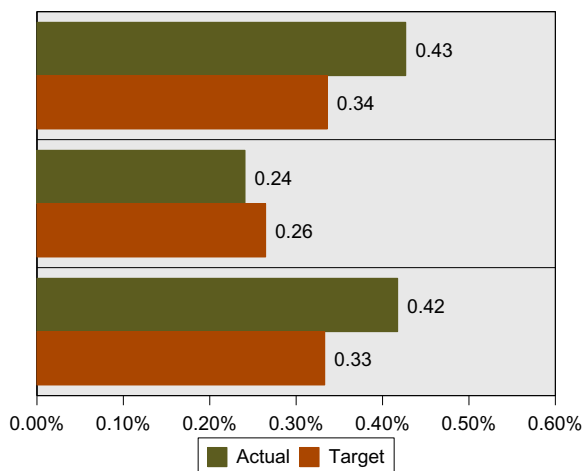
Quarterly Total Fund Relative Attribution - September 30, 2017

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

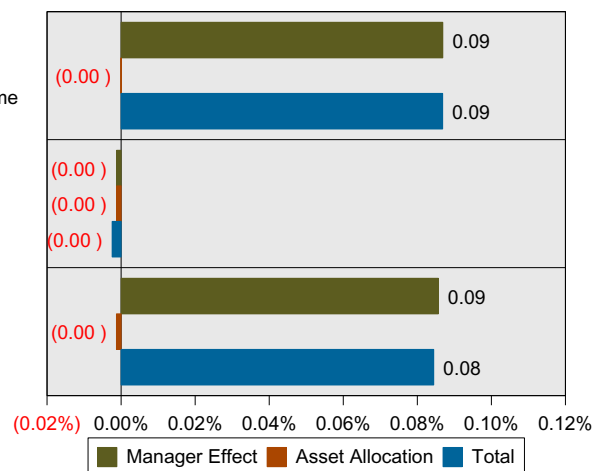
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2017

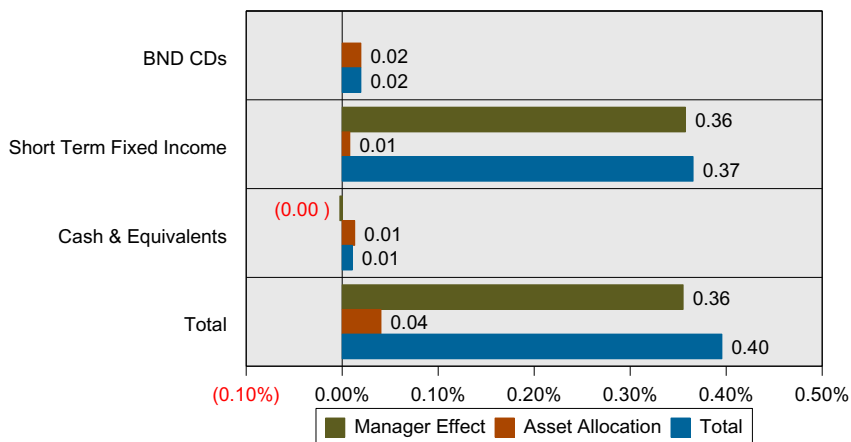
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Short Term Fixed Income | 96% | 97% | 0.43% | 0.34% | 0.09% | (0.00%) | 0.09% |
| Cash & Equivalents | 4% | 3% | 0.24% | 0.26% | (0.00%) | (0.00%) | (0.00%) |
| Total | | | 0.42% | 0.33% | 0.09% | (0.00%) | 0.08% |

* Current Quarter Target = 97.4% Blmbg Gov/Cred 1-3 Yr and 2.6% 3-month Treasury Bill.

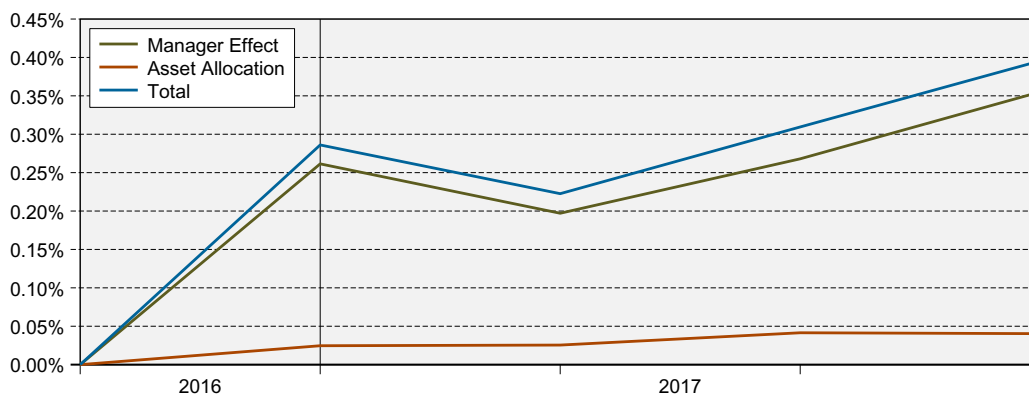
Cumulative Total Fund Relative Attribution - September 30, 2017

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

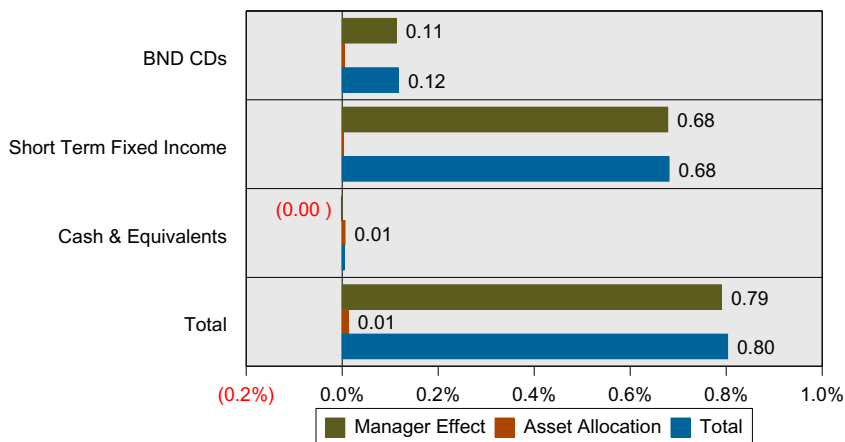
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| BND CDs | 8% | 8% | - | - | 0.00% | 0.02% | 0.02% |
| Short Term Fixed Income | 86% | 86% | 0.91% | 0.48% | 0.36% | 0.01% | 0.37% |
| Cash & Equivalents | 5% | 6% | 0.62% | 0.66% | (0.00%) | 0.01% | 0.01% |
| Total | | | 1.10% | 0.71% | + 0.36% | + 0.04% | 0.40% |

* Current Quarter Target = 97.4% Blmbg Gov/Cred 1-3 Yr and 2.6% 3-month Treasury Bill.

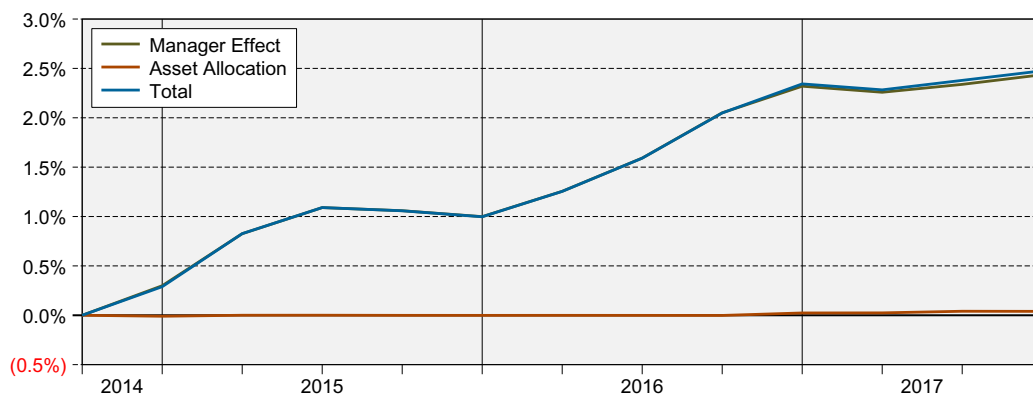
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

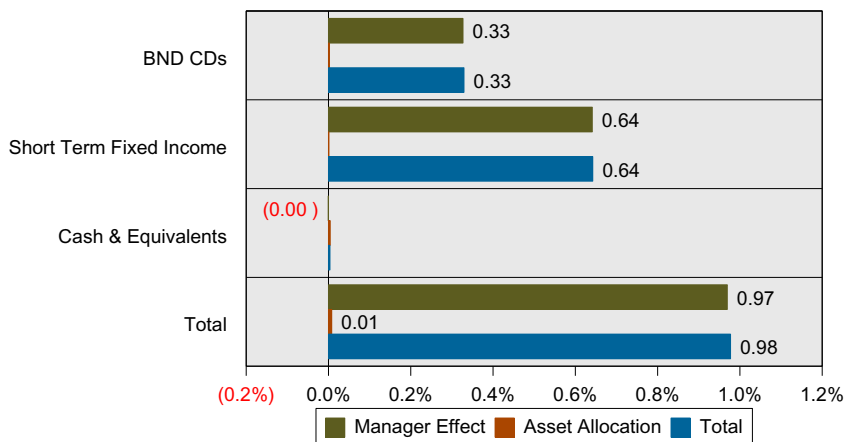
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| BND CDs | 13% | 13% | - | - | 0.11% | 0.00% | 0.12% |
| Short Term Fixed Income | 84% | 84% | 1.67% | 0.85% | 0.68% | 0.00% | 0.68% |
| Cash & Equivalents | 3% | 3% | 0.27% | 0.32% | (0.00%) | 0.01% | 0.00% |
| Total | | | 1.78% | 0.97% | 0.79% | 0.01% | 0.80% |

* Current Quarter Target = 97.4% Blmbg Gov/Cred 1-3 Yr and 2.6% 3-month Treasury Bill.

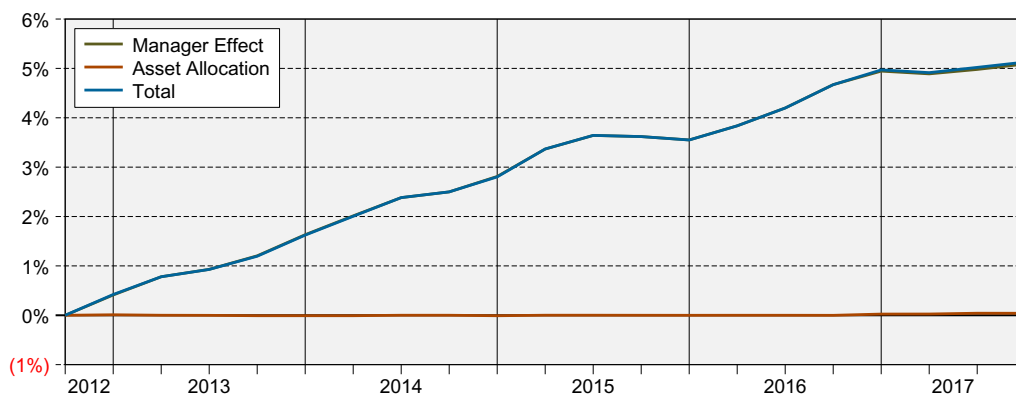
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

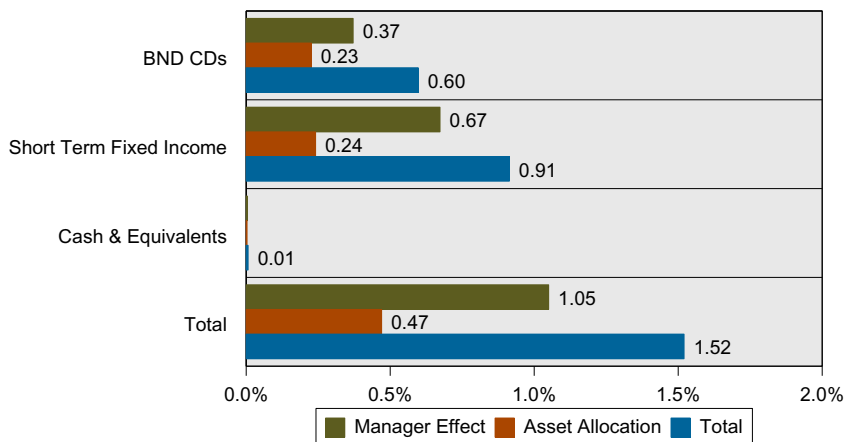
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| BND CDs | 17% | 17% | - | - | 0.33% | 0.00% | 0.33% |
| Short Term Fixed Income | 81% | 81% | 1.48% | 0.69% | 0.64% | 0.00% | 0.64% |
| Cash & Equivalents | 3% | 3% | 0.20% | 0.22% | (0.00%) | 0.00% | 0.00% |
| Total | | | 1.71% | 0.73% | 0.97% | 0.01% | 0.98% |

* Current Quarter Target = 97.4% Blmbg Gov/Cred 1-3 Yr and 2.6% 3-month Treasury Bill.

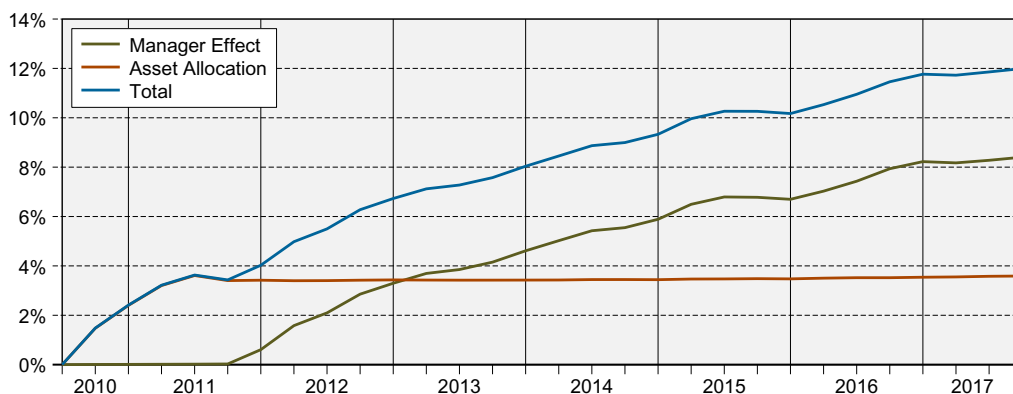
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Seven and One-Quarter Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects

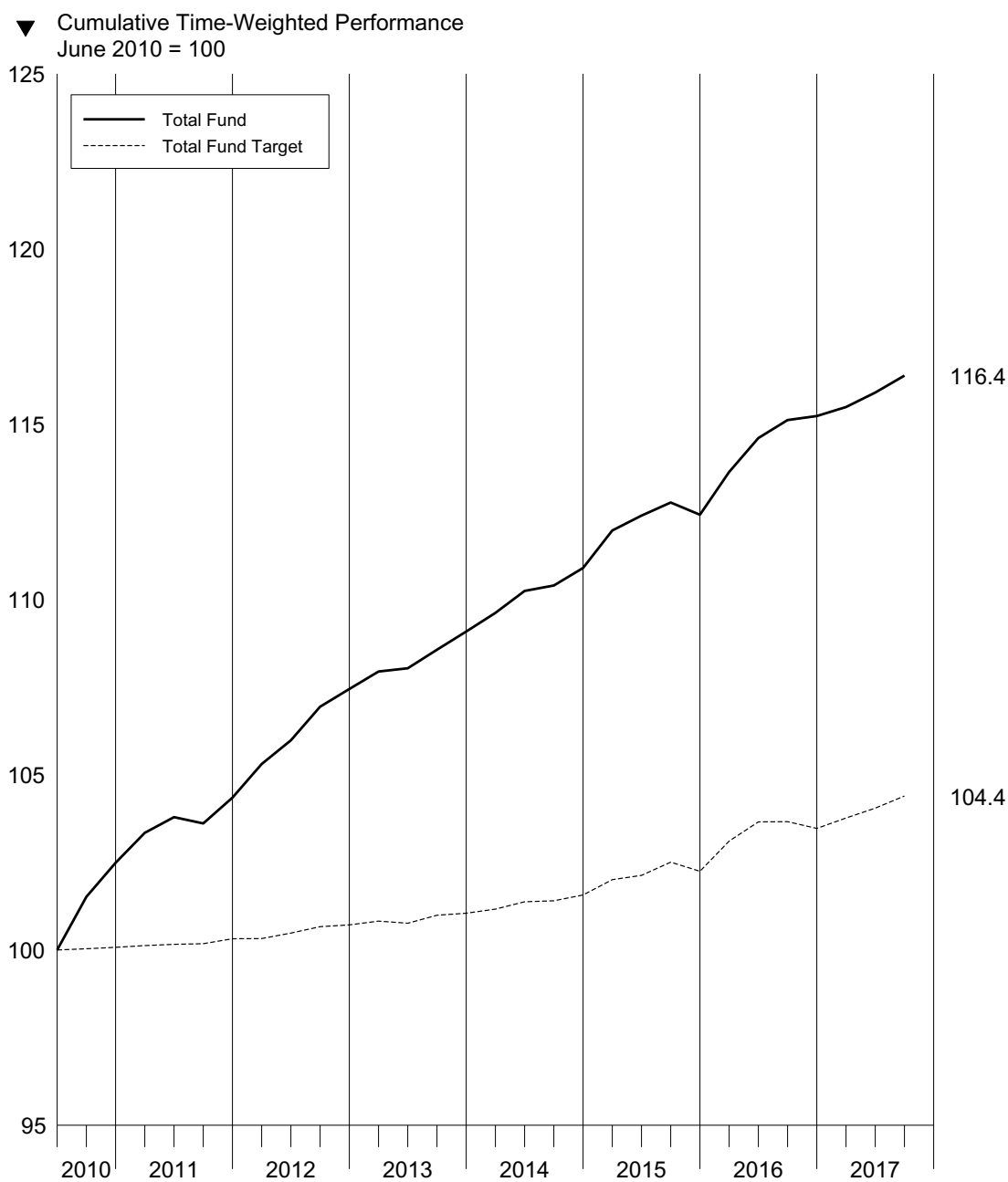


Seven and One-Quarter Year Annualized Relative Attribution Effects

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| BND CDs | 20% | 15% | - | - | 0.37% | 0.23% | 0.60% |
| Short Term Fixed Income | 76% | 66% | 1.86% | 0.99% | 0.67% | 0.24% | 0.91% |
| Cash & Equivalents | 4% | 19% | 0.23% | 0.19% | 0.00% | 0.00% | 0.01% |
| Total | | | 2.12% | 0.59% | + 1.05% | + 0.47% | 1.52% |

* Current Quarter Target = 97.4% Blmbg Gov/Cred 1-3 Yr and 2.6% 3-month Treasury Bill.

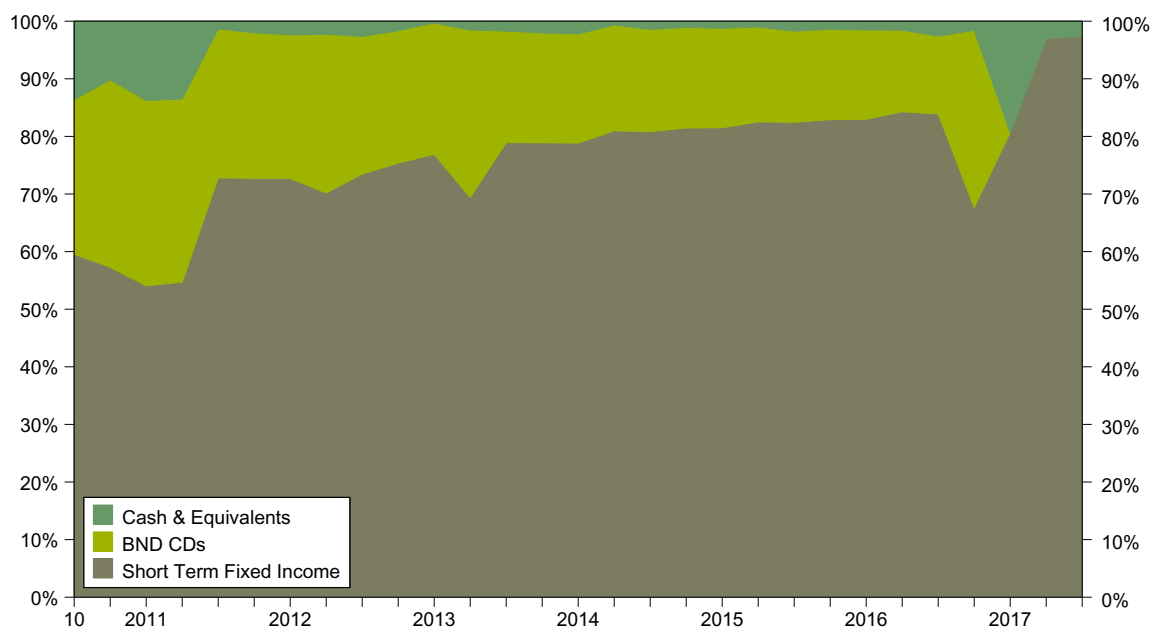
NDSIB - Budget Stabilization Fund
Cumulative Results



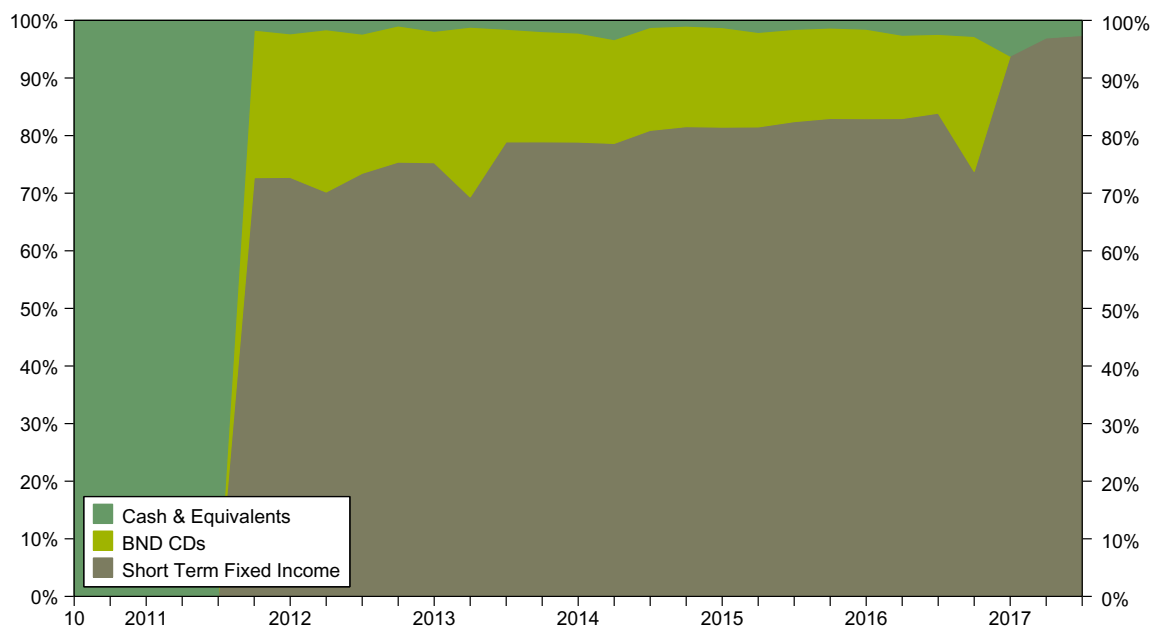
Actual vs Target Historical Asset Allocation

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

Actual Historical Asset Allocation



Target Historical Asset Allocation



* Current Quarter Target = 97.4% Blmbg Gov/Cred 1-3 Yr and 2.6% 3-month Treasury Bill.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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 Class Allocation | | | | | |
|---------------------------|------------------------|--------|--------------|-------------|---------------|--------|
| | September 30, 2017 | | Net New Inv. | Inv. Return | June 30, 2017 | |
| | Market Value | Weight | | | Market Value | Weight |
| Short Term Fixed Income | \$37,448,982 | 97.39% | \$31,495,543 | \$11,894 | \$5,941,545 | 96.96% |
| Cash & Equivalents | \$1,001,930 | 2.61% | \$812,861 | \$2,770 | \$186,299 | 3.04% |
| Securities Lending Income | \$0 | 0.00% | \$(259) | \$259 | - | - |
| Total Fund | \$38,450,912 | 100.0% | \$32,308,145 | \$14,922 | \$6,127,844 | 100.0% |

PLEASE REFER TO PAGE 30 FOR INVESTMENT MANAGER LEVEL ASSET ALLOCATION.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 7-1/4 Years |
|-------------------------------------|-----------------|--------------|--------------------|--------------------|------------------------|
| Short Term Fixed Income | | | | | |
| Gross | 0.43% | 0.91% | 1.67% | 1.48% | 1.86% |
| Net | 0.39% | 0.52% | 1.45% | 1.30% | 1.69% |
| Blended Benchmark(1) | 0.34% | 0.48% | 0.85% | 0.69% | - |
| Cash & Equivalents - Net | 0.24% | 0.62% | 0.27% | 0.20% | 0.23% |
| 3-month Treasury Bill | 0.26% | 0.66% | 0.32% | 0.22% | 0.19% |
| Total Fund | | | | | |
| Gross | 0.42% | 1.10% | 1.78% | 1.71% | 2.12% |
| Net | 0.38% | 0.76% | 1.58% | 1.56% | 1.99% |
| Target* | 0.33% | 0.71% | 0.97% | 0.73% | 0.59% |

* Current Quarter Target = 97.4% Blmbg Gov/Cred 1-3 Yr and 2.6% 3-month Treasury Bill.

(1) Blmbg Gov 1-3 Yr through March 31, 2017 and Blmbg Gov/Credit 1-3 Yr thereafter.

PLEASE REFER TO PAGES 31-33 FOR INVESTMENT MANAGER LEVEL RETURNS.

Large Cap Equity Period Ended September 30, 2017

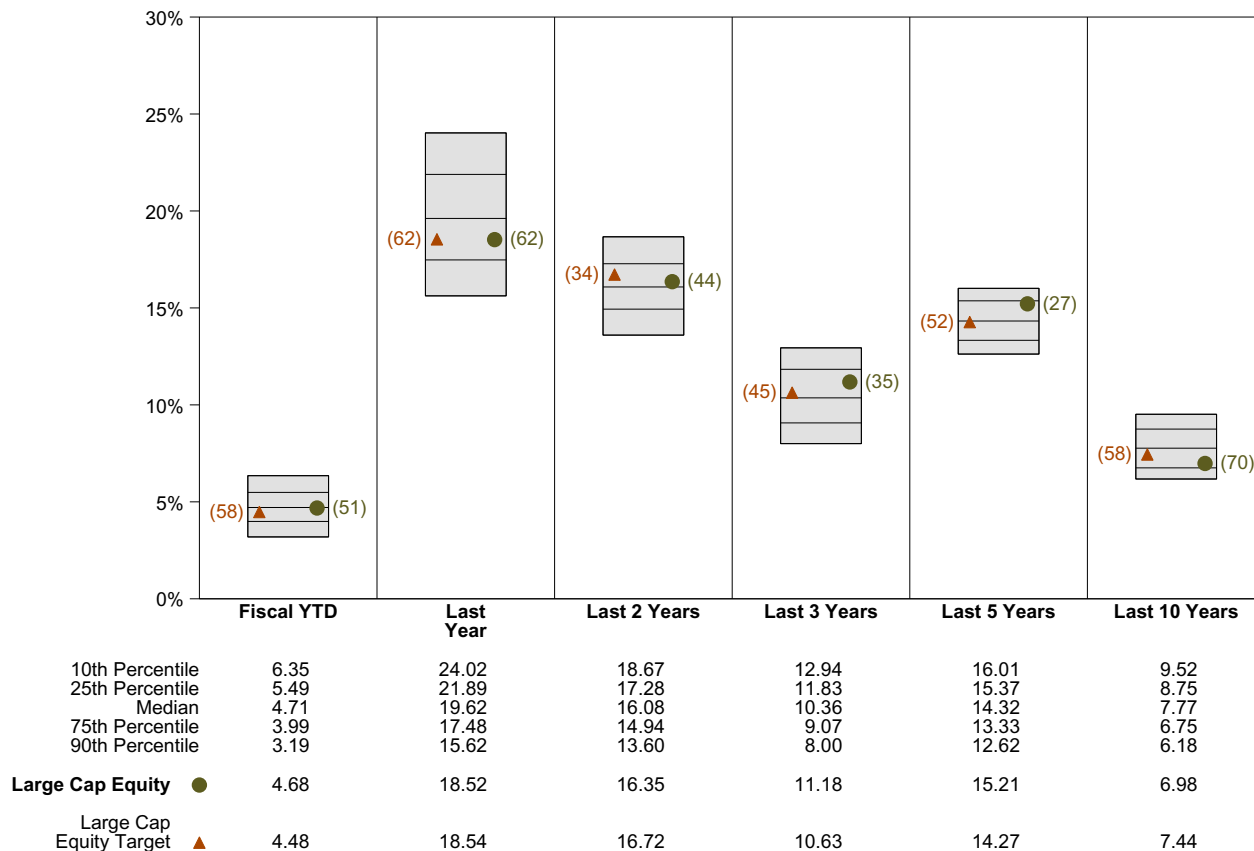
Quarterly Summary and Highlights

- Large Cap Equity's portfolio posted a 4.68% return for the quarter placing it in the 51 percentile of the Callan Large Capitalization group for the quarter and in the 62 percentile for the last year.
- Large Cap Equity's portfolio outperformed the Large Cap Equity Target by 0.20% for the quarter and underperformed the Large Cap Equity Target for the year by 0.02%.

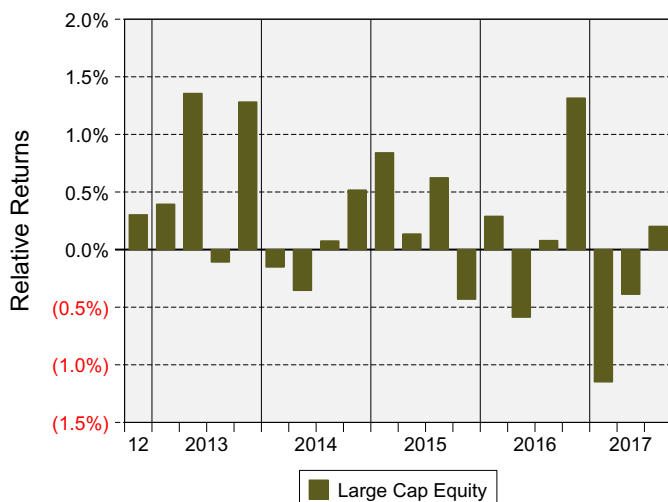
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$244,443,123 |
| Net New Investment | \$-2,116,105 |
| Investment Gains/(Losses) | \$11,415,321 |
| Ending Market Value | \$253,742,338 |

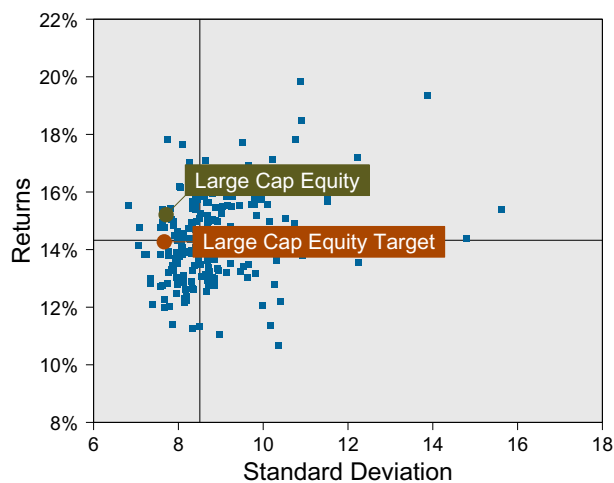
Performance vs Callan Large Capitalization (Gross)



Relative Return vs Large Cap Equity Target



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



Parametric Clifton Large Cap Period Ended September 30, 2017

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

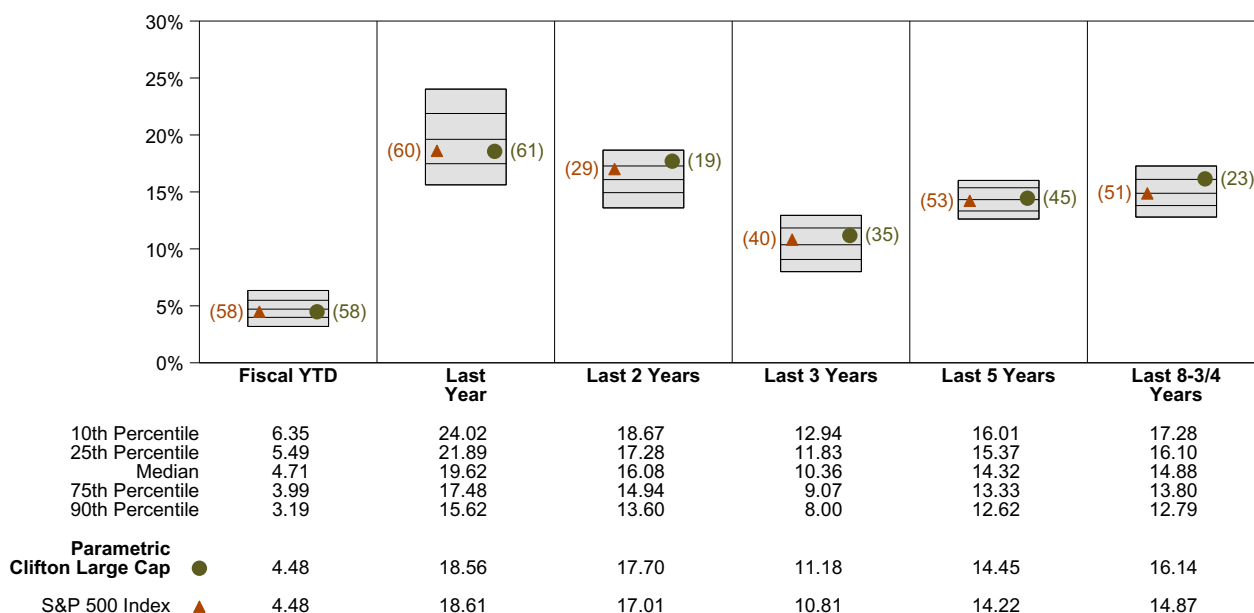
Quarterly Summary and Highlights

- Parametric Clifton Large Cap's portfolio posted a 4.48% return for the quarter placing it in the 58 percentile of the Callan Large Capitalization group for the quarter and in the 61 percentile for the last year.
- Parametric Clifton Large Cap's portfolio underperformed the S&P 500 Index by 0.00% for the quarter and underperformed the S&P 500 Index for the year by 0.05%.

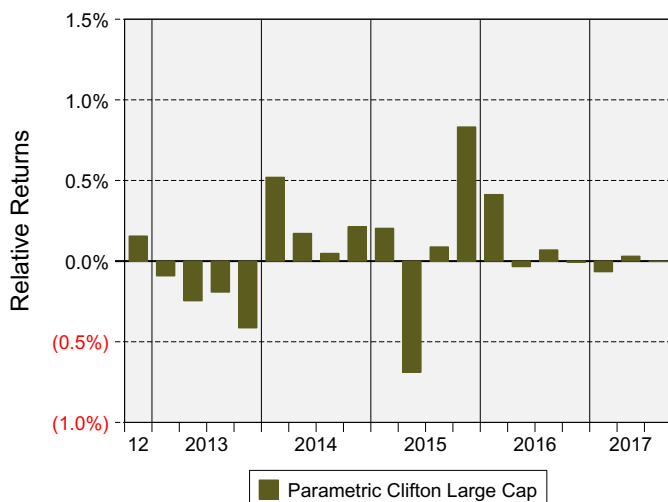
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$48,932,899 |
| Net New Investment | \$-6,800 |
| Investment Gains/(Losses) | \$2,191,051 |
| Ending Market Value | \$51,117,149 |

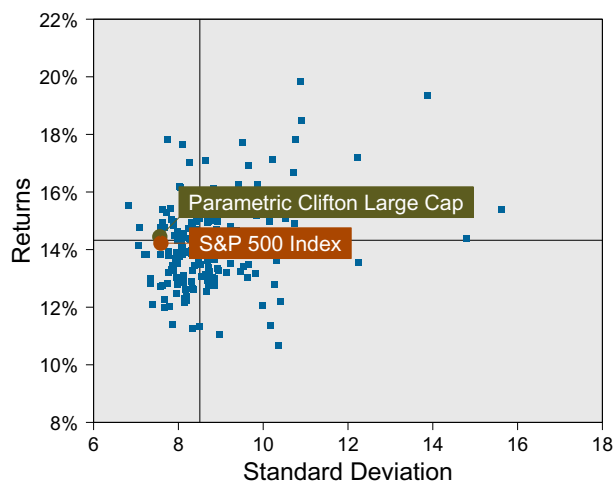
Performance vs Callan Large Capitalization (Gross)



Relative Return vs S&P 500 Index



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



L.A. Capital Period Ended September 30, 2017

Investment Philosophy

The LA Capital Structured portfolio is a large growth portfolio benchmarked to the Russell 1000 Growth Index. It is an active assignment meaning that it targets a 2% alpha and constrains its risk budget (tracking error) to 4% relative to the benchmark. LA Capital believes that investment results are driven by Investor Preferences and thus recognize that when preferences shift a different posture related to that factor is warranted.

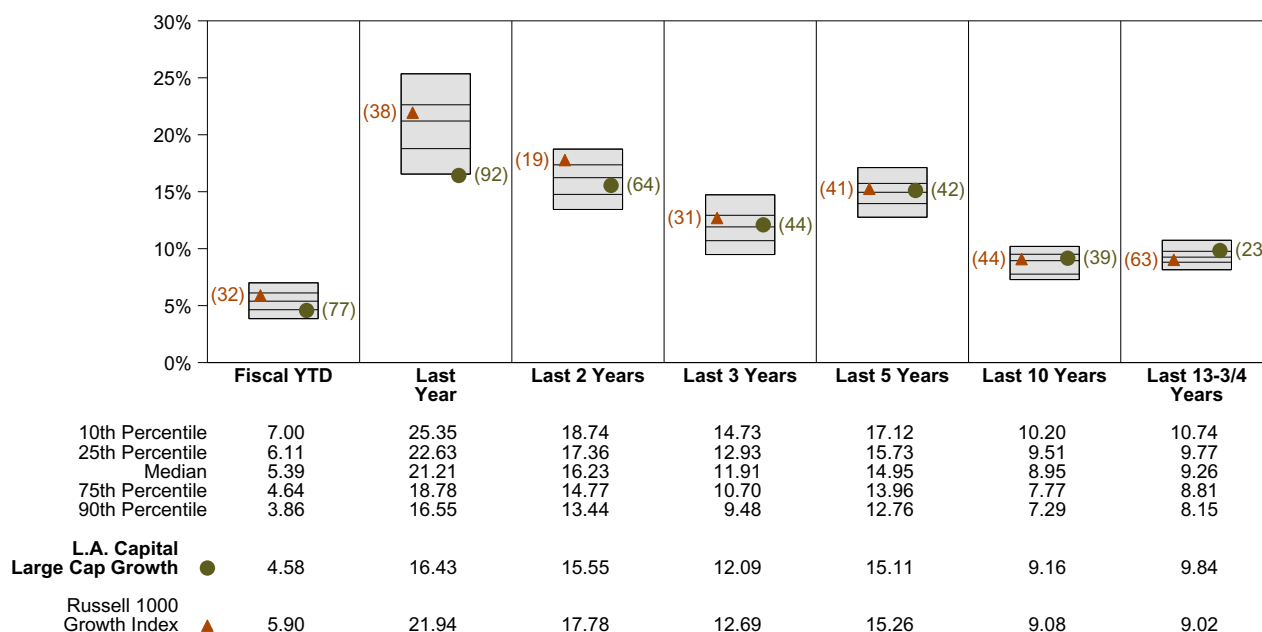
Quarterly Summary and Highlights

- L.A. Capital Large Cap Growth's portfolio posted a 4.58% return for the quarter placing it in the 77 percentile of the Callan Large Cap Growth group for the quarter and in the 92 percentile for the last year.
- L.A. Capital Large Cap Growth's portfolio underperformed the Russell 1000 Growth Index by 1.32% for the quarter and underperformed the Russell 1000 Growth Index for the year by 5.51%.

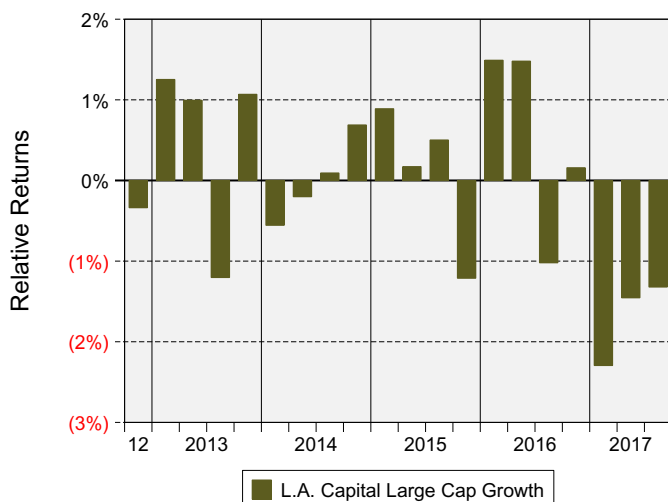
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$73,031,178 |
| Net New Investment | \$-2,038,699 |
| Investment Gains/(Losses) | \$3,350,811 |
| Ending Market Value | \$74,343,290 |

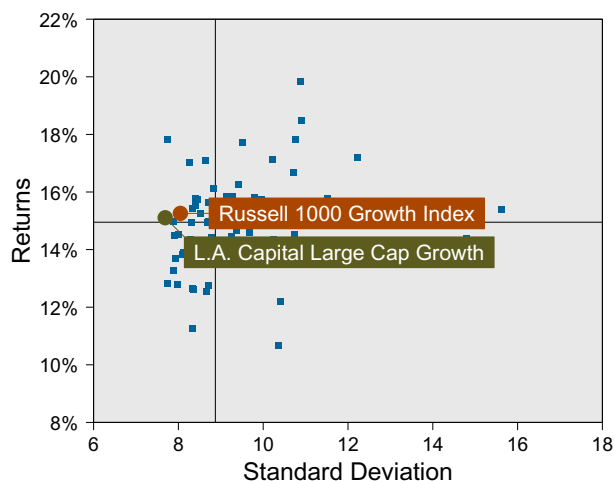
Performance vs Callan Large Cap Growth (Gross)



Relative Return vs Russell 1000 Growth Index



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



L.A. Capital Enhanced Period Ended September 30, 2017

Investment Philosophy

The LA Capital Enhanced portfolio is a large core portfolio benchmarked to the Russell 1000 Index. Characterized as an enhanced index assignment, its objective is to track the benchmark with lower variability. The pension portfolio began in August of 2000 and the insurance portfolio was initiated in April of 2004. Since October of 2006 a small portion of each of the two core accounts was allocated into the Large Cap Alpha Fund with intent to add incremental alpha to the assignment given that the information ratio was expected to be higher.

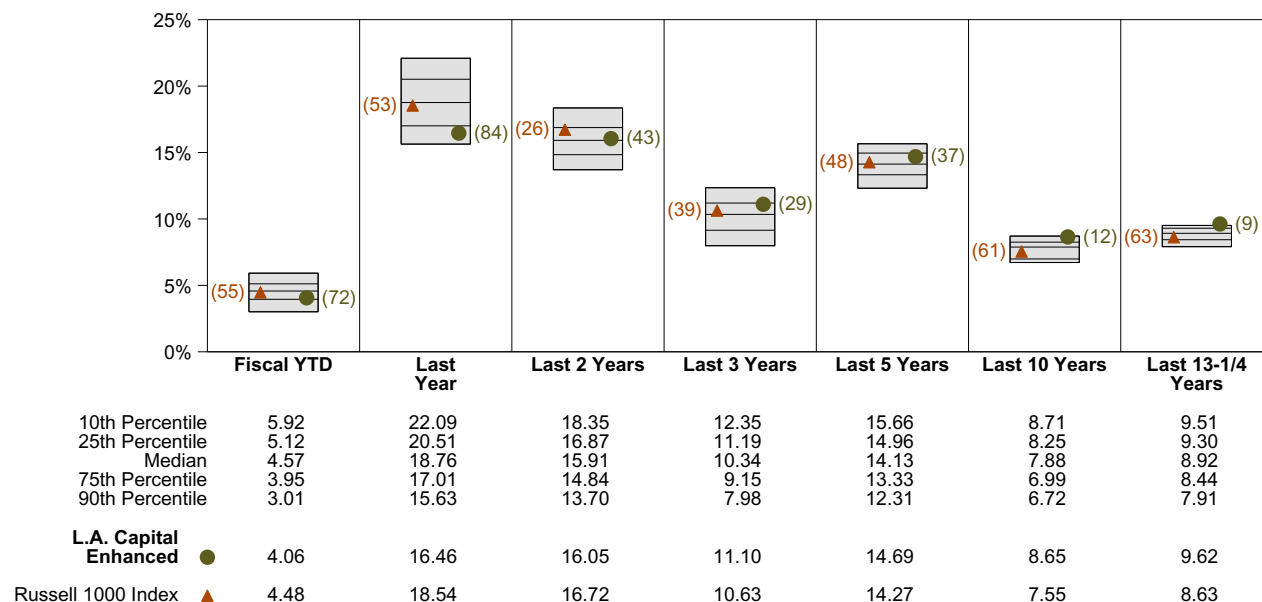
Quarterly Summary and Highlights

- L.A. Capital Enhanced's portfolio posted a 4.06% return for the quarter placing it in the 72 percentile of the Callan Large Cap Core group for the quarter and in the 84 percentile for the last year.
- L.A. Capital Enhanced's portfolio underperformed the Russell 1000 Index by 0.42% for the quarter and underperformed the Russell 1000 Index for the year by 2.08%.

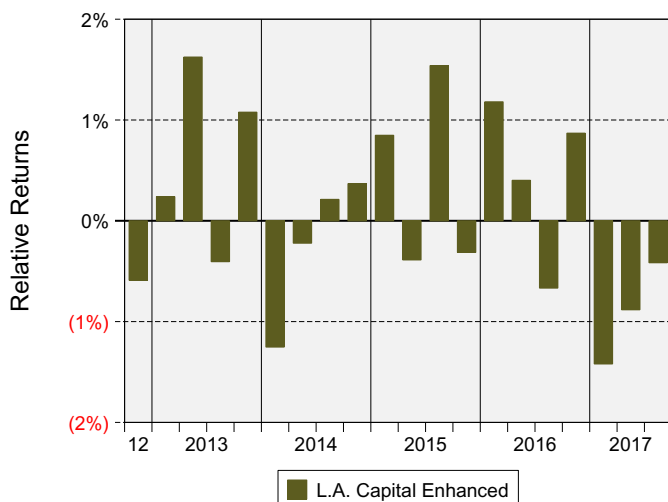
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$48,265,386 |
| Net New Investment | \$-15,147 |
| Investment Gains/(Losses) | \$1,960,419 |
| Ending Market Value | \$50,210,658 |

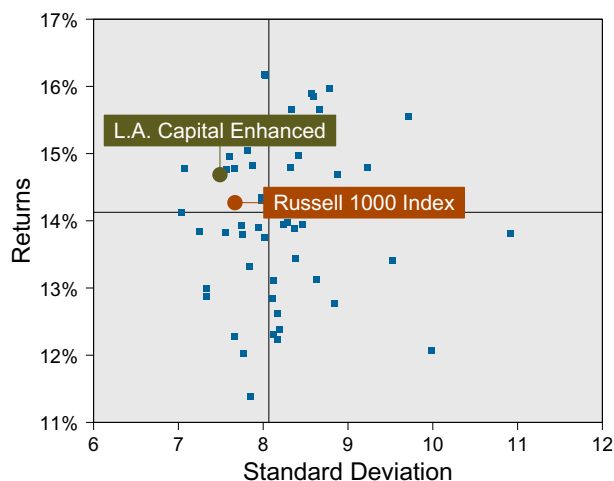
Performance vs Callan Large Cap Core (Gross)



Relative Return vs Russell 1000 Index



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



LSV Asset Management Period Ended September 30, 2017

Investment Philosophy

The objective of LSV Asset Management's Large Cap Value Equity (U.S.) strategy is to outperform the Russell 1000 Value by at least 200 basis points (gross of fees) per annum over a 3-5 year period with a tracking error of approximately 4%. Their stock selection process is a quantitative approach that ranks a broad universe of stocks on a combination of value and momentum factors and seeks to invest approximately 100 stocks in the most attractive securities possible within strict risk parameters to control the portfolio's tracking error relative to the benchmark. The resulting portfolio is broadly diversified across industry groups and fully invested.

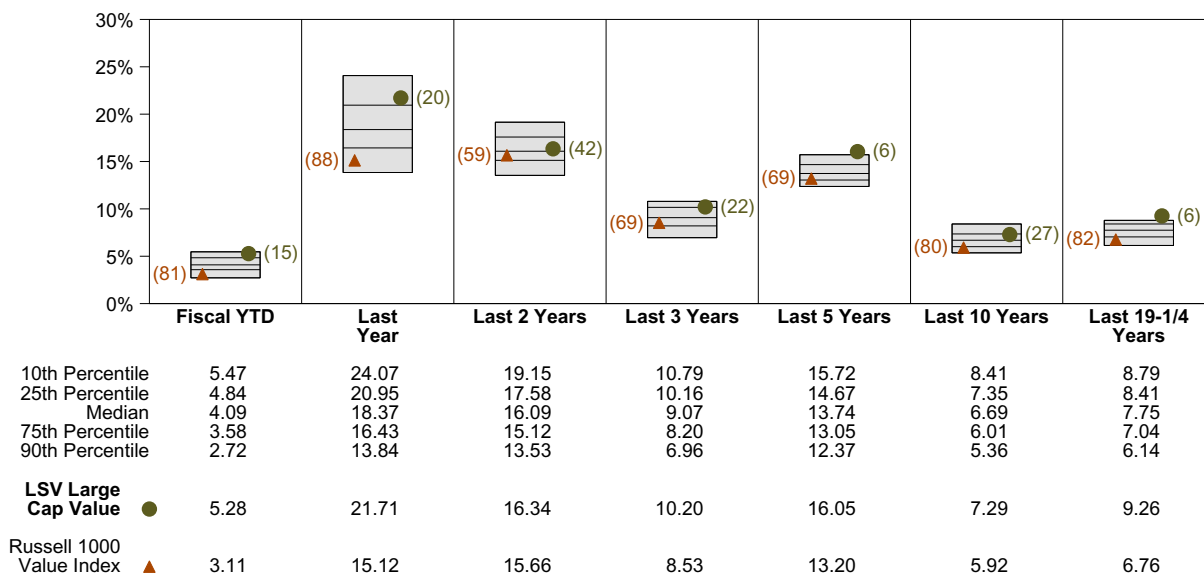
Quarterly Summary and Highlights

- LSV Large Cap Value's portfolio posted a 5.28% return for the quarter placing it in the 15 percentile of the Callan Large Cap Value group for the quarter and in the 20 percentile for the last year.
- LSV Large Cap Value's portfolio outperformed the Russell 1000 Value Index by 2.16% for the quarter and outperformed the Russell 1000 Value Index for the year by 6.59%.

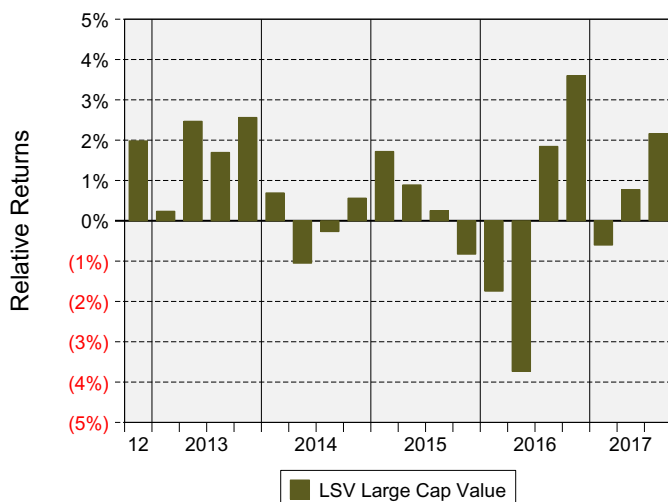
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$74,213,660 |
| Net New Investment | \$-55,460 |
| Investment Gains/(Losses) | \$3,913,040 |
| Ending Market Value | \$78,071,240 |

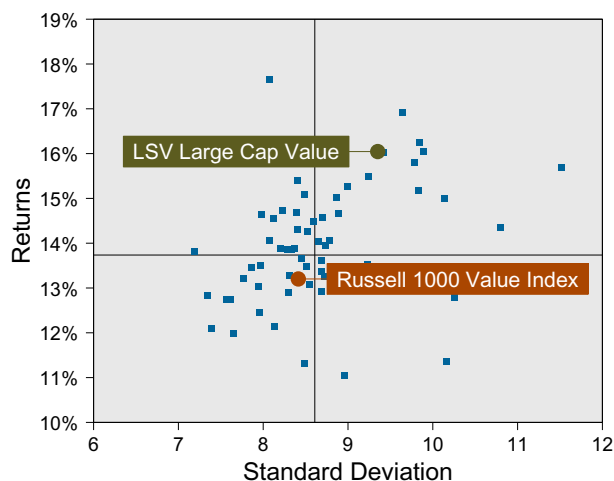
Performance vs Callan Large Cap Value (Gross)



Relative Return vs Russell 1000 Value Index



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



Small Cap Equity Period Ended September 30, 2017

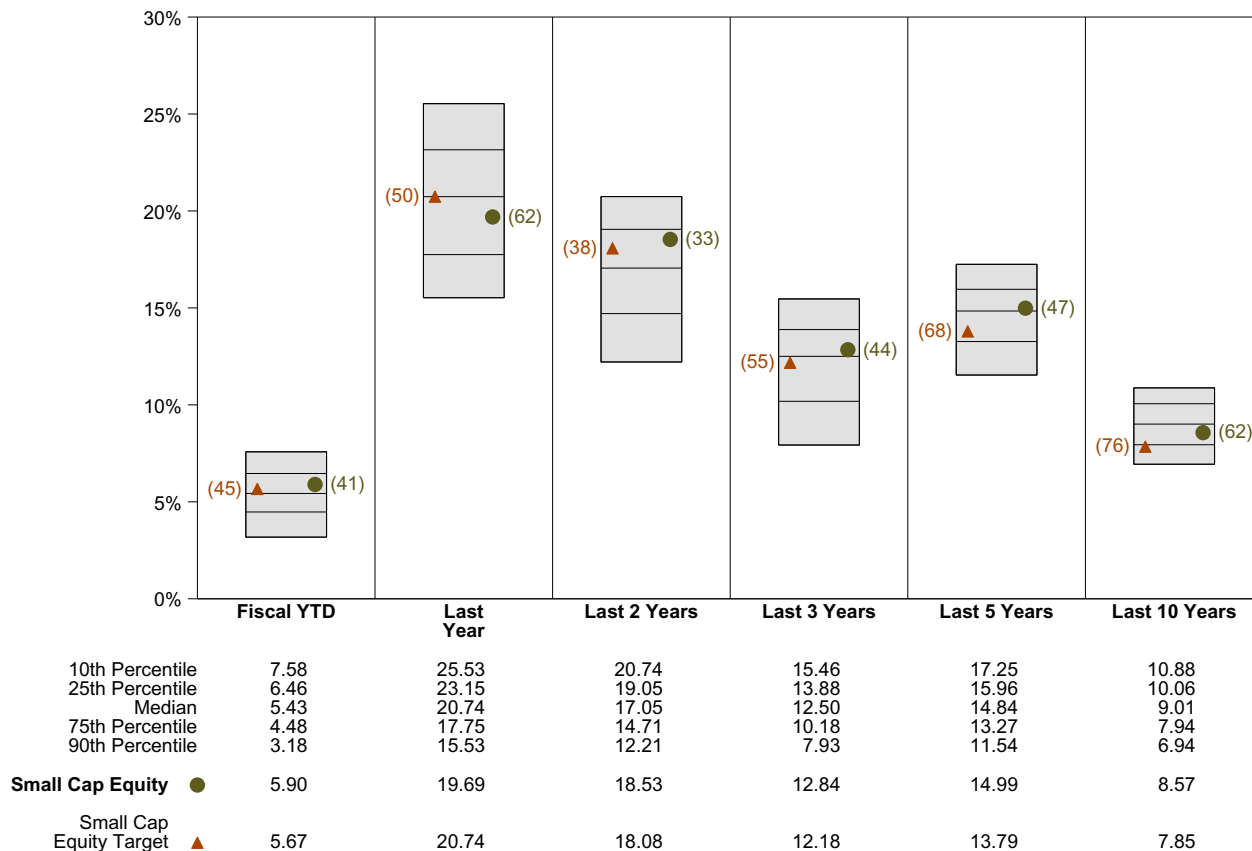
Quarterly Summary and Highlights

- Small Cap Equity's portfolio posted a 5.90% return for the quarter placing it in the 41 percentile of the Callan Small Capitalization group for the quarter and in the 62 percentile for the last year.
- Small Cap Equity's portfolio outperformed the Small Cap Equity Target by 0.23% for the quarter and underperformed the Small Cap Equity Target for the year by 1.05%.

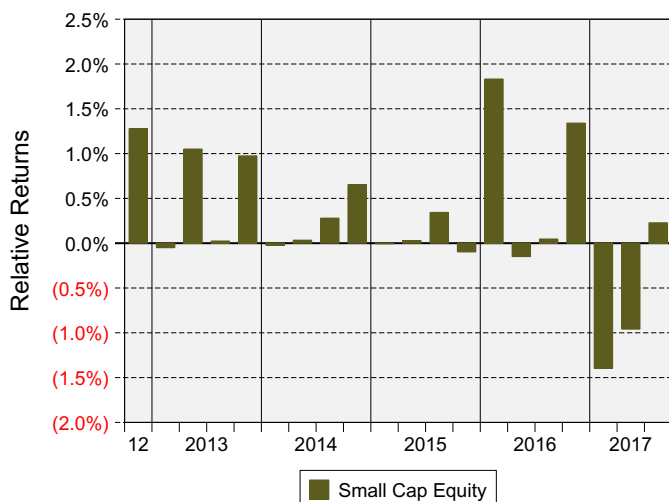
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$81,244,411 |
| Net New Investment | \$-110,903 |
| Investment Gains/(Losses) | \$4,782,992 |
| Ending Market Value | \$85,916,500 |

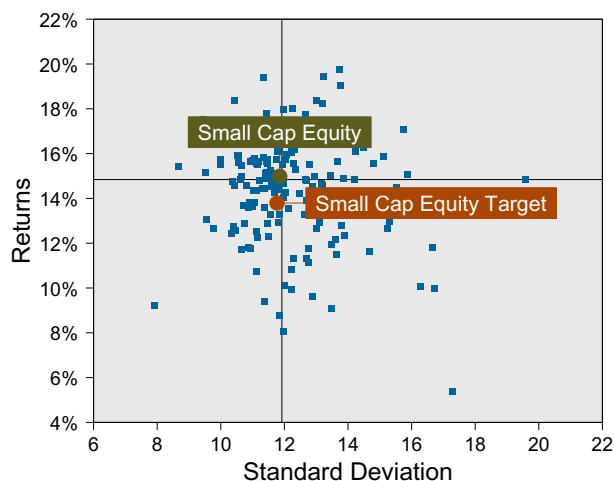
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Small Cap Equity Target



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



Parametric Clifton SmallCap Period Ended September 30, 2017

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

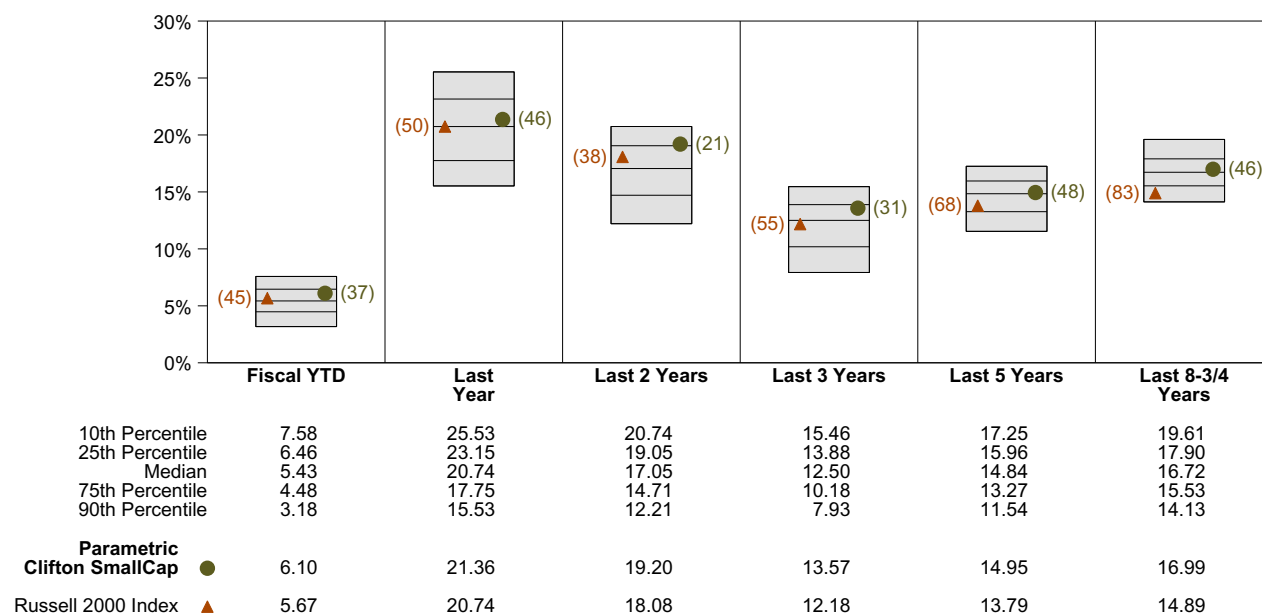
Quarterly Summary and Highlights

- Parametric Clifton SmallCap's portfolio posted a 6.10% return for the quarter placing it in the 37 percentile of the Callan Small Capitalization group for the quarter and in the 46 percentile for the last year.
- Parametric Clifton SmallCap's portfolio outperformed the Russell 2000 Index by 0.43% for the quarter and outperformed the Russell 2000 Index for the year by 0.62%.

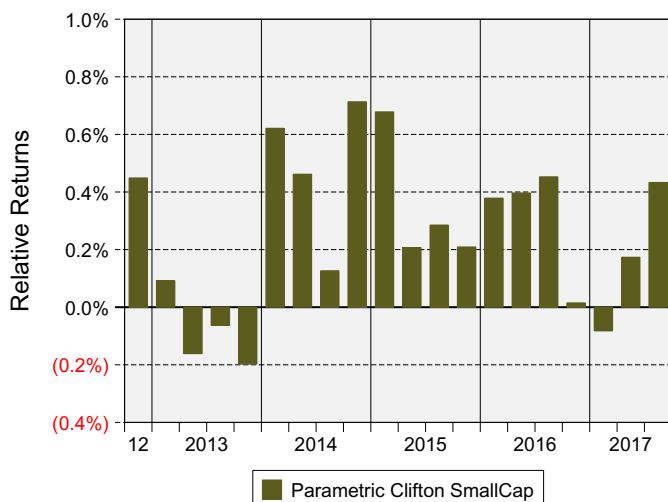
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$40,967,446 |
| Net New Investment | \$-85,563 |
| Investment Gains/(Losses) | \$2,494,636 |
| Ending Market Value | \$43,376,519 |

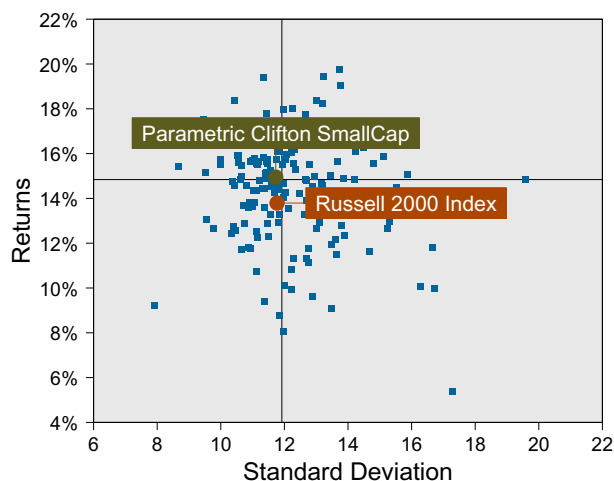
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



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



PIMCO RAE Period Ended September 30, 2017

Investment Philosophy

Small company value equity portfolio utilizing the index strategy and philosophy described as the Enhanced RAFI US Small strategy which relies on portfolio weights derived from firm fundamentals (free cash flow, book equity value, total sales and gross dividend), instead of market capitalization. Additionally, the enhanced portfolio strategy uses a quality of earnings screening and a financial distress screening to augment portfolio returns and reduce portfolio volatility.

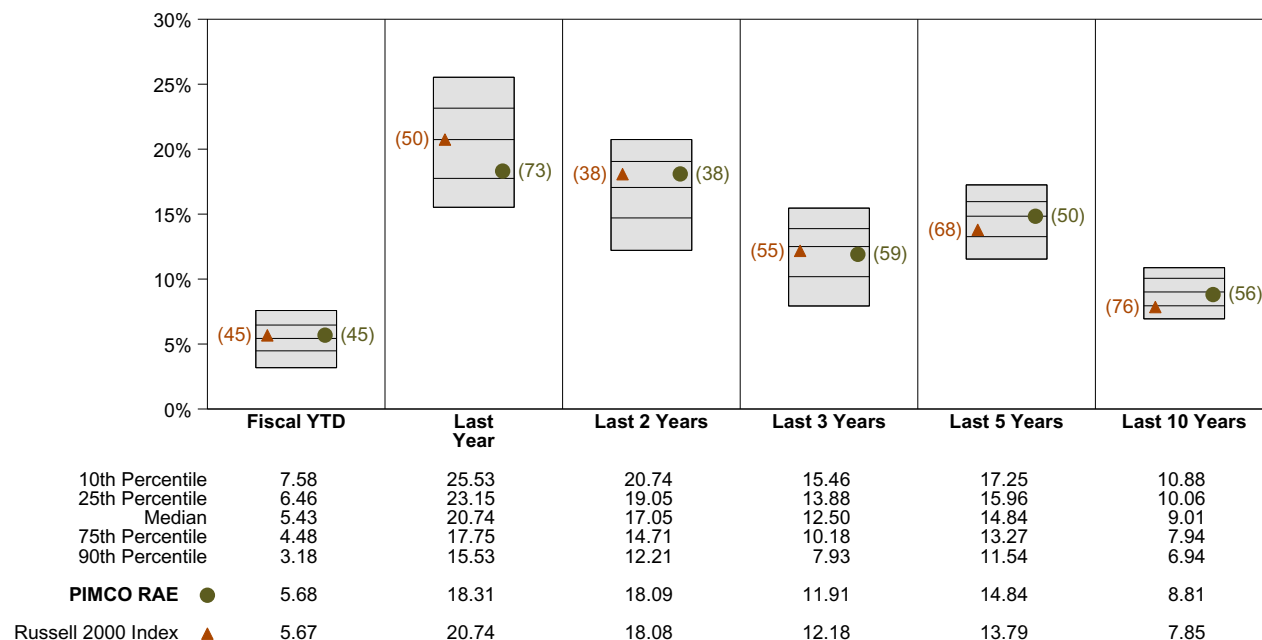
Quarterly Summary and Highlights

- PIMCO RAE's portfolio posted a 5.68% return for the quarter placing it in the 45 percentile of the Callan Small Capitalization group for the quarter and in the 73 percentile for the last year.
- PIMCO RAE's portfolio outperformed the Russell 2000 Index by 0.01% for the quarter and underperformed the Russell 2000 Index for the year by 2.43%.

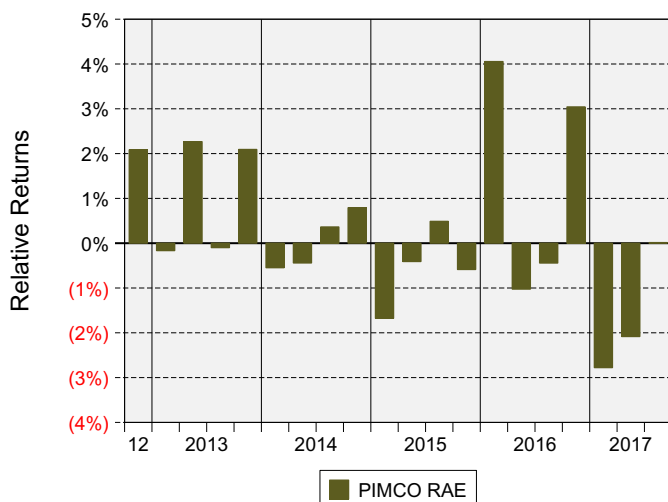
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$40,276,965 |
| Net New Investment | \$-25,340 |
| Investment Gains/(Losses) | \$2,288,355 |
| Ending Market Value | \$42,539,980 |

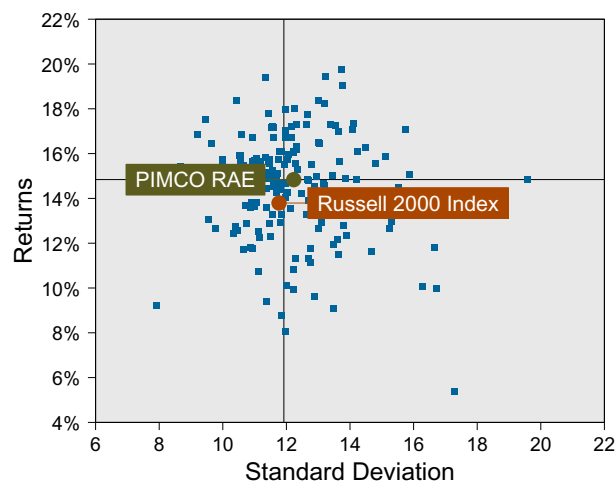
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



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



International Equity Period Ended September 30, 2017

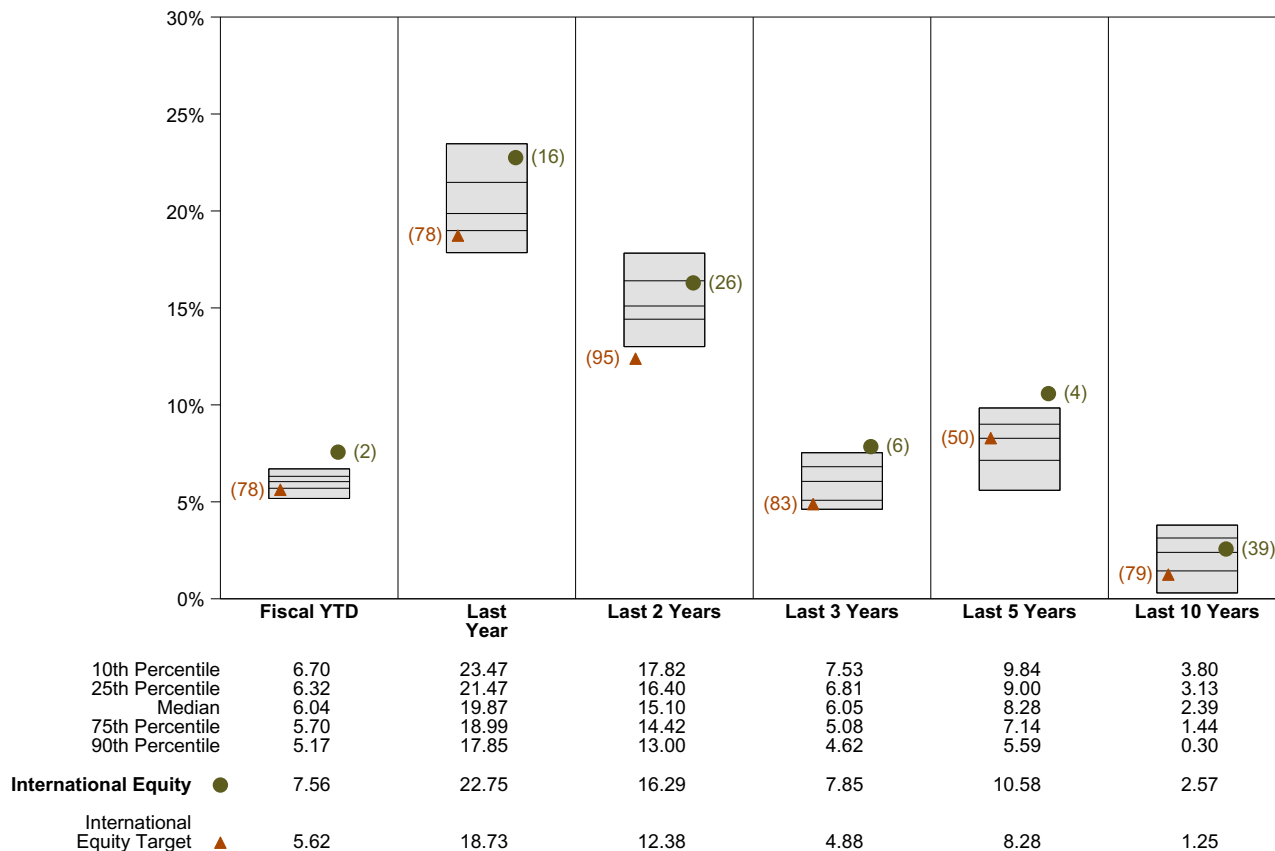
Quarterly Summary and Highlights

- International Equity's portfolio posted a 7.56% return for the quarter placing it in the 2 percentile of the Pub Pln-International Equity group for the quarter and in the 16 percentile for the last year.
- International Equity's portfolio outperformed the International Equity Target by 1.94% for the quarter and outperformed the International Equity Target for the year by 4.02%.

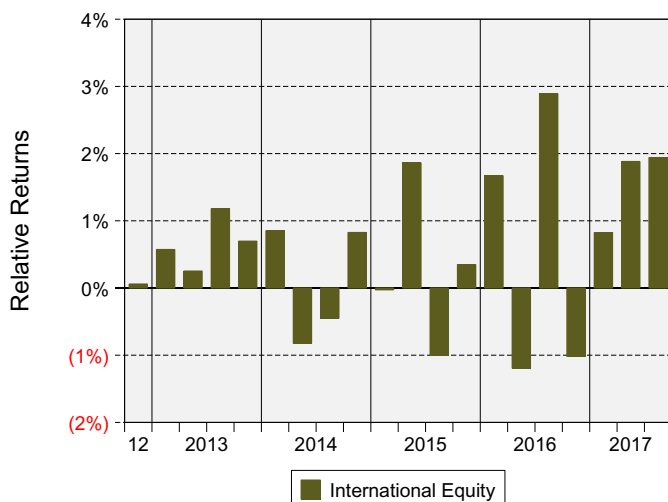
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$180,106,820 |
| Net New Investment | \$-4,143,973 |
| Investment Gains/(Losses) | \$13,560,140 |
| Ending Market Value | \$189,522,987 |

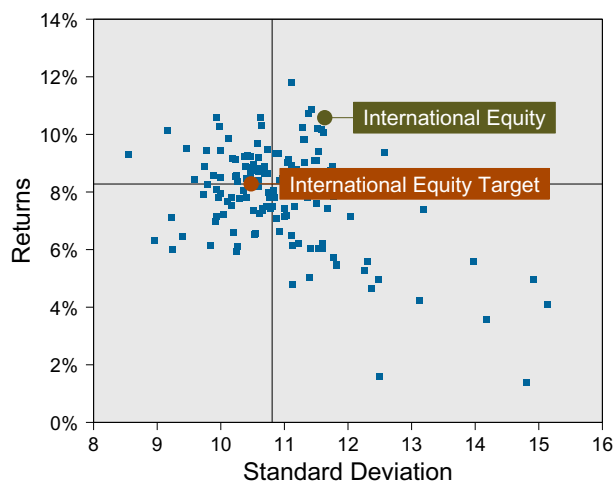
Performance vs Pub Pln- International Equity (Gross)



Relative Return vs International Equity Target



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



DFA Intl Small Cap Value Period Ended September 30, 2017

Investment Philosophy

The International Small Cap Value Portfolio invests in the stocks of small, non-US developed markets companies that Dimensional believes to be value stocks at the time of purchase. Specifically, it looks at companies that fall within the smallest 8-10% of each country's market capitalization, and who's shares have a high book value in relation to their market value (BtM). It does not invest in emerging markets.

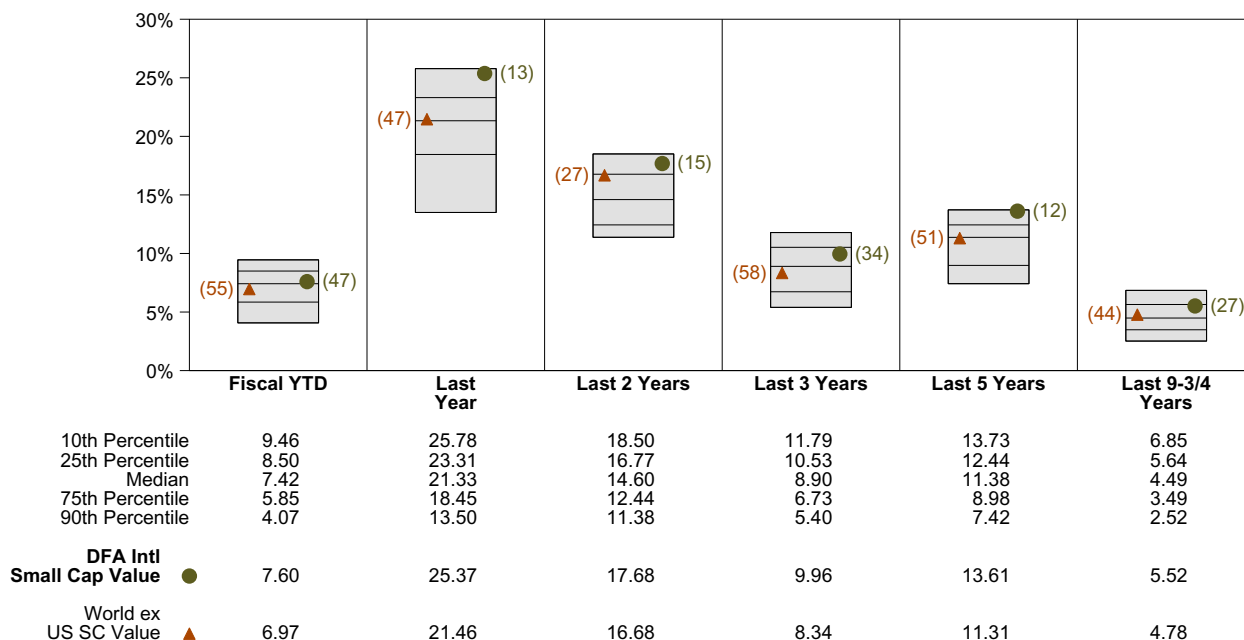
Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a 7.60% return for the quarter placing it in the 47 percentile of the Callan International Small Cap Mutual Fu group for the quarter and in the 13 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 0.63% for the quarter and outperformed the World ex US SC Value for the year by 3.90%.

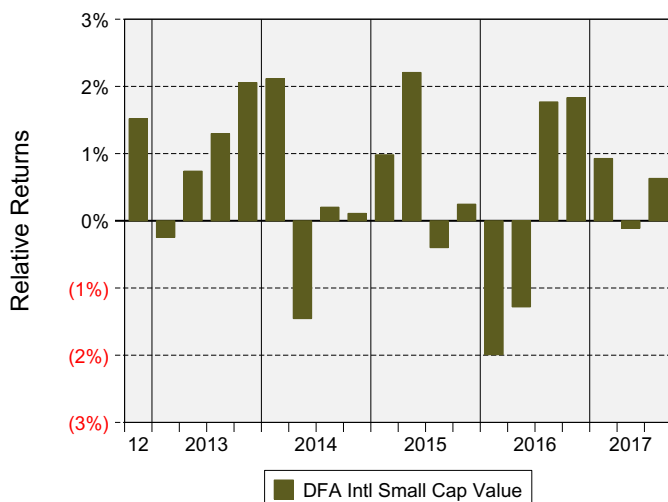
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$19,561,888 |
| Net New Investment | \$-2,000,000 |
| Investment Gains/(Losses) | \$1,447,452 |
| Ending Market Value | \$19,009,339 |

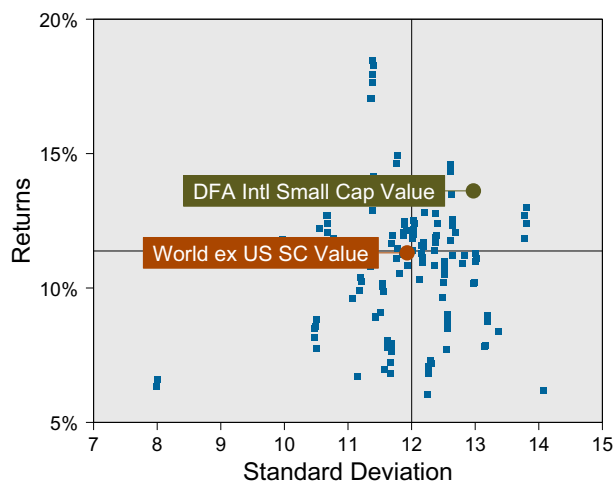
Performance vs Callan International Small Cap Mutual Fu (Net)



Relative Return vs World ex US SC Value



Callan International Small Cap Mutual Fu (Net) Annualized Five Year Risk vs Return



LSV Intl Value Period Ended September 30, 2017

Investment Philosophy

The objective of LSV Asset Management's International Large Cap Value strategy is to outperform the MSCI EAFE Index by at least 250 basis points (gross of fees) per annum over an annualized 3-5 year period with a tracking error of approximately 5-6%. Their stock selection process is a quantitative approach that ranks a broad universe of stocks on a combination of value and momentum factors and seeks to invest approximately 150 stocks in the most attractive securities possible within strict risk parameters to control the portfolio's tracking error relative to the benchmark. The resulting portfolio is broadly diversified across industry groups and fully invested. LSV weights countries at a neutral weight relative to the benchmark country weights. 50% of the portfolio is US dollar hedged. ***MSCI EAFE through 9/30/2000, 50% Hedged EAFE through 3/31/2011 and MSCI EAFE again thereafter.**

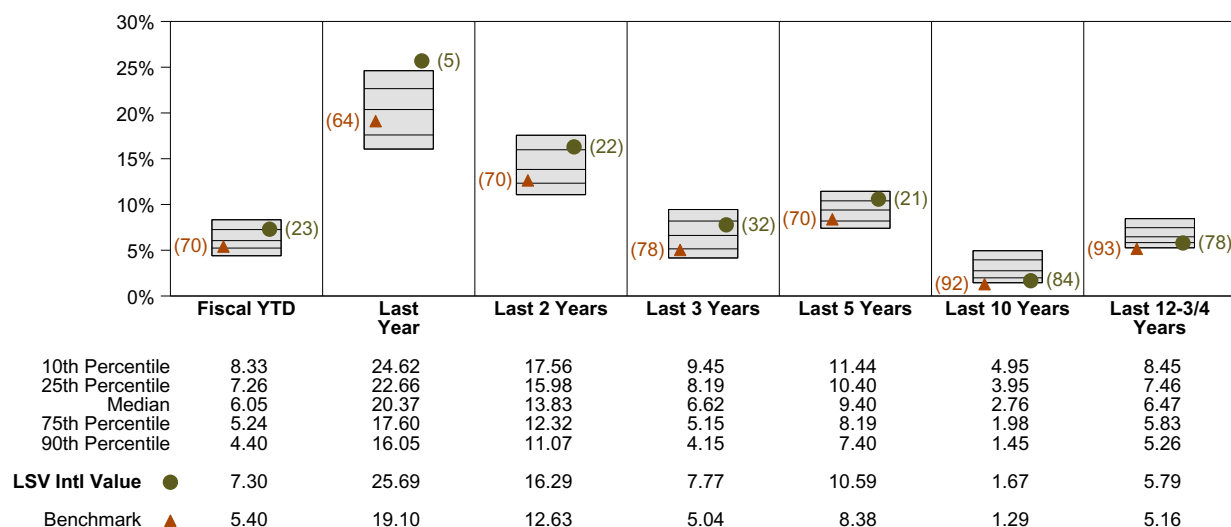
Quarterly Summary and Highlights

- LSV Intl Value's portfolio posted a 7.30% return for the quarter placing it in the 23 percentile of the Callan Non-US Equity group for the quarter and in the 5 percentile for the last year.
- LSV Intl Value's portfolio outperformed the Benchmark by 1.90% for the quarter and outperformed the Benchmark for the year by 6.58%.

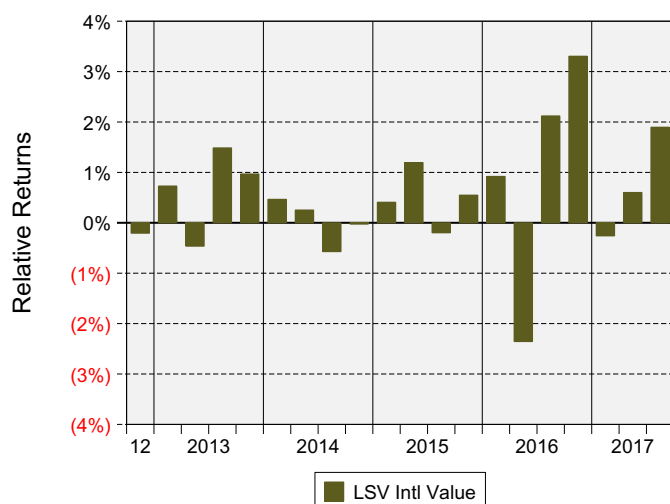
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$72,838,070 |
| Net New Investment | \$-2,074,986 |
| Investment Gains/(Losses) | \$5,275,921 |
| Ending Market Value | \$76,039,005 |

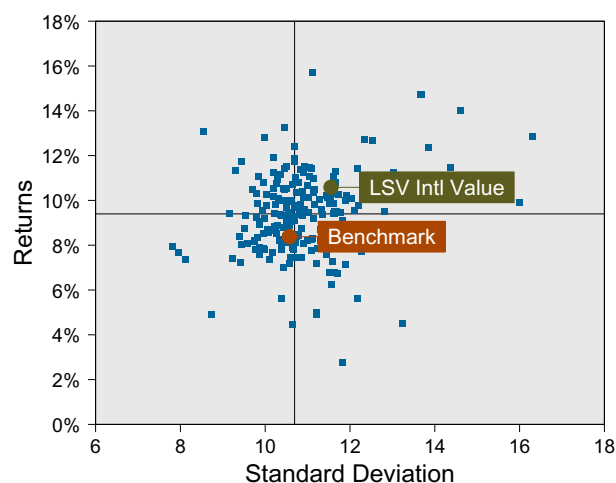
Performance vs Callan Non-US Equity (Gross)



Relative Return vs Benchmark



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



Vanguard Intl Explorer Fund Period Ended September 30, 2017

Investment Philosophy

Vanguard International Explorer Fund invests primarily in the equity securities of small-capitalization companies located outside the United States that the advisor believes offer the potential for long-term capital appreciation. The advisor considers, among other things, whether a company is likely to have above-average earnings growth, whether the company's securities are attractively valued, and whether the company has any proprietary advantages.

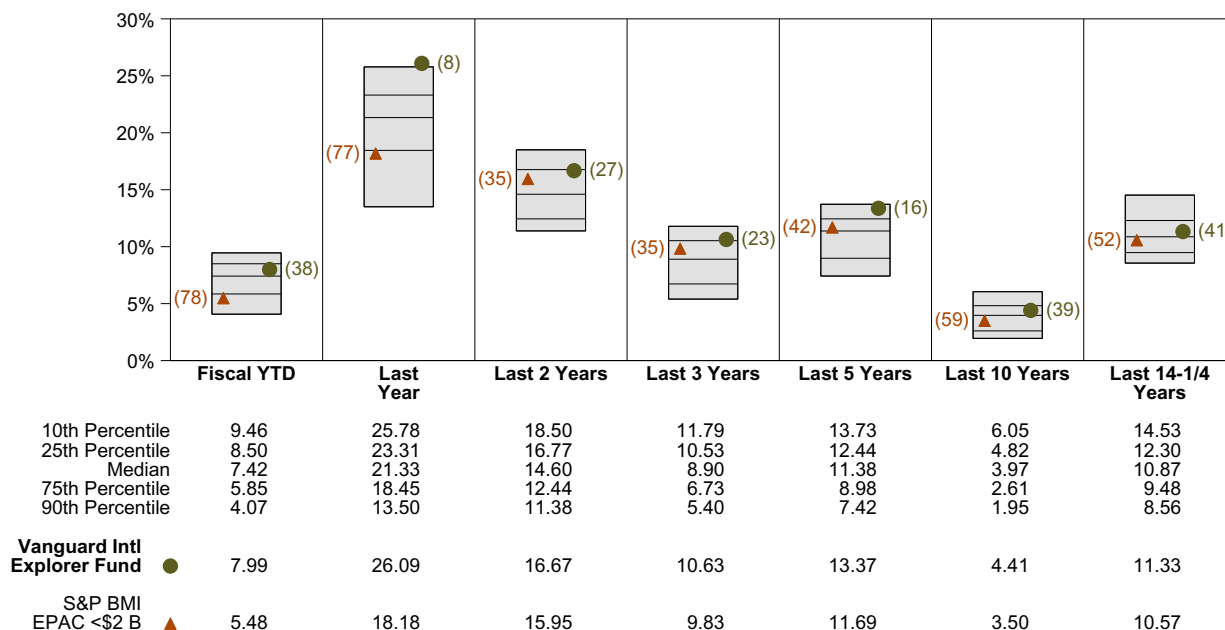
Quarterly Summary and Highlights

- Vanguard Intl Explorer Fund's portfolio posted a 7.99% return for the quarter placing it in the 38 percentile of the Callan International Small Cap Mutual Fu group for the quarter and in the 8 percentile for the last year.
- Vanguard Intl Explorer Fund's portfolio outperformed the S&P BMI EPAC <\$2 B by 2.51% for the quarter and outperformed the S&P BMI EPAC <\$2 B for the year by 7.91%.

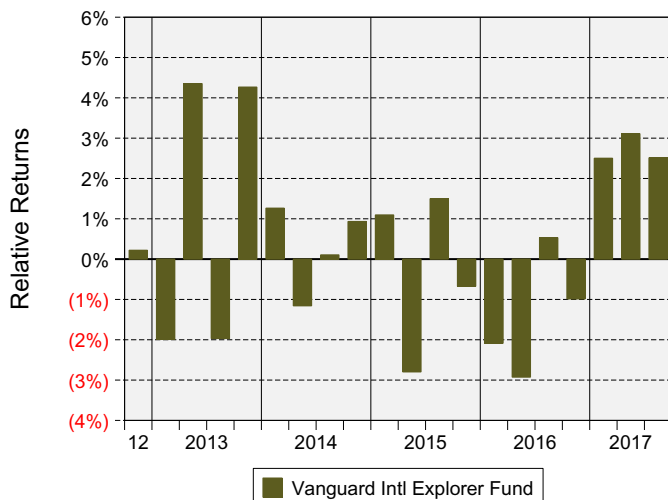
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$16,992,660 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$1,358,388 |
| Ending Market Value | \$18,351,048 |

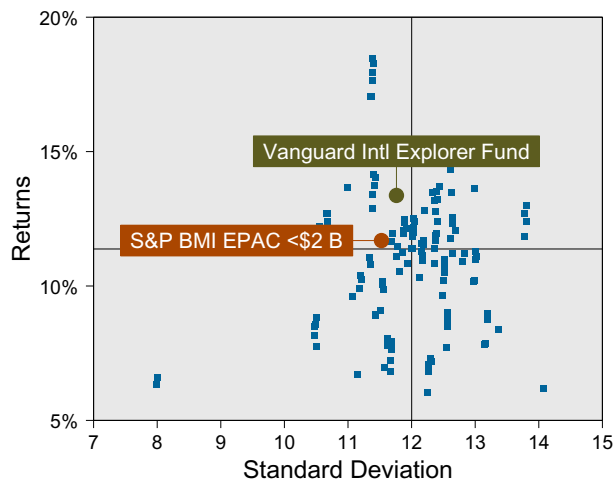
Performance vs Callan International Small Cap Mutual Fu (Net)



Relative Return vs S&P BMI EPAC <\$2 B



Callan International Small Cap Mutual Fu (Net) Annualized Five Year Risk vs Return



William Blair Period Ended September 30, 2017

Investment Philosophy

One of the basic investment tenets of William Blair & Company has been its focus on quality growth companies. They believe that investing in quality growth companies will generate above average results with generally less risk than the market. This opportunity exists because they believe the market underestimates the durability and rate of growth in companies that have the following characteristics: strong management with a unique vision, competitive advantages that prolong the duration and size of earnings growth, and conservative financing. Internationally, they believe that this philosophy can be combined with strategic flexibility in managing geographic exposure, capitalization, sector emphasis, and relative growth and valuation at the portfolio level in order to provide an appropriate degree of adaptability to cyclical conditions.

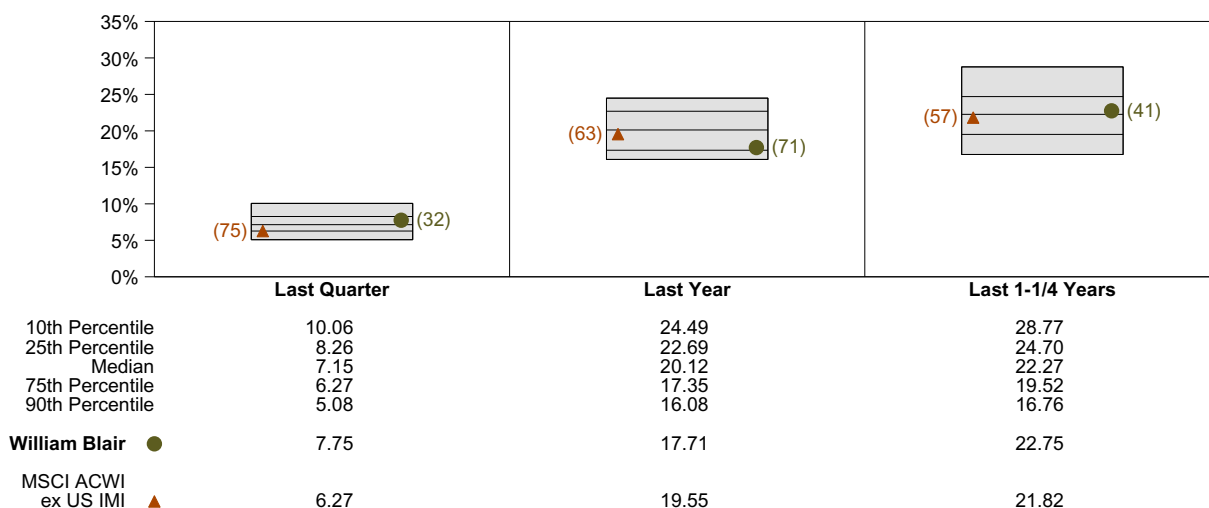
Quarterly Summary and Highlights

- William Blair's portfolio posted a 7.75% return for the quarter placing it in the 32 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 71 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 1.48% for the quarter and underperformed the MSCI ACWI ex US IMI for the year by 1.84%.

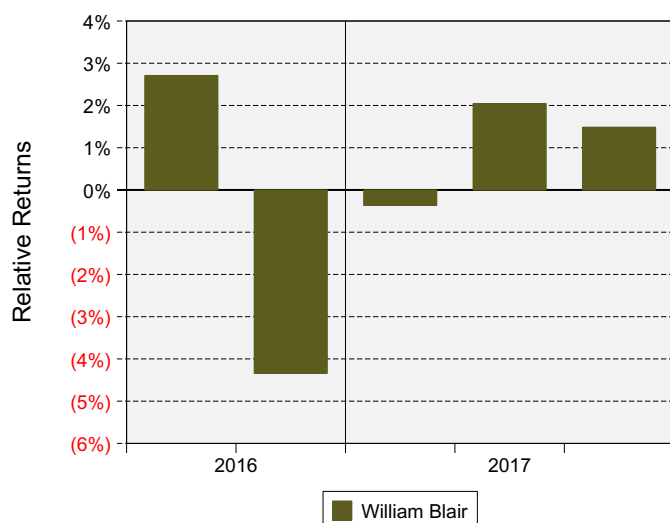
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$70,714,202 |
| Net New Investment | \$-68,987 |
| Investment Gains/(Losses) | \$5,478,380 |
| Ending Market Value | \$76,123,595 |

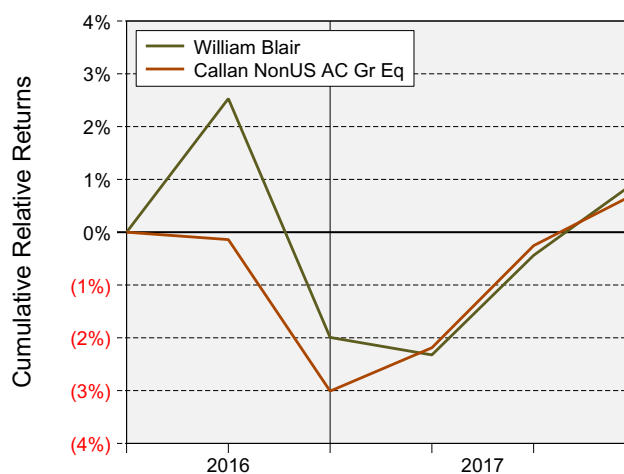
Performance vs Callan Non-US All Country Growth Equity (Gross)



Relative Return vs MSCI ACWI ex US IMI



Cumulative Returns vs MSCI ACWI ex US IMI



Domestic Fixed Income Period Ended September 30, 2017

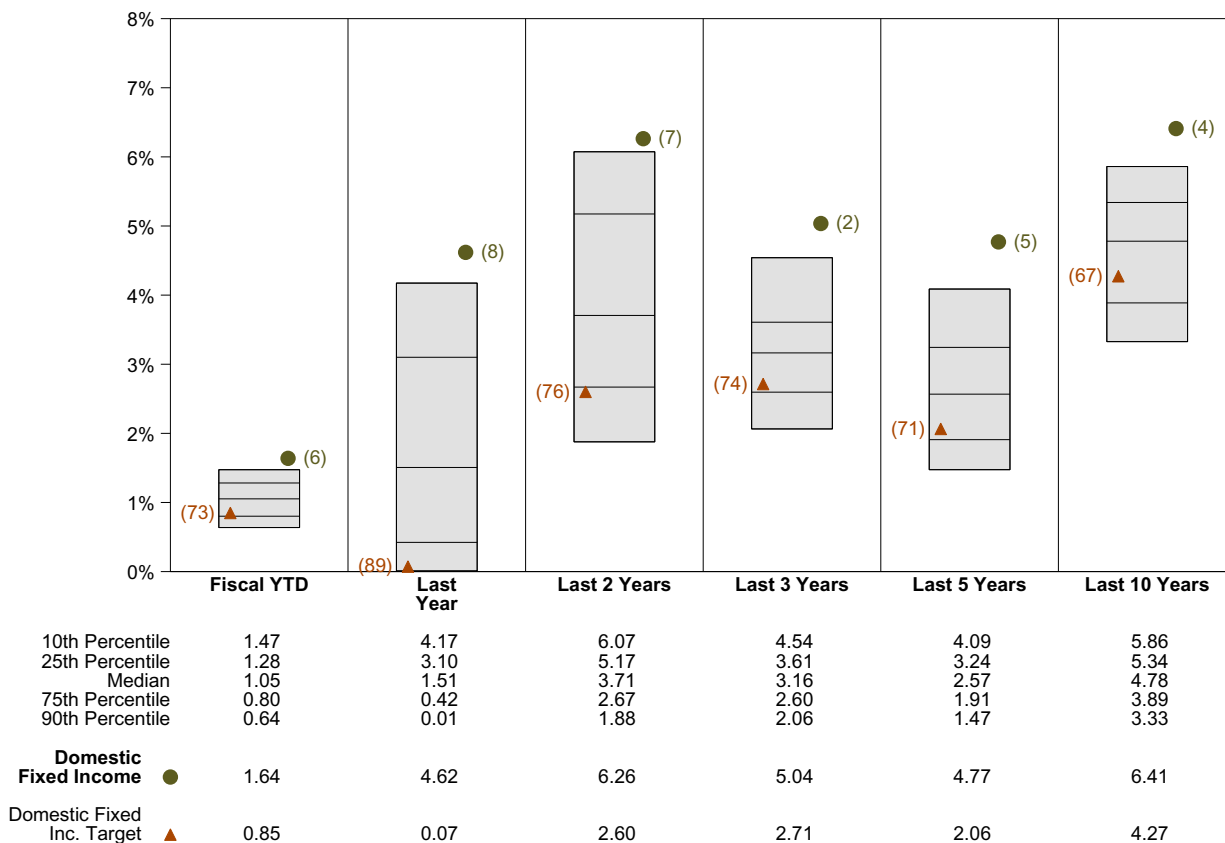
Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a 1.64% return for the quarter placing it in the 6 percentile of the Pub Pln-Domestic Fixed group for the quarter and in the 8 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Domestic Fixed Inc. Target by 0.79% for the quarter and outperformed the Domestic Fixed Inc. Target for the year by 4.55%.

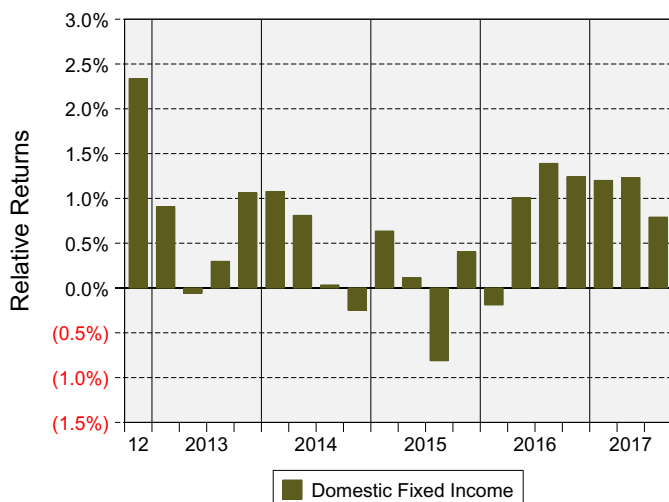
Quarterly Asset Growth

| | |
|---------------------------|-----------------|
| Beginning Market Value | \$1,123,403,771 |
| Net New Investment | \$-6,605,377 |
| Investment Gains/(Losses) | \$18,398,730 |
| Ending Market Value | \$1,135,197,124 |

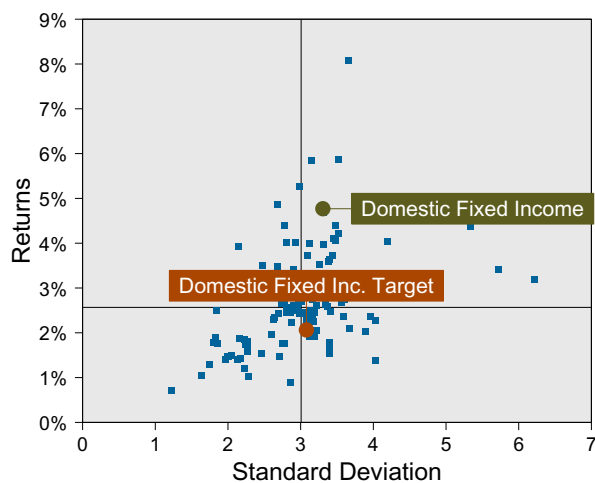
Performance vs Pub Pln- Domestic Fixed (Gross)



Relative Return vs Domestic Fixed Inc. Target



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



Declaration Total Return Period Ended September 30, 2017

Investment Philosophy

The Fund's portfolio holdings consist primarily of RMBS issued by private sector companies (Non-Agency RMBS) and government agencies (Agency MBS) and CMBS issued by private sector companies. Agency MBS includes securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Government National Mortgage Association (Ginnie Mae). Portfolio holdings may range from short tenure senior classes to stressed issues or subordinated securities with substantial risk of non-payment and correspondingly higher yields. Smaller portfolio allocations may include consumer asset-backed securities (ABS), or other structured credit securities and corporate bonds. As a diversification strategy and a potential hedge to credit risk, the Fund may invest in securities which tend to benefit from slow mortgage prepayments and economic growth, such as interest only (IO) MBS.

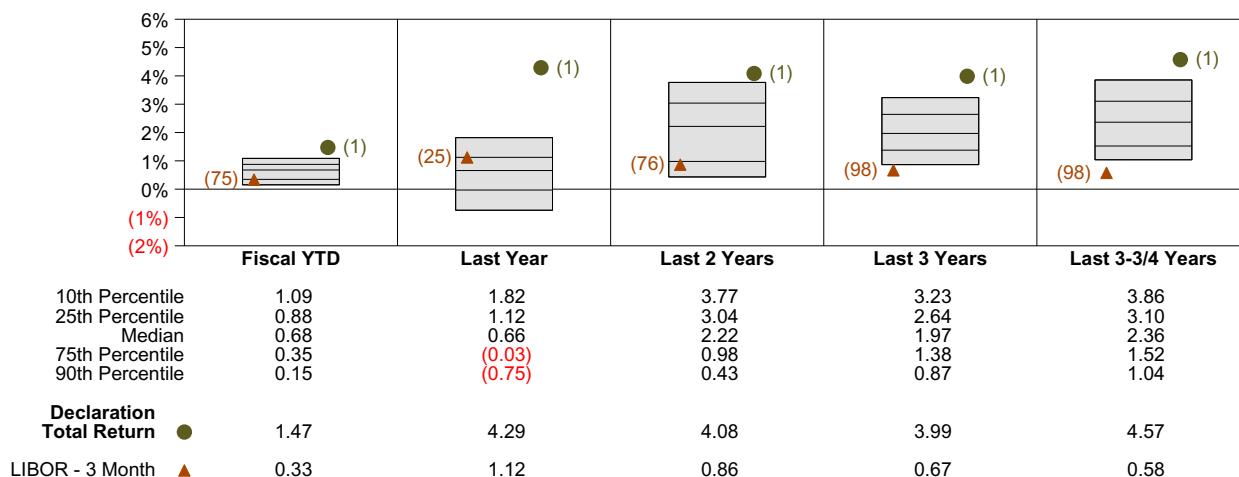
Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a 1.47% return for the quarter placing it in the 1 percentile of the Callan Intermediate Fixed Income Mutual group for the quarter and in the 1 percentile for the last year.
- Declaration Total Return's portfolio outperformed the LIBOR - 3 Month by 1.14% for the quarter and outperformed the LIBOR - 3 Month for the year by 3.17%.

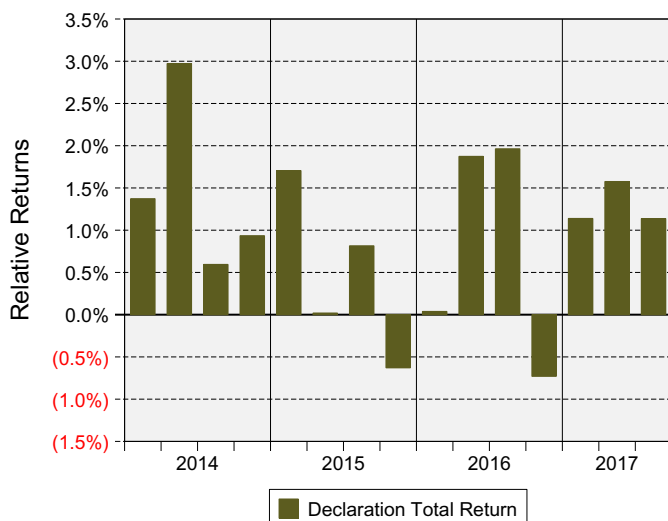
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$83,910,558 |
| Net New Investment | \$-31,284 |
| Investment Gains/(Losses) | \$1,234,477 |
| Ending Market Value | \$85,113,751 |

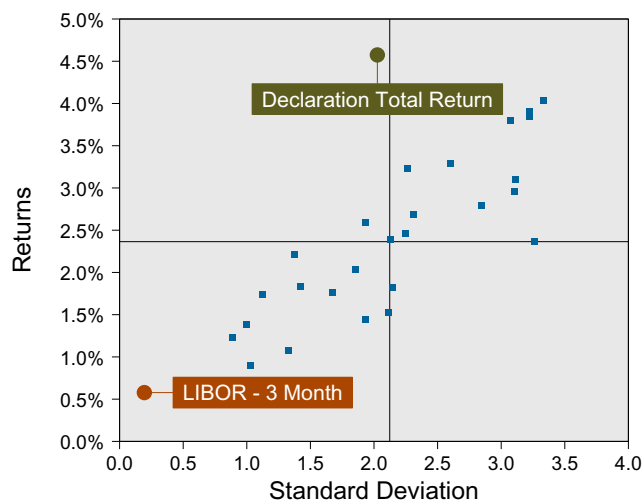
Performance vs Callan Intermediate Fixed Income Mutual (Net)



Relative Return vs LIBOR - 3 Month



Callan Intermediate Fixed Income Mutual (Net) Annualized Three and Three-Quarter Year Risk vs Return



PIMCO DiSCO II

Period Ended September 30, 2017

Investment Philosophy

The PIMCO Distressed Senior Credit Opportunities Fund is an opportunistic private-equity style Fund which seeks to provide investors enhanced returns principally through long-biased investments in undervalued senior and super senior structured credit securities that are expected to produce attractive levels of current income and that may also appreciate in value over the long term. The fund will look to capitalize on forced sales by liquidity constrained investors.

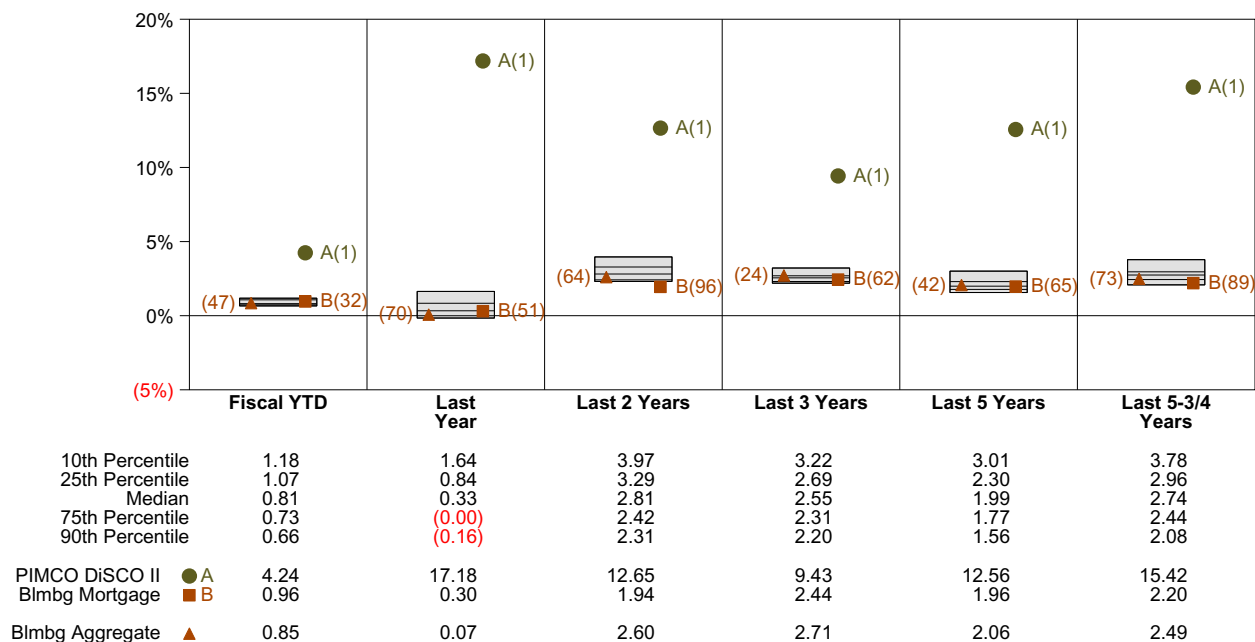
Quarterly Summary and Highlights

- PIMCO DiSCO II's portfolio posted a 4.24% return for the quarter placing it in the 1 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 1 percentile for the last year.
- PIMCO DiSCO II's portfolio outperformed the Blmbg Aggregate by 3.39% for the quarter and outperformed the Blmbg Aggregate for the year by 17.11%.

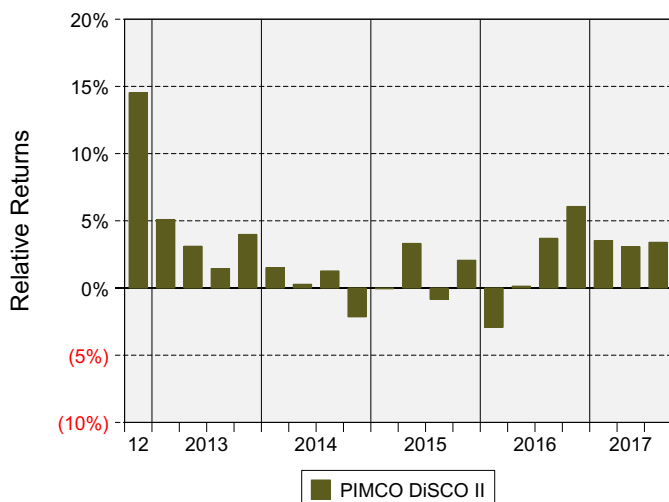
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$96,532,945 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$4,095,451 |
| Ending Market Value | \$100,628,396 |

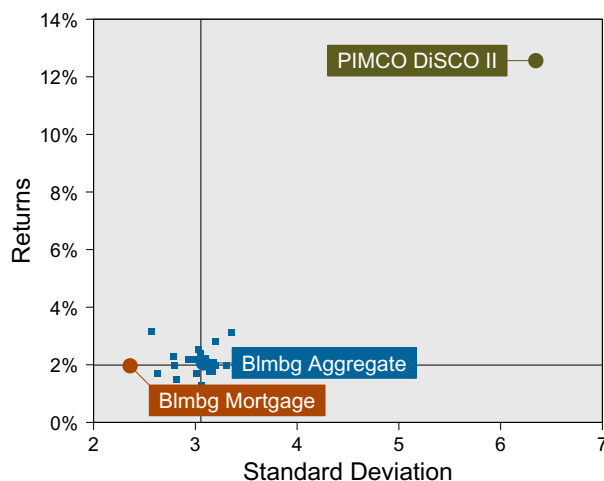
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



PIMCO Bravo II Fund

Period Ended September 30, 2017

Investment Philosophy

The BRAVO II Fund is a private equity style fund targeting an annualized IRR of 15-20% and multiple of 1.8-2x, net of fees and carried interest with an initial 5-year term. The fund will seek to capitalize on non-economic asset sale decisions by global financial institutions. The fund will have the flexibility to acquire attractively discounted, less liquid loans, structured credit and other assets tied to residential or commercial real estate markets in the U.S. and Europe.

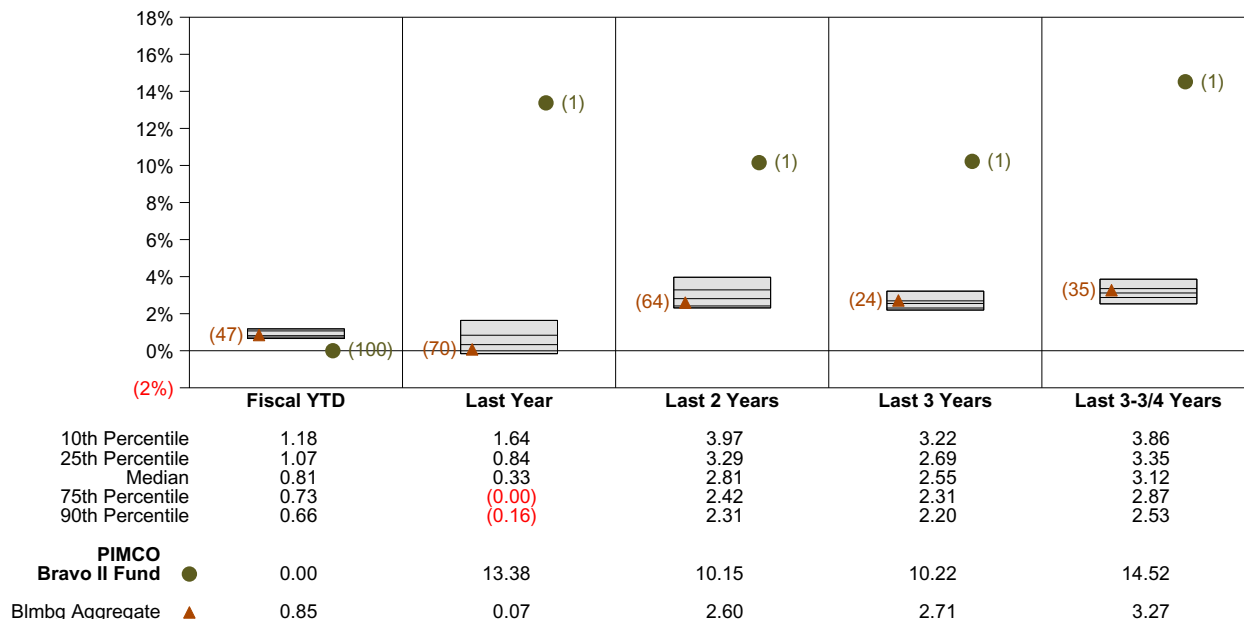
Quarterly Summary and Highlights

- PIMCO Bravo II Fund's portfolio posted a 0.00% return for the quarter placing it in the 100 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 1 percentile for the last year.
- PIMCO Bravo II Fund's portfolio underperformed the Blmbg Aggregate by 0.85% for the quarter and outperformed the Blmbg Aggregate for the year by 13.30%.

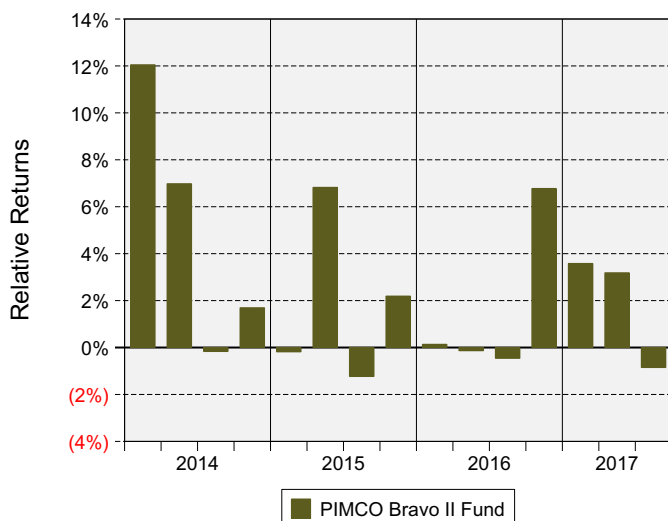
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$57,304,239 |
| Net New Investment | \$-2,274,873 |
| Investment Gains/(Losses) | \$0 |
| Ending Market Value | \$55,029,366 |

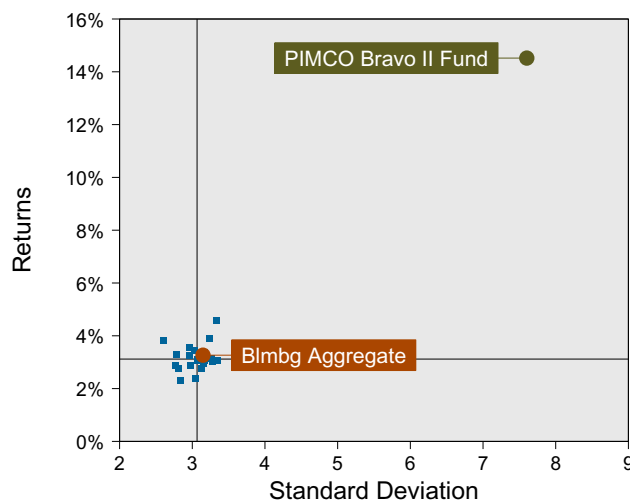
Performance vs Callan Core Bond Mutual Funds (Net)



Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net) Annualized Three and Three-Quarter Year Risk vs Return



Prudential Period Ended September 30, 2017

Investment Philosophy

The core plus fixed income account is a multi-sector strategy that is diversified across a broad range of fixed income sectors, including Treasuries, agencies, mortgage-backed securities, structured product (asset-backed securities, commercial mortgage-backed securities), investment grade corporate bonds, high yield bonds, bank loans and international debt. The primary sources of excess return are sector allocation and security selection, with duration and yield curve less of a focus.

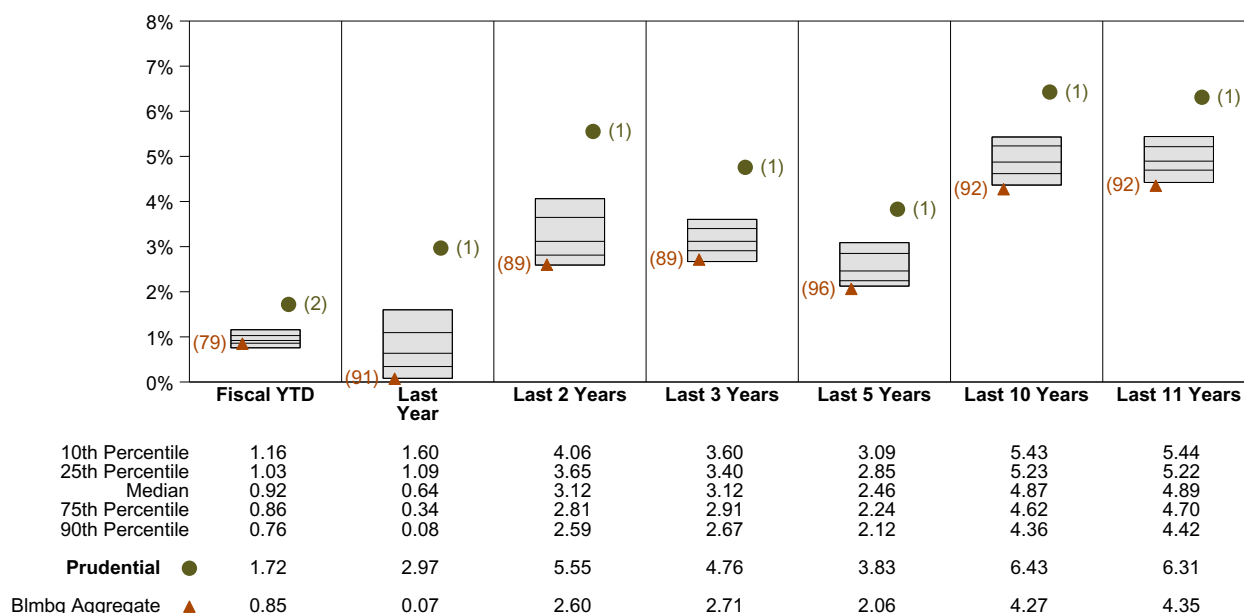
Quarterly Summary and Highlights

- Prudential's portfolio posted a 1.72% return for the quarter placing it in the 2 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 1 percentile for the last year.
- Prudential's portfolio outperformed the Blmbg Aggregate by 0.87% for the quarter and outperformed the Blmbg Aggregate for the year by 2.90%.

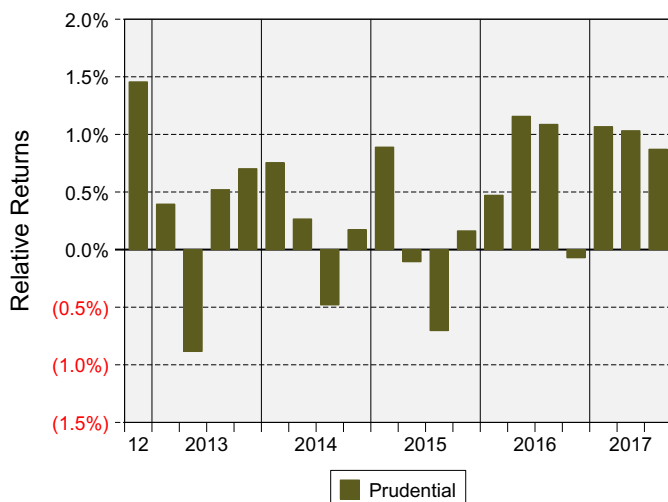
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$115,288,216 |
| Net New Investment | \$-75,322 |
| Investment Gains/(Losses) | \$1,981,984 |
| Ending Market Value | \$117,194,878 |

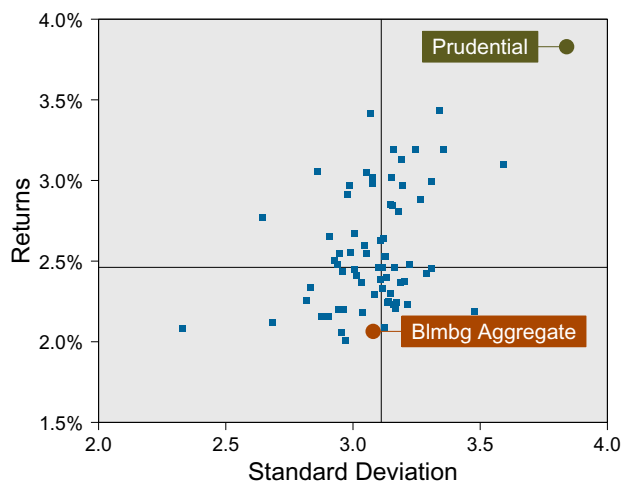
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



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



SSgA US Govt Cr Bd Index Period Ended September 30, 2017

Investment Philosophy

The Fund seeks an investment return that approximates as closely as practicable, before expenses, the performance of the Barclays Capital U.S. Government/Credit Bond Index over the long term.

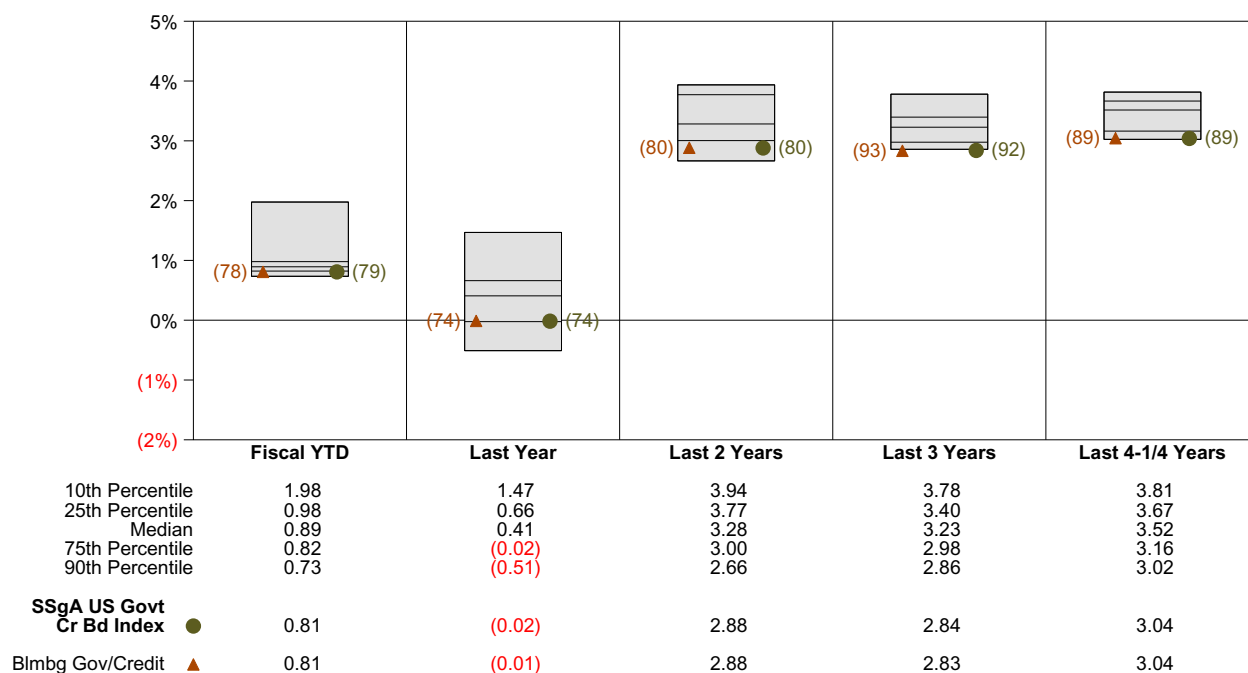
Quarterly Summary and Highlights

- SSgA US Govt Cr Bd Index's portfolio posted a 0.81% return for the quarter placing it in the 79 percentile of the Callan Government/Credit group for the quarter and in the 74 percentile for the last year.
- SSgA US Govt Cr Bd Index's portfolio underperformed the Blmbg Gov/Credit by 0.00% for the quarter and underperformed the Blmbg Gov/Credit for the year by 0.01%.

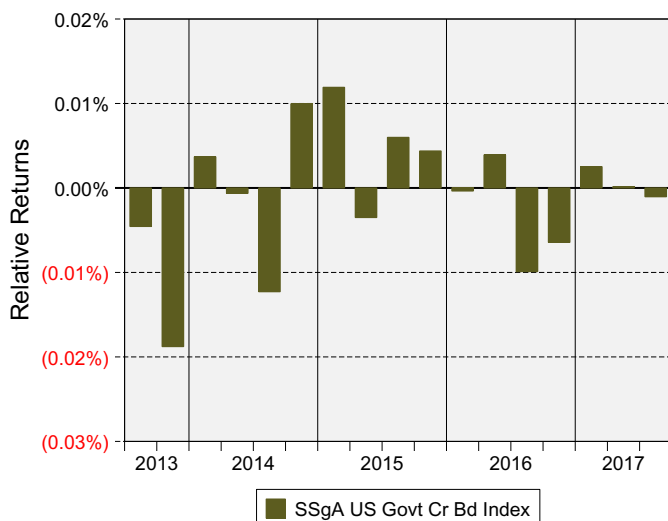
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$141,844,286 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$1,145,627 |
| Ending Market Value | \$142,989,912 |

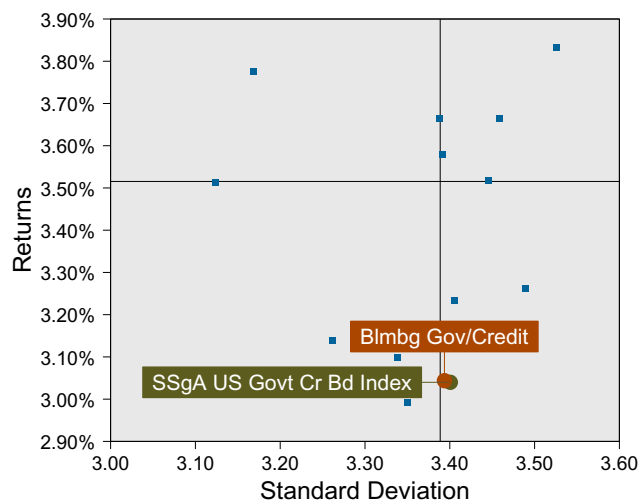
Performance vs Callan Government/Credit (Gross)



Relative Return vs Blmbg Gov/Credit



Callan Government/Credit (Gross) Annualized Four and One-Quarter Year Risk vs Return



Wells Capital Period Ended September 30, 2017

Investment Philosophy

The Medium Quality Credit fixed income strategy is designed to maximize total return from the high-grade corporate bond market while maintaining a strategic allocation to the BBB portion of the high yield market. The investment process for this fund starts with a "top-down" strategy. Security selection is determined by in-depth credit research, holding that in-depth knowledge of industries, companies, and their management teams can help identify credit trends that can lead to investment opportunities. Furthermore, a disciplined relative value framework is applied to help determine the optimal position to invest within an industry and within an individual issuer's capital structure.

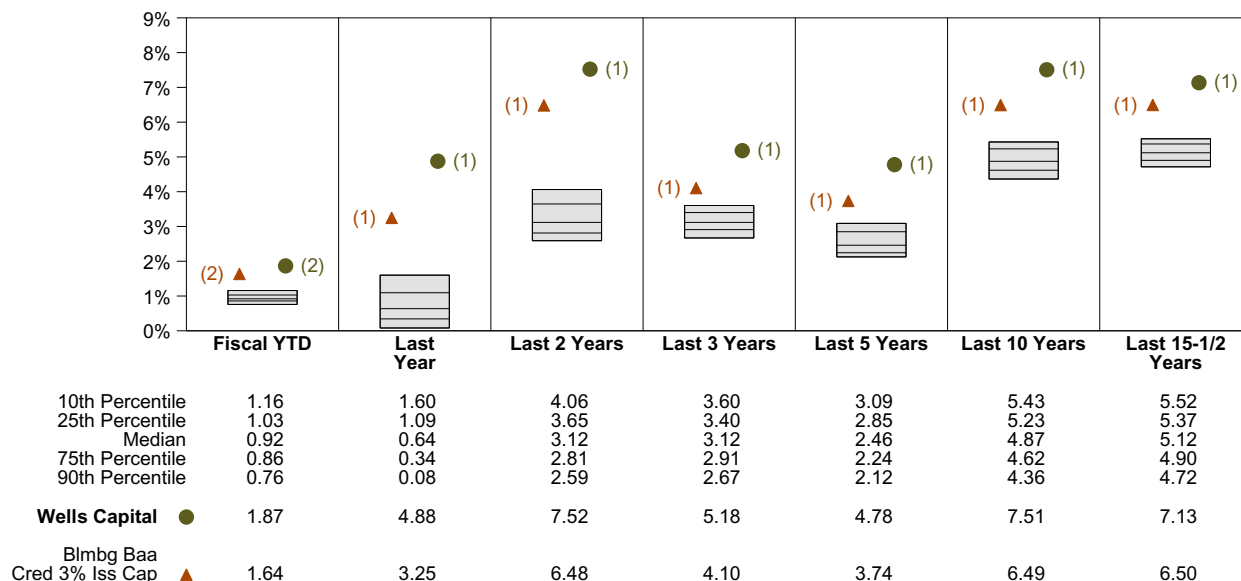
Quarterly Summary and Highlights

- Wells Capital's portfolio posted a 1.87% return for the quarter placing it in the 2 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 1 percentile for the last year.
- Wells Capital's portfolio outperformed the Blmbg Baa Cred 3% Iss Cap by 0.23% for the quarter and outperformed the Blmbg Baa Cred 3% Iss Cap for the year by 1.63%.

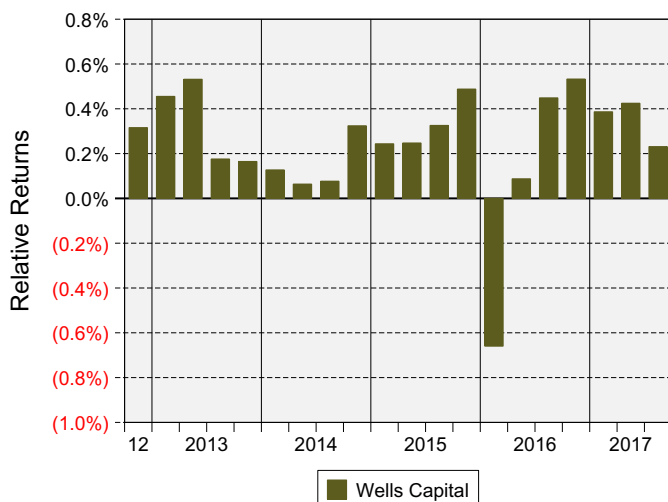
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$314,324,221 |
| Net New Investment | \$-2,122,454 |
| Investment Gains/(Losses) | \$5,864,592 |
| Ending Market Value | \$318,066,360 |

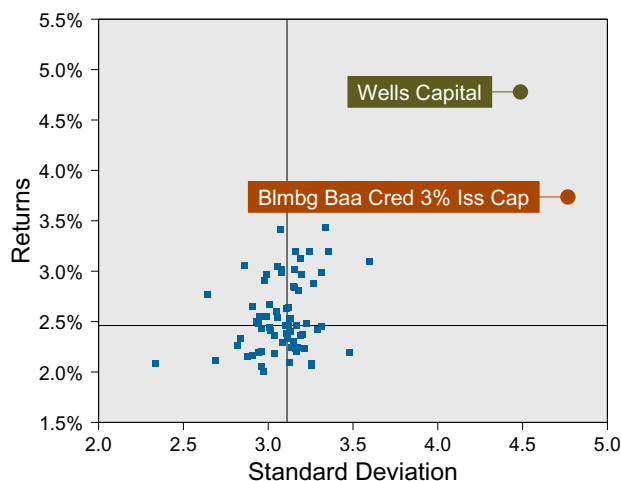
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Returns vs Blmbg Baa Cred 3% Iss Cap



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



Western Asset Management Company Period Ended September 30, 2017

Investment Philosophy

Western Asset designs this portfolio using all major fixed-income sectors with a bias towards non-Treasuries, especially corporate, mortgage-backed and asset-backed securities. Value can be added through sector rotation, issue selection, duration and term structure weighting.

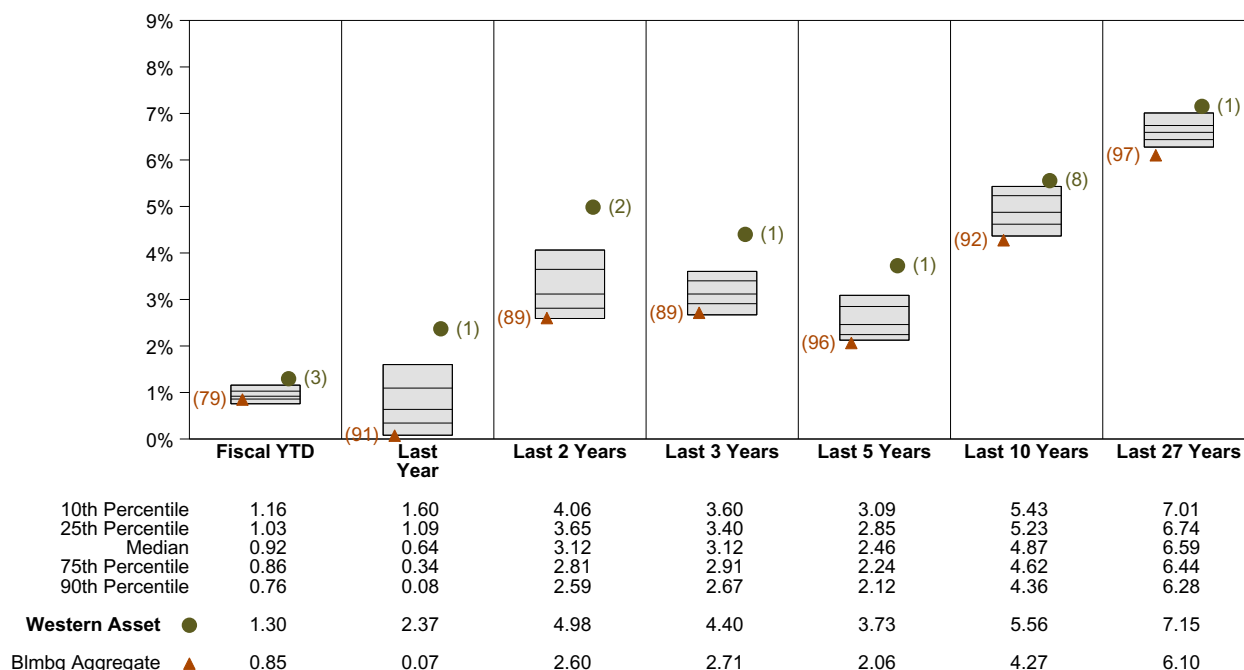
Quarterly Summary and Highlights

- Western Asset's portfolio posted a 1.30% return for the quarter placing it in the 3 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 1 percentile for the last year.
- Western Asset's portfolio outperformed the Blmbg Aggregate by 0.45% for the quarter and outperformed the Blmbg Aggregate for the year by 2.30%.

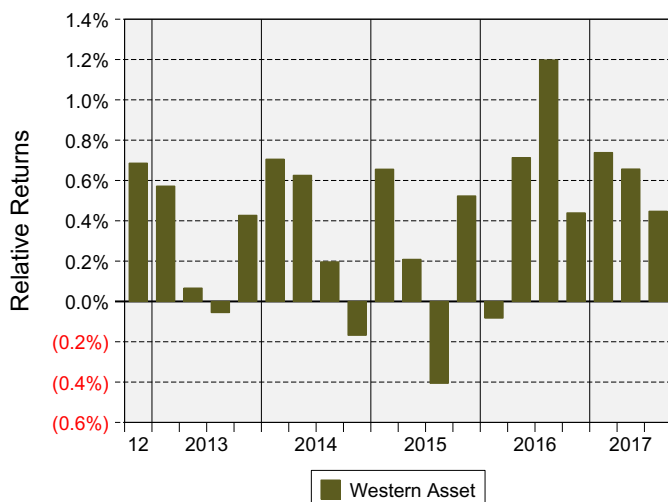
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$314,199,305 |
| Net New Investment | \$-2,101,445 |
| Investment Gains/(Losses) | \$4,076,600 |
| Ending Market Value | \$316,174,460 |

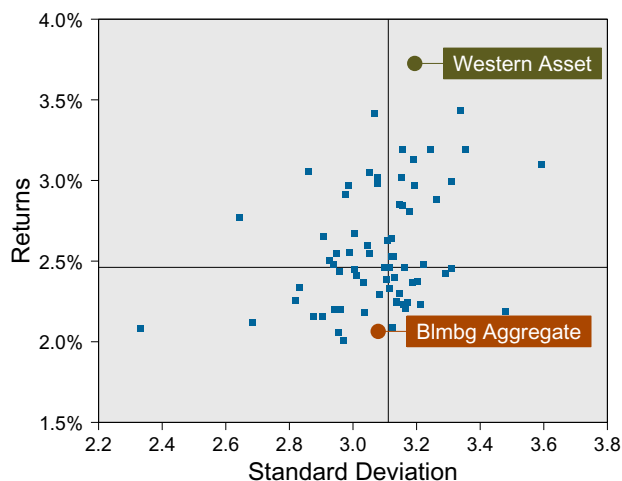
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



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



Western TIPS Period Ended September 30, 2017

Investment Philosophy

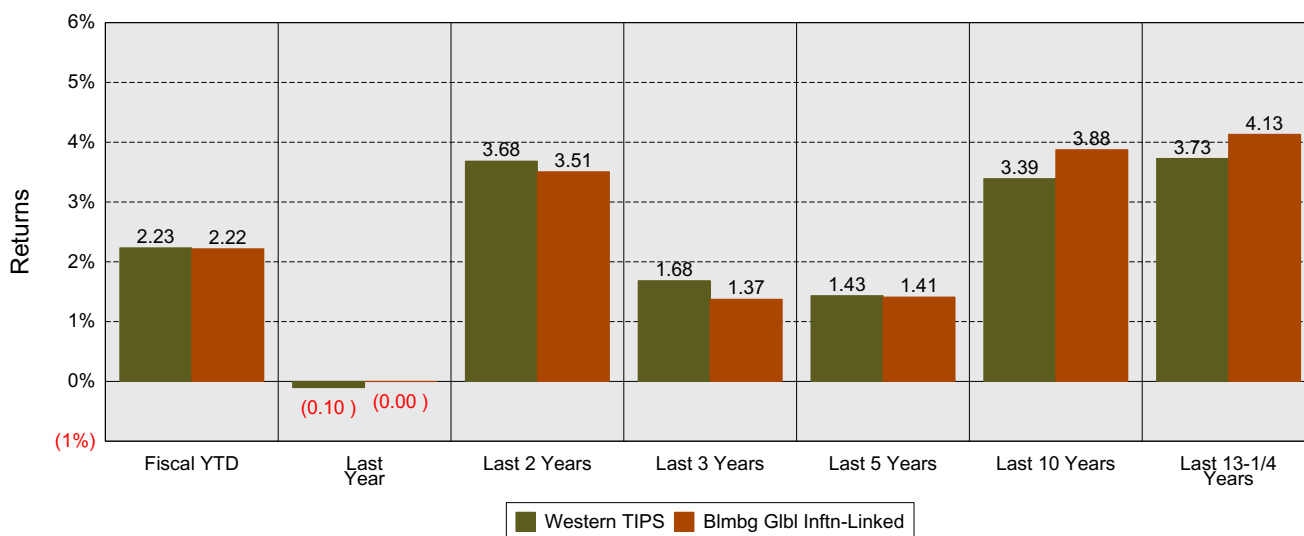
Western Asset's Global Inflation-Linked composite includes portfolios that employ an active, team-managed investment approach around a long-term, value-oriented investment philosophy. Constructed primarily of inflation-indexed securities, these portfolios use diversified strategies in seeking to add value while minimizing risk. Value can be added through country selection, term structure, issue selection, duration management and currency management. **Bloomberg US TIPS through 12/31/2009 and Bloomberg Global Inflation-Linked thereafter.**

Quarterly Summary and Highlights

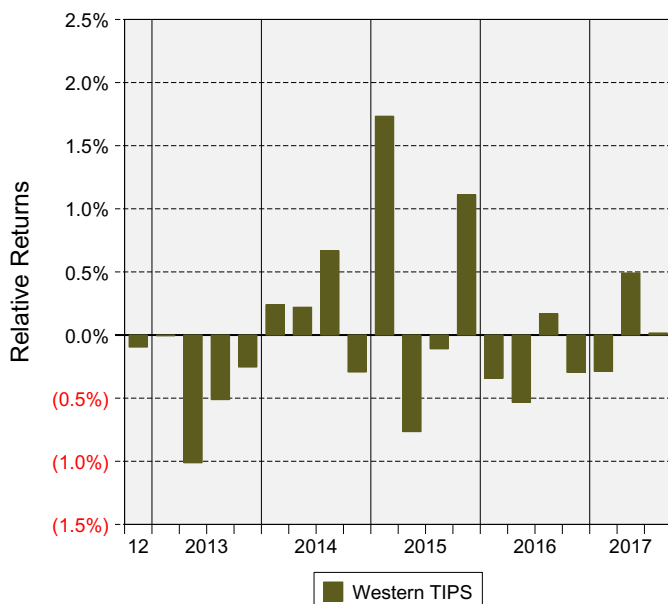
- Western TIPS's portfolio outperformed the Blmbg Gbl Inftn-Linked by 0.02% for the quarter and underperformed the Blmbg Gbl Inftn-Linked for the year by 0.10%.

Quarterly Asset Growth

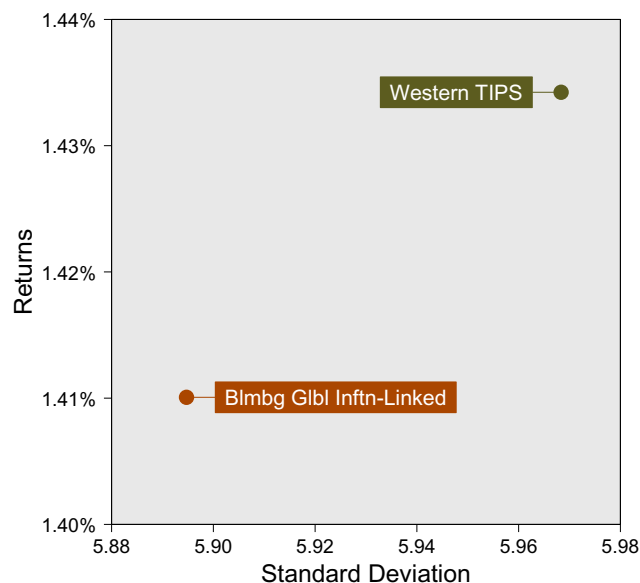
| | |
|---------------------------|---------------|
| Beginning Market Value | \$114,027,560 |
| Net New Investment | \$-36,816 |
| Investment Gains/(Losses) | \$2,546,554 |
| Ending Market Value | \$116,537,298 |



Relative Return vs Blmbg Gbl Inftn-Linked



Annualized Five Year Risk vs Return



Eastern Timber Opportunities Period Ended September 30, 2017

Investment Philosophy

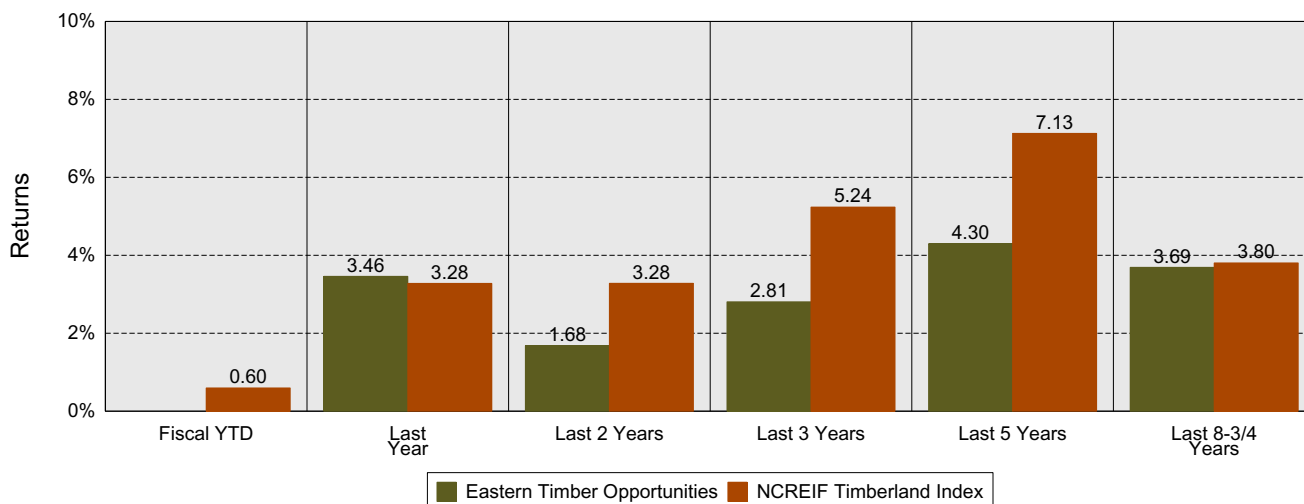
The investment objective of the Eastern Timberland Opportunities fund is to provide competitive timberland investment returns from Eastern US timberland investments by pursuing management strategies to increase timber production and land values through the investment term. TIR will maximize timber values within the portfolio with the application of intensive forest management techniques to accelerate the growth in timber volume and movement into higher value product categories. Additional value will be captured by realizing higher and better use opportunities for select timberland properties throughout the portfolio.

Quarterly Summary and Highlights

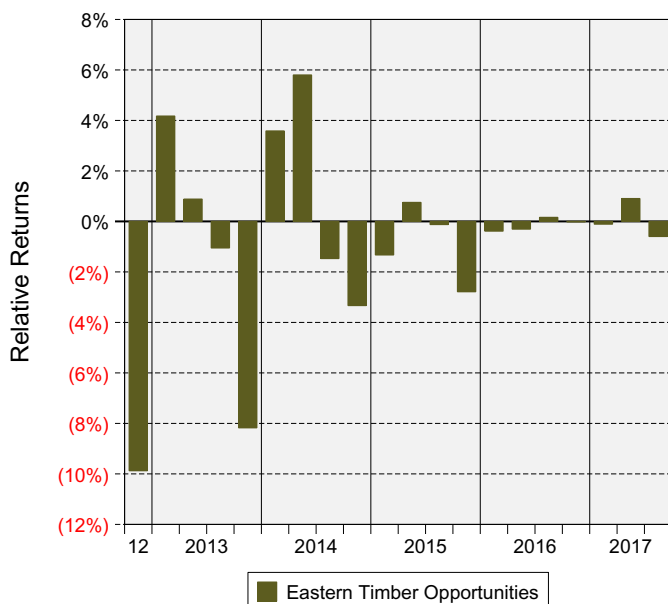
- Eastern Timber Opportunities's portfolio underperformed the NCREIF Timberland Index by 0.60% for the quarter and outperformed the NCREIF Timberland Index for the year by 0.18%.

Quarterly Asset Growth

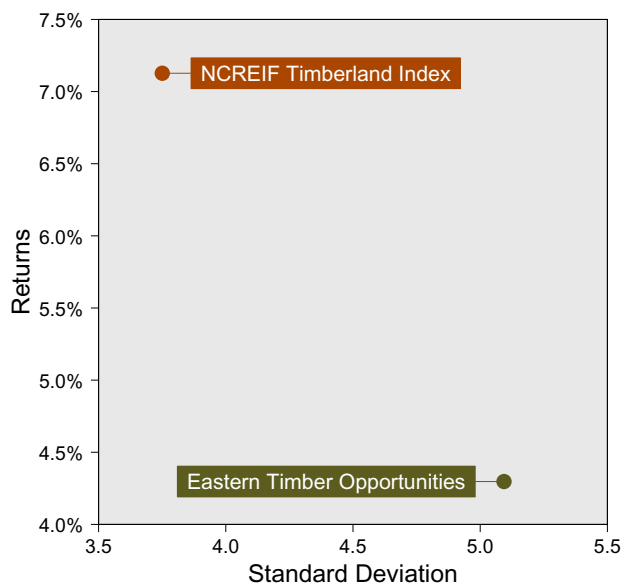
| | |
|---------------------------|--------------|
| Beginning Market Value | \$55,349,404 |
| Net New Investment | \$-5,329,289 |
| Investment Gains/(Losses) | \$0 |
| Ending Market Value | \$50,020,115 |



Relative Return vs NCREIF Timberland Index



Annualized Five Year Risk vs Return



JP Morgan Infrastructure Period Ended September 30, 2017

Investment Philosophy

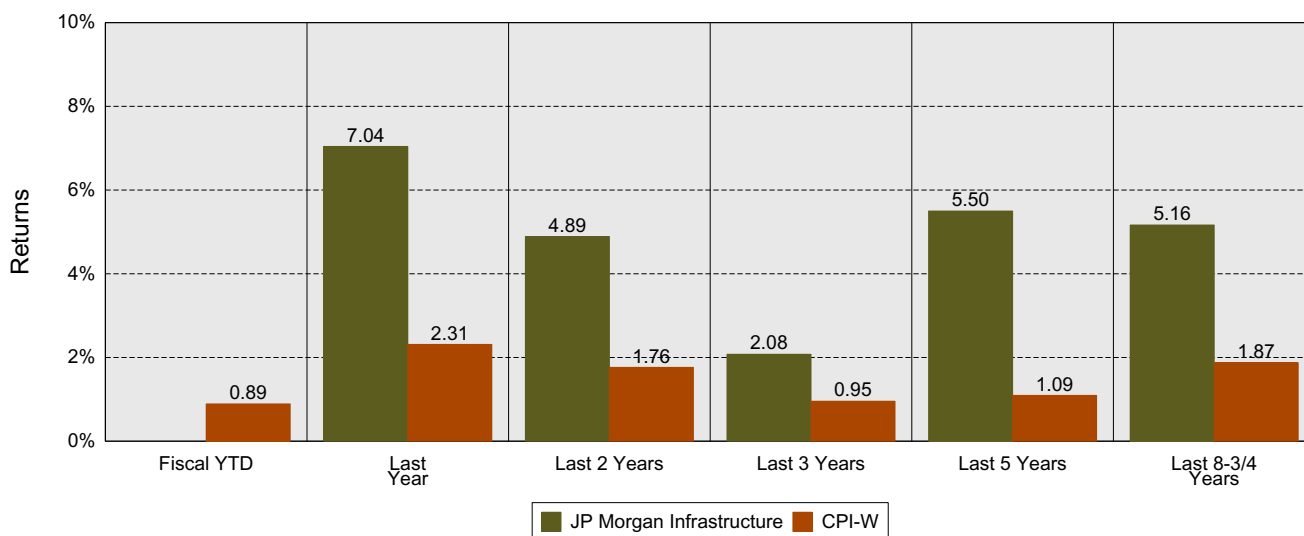
The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas pipelines; electricity transmission and distribution facilities; contracted power generation assets; water distribution; waste-water collection and processing; railway lines and rapid rail links; and seaports and airports.

Quarterly Summary and Highlights

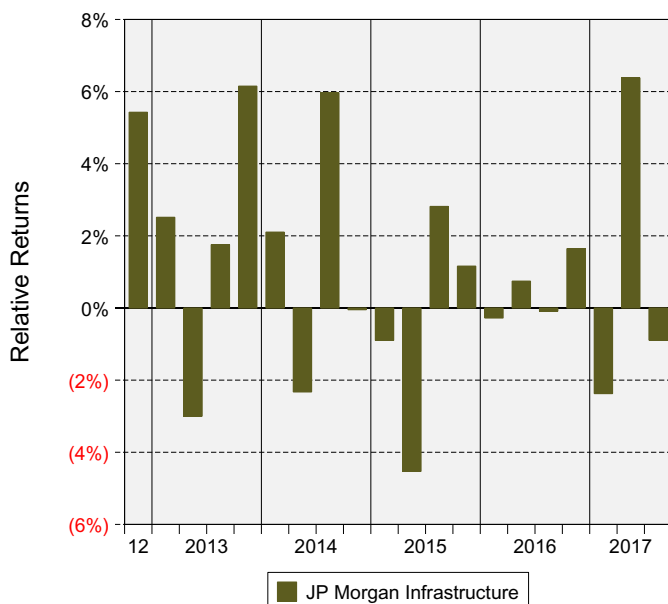
- JP Morgan Infrastructure's portfolio underperformed the CPI-W by 0.89% for the quarter and outperformed the CPI-W for the year by 4.73%.

Quarterly Asset Growth

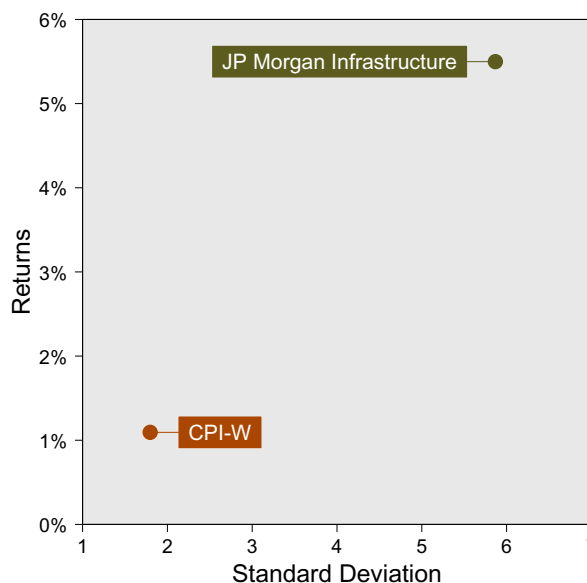
| | |
|---------------------------|--------------|
| Beginning Market Value | \$85,292,003 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$0 |
| Ending Market Value | \$85,292,003 |



Relative Return vs CPI-W



Annualized Five Year Risk vs Return



Grosvenor Cust. Infrastructure Period Ended September 30, 2017

Investment Philosophy

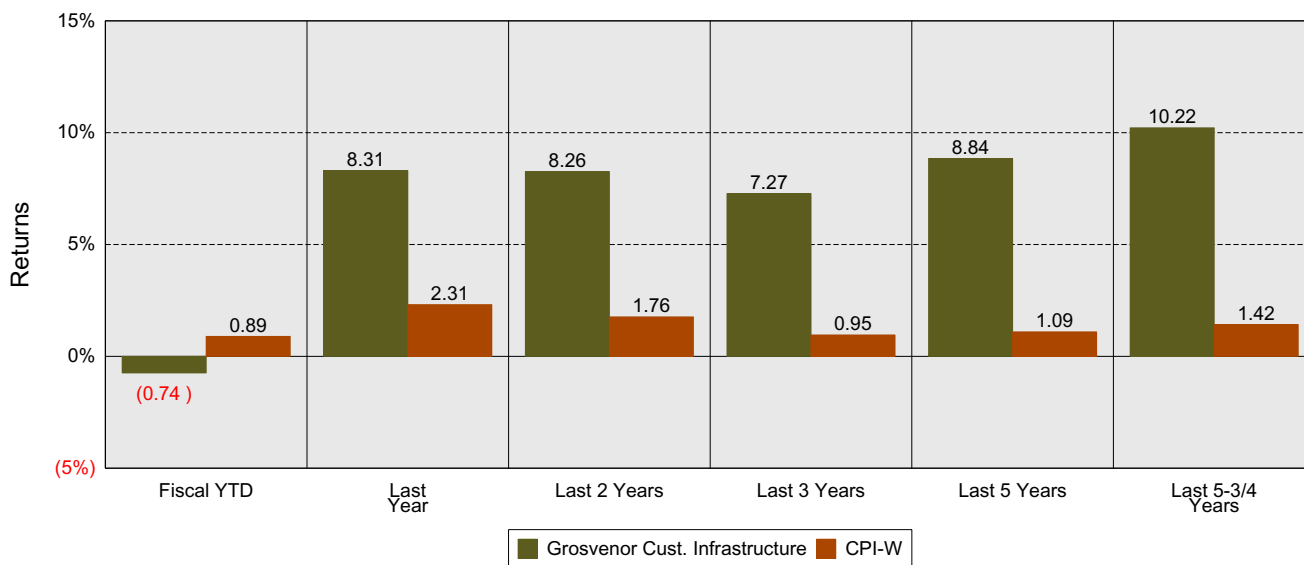
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%).

Quarterly Summary and Highlights

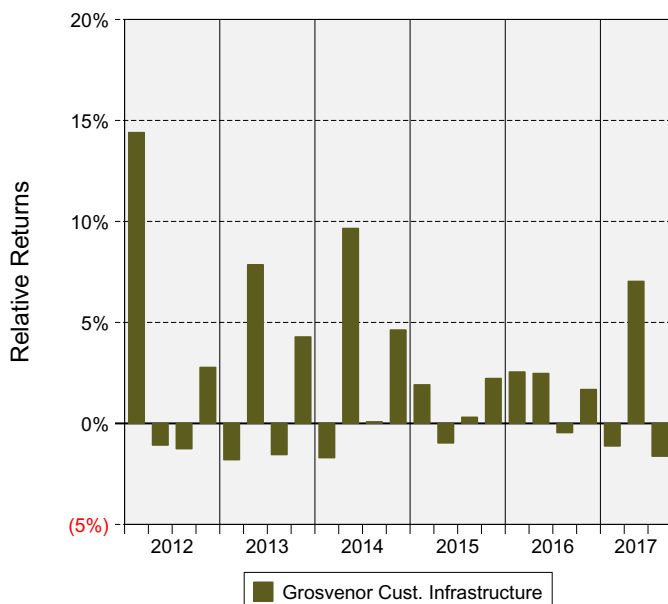
- Grosvenor Cust. Infrastructure's portfolio underperformed the CPI-W by 1.63% for the quarter and outperformed the CPI-W for the year by 5.99%.

Quarterly Asset Growth

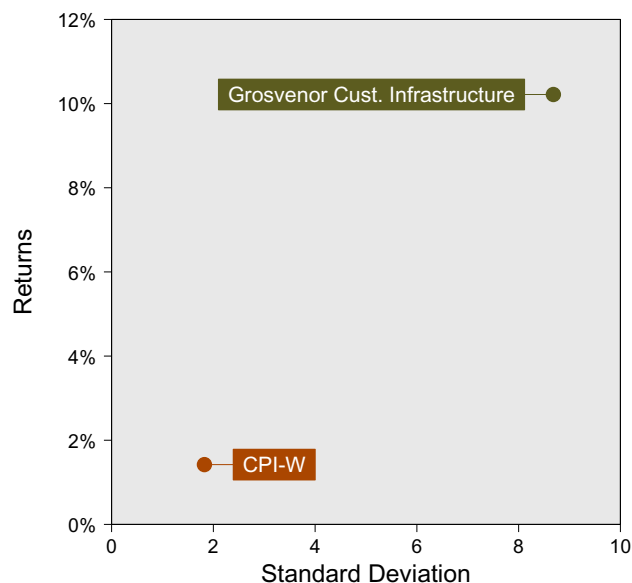
| | |
|---------------------------|--------------|
| Beginning Market Value | \$18,753,608 |
| Net New Investment | \$-1,569,063 |
| Investment Gains/(Losses) | \$-136,164 |
| Ending Market Value | \$17,048,381 |



Relative Return vs CPI-W



Annualized Five and Three-Quarter Year Risk vs Return



Real Estate Period Ended September 30, 2017

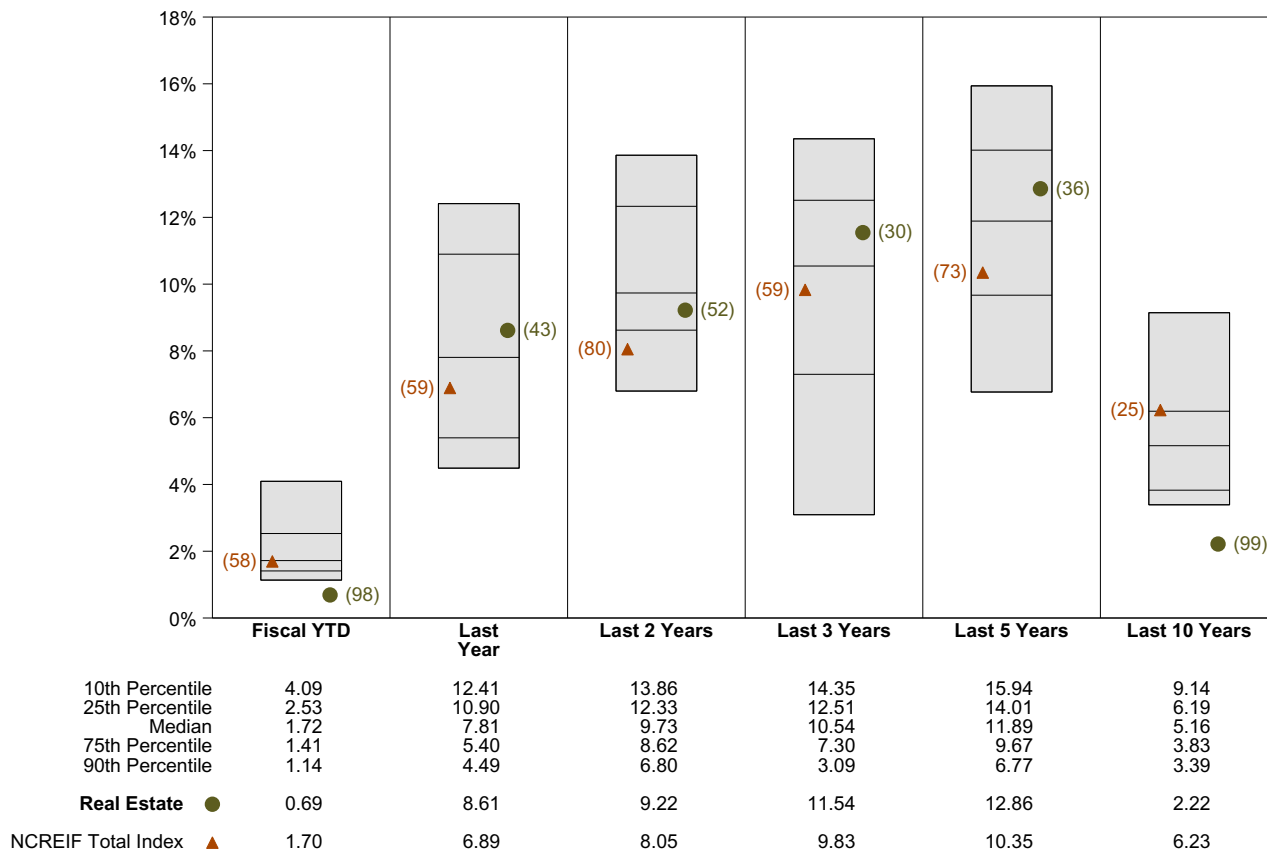
Quarterly Summary and Highlights

- Real Estate's portfolio posted a 0.69% return for the quarter placing it in the 98 percentile of the Callan Total Domestic Real Estate Databa group for the quarter and in the 43 percentile for the last year.
- Real Estate's portfolio underperformed the NCREIF Total Index by 1.00% for the quarter and outperformed the NCREIF Total Index for the year by 1.72%.

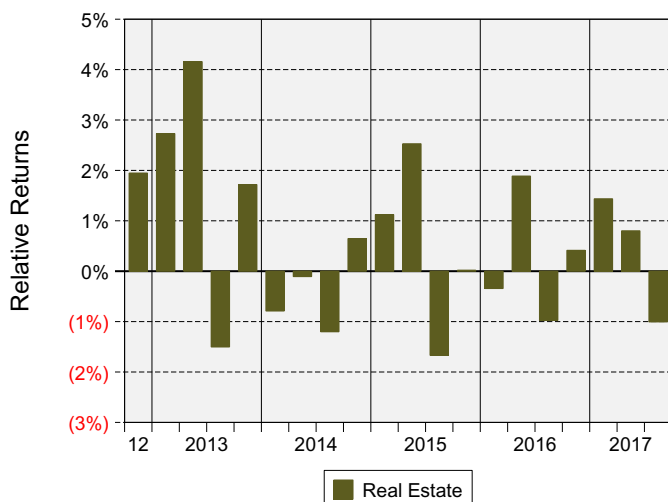
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$138,449,576 |
| Net New Investment | \$-1,402,229 |
| Investment Gains/(Losses) | \$946,332 |
| Ending Market Value | \$137,993,680 |

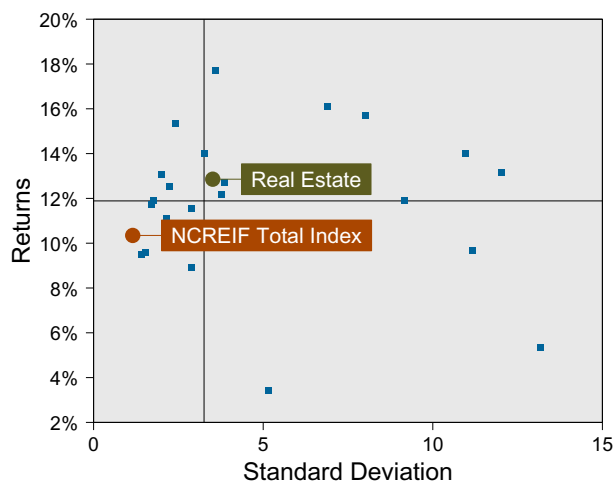
Performance vs Callan Total Domestic Real Estate Databa (Gross)



Relative Return vs NCREIF Total Index



Callan Total Domestic Real Estate Databa (Gross) Annualized Five Year Risk vs Return



Invesco Core Real Estate Period Ended September 30, 2017

Investment Philosophy

IRE's investment philosophy is comprised of two fundamental principles: (1) maximize the predictability and consistency of investment returns and (2) minimize the risk of capital loss. This philosophy forms the cornerstone of the company's real estate investment philosophy.

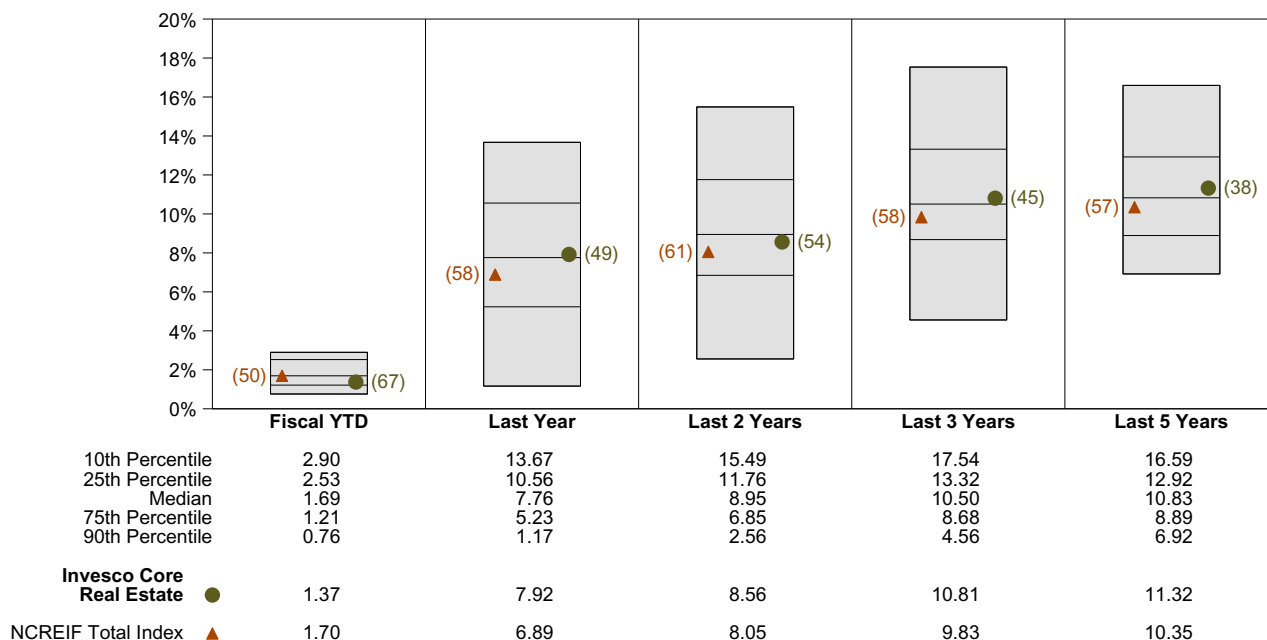
Quarterly Summary and Highlights

- Invesco Core Real Estate's portfolio posted a 1.37% return for the quarter placing it in the 67 percentile of the Callan Total Domestic Real Estate Databa group for the quarter and in the 49 percentile for the last year.
- Invesco Core Real Estate's portfolio underperformed the NCREIF Total Index by 0.32% for the quarter and outperformed the NCREIF Total Index for the year by 1.03%.

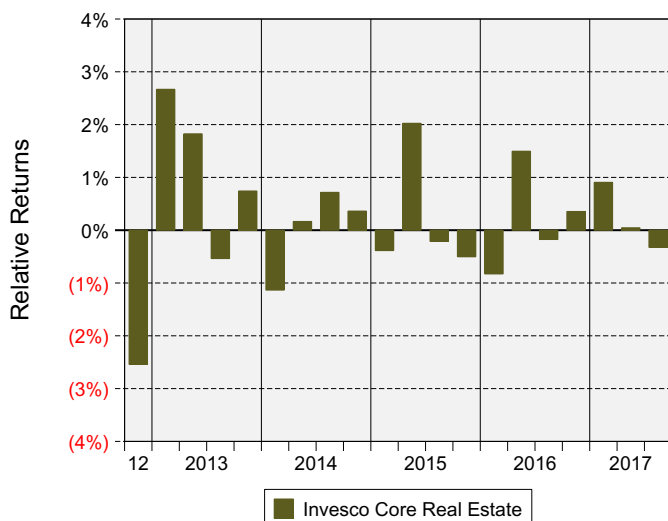
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$65,481,054 |
| Net New Investment | \$-479,504 |
| Investment Gains/(Losses) | \$891,315 |
| Ending Market Value | \$65,892,865 |

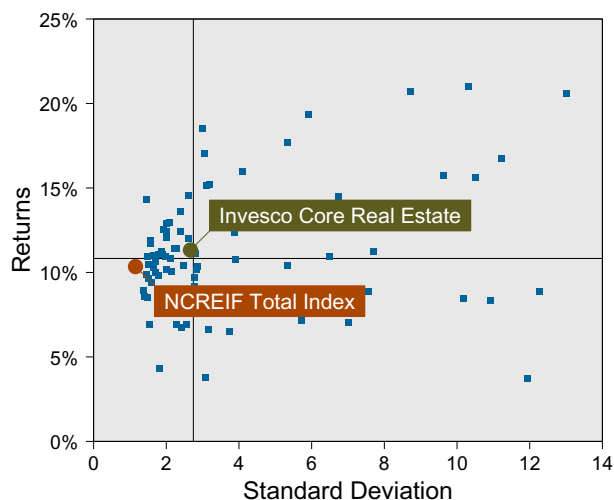
Performance vs Callan Total Domestic Real Estate Databa (Net)



Relative Return vs NCREIF Total Index



Callan Total Domestic Real Estate Databa (Net) Annualized Five Year Risk vs Return



JP Morgan Real Estate Period Ended September 30, 2017

Investment Philosophy

The J.P. Morgan U.S. Real Estate Income and Growth Fund seeks to construct and opportunistically manage a portfolio of core direct real estate investments, complemented by other real estate and real estate-related assets. The Fund pursues a broadly diversified absolute-return strategy and pursues all property investments on an opportunistic basis. The majority of the Fund's investments will be in direct core properties in the office, industrial, retail and residential sectors.

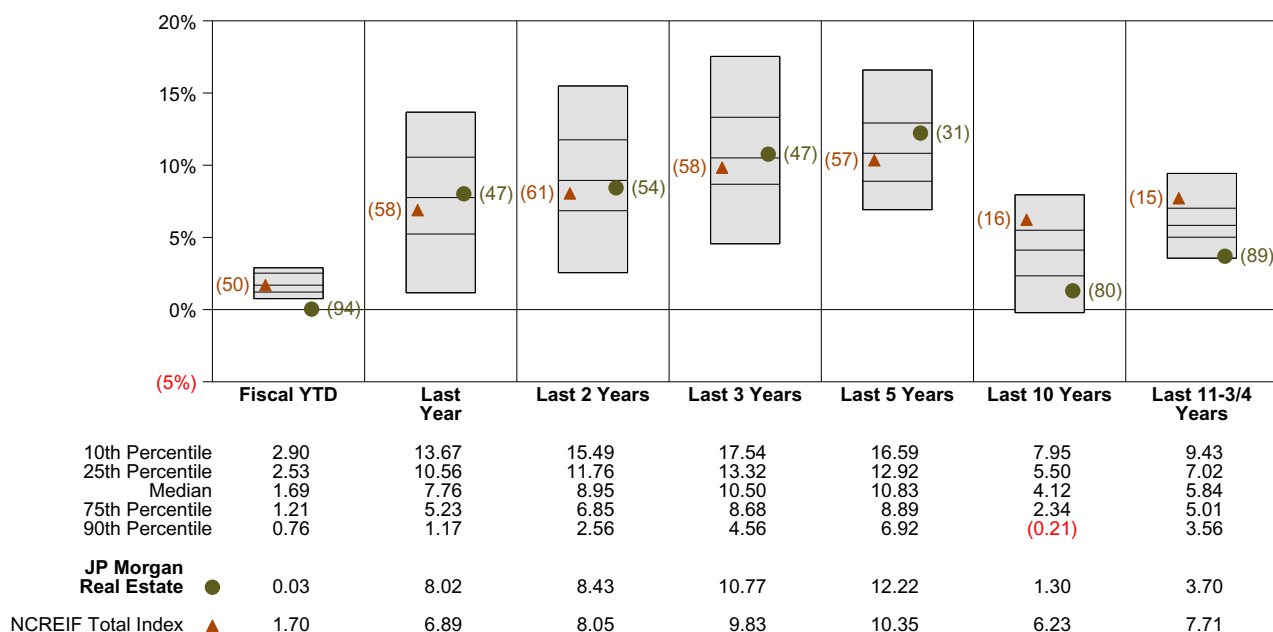
Quarterly Summary and Highlights

- JP Morgan Real Estate's portfolio posted a 0.03% return for the quarter placing it in the 94 percentile of the Callan Total Domestic Real Estate Databa group for the quarter and in the 47 percentile for the last year.
- JP Morgan Real Estate's portfolio underperformed the NCREIF Total Index by 1.66% for the quarter and outperformed the NCREIF Total Index for the year by 1.13%.

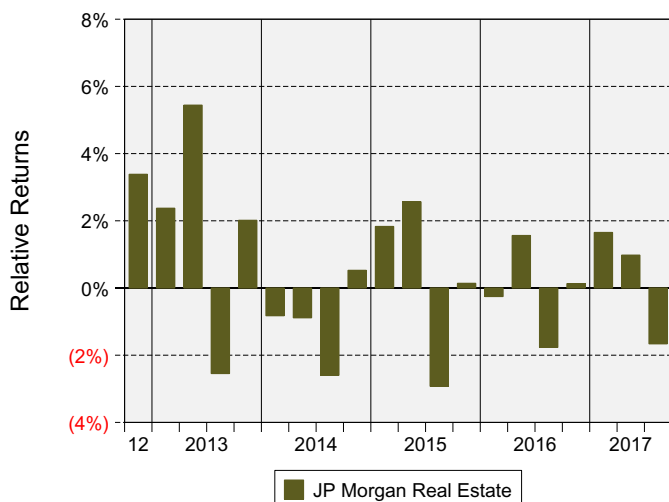
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$72,968,522 |
| Net New Investment | \$-892,716 |
| Investment Gains/(Losses) | \$25,009 |
| Ending Market Value | \$72,100,814 |

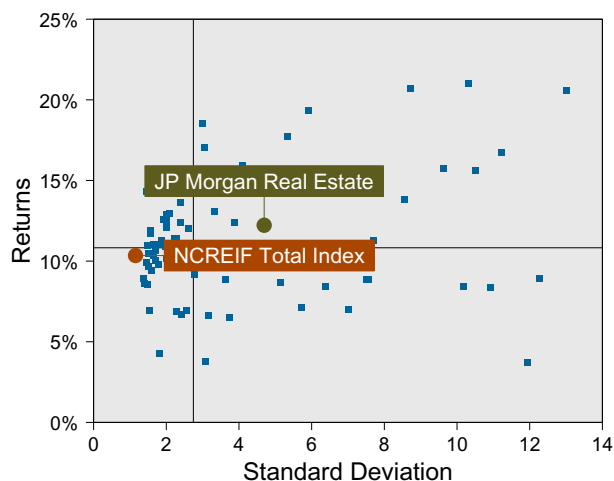
Performance vs Callan Total Domestic Real Estate Databa (Net)



Relative Return vs NCREIF Total Index



Callan Total Domestic Real Estate Databa (Net) Annualized Five Year Risk vs Return



Short Term Fixed Income Period Ended September 30, 2017

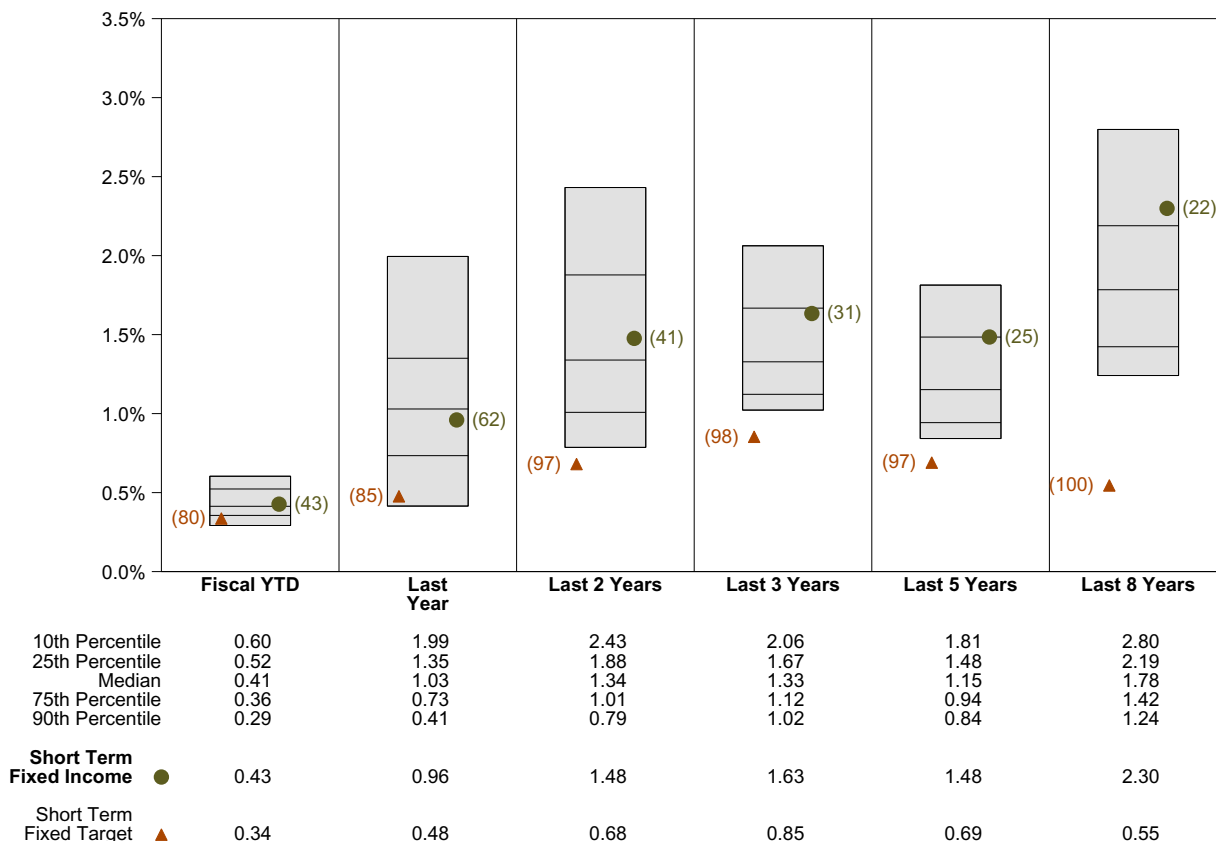
Quarterly Summary and Highlights

- Short Term Fixed Income's portfolio posted a 0.43% return for the quarter placing it in the 43 percentile of the Callan Defensive Fixed Income group for the quarter and in the 62 percentile for the last year.
- Short Term Fixed Income's portfolio outperformed the Short Term Fixed Target by 0.09% for the quarter and outperformed the Short Term Fixed Target for the year by 0.48%.

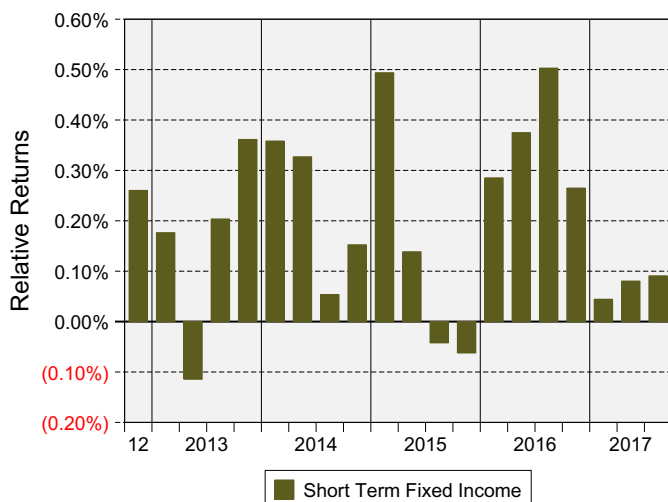
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$43,061,431 |
| Net New Investment | \$27,482,098 |
| Investment Gains/(Losses) | \$173,550 |
| Ending Market Value | \$70,717,079 |

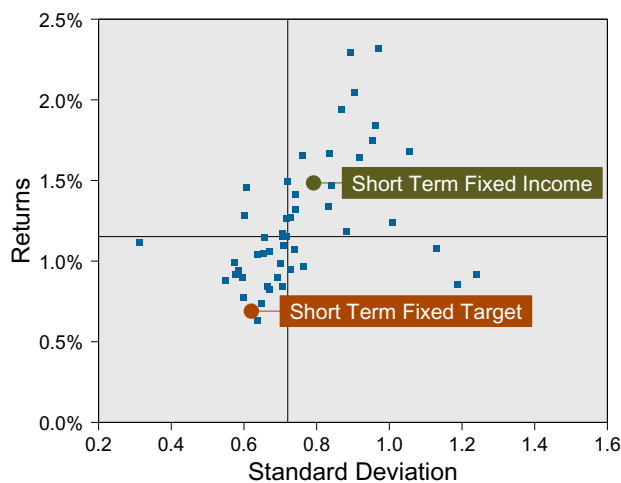
Performance vs Callan Defensive Fixed Income (Gross)



Relative Return vs Short Term Fixed Target



Callan Defensive Fixed Income (Gross) Annualized Five Year Risk vs Return



JP Morgan Short Term Bonds Period Ended September 30, 2017

Investment Philosophy

The investment objective of this account is to outperform the Barclays Capital 1-3 year Government/Credit Index while maintaining total return risk similar to that of the benchmark as measured over a market cycle. The weighted average effective duration of the portfolio will typically remain within +/- 30% of the benchmark.

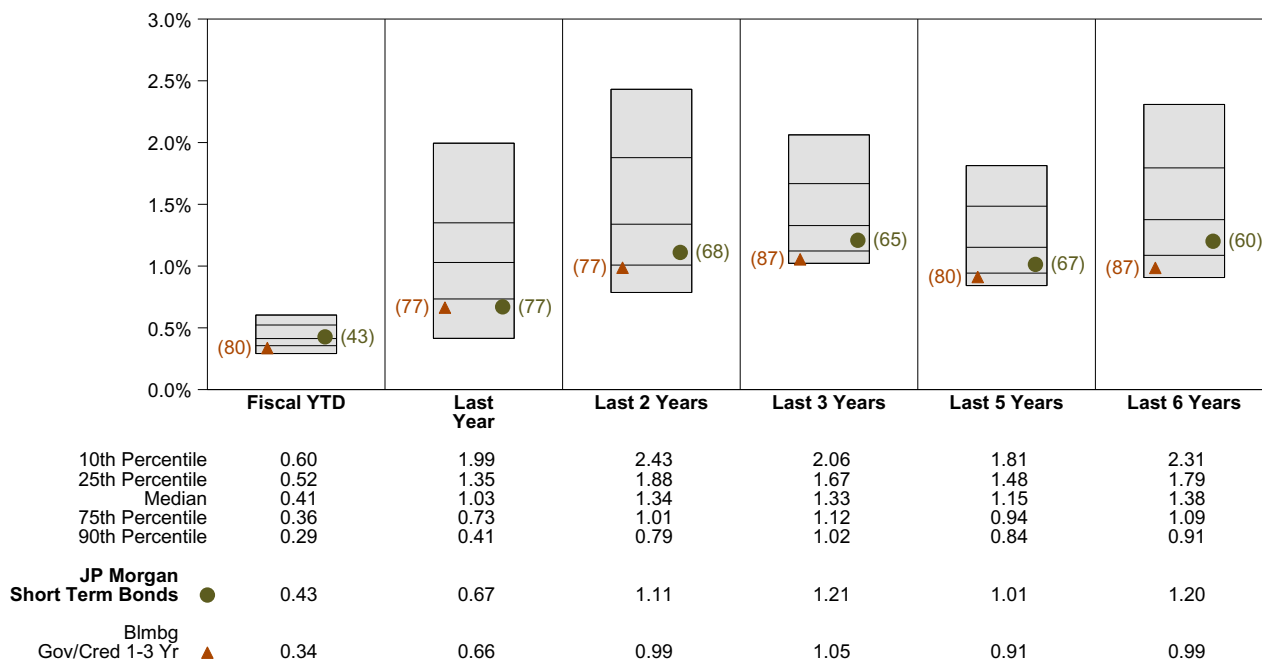
Quarterly Summary and Highlights

- JP Morgan Short Term Bonds's portfolio posted a 0.43% return for the quarter placing it in the 43 percentile of the Callan Defensive Fixed Income group for the quarter and in the 77 percentile for the last year.
- JP Morgan Short Term Bonds's portfolio outperformed the Blmbg Gov/Cred 1-3 Yr by 0.09% for the quarter and outperformed the Blmbg Gov/Cred 1-3 Yr for the year by 0.01%.

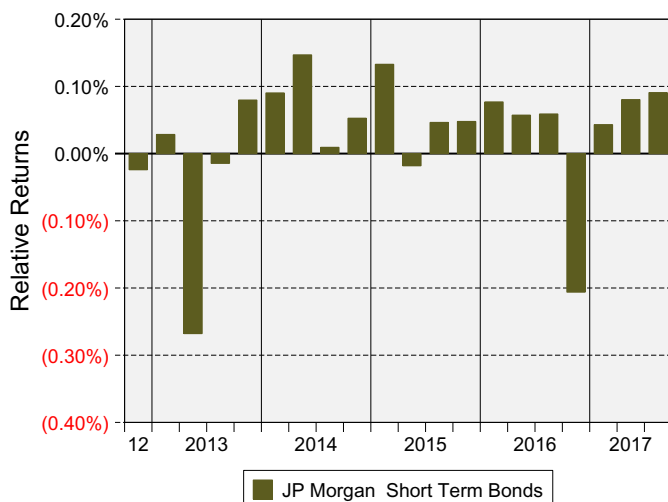
Quarterly Asset Growth

| | |
|---------------------------|--------------|
| Beginning Market Value | \$43,061,431 |
| Net New Investment | \$27,482,098 |
| Investment Gains/(Losses) | \$173,550 |
| Ending Market Value | \$70,717,079 |

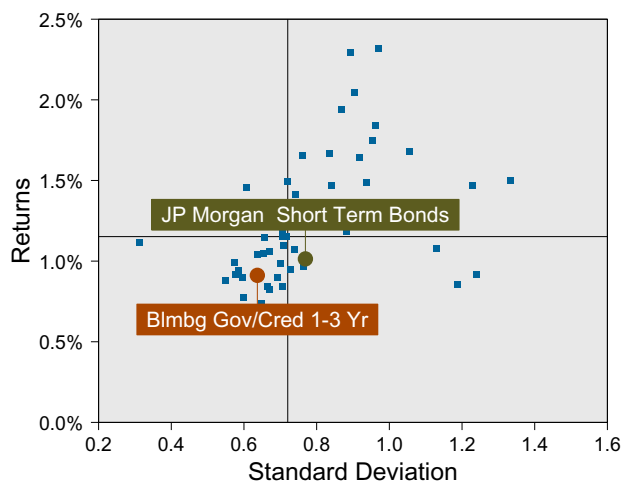
Performance vs Callan Defensive Fixed Income (Gross)



Relative Return vs Blmbg Gov/Cred 1-3 Yr



Callan Defensive Fixed Income (Gross) Annualized Five Year Risk vs Return



Research and Educational Programs

The Callan Institute provides both research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Anna West at 415.974.5060 / institute@callan.com.

New Research from Callan's Experts



The Private Debt Pie: Do You Want a Slice? Do You Need One? | As institutional investors consider the merits and risks of constructing private debt allocations in their portfolios, Callan's Jay Kloepper, the director of Capital Markets Research; and Jay Nayak, a consultant in our Private Equity Research

group, prepared a set of answers to some key questions about private debt.

Callan 2017 Nuclear Decommissioning Funding Study | This study, done annually, offers key insights into the status of nuclear decommissioning funding in the U.S. The 2017 study covers 54 utilities with an ownership interest in the 99 operating nuclear reactors and 11 of the non-operating reactors in the U.S. It found that the health of nuclear decommissioning funding has remained fairly stable, hovering near 70% over the past decade.



Callan 2017 Private Equity Survey
Callan conducted a survey of institutional private equity investors. We focused on deployment models, patterns of investment and commitment activities

over time, governance and oversight, staffing and resources, and responsibilities for program administration functions. Our Survey included 69 institutional investors with private equity programs totaling \$103.3 billion. Our Survey found that an array of administration issues affect how institutional private equity portfolios are constructed, monitored, and managed. We found these factors led to less than ideal choices for implementing the programs, often including sub-optimal use of the discretionary consultant/fund-of-funds model for certain private equity programs.

The Triple Play: Adding Timberland, Farmland, and Infrastructure to Portfolios | Timberland, farmland, and infrastructure offer diversification, stable income, and inflation protection for institutional investor portfolios. Callan believes a combination of these three real assets offers distinct advantages.

Reaching for Higher Ground: The Evolution of TDFs | Target date funds (TDFs) are an improvement over former common defaults, but they need to evolve. The solutions include using uncorrelated asset classes, in-plan annuities, "dynamic" qualified default investment alternatives, or guaranteed income products.

Periodicals

Private Markets Trends, Summer 2017 | Gary Robertson discusses the surge of money into the private markets as high prices persist.

Hedge Fund Monitor, 3rd Quarter 2017 | Jim McKee discusses four major secular trends that are on a predictable course to increasingly weigh on markets over the longer term: demographics, fiscal policy, monetary policy, and market valuations.

Market Pulse Flipbook, 2nd Quarter 2017 | A quarterly market reference guide covering investment and fund sponsor trends in the U.S. economy, U.S. and non-U.S. equities and fixed income, alternatives, and defined contribution plans.

Capital Market Review, 2nd Quarter 2017 | A quarterly newsletter providing insights on the economy and recent performance in equity, fixed income, alternatives, international, real estate, and other capital markets.

Monthly Periodic Table of Investment Returns | This update reflects the latest results for major indices.

Events

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

Mark your calendars for our upcoming **Regional Workshops**, October 24 in New York and October 26 in Chicago, where we'll cover highlights from our soon-to-be published *Investment Management Fee Survey* and other aspects of fees.

Callan's **National Conference** will be held January 29–31, 2018, 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 sessions are:

Introduction to Investments

San Francisco, April 10-11, 2018

San Francisco, July 24-25, 2018

Chicago, October 2-3, 2018

This program familiarizes fund sponsor trustees, staff, and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals who have less than two years of experience with 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 www.callan.com/events/callan-college-intro or contact Kathleen Cunnie: 415.274.3029 / cunnie@callan.com

Education: By the Numbers

525

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

50+

Unique pieces of research the Institute generates each year

3,500

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, Executive Chairman

List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

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

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

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

| Manager Name |
|---|
| 1607 Capital Partners, LLC |
| Aberdeen Asset Management PLC |
| Acadian Asset Management LLC |
| AEGON USA Investment Management |
| AEW Capital Management |
| Affiliated Managers Group, Inc. |
| Alcentra |
| AllianceBernstein |
| Allianz Global Investors |
| Allianz Life Insurance Company of North America |
| American Century Investments |
| AMP Capital Investors Limited |
| Amundi Smith Breeden LLC |
| 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 |
| Baillie Gifford Overseas Limited |
| Baird Advisors |
| Bank of America |
| Barings LLC |
| Baron Capital Management, Inc. |
| Barrow, Hanley, Mewhinney & Strauss, LLC |
| BlackRock |
| BMO Global Asset Management |
| BNP Paribas Investment Partners |
| BNY Mellon Asset Management |
| Boston Partners |
| Brandes Investment Partners, L.P. |
| Brandywine Global Investment Management, LLC |

| Manager Name |
|--|
| Brigade Capital Management, LP |
| Brown Brothers Harriman & Company |
| Cambiar Investors, LLC |
| Capital Group |
| CastleArk Management, LLC |
| Causeway Capital Management |
| CBRE Global Investors |
| Chartwell Investment Partners |
| ClearBridge Investments, LLC |
| Cohen & Steers Capital Management, Inc. |
| Columbia Management Investment Advisers, LLC |
| Columbus Circle Investors |
| Conning Asset Management Company |
| Corbin Capital Partners, L.P. |
| Cornerstone Capital Management |
| Cramer Rosenthal McGlynn, LLC |
| Credit Suisse Asset Management |
| Crestline Investors, Inc. |
| D.E. Shaw Investment Management, L.L.C. |
| DePrince, Race & Zollo, Inc. |
| Deutsche Asset Management |
| Diamond Hill Capital Management, Inc. |
| Dimensional Fund Advisors LP |
| Doubleline |
| 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 Corporation |
| First Eagle Investment Management, LLC |
| First Hawaiian Bank Wealth Management Division |
| Fisher Investments |

| Manager Name |
|---|
| Franklin Templeton |
| Franklin Templeton Institutional |
| Fred Alger Management, Inc. |
| Fuller & Thaler Asset Management, Inc. |
| GAM (USA) Inc. |
| GMO |
| Goldman Sachs Asset Management |
| Goodwin Capital Advisers |
| Guggenheim Investments |
| Guggenheim Partners Asset Management |
| GW&K Investment Management |
| Harbor Capital Group Trust |
| Hartford Funds |
| Hartford Investment Management Co. |
| Heitman LLC |
| Henderson Global Investors |
| Holland Capital Management |
| Hotchkis & Wiley Capital Management, LLC |
| HSBC Global Asset Management |
| Income Research + Management, Inc. |
| Insight Investment Management Limited |
| INTECH Investment Management, LLC |
| Invesco |
| Investec Asset Management |
| Ivy Investments |
| Janus Capital Management, LLC |
| Jarislowsky Fraser Global Investment Management |
| Jensen Investment Management |
| Jobs Peak Advisors |
| Johnson Institutional Management |
| J.P. Morgan Asset Management |
| J.P. Morgan Chase & Company |
| Kayne Anderson Capital Advisors LP |
| KeyCorp |
| Lazard Asset Management |
| Legal & General Investment Management America |
| Lincoln National Corporation |
| LM Capital Group, LLC |
| LMCG Investments, LLC |
| Longview Partners |
| Loomis, Sayles & Company, L.P. |
| Lord Abbett & Company |
| Los Angeles Capital Management |
| LSV Asset Management |
| Mackay Shields LLC |
| Macquarie Investment Management (formerly Delaware Investments) |
| Man Investments Inc. |
| Manulife Asset Management |
| McKinley Capital Management, LLC |
| MFS Investment Management |
| MidFirst Bank |
| Mondrian Investment Partners Limited |
| Montag & Caldwell, LLC |
| Morgan Stanley Investment Management |
| Mountain Lake Investment Management LLC |
| MUFG Union Bank, N.A. |
| Neuberger Berman |
| Newton Investment Management (fka Newton Capital Mgmt) |
| Nicholas Investment Partners |

| Manager Name |
|---|
| Nikko Asset Management Co., Ltd. |
| Northern Trust Asset Management |
| Nuveen Investments, Inc. |
| OFI Global Asset Management |
| Old Mutual Asset Management |
| O'Shaughnessy Asset Management, LLC |
| Pacific Investment Management Company |
| Parametric Portfolio Associates |
| Peregrine Capital Management, Inc. |
| PGIM |
| PGIM Fixed Income |
| PGIM Real Estate |
| PineBridge Investments |
| Pioneer Investments |
| PNC Capital Advisors, LLC |
| PPM America |
| 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. |
| Rockpoint Group |
| Rothschild Asset Management, Inc. |
| Russell Investments |
| Santander Global Facilities |
| Schroder Investment Management North America Inc. |
| 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. |
| T. Rowe Price Associates, Inc. |
| Taplin, Canida & Habacht |
| Teachers Insurance & Annuity Association of America |
| The Boston Company Asset Management, LLC |
| The Guardian Life Insurance Company of America |
| The Hartford |
| The Lionstone Group |
| The London Company |
| The TCW Group, Inc. |
| Thompson, Siegel & Walmsley LLC |
| Thornburg Investment Management, 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) |
| WCM Investment Management |
| WEDGE Capital Management |
| Wellington Management Company, LLP |
| Wells Capital Management |
| Western Asset Management Company |
| William Blair & Company |

September 30, 2017



North Dakota State Investment Board Legacy Fund

**Investment Measurement Service
Quarterly Review**

The following report was prepared by Callan using information from sources that include the following: fund trustee(s); fund custodian(s); investment manager(s); Callan computer software; Callan investment manager and fund sponsor database; third party data vendors; and other outside sources as directed by the client. Callan assumes no responsibility for the accuracy or completeness of the information provided, or methodologies employed, by any information providers external to Callan. Reasonable care has been taken to assure the accuracy of the Callan 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, Callan 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 2017 by Callan.

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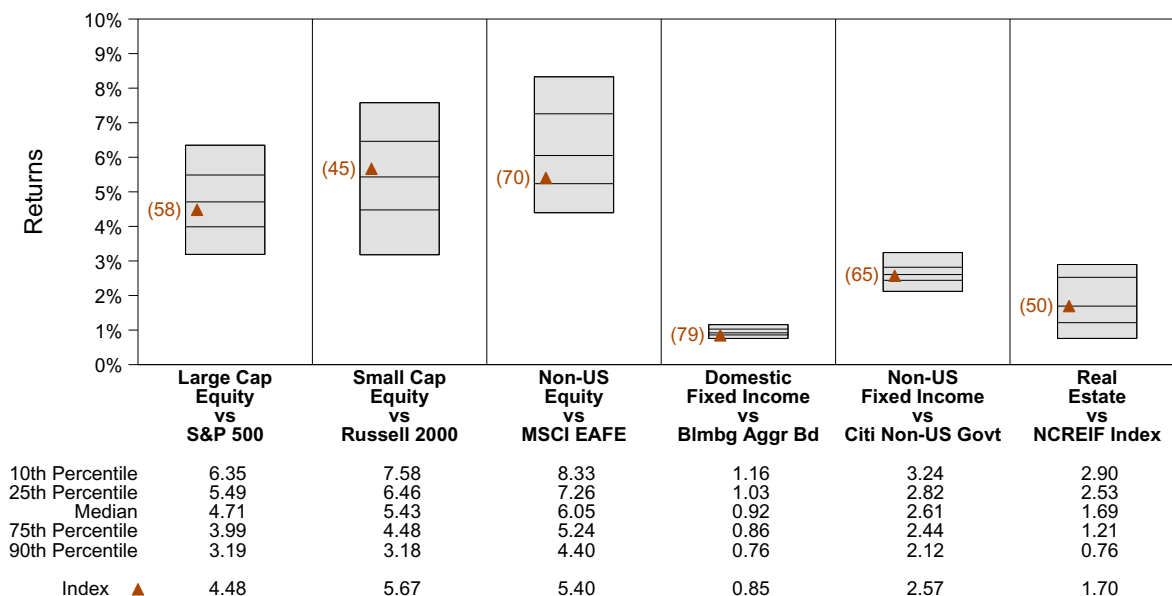
Market Overview

Active Management vs Index Returns

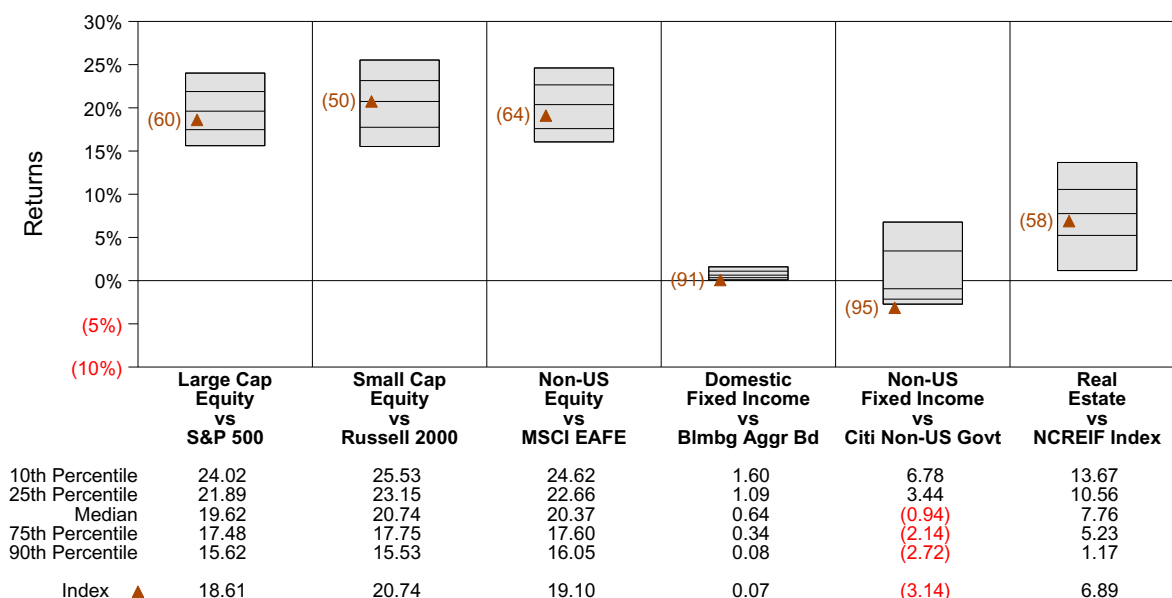
Market Overview

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

Range of Separate Account Manager Returns by Asset Class One Quarter Ended September 30, 2017



Range of Separate Account Manager Returns by Asset Class One Year Ended September 30, 2017



Third Quarter 2017

Why So Sad?

ECONOMY

2 The disconnect sharpened in the quarter between the state of the economy, which is pretty good, and sentiment, which is not so good. Global geopolitical upheaval dominates the news cycle. But the world economy is in much better shape than this sentiment might suggest.

Managing Risk While Hunting for Returns

FUND SPONSOR

4 Endowments and foundations performed best over the one-year period ending with the third quarter, while Taft-Hartley plans surpassed other groups over the past three- and five-year periods. Corporate plans did best over a 10-year period.

Up, Up, Up, and Away for Global Stocks

EQUITY

6 The **S&P 500**, **Russell 2000**, and **Nasdaq Composite** all hit record highs on the final trading day of the quarter. Non-U.S. developed equity outperformed the U.S. for the third consecutive quarter; emerging markets outperformed developed ones, also for the third straight quarter.

Healthy Risk Appetite Drove Yields

FIXED INCOME

9 Global fixed income markets generally performed well in the third quarter. Moderate growth and inflation kept long-term rates low and range-bound in the U.S. Rates were also low outside the U.S., but dollar weakness boosted returns, especially for emerging market debt.

Best Location? Europe These Days

REAL ESTATE

11 The **NCREIF Property Index** notched 35 straight quarters of gains, while the **NCREIF Open End Diversified Core Equity Index** rebounded from last quarter's seven-year low. Europe was the strongest-performing region, with the **FTSE EPRA/NAREIT Europe Index** up 4.8%.

PE Market Sees 'Golden Era'

PRIVATE EQUITY

13 Low volatility and gently rising markets fostered ongoing "Golden Era" conditions in the private equity market. Fundraising is on pace to best last year's post-GFC high; buyout and venture investments slowed slightly but dollar volume remained healthy.

Kickin' It with Risk

HEDGE FUNDS

14 The **Credit Suisse Hedge Fund Index** rose 1.8% in the quarter, while the median manager in the *Callan Hedge Fund-of-Funds Database* advanced 2.0%. The median *Callan Long/Short Equity FoF* (+3.1%) handily beat the *Callan Absolute Return FOF* (+1.8%).

Strongest First Half in DC Index History

DEFINED CONTRIBUTION

15 The **Callan DC Index™** rose 3.1% during the second quarter and is now up 7.9% year-to-date—its strongest first-half performance since its 2006 inception. Still, the Index trailed the typical Age 45 Target Date Fund, up 3.7% in the second quarter and 9.4% in the first half.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000

+4.6%

Non-U.S. Equity
MSCI ACWI ex USA

+6.2%

U.S. Fixed Income
Bloomberg Barclays Agg

+0.8%

Non-U.S. Fixed Income
Bloomberg Barclays GBI ex US

+2.5%

Sources: Bloomberg Barclays, MSCI, Russell Investment Group

Why So Sad?

ECONOMY | Jay Kloepfer

The disconnect sharpened in the third quarter of 2017 between the state of the underlying economy, which is pretty good, and sentiment, which is not so good, teetering on downright gloomy.

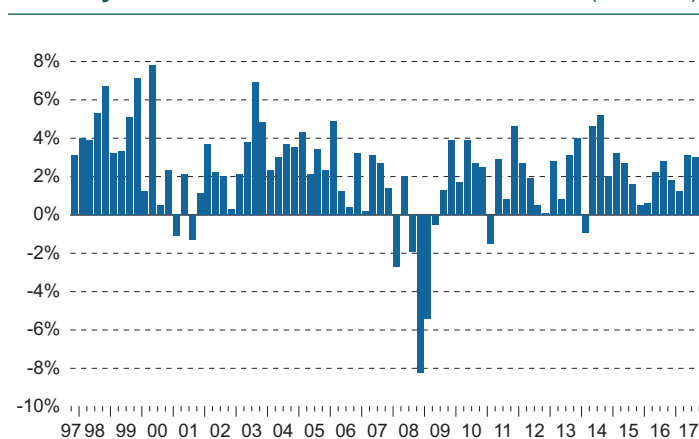
Geopolitical upheaval across the globe dominated the news cycle, feeding anxieties about the future of monetary and fiscal policy, taxes, trade, and conflict. Tension remained high with North Korea and continued to escalate with Russia. Richly priced capital markets spurred concerns about an “inevitable” correction. Comparisons to the pre-Global Financial Crisis (GFC) period in 2007, to before the Dot-Com Bubble in 2000, and particularly to 1987 before the 20% one-day drop in the U.S. stock market abound. Then two hurricanes of historic proportions slammed the Caribbean, the Gulf of Mexico, and the U.S. mainland within a couple weeks of each other in September.

Stepping back from the conjecture and hand-wringing, the state of the global economy as we head into the fourth quarter of 2017 is much better than this general sentiment might suggest. Investors are certainly less concerned about the economy than the news would lead us to believe. The U.S. economy has actually gathered momentum as 2017 progressed. After a relatively weak first quarter (1.4% growth), GDP was revised up to 3.1% in the second quarter and grew an astounding 3.0% in the third quarter *after* accounting for the impact of Harvey and Irma. Without the hurricanes, real GDP would likely have seen a robust gain in excess of 4%, perhaps as strong as 4.5%. Initial estimates for fourth quarter growth are equally lofty.

What gives? Is this growth spurt the last, exuberant gasp before the economy collapses from exhaustion? First and foremost, we should recall that expansions do not die of old age; they typically expire under the weight of imbalances in spending versus income, a run-up in debt, a build-up in inventory for demand that wanes, or over-building for economic activity that doesn't materialize. These imbalances are obvious in hindsight but difficult to spot in the moment. The current cycle is particularly hard to pin down; the expansion may be getting long in the tooth

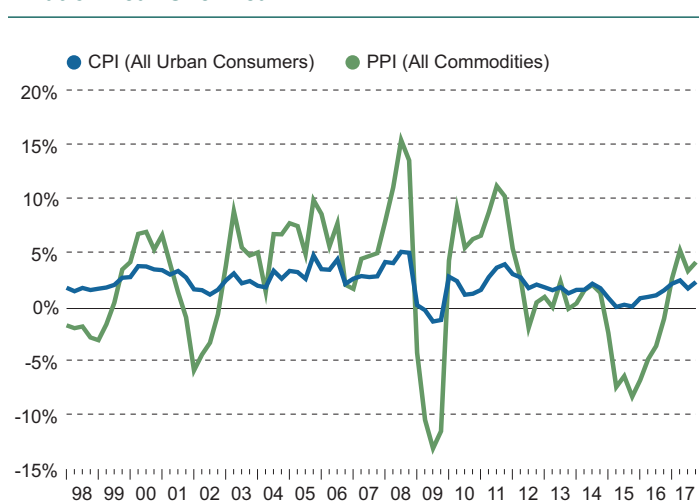
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

after more than seven years, but the GDP gains since the GFC (2.2% per year) are substantially lower than those enjoyed in previous recoveries (above 3%). Consumers spent the first several years following the GFC deleveraging, whether voluntarily or involuntarily. Businesses have been persistently reluctant to invest in capital, except perhaps for equipment replacement and technology.

Consumer spending is finally leading GDP growth, fueled by tight labor markets, a long-awaited nudge upward in wages and salaries, and in a perhaps less sanguine development, a renewed interest in and ability to borrow. While mortgage debt is still more difficult to obtain than pre-GFC, consumer credit as a percentage of disposable income has regained its pre-GFC peak of 24% and then some, reaching past 26% in the third quarter of 2017. Business spending is also finally accelerating after years of fits and starts. The ISM Report on Business for September shows strength across almost all measures of manufacturing and non-manufacturing activity. The Purchasing Managers' Index came in at 58.8 in August and 60.8 in September, well above 50, the dividing line between expansion and contraction. The new orders, production, and employment indices are even stronger, and coupled with a sharp decline in inventories following the hurricanes, activity is poised to be even stronger in the fourth quarter.

The sustainability of the 2017 burst in growth will certainly fall under scrutiny. Hopes for near-term fiscal stimulus in the U.S. are diminished, and tight labor markets suggest limited potential for further growth from the existing set of labor and capital inputs available in the U.S. economy.

Outside the U.S., euro zone GDP for the second quarter was revised upwards to 2.3% from 1.7%, and preliminary data support continued improvement in the third quarter. The long-awaited response to the stimulus appears to have arrived. In China, annual growth increased by 6.9% in the second quarter, identical to the first quarter and slightly ahead of expectations. Initial data on industrial production and investment in fixed

The Long-Term View

| Index | 2017 3rd Qtr | Periods ended Dec. 31, 2016 | | | |
|---------------------------------|-----------------|-----------------------------|-------|--------|--------|
| | | Year | 5 Yrs | 10 Yrs | 25 Yrs |
| U.S. Equity | | | | | |
| Russell 3000 | 4.57 | 12.74 | 14.67 | 7.07 | 9.29 |
| S&P 500 | 4.48 | 11.96 | 14.66 | 6.95 | 9.15 |
| Russell 2000 | 5.67 | 21.31 | 14.46 | 7.07 | 9.69 |
| Non-U.S. Equity | | | | | |
| MSCI ACWI ex USA | 6.16 | 4.50 | 5.00 | 0.96 | — |
| MSCI Emerging Markets | 7.89 | 11.19 | 1.28 | 1.84 | — |
| MSCI ACWI ex USA Small Cap | 6.90 | 3.91 | 7.74 | 2.89 | — |
| Fixed Income | | | | | |
| Bloomberg Barclays Agg | 0.85 | 2.65 | 2.23 | 4.34 | 5.63 |
| 90-Day T-Bill | 0.26 | 0.33 | 0.12 | 0.80 | 2.71 |
| Bloomberg Barclays Long G/C | 1.53 | 6.67 | 4.07 | 6.85 | 7.58 |
| Bloomberg Barclays GI Agg ex US | 2.48 | 1.49 | -1.39 | 2.44 | 4.73 |
| Real Estate | | | | | |
| NCREIF Property | 1.70 | 7.97 | 10.91 | 6.93 | 8.63 |
| FTSE NAREIT Equity | 0.94 | 8.52 | 12.01 | 5.08 | 11.13 |
| Alternatives | | | | | |
| CS Hedge Fund | 1.81 | 1.25 | 4.34 | 3.75 | — |
| Cambridge PE* | -- | 9.26 | 12.77 | 9.40 | 15.39 |
| Bloomberg Commodity | 2.52 | 11.77 | -8.95 | -5.57 | 2.55 |
| Gold Spot Price | 3.42 | 8.63 | -5.97 | 6.08 | 4.82 |
| Inflation – CPI-U | 0.76 | 2.07 | 1.36 | 1.81 | 2.26 |

*Most recent quarterly data not available.

Sources: Bloomberg Barclays, Bloomberg, Credit Suisse, FTSE, MSCI, NCREIF, Russell Investment Group, Standard & Poor's, Thomson Reuters/Cambridge, Bureau of Economic Analysis.

assets released in July and August are consistent with a third quarter slowdown. Robust gains in developed non-U.S. and emerging equity markets are fueled by renewed optimism, or at least reduced skepticism, about growth prospects in many markets around the globe.

Recent Quarterly Economic Indicators

| | 3Q17 | 2Q17 | 1Q17 | 4Q16 | 3Q16 | 2Q16 | 1Q16 | 4Q15 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Employment Cost–Total Compensation Growth | 2.5% | 2.4% | 2.4% | 2.2% | 2.3% | 2.3% | 1.9% | 2.0% |
| Nonfarm Business–Productivity Growth | 1.6%* | 1.5% | 0.1% | 1.3% | 2.5% | 0.8% | -1.2% | -2.6% |
| GDP Growth | 3.0% | 3.1% | 1.2% | 1.8% | 2.8% | 2.2% | 0.6% | 0.5% |
| Manufacturing Capacity Utilization | 75.2% | 75.7% | 75.4% | 75.1% | 74.9% | 75.1% | 75.4% | 75.4% |
| Consumer Sentiment Index (1966=100) | 95.1 | 96.4 | 97.2 | 93.2 | 90.3 | 92.4 | 91.5 | 91.3 |

*Estimate.

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

Managing Risk While Hunting for Returns

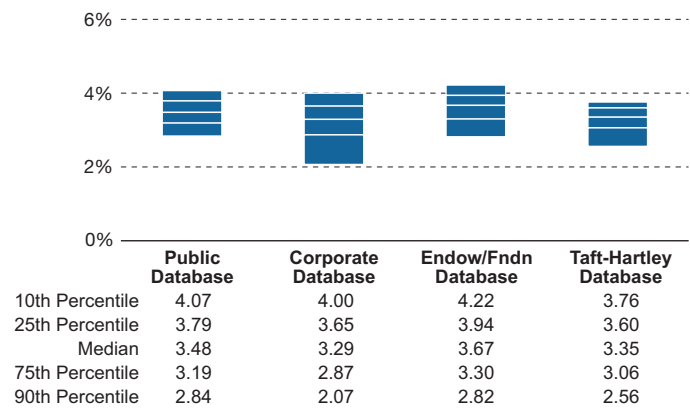
FUND SPONSOR

Low interest rates and low return expectations continued to drive strategic allocation discussions for fund sponsors. Many felt compelled to take on market risk to reach return targets. Sponsors are now examining if there is anything they can do to tamp down the risk within their large growth allocation short of actually reducing it.

For instance, to offset risk in a crisis situation, plans have examined strategies including Treasury bond allocations, momentum, multi-asset class (MACs), and even gold.

These discussions, as we have noted before, turn diversification on its head: Investors are looking for investments with similar underlying return factors (in this case equity) while seeking at least some diversification to smooth the ride within that large growth allocation. A broader growth allocation can then consider investments like high yield, convertibles, low volatility equity, hedge funds, MACs, and option-based strategies. This approach also allows for new strategies to be brought into the fold, based on prospective diversification or return enhancement. The broadening of growth assets often leads

Callan Fund Sponsor Returns for the Quarter

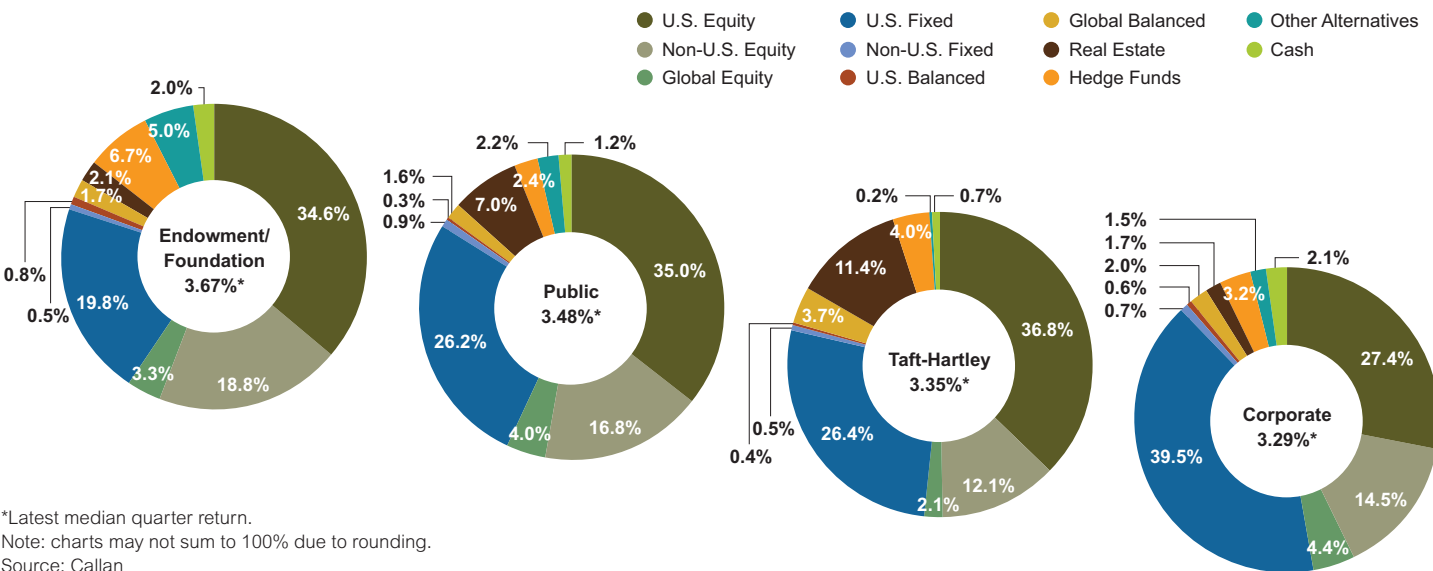


Source: Callan

to a sharper focus on refining fixed income exposure to gain a “purer” exposure to interest rates.

In addition, the active/passive discussion continues to loom large. The argument to retain active to protect in a down market and be nimble in a volatile, low-return environment is compelling, but plan sponsors are weary of historical

Callan Fund Sponsor Average Asset Allocation



underperformance in actively managed equity. And tied to that discussion is the use of passive management to control costs.

For defined contribution (DC) plans, regulations, lawsuits, and implementation are driving factors for the decision-making process. Some of this conversation has led to negotiating a reduction of fees for the plans, in some cases to a significant extent. Heightened fee sensitivity and litigation have resulted in little traction for non-traditional asset classes such as liquid alternatives.

Target date funds (TDFs) dominate asset flows in DC plans; they now account for almost 30% of DC assets, according to the Callan DC Index™. TDFs have received an average of 71% of flows into DC plans over the last three years.

Over the last five years, Callan has seen several trends in asset allocation by different types of fund sponsors:

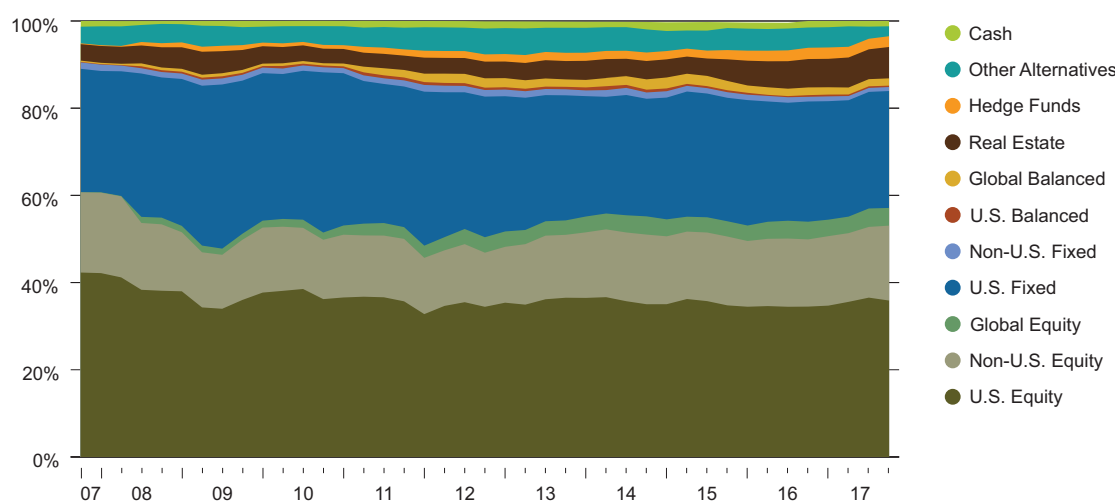
- Corporate funds: The range of U.S. fixed income allocations has widened, as these sponsors are in different stages of efforts to de-risk.

- Public funds: Many have increased their allocation to non-U.S. equity and real estate at the expense of fixed income. Capital market return expectations have created a difficult environment for total return investors.
- Endowments and foundations: They continue to move assets from fixed income to asset classes with expectations for higher returns. Global equity, non-U.S. equity, and real estate have all benefited from this shift.

The performance by fund sponsors continued to be robust. Over the one-year ending with the third quarter, only corporate sponsors did not exceed the 10.9% return of a quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio. Endowments and foundations performed best over that one-year period, while corporate plans did best over a 10-year period. Taft-Hartley plans were the best-performing group over the past three and five years, partially due to a larger home-country bias.

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.

Global Equity

U.S. Stocks: The 'Everything Rally' Marched On

+4.6%

RUSSELL 3000

The Goldilocks environment ("Not too hot, not too cold, but just right") and investor complacency continued to keep volatility at multi-decade lows and propel stock markets to new highs, in spite of escalating tensions with North Korea, several severe natural disasters, and uncertainty around the prospects for tax reform and other U.S. domestic agenda items. The **S&P 500 Index**, **Russell 2000 Index**, and **Nasdaq Composite Index** all hit record highs on the final trading day of the quarter. It was the Nasdaq's 50th record close this year.

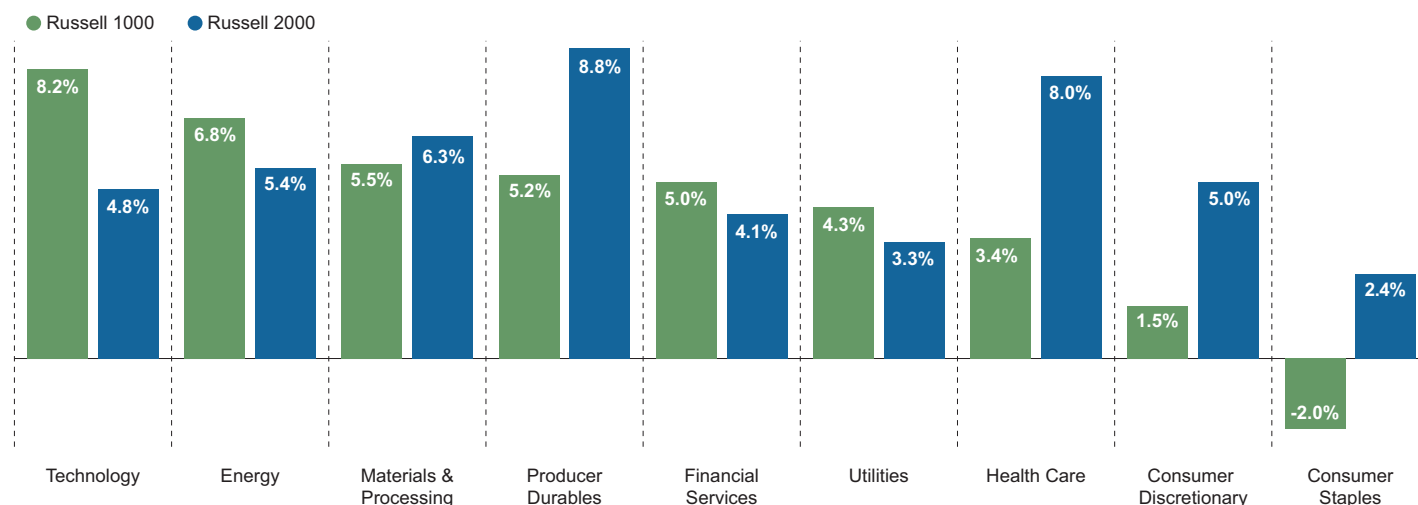
Stocks, bonds, and commodities alike rewarded investors in what's been coined the "everything rally," marked by its surprisingly low volatility. Even cash is up from its dismal 0% days and posted a +0.3% quarterly result. Investors' attention remained focused on the hopeful promise of tax reform along with the generally upbeat picture of the U.S. economy. But contrarians question where longer-term alpha can be found amid stretched equity valuations.

The Tech (+8.6%) and Energy (+6.8%) sectors led the S&P 500 (+4.5%). The globally dominant Tech names (the so-called "FAAMG" stocks, or Facebook, Amazon, Apple, Microsoft, and Google) continued to drive results in the sector, which now accounts for 23% of the S&P 500 and 38% of the **Russell 1000 Growth Index**. Tech alone has accounted for approximately 40% of the S&P 500's return year-to-date, with key drivers being strong earnings reports, increasing market share, and product innovation. Record-high valuations for several companies raised concern over their influence on the overall performance of the Index should a correction occur.

The Energy sector continued to see signs of incremental improvement during the quarter due to a backdrop of improving supply and demand. Consumer Staples (-1.3%) was the sole sector to deliver a negative result as momentum-oriented stocks and sectors garnered favor.

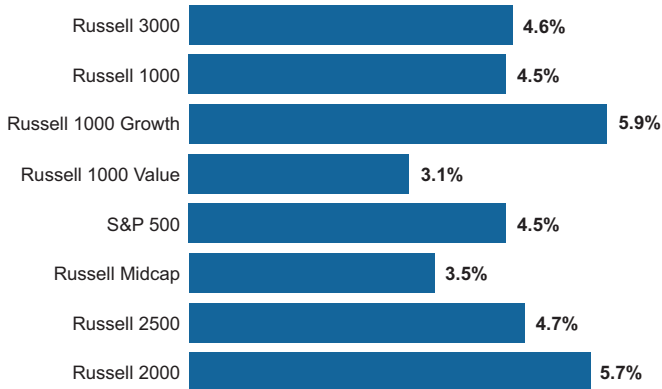
Small cap stocks outperformed large cap. In addition, growth outperformed value (Russell 1000 Growth: +5.9% vs. **Russell 1000 Value**: +3.1%; **Russell 2000 Growth**: +6.2% vs. **Russell 2000 Value**: +5.1%). Biotech (+14.5%) and a surge in small

Quarterly Performance of Select Sectors



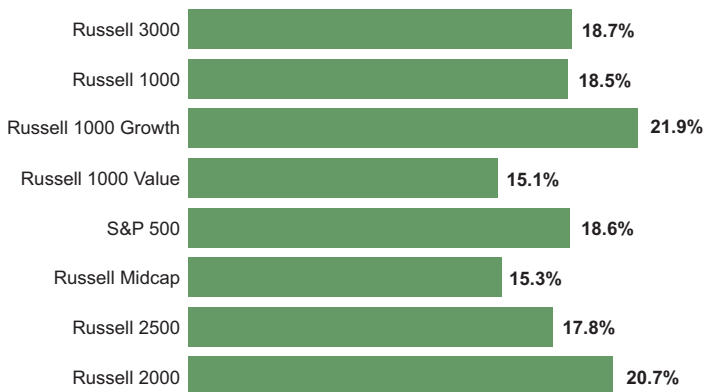
Source: Russell Investment Group

U.S. Equity: Quarterly Returns



Sources: Russell Investment Group and Standard & Poor's

U.S. Equity: One-Year Returns



Sources: Russell Investment Group and Standard & Poor's

cap value on tax reform news in September bolstered small cap stocks during the quarter. Biotech benefited from the easing of pricing risks as well as the FDA's approval of genetics-based therapeutics.

From a factor perspective, momentum (+27.5% YTD) remained the top performer while defensive (+8.5% YTD) was

the laggard. Investor behavior has had a meaningful influence on results as investors tend to project their optimism across the broad market and chase momentum during periods of strength.

Global Stocks: Stronger Outside the U.S.

+6.2%

MSCI ACWI ex USA

Non-U.S. developed economies continued to gain traction. Second quarter GDP growth in the euro zone was 2.3% (year-over-year) with consumer confidence and demand both showing strength. The euro gained ground versus the U.S. dollar and the pound continued to strengthen on hawkish comments from the Bank of England. Outside of Europe, Japan's economy continued to slowly recover; second quarter GDP growth was 2.5% (annualized). While this was lower than expected, the economy has now expanded for six consecutive quarters.

Non-U.S. developed equity (**MSCI World ex USA: +5.6%**) outperformed the U.S. for the third consecutive quarter as the European market (**MSCI Europe: +6.5%**) continued to post positive economic data and corporate earnings growth with some signs of political stability.

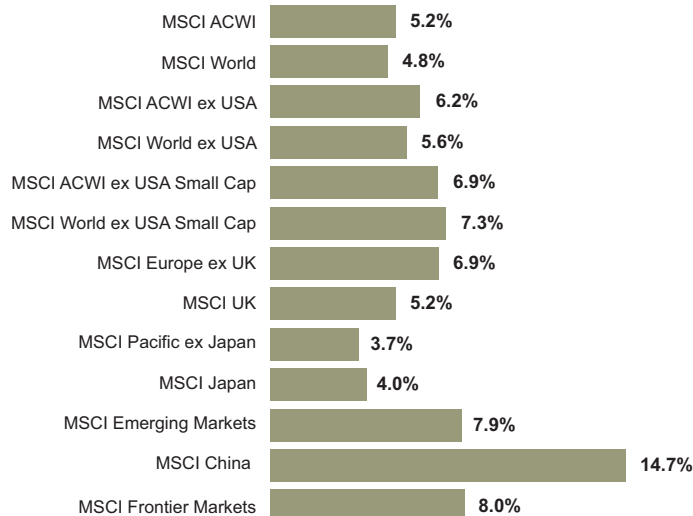
The dollar's losses against the euro stemmed from an upside surprise with European growth and market-friendly outcomes in European elections. Economically sensitive sectors outperformed defensive securities.

All sectors generated positive returns. Energy and Materials were the top two performers as a result of higher oil and commodity prices. WTI and Brent prices surged by 12% and 20%, respectively, driven by favorable supply and demand dynamics. Copper rallied 9% due to tightening supply and positive economic data from China.

Value outpaced growth as economically sensitive sectors posted strong quarterly results.

Non-U.S. Equity: Quarterly Returns

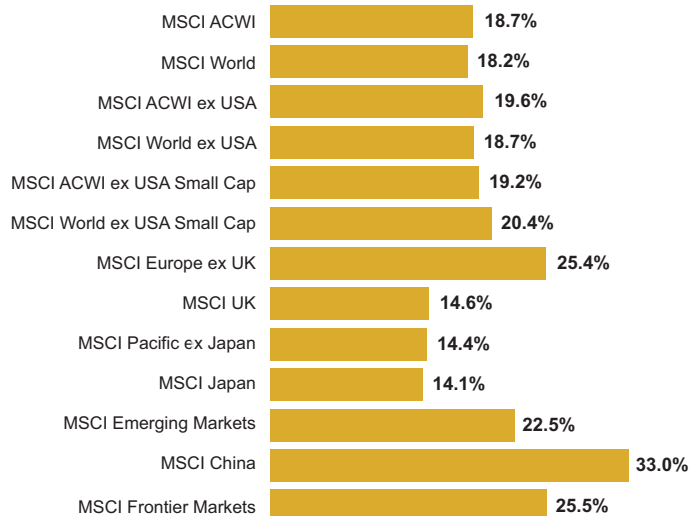
(U.S. Dollar)



Source: MSCI

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

(U.S. Dollar)



Source: MSCI

Emerging Markets: Upbeat Signs Across the Board

+7.9%

MSCI EM

Emerging markets topped developed markets for the third consecutive quarter, fueled by a soft dollar, synchronized global growth, and strong

oil and commodity prices. Brazil was the best-performing country within emerging markets given the hope of achieving fiscal reforms to spur economic growth. China continued to fare well with GDP growth of 6.9% exceeding expectations; the Chinese Tech and Real Estate sectors were top performers.

All sectors within emerging markets posted positive returns, led by economically sensitive sectors such as Real Estate, Energy, Materials, and Financials.

Brazilian and Russian banks surged during the quarter, spurred by rising oil and commodity prices and improving lending conditions.

Despite a strong showing by value factors, growth and momentum dominated the market given the returns of large cap Asian tech companies, helped in part by the demand for mobility and connectivity.

Non-U.S. Small Cap: Mixed Messages

+6.9%

MSCI ACWI ex USA SC

Developed non-U.S. small cap (**MSCI World ex USA Small Cap: +7.3%**) outperformed large cap in the risk-on market environment marked by

improving economic activity in Europe. The top three performing countries were Germany (+17.0%), Norway (+16.4%), and Italy (+13.5%). All sectors posted positive returns, led by Energy and Technology.

Small cap (**MSCI Emerging Markets Small Cap: +5.6%**) lagged large cap in emerging markets due to the strong performance of large cap Asian technology companies. The top three performing countries were Peru (+42.8%), Brazil (+31.8%), and Chile (+19.8%), all benefiting from higher oil and commodity prices.

Growth outperformed value in developed small cap, propelled by optimism surrounding European growth. Conversely, value outpaced growth in emerging market small cap, supported by positive oil and commodity prices.

Global Fixed Income

U.S. Bonds: Low Volatility Drove Returns

+0.8%

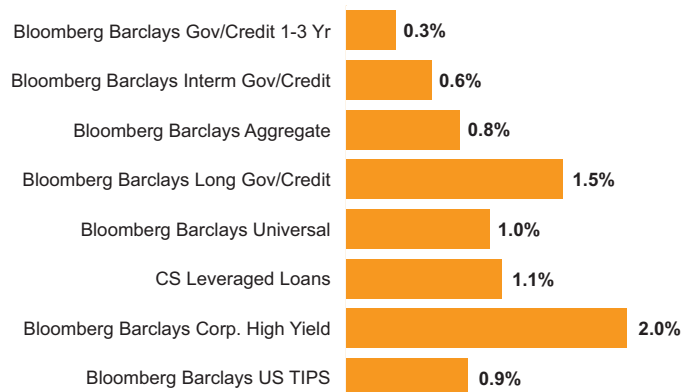
BB AGGREGATE

Yields rose modestly, particularly on the short end of the U.S. Treasury yield curve. The 10-year Treasury yield touched 2.00% during the quarter on geopolitical risks related to North Korea, but ended the quarter at 2.33%. Moderate growth and inflation kept long-term rates low and range-bound. Volatility in fixed income markets (as well as equities) sat at near historic lows; the overall risk appetite remained strong. And in general, lower-rated credits again outperformed investment grade.

The **Bloomberg Barclays U.S. Aggregate Bond Index** was up 0.8% in the quarter. The **Bloomberg Barclays U.S. Corporate Bond Index** rose 1.3%. High yield corporates fared even better, with the **Bloomberg Barclays U.S. Corporate High Yield Bond Index** up 2.0%. TIPS rebounded from their underperformance in the previous quarter.

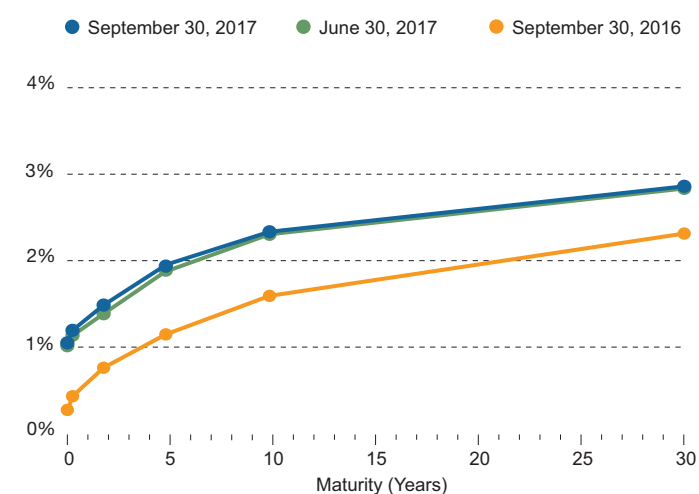
The **Bloomberg Barclays U.S. TIPS Index** rose 0.9% and the 10-year breakeven spread (the difference between nominal and real yields) rose to 1.84% as of quarter-end from 1.73% at the end of the second quarter.

U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

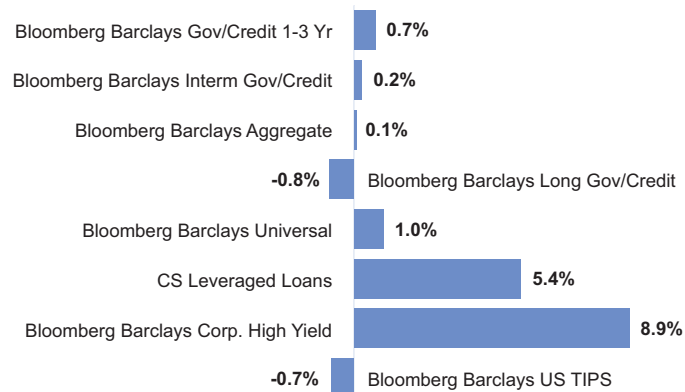
U.S. Treasury Yield Curves



Source: Bloomberg

Corporate credit spreads tightened on strong demand and robust corporate earnings. Financials and Utilities were the leading sectors during the quarter. High yield credit continued to perform well, aided by the hunt for yield. The upward trend in earnings along with corporate discipline has led to the highest rating agency upgrade-downgrade ratio since 2013.

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

GLOBAL FIXED INCOME (Continued)

The municipal bond market also performed well; the **Bloomberg Barclays Municipal Bond Index** returned 1.1% for the quarter and the shorter duration 1-10 Year Blend Index was up 0.7%.

Global Bonds: Many Reasons to Cheer

+2.5%

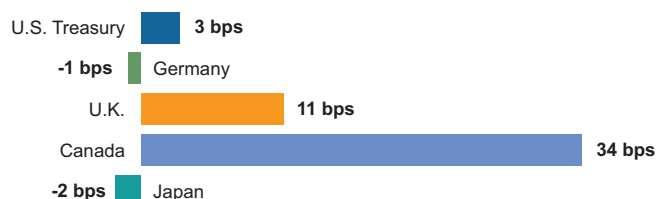
BB GBL AGG EX US

Rates were also steady overseas, though dollar weakness boosted returns. The **Bloomberg Barclays Global Aggregate Index** returned +1.8% (unhedged) versus +0.8% for the hedged version. Emerging market debt posted solid returns. The **JPM EMBI Global Diversified Index** (\$ denominated) was up 2.6%. Gains were broad-based with only beleaguered Venezuela (-11%) down. The local currency **JPM GBI-EM Global Diversified**

Index increased 3.6%. Returns were mixed for this index, with Brazil (+11%) being the best performer and Argentina's first-ever local bonds (-4%) being the worst on worries over the success of reforms.

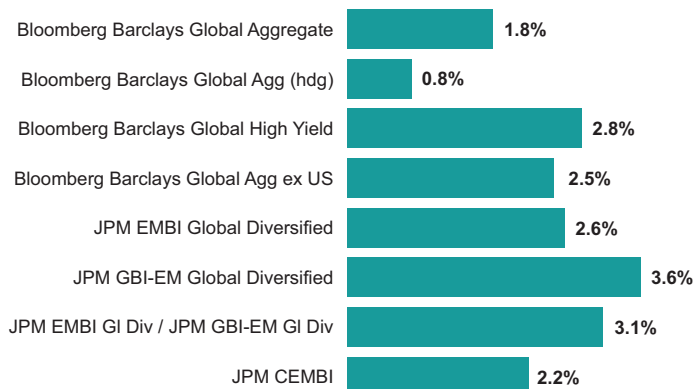
Change in 10-year Global Government Bond Yields

2Q17 to 3Q17



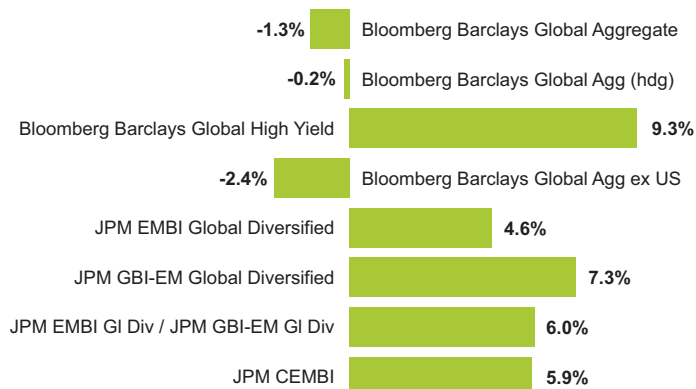
Source: Bloomberg Barclays

Non-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JP Morgan

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



Sources: Bloomberg Barclays and JP Morgan

Europe Continues as Best-Performing Region

REAL ESTATE | Kevin Nagy

The **NCREIF Property Index** advanced 1.7% during the third quarter (1.1% from income and 0.6% from appreciation). This marked the 35th consecutive quarter of positive returns for the Index. Appreciation return resumed its decreasing trend after an increase during the second quarter.

Industrial (+3.3%) was the best-performing sector for the sixth consecutive quarter followed by Hotel (+2.3%), Multi-Family (+1.7%), and Office (+1.4%); Retail (+1.2%) was the worst performer.

The West was the strongest region for the fourth quarter in a row, increasing 2.2%, and the East brought up the rear with a +1.3% return.

Transaction volume increased to \$11.8 billion, up 53% from the second quarter and 22% from the third quarter of 2016. Appraisal capitalization rates fell 8 basis points to 4.39%. Transaction capitalization suffered a steeper decline, falling 83 bps to 5.26%. The spread between appraisal and transaction rates decreased to 87 bps.

Occupancy rates fell to 93.3%. Industrial and Retail occupancy rates increased slightly while Apartment and Office rates decreased.

The **NCREIF Open End Diversified Core Equity Index** rose 1.9% (1.1% from income and 0.8% from appreciation), a 17 bps increase from the second quarter. Appreciation return increased by 18 bps from the second quarter's seven-year low.

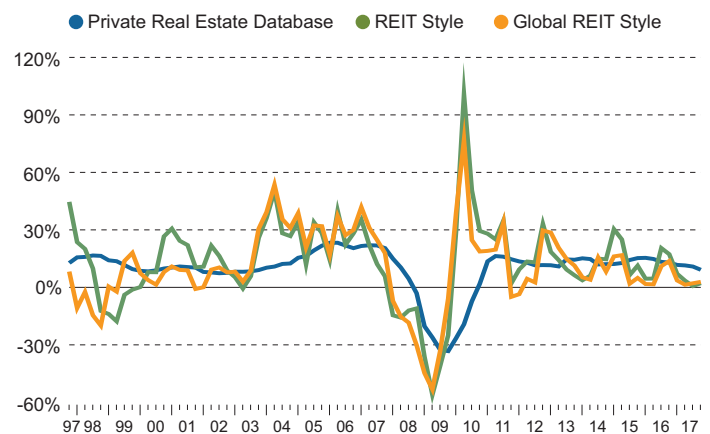
Global real estate investment trusts (REITs), tracked by the **FTSE EPRA/NAREIT Developed REIT Index** (USD), outperformed

U.S. REITs and posted a 1.8% return. U.S. REITs, as measured by the **FTSE NAREIT Equity REITs Index**, advanced 0.9% for the quarter.

In the U.S., REITs started the quarter with a strong July but then surrendered most of the gains with poor showings in August and September. Sectors experiencing strong secular demand, such as Industrial (+6.5%) and Data Centers (+5.2%), were the best performers as the continued rise of e-commerce and cloud storage provided ample tailwind. Hotels (+2.8%) and Self-Storage (+4.7%) also did well, buoyed by expectations of inflation and rising interest rates. Health Care (-5.4%) was the worst-performing sector.

Europe, as represented by the **FTSE EPRA/NAREIT Europe Index**, was again the strongest-performing region, rising 4.8% in U.S. dollar terms. Strong, diversified growth across the majority of the region's economies was the main driver of positive returns. The region largely shrugged off destabilizing political events such as the Catalan independence referendum.

Rolling One-Year Returns



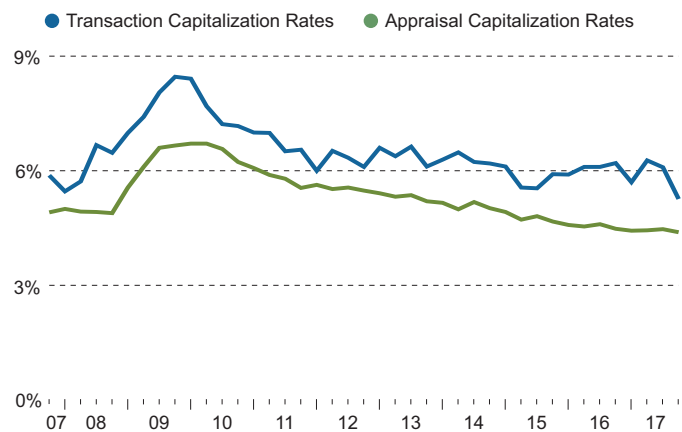
Source: Callan

REAL ESTATE (Continued)

For the second quarter in a row, the Asia-Pacific region outperformed the U.S. but underperformed Europe. Hong Kong

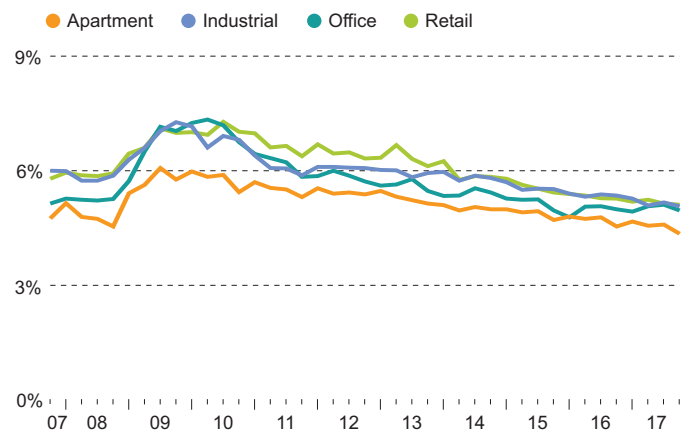
provided the best regional performance while Japan lagged behind, hurt by a strengthening yen.

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.

Low Volatility + Rising Markets = Strong Liquidity

PRIVATE EQUITY | Gary Robertson

Third quarter private equity partnership commitments totaled \$84.0 billion, with 210 new partnerships formed, according to *Private Equity Analyst*. The number of funds raised decreased 34% from 319 in the second quarter, but the dollar volume dipped only 2% from \$85.0 billion. Apollo IX is the largest fund raised so far in 2017, holding a \$24.6 billion final close in the third quarter—and it is the largest buyout fund ever raised.

Investments by buyout funds into companies totaled 446 deals, down 12% from 504 in the prior quarter, according to *Buyouts* newsletter. The announced total volume was \$51 billion, up 6% from \$48 billion in the second quarter. The quarter's largest deal was the \$7.5 billion take-private of Panera Bread by JAB, a family-owned holding company. Sixteen deals with announced values of \$1 billion or more closed in the quarter.

New investments in venture capital companies totaled 1,706 rounds of financing with \$21.5 billion of announced value, according to the National Venture Capital Association (NVCA). The number of rounds declined 21% from the 2,164 in the second quarter, and announced dollar value decreased 6% from \$22.9 billion.

Buyouts reported that there were 446 private M&A exits of buyout-backed companies, with 43 deals disclosing values totaling

Funds Closed January 1 to September 30, 2017

| Strategy | No. of Funds | Amt (\$mm) | Percent |
|---------------------|--------------|----------------|-------------|
| Venture Capital | 382 | 29,109 | 12% |
| Buyouts | 272 | 167,111 | 67% |
| Subordinated Debt | 52 | 22,627 | 9% |
| Distressed Debt | 17 | 9,601 | 4% |
| Secondary and Other | 31 | 9,869 | 4% |
| Fund-of-funds | 85 | 11,122 | 4% |
| Totals | 839 | 249,439 | 100% |

Source: Private Equity Analyst
Figures may not total due to rounding.

\$50.8 billion. The M&A exits were down 12% from the prior quarter's 504, but the announced value increased 6% from \$48.1 billion. Buyout-backed IPOs in the third quarter fell to only one raising \$43 million, a sharp decrease compared to last quarter's seven IPOs (a two-year high), raising an aggregate \$2.0 billion.

Venture-backed exits (both private sales and IPOs) totaled 182 transactions, and disclosed value totaled \$11.2 billion. The number of exits rose 2% from the second quarter's 179, and the announced dollar volume increased 9% from \$10.3 billion.

Please see our upcoming issue of *Private Markets Trends* for more in-depth coverage.

Private Equity Performance Database (%) (Pooled Horizon IRRs through June 30, 2017*)

| Strategy | 3 Months | Year | 3 Years | 5 Years | 10 Years | 15 Years | 20 Years |
|---------------------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------|
| All Venture | 2.01 | 8.79 | 11.89 | 14.74 | 9.37 | 8.32 | 19.63 |
| Growth Equity | 3.69 | 14.51 | 9.51 | 12.74 | 9.94 | 11.84 | 13.20 |
| All Buyouts | 6.51 | 18.69 | 10.43 | 14.36 | 8.71 | 13.86 | 12.55 |
| Mezzanine | 4.00 | 11.72 | 8.63 | 9.91 | 8.73 | 9.47 | 8.79 |
| Distressed | 4.30 | 17.77 | 8.19 | 11.95 | 9.15 | 11.29 | 11.36 |
| All Private Equity | 4.96 | 15.79 | 10.35 | 13.94 | 8.98 | 12.19 | 13.15 |
| S&P 500 | 3.09 | 17.90 | 9.61 | 14.63 | 7.18 | 8.35 | 7.15 |
| Russell 3000 | 3.02 | 18.51 | 9.10 | 14.58 | 7.26 | 8.66 | 7.44 |

Private equity returns are net of fees.

Sources: Standard & Poor's and Thomson Reuters/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.

Kickin' It with Risk

HEDGE FUNDS | Jim McKee

Discarding worries of stubbornly slow global economic growth and other distractions, markets focused on positive economic news and hopes of U.S. tax reform this quarter, suggesting rising stock prices ahead. Volatility as a measure of perceived market risk reached cyclical lows across the major markets. Amid this risk-on environment, hedge funds got some traction. Illustrating raw hedge fund performance without implementation costs, the asset-weighted **Credit Suisse Hedge Fund Index** (CS HFI) rose 1.8%. As a proxy for live hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Database** advanced 2.0%, net of all fees and expenses.

Within CS HFI, the best-performing strategy was *Emerging Markets* (+5.6%), where embedded market beta explained some but not all of the gains. Other strategies performing particularly well were *Equity Market Neutral* (+4.4%) and *Long/Short Equity* (+3.0%); both benefited from an improved stock-picking environment. *Managed Futures* (+1.3%) and *Global Macro* (+1.8%) benefited modestly from top-down trends and discretionary calls, particularly in the equity markets.

Within Callan's Hedge Fund-of-Funds Database, market exposures meaningfully affected performance in the quarter. Supported by the equity rally, the median *Callan Long/Short Equity FOF* (+3.1%) handily beat the *Callan Absolute Return FOF* (+1.8%). With exposures to both non-directional and directional styles, the *Core Diversified FOF* advanced 1.9%.

Callan Style Group Quarterly Returns



Sources: Callan and Merrill Lynch

Callan Database Median and Index Returns* for Periods ended September 30, 2017

| | Quarter | YTD | Year | 3 Years | 5 Years | 10 Years | 15 Years |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Hedge Fund-of-Funds Database | 2.02 | 5.47 | 7.26 | 2.87 | 4.97 | 3.11 | 5.16 |
| CS Hedge Fund Index | 1.81 | 4.70 | 5.91 | 1.96 | 4.16 | 3.24 | 6.00 |
| CS Equity Market Neutral | 4.38 | 7.00 | 4.16 | 1.37 | 2.48 | -2.89 | 0.55 |
| CS Convertible Arbitrage | 1.61 | 4.10 | 4.54 | 2.76 | 3.51 | 3.61 | 4.76 |
| CS Fixed Income Arbitrage | 0.22 | 4.20 | 6.12 | 3.02 | 3.86 | 3.57 | 4.04 |
| CS Multi-Strategy | 1.38 | 6.56 | 7.80 | 5.33 | 6.97 | 5.01 | 7.06 |
| CS Distressed | 1.56 | 5.52 | 9.29 | 1.27 | 5.47 | 3.70 | 7.68 |
| CS Risk Arbitrage | 1.66 | 5.70 | 6.52 | 3.37 | 3.44 | 3.10 | 4.38 |
| CS Event-Driven Multi-Strategy | 0.58 | 4.27 | 6.12 | -1.19 | 3.47 | 2.73 | 6.49 |
| CS Long/Short Equity | 2.99 | 9.81 | 9.59 | 3.94 | 6.86 | 3.91 | 6.88 |
| CS Global Macro | 1.83 | 0.26 | 4.86 | 1.48 | 2.53 | 4.58 | 7.31 |
| CS Managed Futures | 1.32 | -3.12 | -8.59 | -0.17 | 0.00 | 2.09 | 3.25 |
| CS Emerging Markets | 5.58 | 13.02 | 12.72 | 5.88 | 6.21 | 3.53 | 8.63 |

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

DC Index Closes Strongest First Half in Its History

DEFINED CONTRIBUTION | Tom Szkwarla

The Callan DC Index™ rose a healthy 3.1% during the second quarter, reflecting strong equity market performance, and is now up 7.9% year-to-date—its best first-half performance since its 2006 inception. Still, the Index trailed the typical Age 45 Target Date Fund (TDF), which gained 3.7% in the second quarter and 9.4% in the first half. TDFs have benefited from higher exposures to non-U.S. equity and emerging markets, which are both up sharply year to date, than the typical DC participant.

Since the Index's inception in 2006, the average TDF has outperformed DC plans by 76 basis points annually. Due to their heavier equity exposure, TDFs have tended to outperform in strong markets and underperform in weak markets.

For the quarter, plan balances rose 3.19%, almost entirely due to return growth (3.06%) rather than inflows (plan sponsor and participant contributions), which contributed just 0.13%.

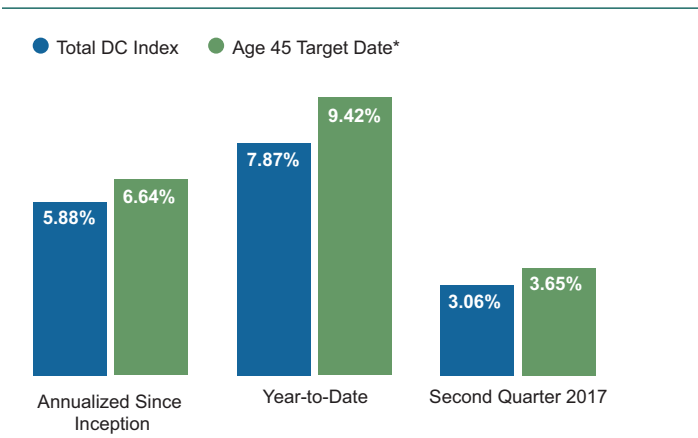
The proportion of net flows into non-U.S. equities during the quarter was the highest since late 2007. Money primarily flowed out of stable value, U.S. small/mid cap equity, and company stock. As usual, TDFs attracted the lion's share of net flows, with 69 cents of every dollar of flows moving into these funds.

Index turnover (i.e., net transfer activity levels within DC plans) came in at 0.43% in the quarter compared to average historical quarterly turnover levels of 0.63%.

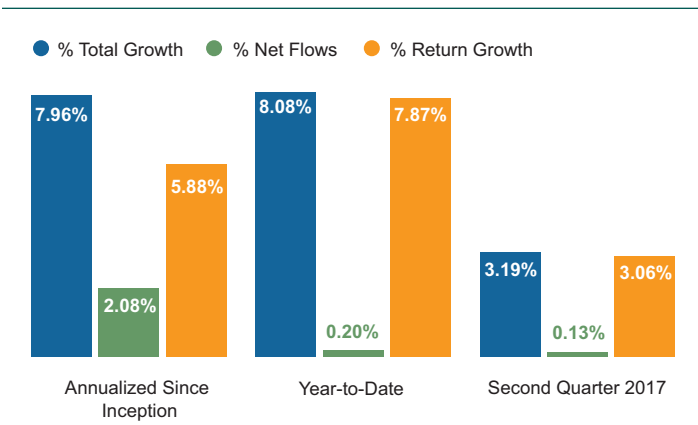
The Callan DC Index's overall equity allocation edged up from last quarter to nearly 70%, slightly above the Index's historical average of 67%. Still, the Index has yet to achieve its pre-Global Financial Crisis equity allocation peak of 73% (fourth quarter of 2007).

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 (Second Quarter 2017) (Top Two and Bottom Two Asset Gatherers)

| Asset Class | Flows as % of Total Net Flows |
|------------------------|-------------------------------|
| Target Date Funds | 69.47% |
| Emerging Market Equity | 1.94% |
| U.S. Small/Mid Cap | -28.57% |
| Stable Value | -31.80% |
| Total Turnover** | 0.43% |

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

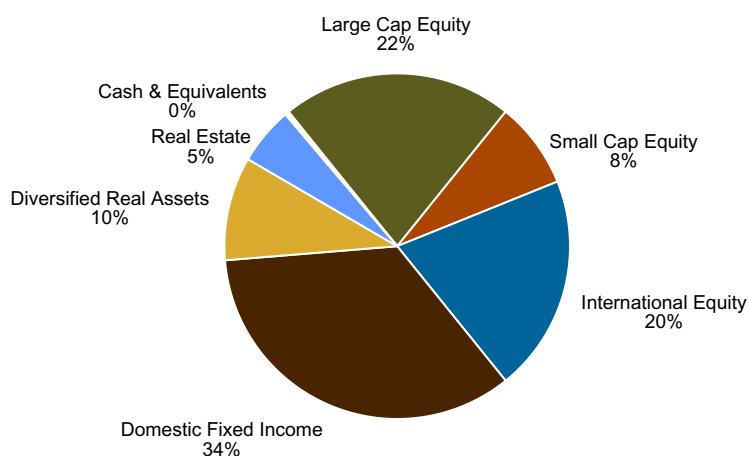
* The Age 45 Fund transitioned from the average 2030 TDF to the 2035 TDF in June 2013.

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

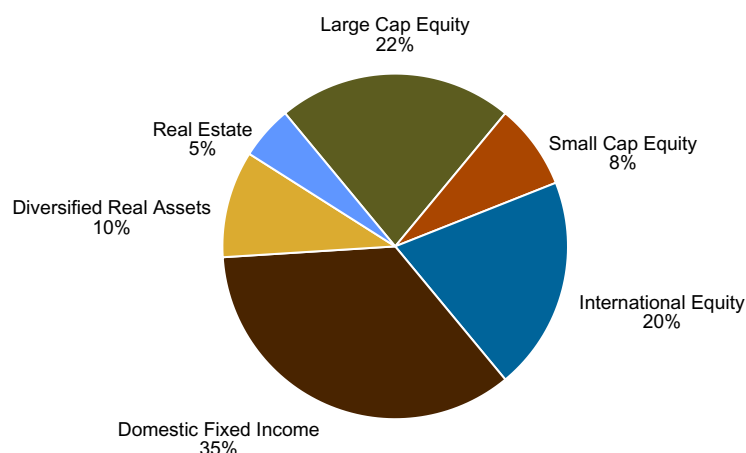
Actual vs Target Asset Allocation As of September 30, 2017

The first chart below shows the Fund's asset allocation as of September 30, 2017. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



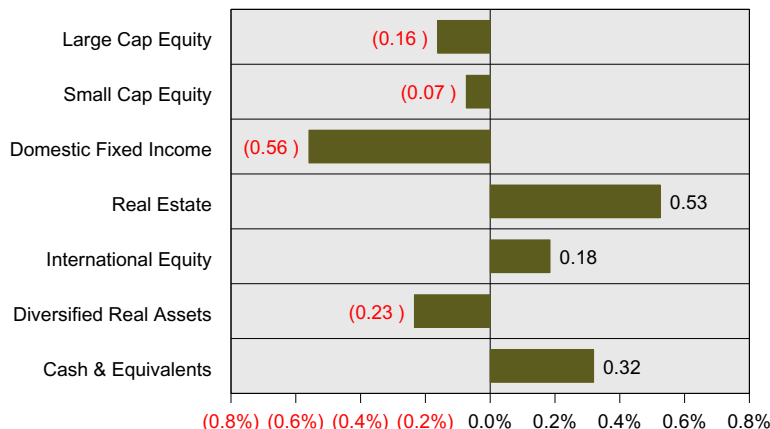
| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-------------------------|------------------|------------------|--------|-----------------------|----------------------|
| Large Cap Equity | 1,078,491 | 21.7% | 22.0% | (0.3%) | (12,868) |
| Small Cap Equity | 401,308 | 8.1% | 8.0% | 0.1% | 4,450 |
| International Equity | 1,004,578 | 20.3% | 20.0% | 0.3% | 12,434 |
| Domestic Fixed Income | 1,709,895 | 34.5% | 35.0% | (0.5%) | (26,357) |
| Diversified Real Assets | 482,747 | 9.7% | 10.0% | (0.3%) | (13,325) |
| Real Estate | 265,999 | 5.4% | 5.0% | 0.4% | 17,963 |
| Cash & Equivalents | 17,703 | 0.4% | 0.0% | 0.4% | 17,703 |
| Total | 4,960,722 | 100.0% | 100.0% | | |

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI EAFE, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

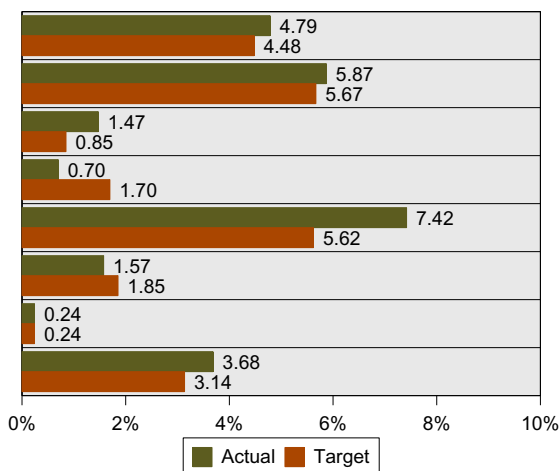
Quarterly Total Fund Relative Attribution - September 30, 2017

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

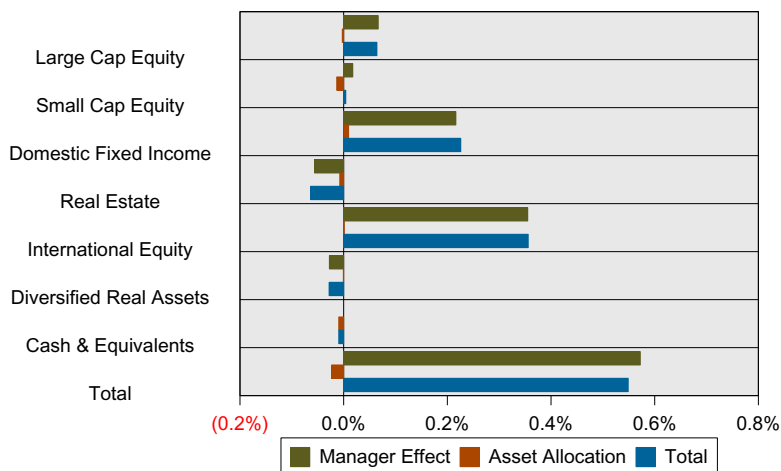
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2017

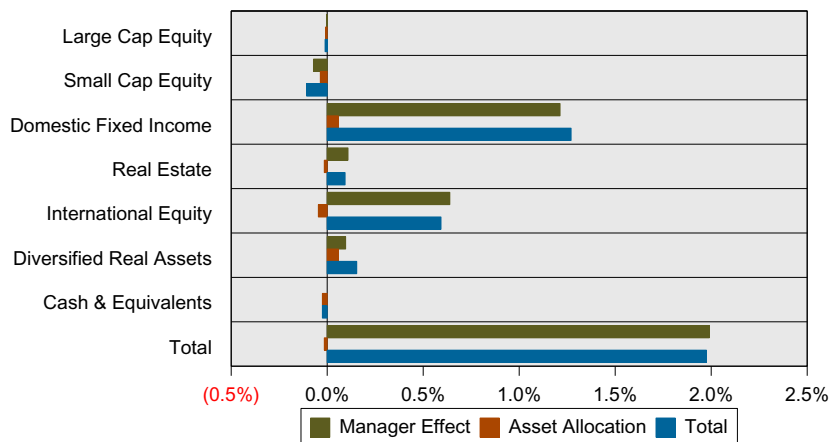
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 22% | 22% | 4.79% | 4.48% | 0.07% | (0.00%) | 0.06% |
| Small Cap Equity | 8% | 8% | 5.87% | 5.67% | 0.02% | (0.01%) | 0.00% |
| Domestic Fixed Income | 34% | 35% | 1.47% | 0.85% | 0.22% | 0.01% | 0.23% |
| Real Estate | 6% | 5% | 0.70% | 1.70% | (0.06%) | (0.01%) | (0.06%) |
| International Equity | 20% | 20% | 7.42% | 5.62% | 0.36% | 0.00% | 0.36% |
| Diversified Real Assets | 10% | 10% | 1.57% | 1.85% | (0.03%) | (0.00%) | (0.03%) |
| Cash & Equivalents | 0% | 0% | 0.24% | 0.24% | 0.00% | (0.01%) | (0.01%) |
| Total | | | 3.68% | 3.14% | + 0.57% | + (0.02%) | 0.55% |

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

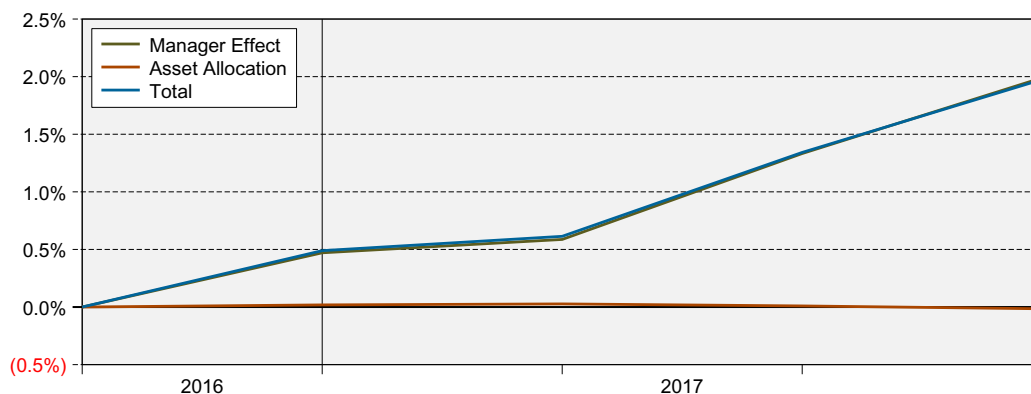
Cumulative Total Fund Relative Attribution - September 30, 2017

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

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

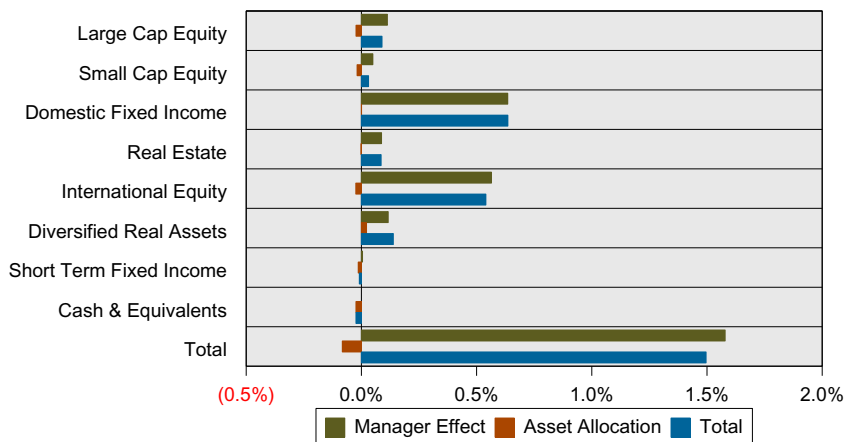
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|----------------|----------------|------------------|-----------------------|
| Large Cap Equity | 22% | 22% | 18.57% | 18.54% | (0.00%) | (0.01%) | (0.01%) |
| Small Cap Equity | 8% | 8% | 19.79% | 20.74% | (0.07%) | (0.04%) | (0.11%) |
| Domestic Fixed Income | 34% | 35% | 3.36% | 0.07% | 1.21% | 0.06% | 1.27% |
| Real Estate | 6% | 5% | 8.63% | 6.89% | 0.11% | (0.02%) | 0.09% |
| International Equity | 20% | 20% | 22.16% | 18.73% | 0.64% | (0.05%) | 0.59% |
| Diversified Real Assets | 9% | 10% | 1.43% | 0.47% | 0.10% | 0.06% | 0.15% |
| Cash & Equivalents | 0% | 0% | 0.62% | 0.62% | 0.00% | (0.02%) | (0.02%) |
| Total | | | 11.66% | = 9.68% | + 1.99% | + (0.01%) | 1.98% |

* Current Quarter Target = 35.0% Blmgb Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

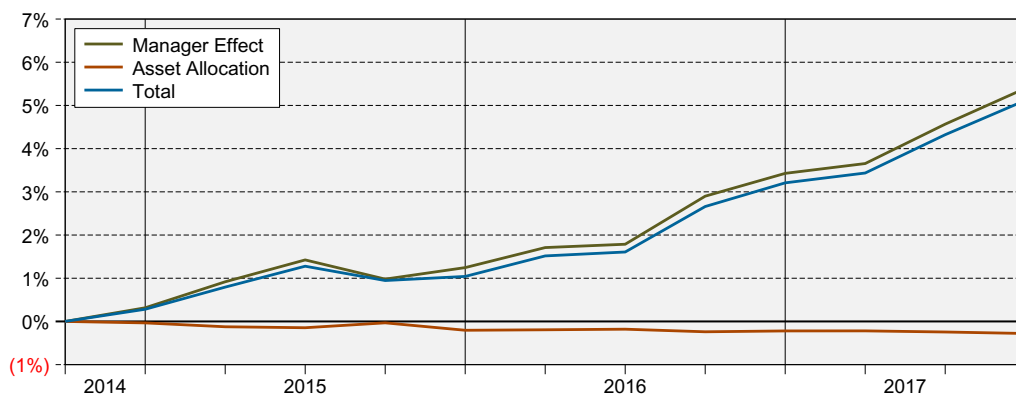
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

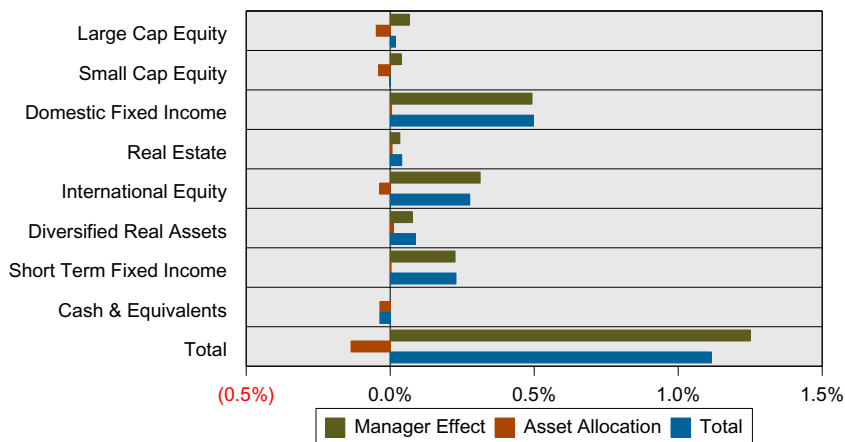
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 22% | 22% | 11.19% | 10.63% | 0.11% | (0.02%) | 0.09% |
| Small Cap Equity | 8% | 8% | 12.91% | 12.18% | 0.05% | (0.02%) | 0.03% |
| Domestic Fixed Income | 34% | 35% | 4.54% | 2.71% | 0.64% | 0.00% | 0.64% |
| Real Estate | 6% | 5% | 11.54% | 9.83% | 0.09% | (0.00%) | 0.09% |
| International Equity | 20% | 20% | 7.70% | 4.88% | 0.56% | (0.02%) | 0.54% |
| Diversified Real Assets | 9% | 10% | 2.52% | 1.34% | 0.12% | 0.02% | 0.14% |
| Short Term Fixed Income | 1% | 1% | - | - | 0.00% | (0.01%) | (0.01%) |
| Cash & Equivalents | 0% | 0% | 0.27% | 0.27% | 0.00% | (0.02%) | (0.02%) |
| Total | | | 7.51% | 6.01% | 1.58% | (0.08%) | 1.50% |

* Current Quarter Target = 35.0% Blmgb Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

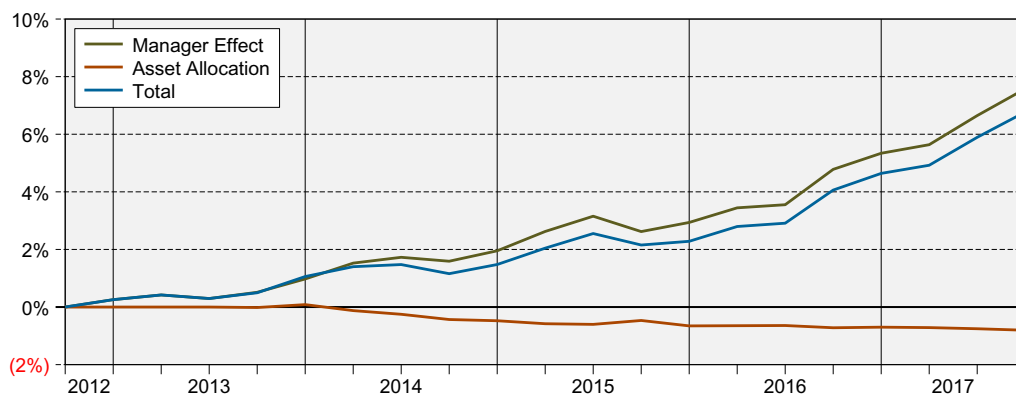
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

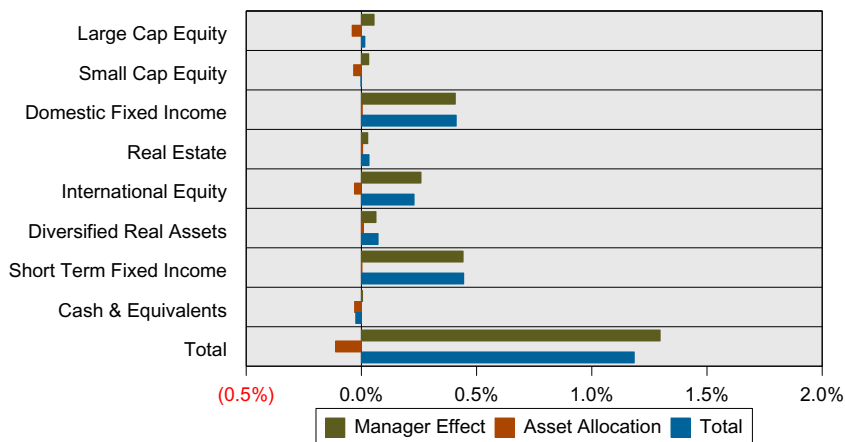
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 16% | 16% | - | - | 0.07% | (0.05%) | 0.02% |
| Small Cap Equity | 6% | 6% | - | - | 0.04% | (0.04%) | (0.00%) |
| Domestic Fixed Income | 25% | 25% | - | - | 0.49% | 0.00% | 0.50% |
| Real Estate | 4% | 4% | - | - | 0.03% | 0.01% | 0.04% |
| International Equity | 14% | 15% | - | - | 0.31% | (0.04%) | 0.28% |
| Diversified Real Assets | 6% | 6% | - | - | 0.08% | 0.01% | 0.09% |
| Short Term Fixed Income | 28% | 29% | - | - | 0.23% | 0.00% | 0.23% |
| Cash & Equivalents | 0% | 0% | 0.19% | 0.19% | 0.00% | (0.04%) | (0.04%) |
| Total | | | 5.54% | 4.43% | 1.25% | (0.14%) | 1.11% |

* Current Quarter Target = 35.0% Blmgb Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

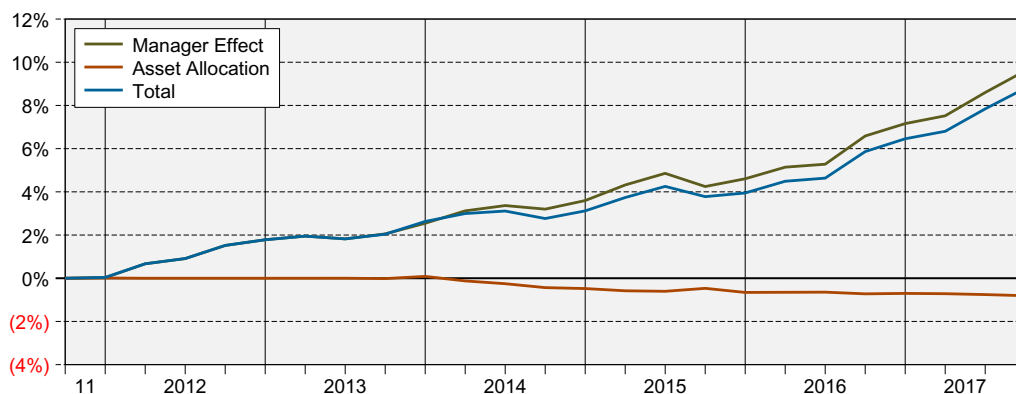
Cumulative Total Fund Relative Attribution - September 30, 2017

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

Six Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Six Year Annualized Relative Attribution Effects

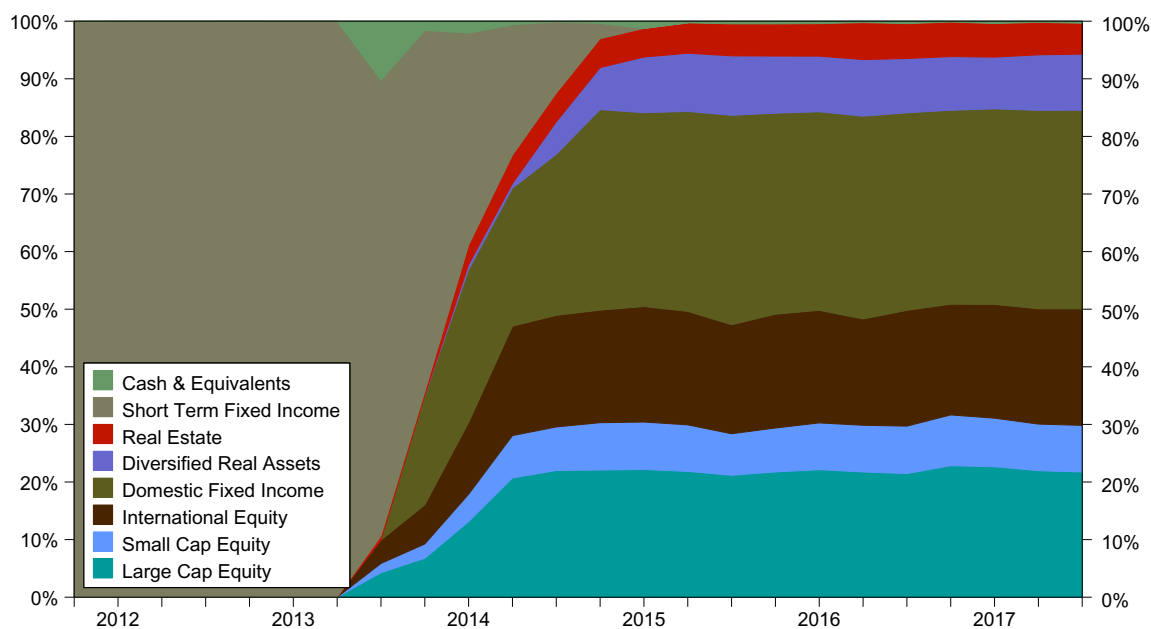
| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|-------------------------|-------------------------|-------------------------|---------------|---------------|----------------|------------------|-----------------------|
| Large Cap Equity | 13% | 13% | - | - | 0.06% | (0.04%) | 0.02% |
| Small Cap Equity | 5% | 5% | - | - | 0.03% | (0.03%) | (0.00%) |
| Domestic Fixed Income | 21% | 21% | - | - | 0.41% | 0.00% | 0.41% |
| Real Estate | 3% | 3% | - | - | 0.03% | 0.01% | 0.03% |
| International Equity | 12% | 12% | - | - | 0.26% | (0.03%) | 0.23% |
| Diversified Real Assets | 5% | 5% | - | - | 0.06% | 0.01% | 0.07% |
| Short Term Fixed Income | 37% | 38% | - | - | 0.44% | 0.00% | 0.44% |
| Cash & Equivalents | 4% | 3% | 0.20% | 0.19% | 0.00% | (0.03%) | (0.02%) |
| Total | | | 4.95% | 3.76% | 1.30% | (0.11%) | 1.18% |

* Current Quarter Target = 35.0% Blmgb Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

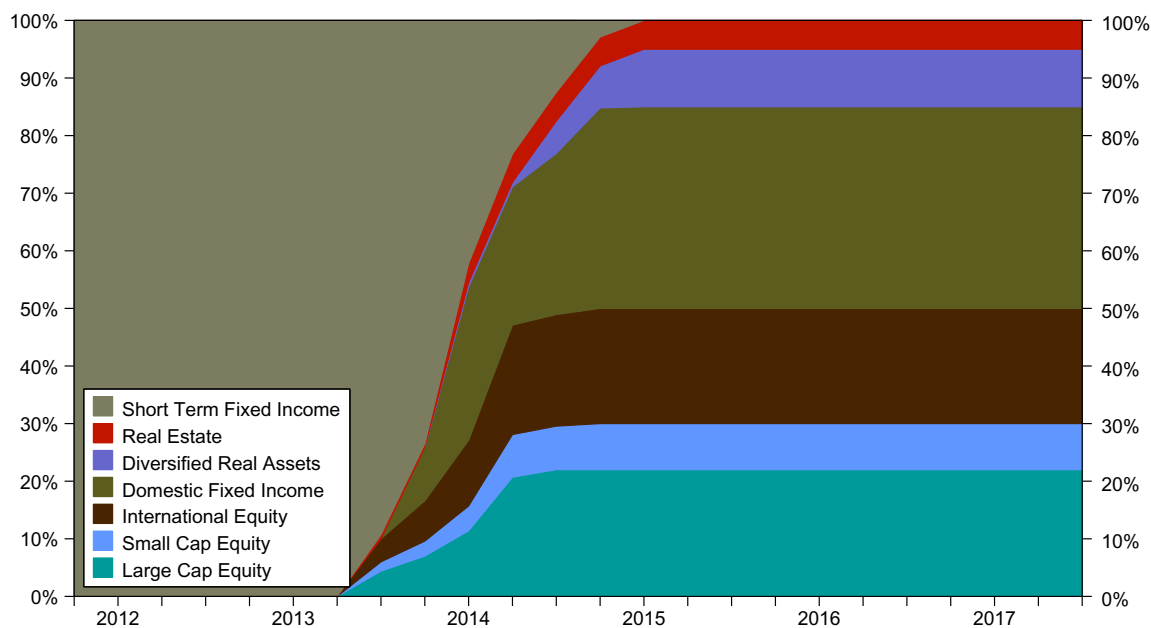
Actual vs Target Historical Asset Allocation

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

Actual Historical Asset Allocation



Target Historical Asset Allocation

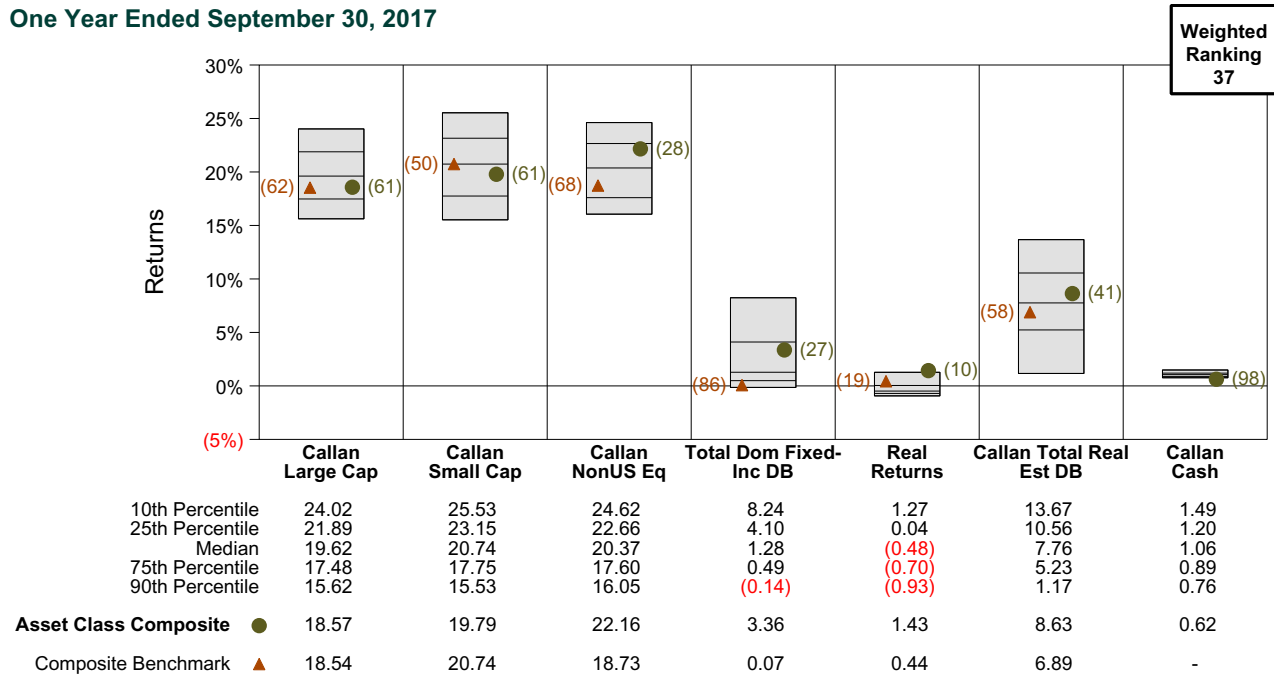


* Current Quarter Target = 35.0% Blmgb Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

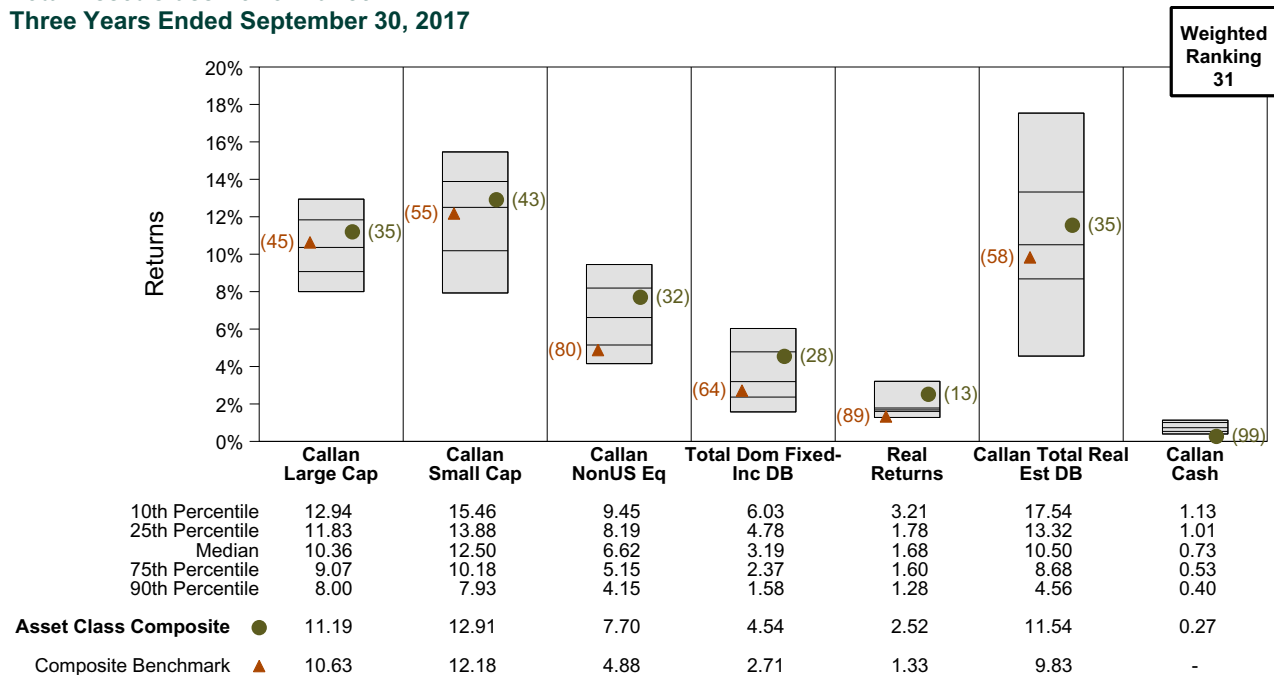
Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

Total Asset Class Performance One Year Ended September 30, 2017



Total Asset Class Performance Three Years Ended September 30, 2017



* Current Quarter Target = 35.0% Bimbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

Asset Class Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. 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 Class Allocation

| | September 30, 2017 | | | | June 30, 2017 | |
|----------------------------------|------------------------|---------------|----------------------|----------------------|------------------------|---------------|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| Domestic Equity | \$1,479,798,168 | 29.83% | \$(647,172) | \$71,512,992 | \$1,408,932,348 | 30.05% |
| Large Cap Equity | \$1,078,490,524 | 21.74% | \$(326,703) | \$49,261,210 | \$1,029,556,016 | 21.96% |
| L.A. Capital Enhanced | 208,792,005 | 4.21% | (66,669) | 8,011,535 | 200,847,139 | 4.28% |
| L.A. Capital Large Cap Growth | 327,861,077 | 6.61% | (161,358) | 14,888,824 | 313,133,611 | 6.68% |
| Parametric Clifton Large Cap | 212,987,094 | 4.29% | 134,313 | 9,085,545 | 203,767,236 | 4.35% |
| LSV Large Cap Value | 328,850,349 | 6.63% | (232,989) | 17,275,307 | 311,808,030 | 6.65% |
| Small Cap Equity | \$401,307,645 | 8.09% | \$(320,469) | \$22,251,782 | \$379,376,332 | 8.09% |
| Parametric Clifton SmallCap | 220,653,824 | 4.45% | (212,781) | 12,621,239 | 208,245,366 | 4.44% |
| PIMCO RAE | 180,653,821 | 3.64% | (107,688) | 9,630,543 | 171,130,966 | 3.65% |
| International Equity | \$1,004,578,346 | 20.25% | \$(3,731,953) | \$69,803,684 | \$938,506,615 | 20.02% |
| DFA Intl SmallCap Value | 100,765,744 | 2.03% | 0 | 7,113,532 | 93,652,212 | 2.00% |
| LSV Intl Value | 398,315,660 | 8.03% | (10,372,179) | 26,323,126 | 382,364,713 | 8.16% |
| Vanguard Intl Explorer Fund | 101,205,397 | 2.04% | 0 | 7,491,461 | 93,713,936 | 2.00% |
| William Blair | 404,291,545 | 8.15% | 6,640,226 | 28,875,565 | 368,775,754 | 7.87% |
| Domestic Fixed Income | \$1,709,895,192 | 34.47% | \$71,216,286 | \$23,978,342 | \$1,614,700,564 | 34.44% |
| Ares | 14,800,000 | 0.30% | 14,800,000 | 0 | - | - |
| BND CDs | 64,217,890 | 1.29% | 6,626,523 | 402,858 | 57,188,509 | 1.22% |
| Cerberus | 14,400,000 | 0.29% | 14,400,000 | 0 | - | - |
| Declaration Total Return | 128,198,038 | 2.58% | (46,253) | 1,858,498 | 126,385,793 | 2.70% |
| Prudential | 181,064,943 | 3.65% | (116,417) | 2,992,732 | 178,188,628 | 3.80% |
| SSgA US Govt Credit Bd Idx | 233,563,469 | 4.71% | 0 | 1,871,296 | 231,692,172 | 4.94% |
| Wells Capital | 501,496,258 | 10.11% | 18,815,430 | 8,912,120 | 473,768,708 | 10.11% |
| Western Asset Management | 496,021,993 | 10.00% | 17,849,648 | 5,937,743 | 472,234,602 | 10.07% |
| Pooled Fixed Income(1) | 76,132,601 | 1.53% | (1,112,646) | 2,003,095 | 75,242,151 | 1.61% |
| Diversified Real Assets | \$482,747,279 | 9.73% | \$23,347,595 | \$7,189,831 | \$452,209,854 | 9.65% |
| Western TIPS | 345,503,670 | 6.96% | 17,900,101 | 7,235,852 | 320,367,717 | 6.83% |
| JP Morgan Infrastructure | 113,161,165 | 2.28% | (1,273) | 856 | 113,161,582 | 2.41% |
| Grosvenor Cust. Infrastructure | 24,082,444 | 0.49% | 5,448,767 | (46,877) | 18,680,554 | 0.40% |
| Real Estate | \$265,999,113 | 5.36% | \$(107,464) | \$1,848,788 | \$264,257,789 | 5.64% |
| Invesco Core Real Estate | 128,779,436 | 2.60% | (107,463) | 1,848,787 | 127,038,112 | 2.71% |
| JP Morgan RE Inc & Growth | 137,219,677 | 2.77% | 0 | 0 | 137,219,677 | 2.93% |
| Cash & Equivalents | \$17,703,435 | 0.36% | \$8,313,084 | \$33,794 | \$9,356,557 | 0.20% |
| Securities Lending Income | \$0 | 0.00% | \$(174,873) | \$174,873 | - | - |
| Total Fund | \$4,960,721,533 | 100.0% | \$98,215,504 | \$174,542,303 | \$4,687,963,726 | 100.0% |

(1) Comprised of PIMCO DiSCO II and PIMCO Bravo II.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 6 Years |
|--------------------------------------|-----------------|--------------|--------------------|--------------------|
| Domestic Equity | | | | |
| Gross | 5.08% | 18.93% | 11.69% | - |
| Net | 5.03% | 18.73% | 11.43% | - |
| Large Cap Equity | | | | |
| Gross | 4.79% | 18.57% | 11.19% | - |
| Net | 4.75% | 18.38% | 10.98% | - |
| Russell 1000 Index | 4.48% | 18.54% | 10.63% | 16.76% |
| L.A. Capital Enhanced - Gross | 3.99% | 15.83% | 10.79% | - |
| L.A. Capital Enhanced - Net | 3.96% | 15.68% | 10.64% | - |
| Russell 1000 Index | 4.48% | 18.54% | 10.63% | 16.76% |
| L.A. Capital LargeCap Growth - Gross | 4.76% | 16.82% | 12.06% | - |
| L.A. Capital LargeCap Growth - Net | 4.70% | 16.59% | 11.83% | - |
| Russell 1000 Growth Index | 5.90% | 21.94% | 12.69% | 17.47% |
| Parametric Clifton Large Cap - Gross | 4.46% | 18.26% | 11.18% | - |
| Parametric Clifton Large Cap - Net | 4.52% | 18.34% | 11.10% | - |
| S&P 500 Index | 4.48% | 18.61% | 10.81% | 16.74% |
| LSV Large Cap Value - Gross | 5.54% | 22.30% | 10.45% | - |
| LSV Large Cap Value - Net | 5.47% | 21.94% | 10.13% | - |
| Russell 1000 Value Index | 3.11% | 15.12% | 8.53% | 15.98% |
| Small Cap Equity | | | | |
| Gross | 5.87% | 19.79% | 12.91% | - |
| Net | 5.78% | 19.58% | 12.55% | - |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 16.63% |
| Parametric Clifton Small Cap - Gross | 6.07% | 21.10% | 13.55% | - |
| Parametric Clifton Small Cap - Net | 5.96% | 20.97% | 13.14% | - |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 16.63% |
| PIMCO RAE - Gross | 5.63% | 18.22% | 11.80% | - |
| PIMCO RAE - Net | 5.56% | 17.92% | 11.50% | - |
| Russell 2000 Index | 5.67% | 20.74% | 12.18% | 16.63% |
| International Equity | | | | |
| Gross | 7.42% | 22.16% | 7.70% | - |
| Net | 7.34% | 21.78% | 7.38% | - |
| Benchmark(1) | 5.62% | 18.73% | 4.88% | 9.18% |
| DFA Intl Small Cap Value | 7.60% | 25.37% | 9.96% | - |
| World ex US SC Va | 6.97% | 21.46% | 8.34% | 11.39% |
| LSV Intl Value - Gross | 6.93% | 24.87% | 7.69% | - |
| LSV Intl Value - Net | 6.83% | 24.39% | 7.28% | - |
| MSCI EAFE Index | 5.40% | 19.10% | 5.04% | 9.26% |
| Vanguard Intl Explorer Fund | 7.99% | 26.09% | 10.63% | - |
| BMI, EPAC, <\$2 B | 5.48% | 18.18% | 9.83% | 11.48% |
| William Blair - Gross | 7.74% | 17.68% | - | - |
| William Blair - Net | 7.64% | 17.22% | - | - |
| MSCI ACWI ex US IMI | 6.27% | 19.55% | 5.16% | 8.47% |

(1) MSCI EAFE through 6/30/2016 and MSCI World ex-US thereafter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. 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 September 30, 2017

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 6 Years |
|--------------------------------------|-----------------|--------------|--------------------|--------------------|--------------------|
| Domestic Fixed Income | | | | | |
| Gross | 1.47% | 3.36% | 4.54% | - | - |
| Net | 1.44% | 3.24% | 4.41% | - | - |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 2.57% |
| BND CDs - Net | 0.71% | - | - | - | - |
| Declaration Total Return - Net | 1.47% | 4.29% | 3.99% | - | - |
| Libor-3 Month | 0.33% | 1.12% | 0.67% | 0.51% | 0.50% |
| Prudential - Gross | 1.68% | 2.99% | 4.92% | - | - |
| Prudential - Net | 1.61% | 2.72% | 4.65% | - | - |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 2.57% |
| Wells Capital - Gross | 1.85% | 4.73% | 5.12% | - | - |
| Wells Capital - Net | 1.81% | 4.56% | 4.94% | - | - |
| Blmbg Baa Credit 3% In | 1.64% | 3.25% | 4.10% | 3.74% | 5.14% |
| Western Asset - Gross | 1.24% | 2.06% | 4.18% | - | - |
| Western Asset - Net | 1.20% | 1.92% | 4.04% | - | - |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 2.57% |
| SSgA US Govt Credit Bd Idx - Gross | 0.81% | (0.02%) | 2.84% | - | - |
| SSgA US Govt Credit Bd Idx - Net | 0.81% | (0.04%) | 2.81% | - | - |
| Blmbg Govt/Credit Bd | 0.81% | (0.01%) | 2.83% | 2.10% | 2.69% |
| Pooled Fixed Income - Net(1) | 2.68% | 15.76% | - | - | - |
| Blmbg Aggregate Index | 0.85% | 0.07% | 2.71% | 2.06% | 2.57% |
| Diversified Real Assets | | | | | |
| Gross | 1.57% | 1.43% | 2.52% | - | - |
| Net | 1.56% | 1.19% | 2.28% | - | - |
| Weighted Benchmark | 1.85% | 0.47% | 1.34% | - | - |
| Western Asset TIPS - Gross | 2.23% | (0.11%) | 1.70% | - | - |
| Western Asset TIPS - Net | 2.20% | (0.24%) | 1.57% | - | - |
| Blmbg Gbl Infn-Lnked | 2.22% | (0.00%) | 1.37% | 1.41% | 2.44% |
| JP Morgan Infrastructure - Gross | 0.00% | 6.96% | - | - | - |
| JP Morgan Infrastructure - Net | 0.02% | 6.30% | - | - | - |
| CPI-W | 0.89% | 2.31% | 0.95% | 1.09% | 1.25% |
| Grosvenor Cust. Infrastructure - Net | (0.25%) | 3.95% | - | - | - |
| CPI-W | 0.89% | 2.31% | 0.95% | 1.09% | 1.25% |
| Real Estate | | | | | |
| Gross | 0.70% | 8.63% | 11.54% | - | - |
| Net | 0.68% | 7.99% | 10.82% | - | - |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 10.45% |
| Invesco Core Real Estate - Gross | 1.46% | 8.29% | 11.18% | - | - |
| Invesco Core Real Estate - Net | 1.37% | 7.92% | 10.81% | - | - |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 10.45% |
| JP Morgan RE Inc & Growth - Gross | 0.00% | 8.94% | 11.88% | - | - |
| JP Morgan RE Inc & Growth - Net | 0.03% | 8.06% | 10.80% | - | - |
| NCREIF Total Index | 1.70% | 6.89% | 9.83% | 10.35% | 10.45% |
| Cash & Equivalents - Net | 0.24% | 0.62% | 0.27% | 0.19% | 0.20% |
| 90 Day Treasury Bills | 0.26% | 0.66% | 0.32% | 0.22% | 0.19% |
| Total Fund | | | | | |
| Gross | 3.68% | 11.66% | 7.51% | 5.54% | 4.95% |
| Net | 3.64% | 11.42% | 7.26% | 5.34% | 4.77% |
| Target* | 3.14% | 9.68% | 6.01% | 4.43% | 3.76% |

* Current Quarter Target = 35.0% Blmbg Aggregate, 22.0% Russell 1000 Index, 20.0% MSCI World ex US, 10.0% NDSIB

Legacy DRA Weighted Benchmark, 8.0% Russell 2000 Index and 5.0% NCREIF Total Index.

(1) Comprised of PIMCO DiSCO II and PIMCO Bravo II.

Domestic Equity Period Ended September 30, 2017

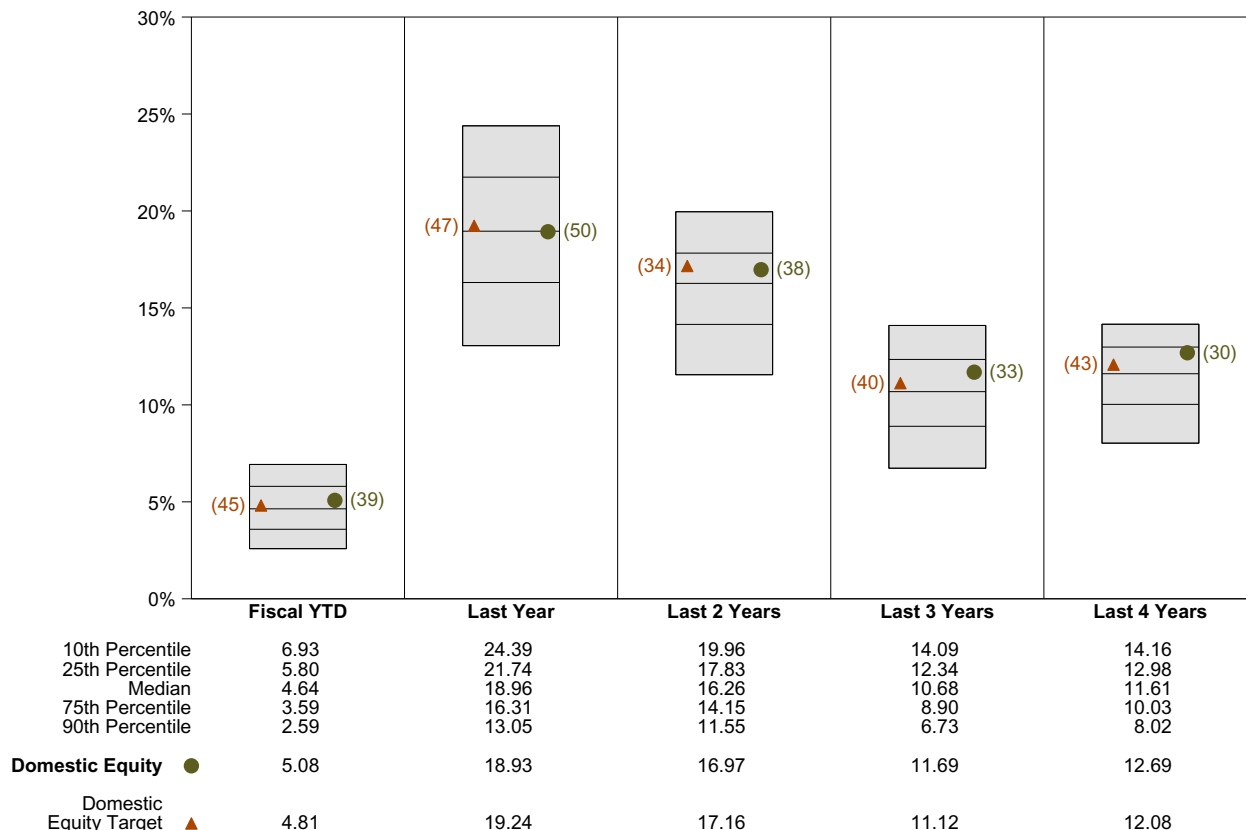
Quarterly Summary and Highlights

- Domestic Equity's portfolio posted a 5.08% return for the quarter placing it in the 39 percentile of the Total Domestic Equity Database group for the quarter and in the 50 percentile for the last year.
- Domestic Equity's portfolio outperformed the Domestic Equity Target by 0.26% for the quarter and underperformed the Domestic Equity Target for the year by 0.31%.

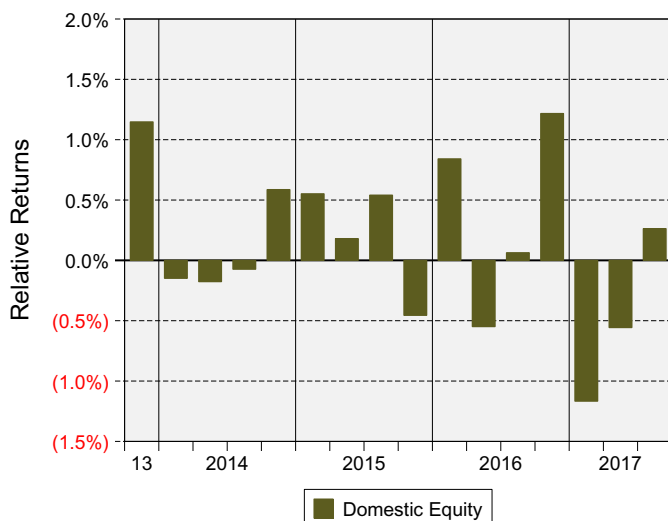
Quarterly Asset Growth

| | |
|---------------------------|-----------------|
| Beginning Market Value | \$1,408,932,348 |
| Net New Investment | \$-647,172 |
| Investment Gains/(Losses) | \$71,512,992 |
| Ending Market Value | \$1,479,798,168 |

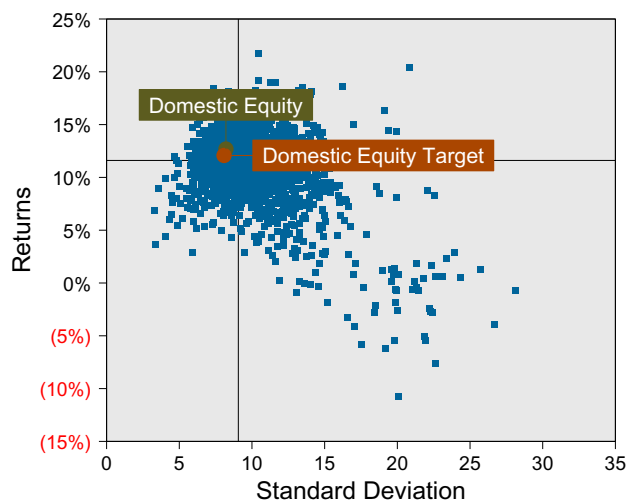
Performance vs Total Domestic Equity Database (Gross)



Relative Return vs Domestic Equity Target



Total Domestic Equity Database (Gross) Annualized Four Year Risk vs Return



Parametric Clifton Large Cap Period Ended September 30, 2017

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

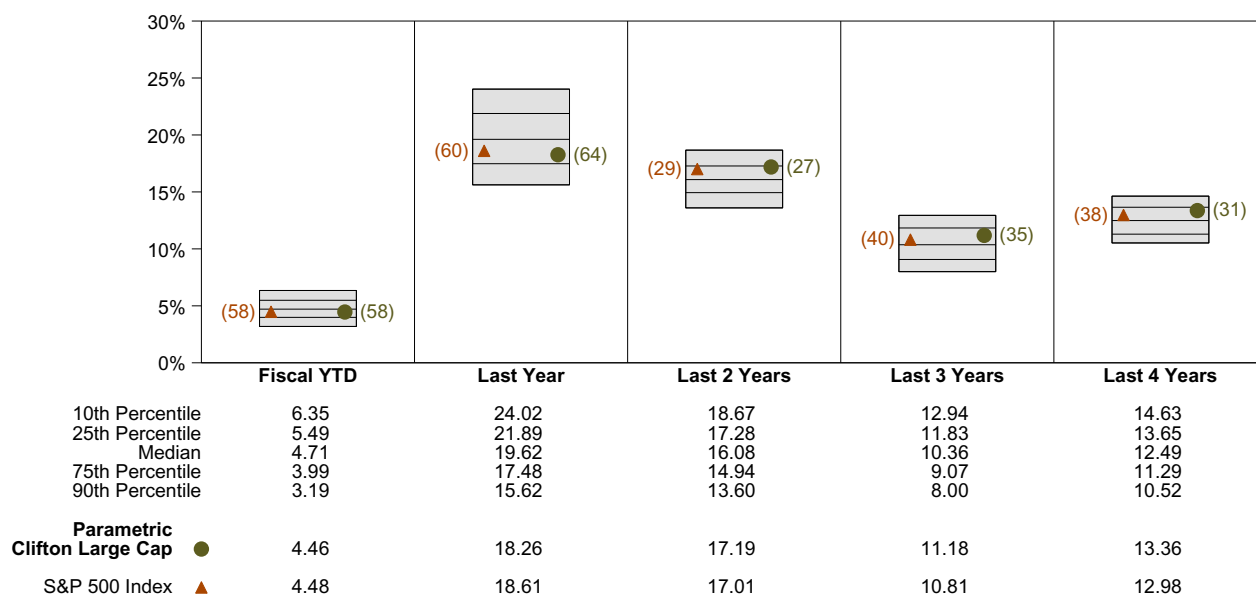
Quarterly Summary and Highlights

- Parametric Clifton Large Cap's portfolio posted a 4.46% return for the quarter placing it in the 58 percentile of the Callan Large Capitalization group for the quarter and in the 64 percentile for the last year.
- Parametric Clifton Large Cap's portfolio underperformed the S&P 500 Index by 0.02% for the quarter and underperformed the S&P 500 Index for the year by 0.35%.

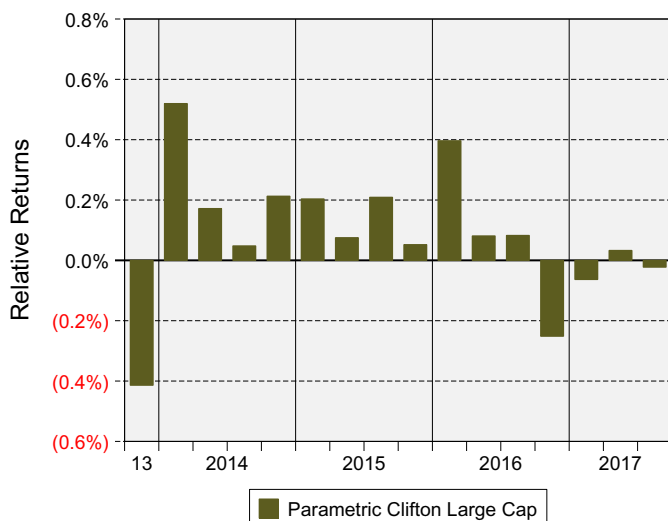
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$203,767,236 |
| Net New Investment | \$134,313 |
| Investment Gains/(Losses) | \$9,085,545 |
| Ending Market Value | \$212,987,094 |

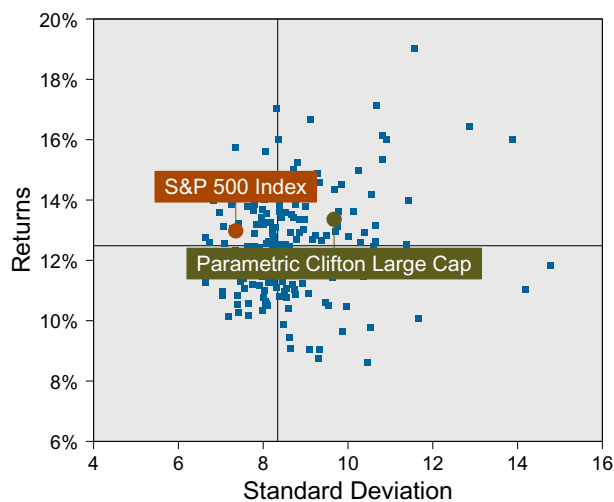
Performance vs Callan Large Capitalization (Gross)



Relative Return vs S&P 500 Index



Callan Large Capitalization (Gross) Annualized Four Year Risk vs Return



L.A. Capital Period Ended September 30, 2017

Investment Philosophy

The LA Capital Structured portfolio is a large growth portfolio benchmarked to the Russell 1000 Growth Index. It is an active assignment meaning that it targets a 2% alpha and constrains its risk budget (tracking error) to 4% relative to the benchmark. LA Capital believes that investment results are driven by Investor Preferences and thus recognize that when preferences shift a different posture related to that factor is warranted.

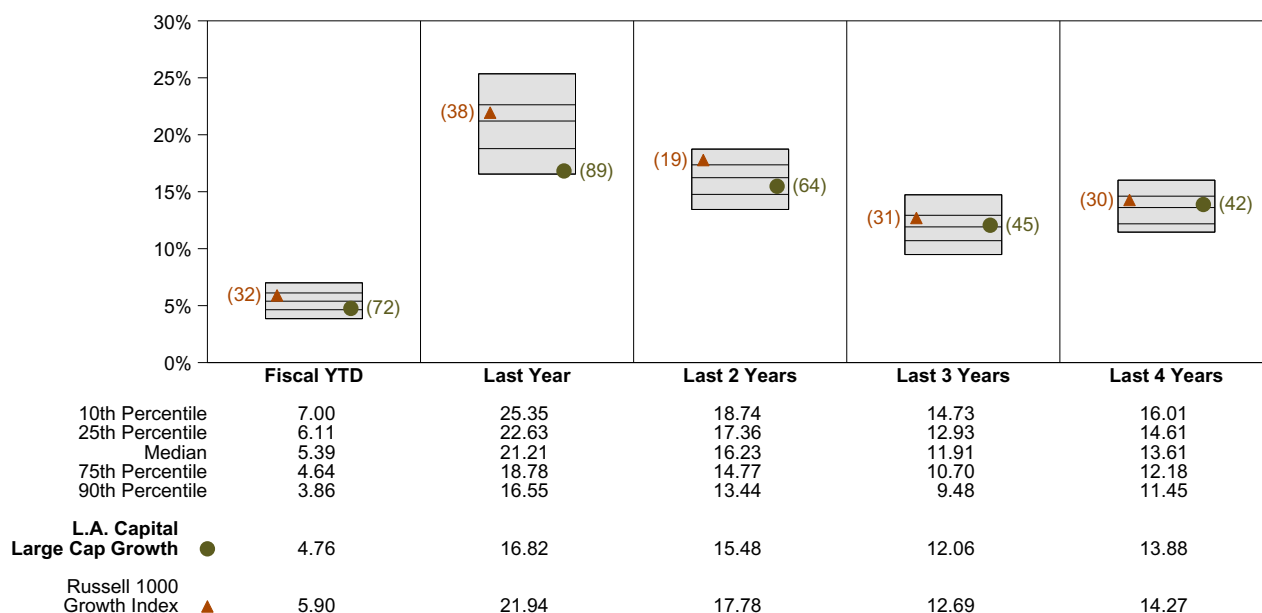
Quarterly Summary and Highlights

- L.A. Capital Large Cap Growth's portfolio posted a 4.76% return for the quarter placing it in the 72 percentile of the Callan Large Cap Growth group for the quarter and in the 89 percentile for the last year.
- L.A. Capital Large Cap Growth's portfolio underperformed the Russell 1000 Growth Index by 1.14% for the quarter and underperformed the Russell 1000 Growth Index for the year by 5.12%.

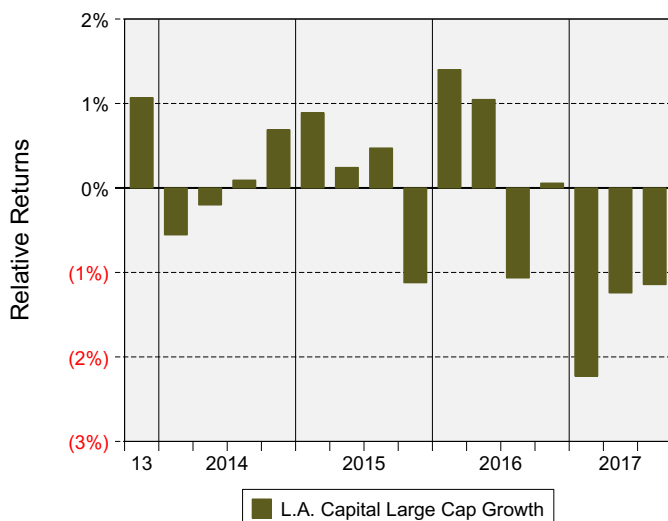
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$313,133,611 |
| Net New Investment | \$-161,358 |
| Investment Gains/(Losses) | \$14,888,824 |
| Ending Market Value | \$327,861,077 |

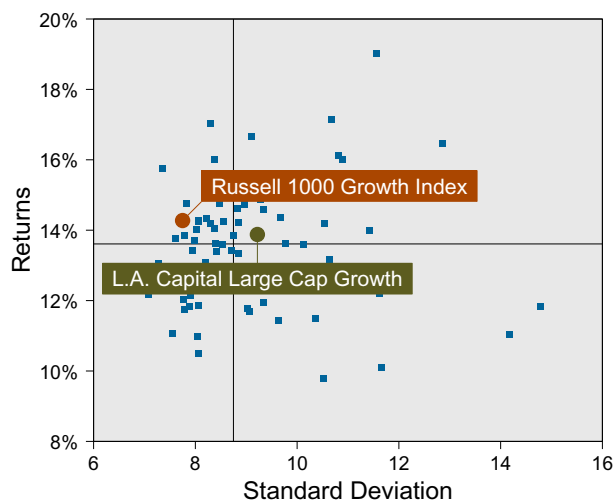
Performance vs Callan Large Cap Growth (Gross)



Relative Return vs Russell 1000 Growth Index



Callan Large Cap Growth (Gross) Annualized Four Year Risk vs Return



L.A. Capital Enhanced Period Ended September 30, 2017

Investment Philosophy

The LA Capital Enhanced portfolio is a large core portfolio benchmarked to the Russell 1000 Index. Characterized as an enhanced index assignment, its objective is to track the benchmark with lower variability. The pension portfolio began in August of 2000 and the insurance portfolio was initiated in April of 2004. Since October of 2006 a small portion of each of the two core accounts was allocated into the Large Cap Alpha Fund with intent to add incremental alpha to the assignment given that the information ratio was expected to be higher.

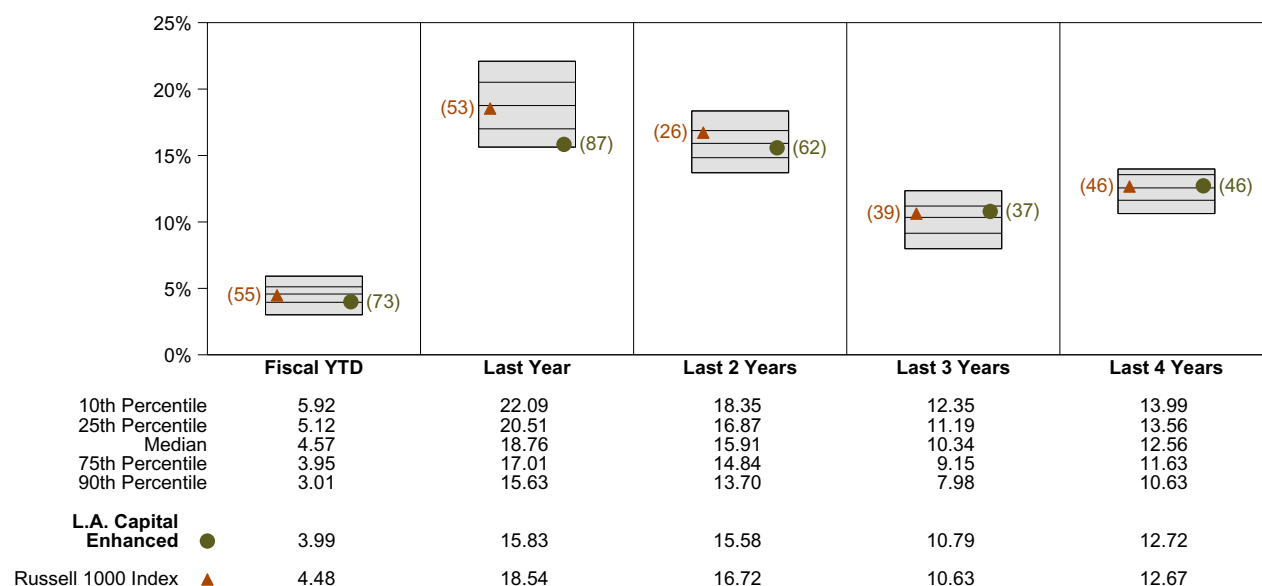
Quarterly Summary and Highlights

- L.A. Capital Enhanced's portfolio posted a 3.99% return for the quarter placing it in the 73 percentile of the Callan Large Cap Core group for the quarter and in the 87 percentile for the last year.
- L.A. Capital Enhanced's portfolio underperformed the Russell 1000 Index by 0.49% for the quarter and underperformed the Russell 1000 Index for the year by 2.70%.

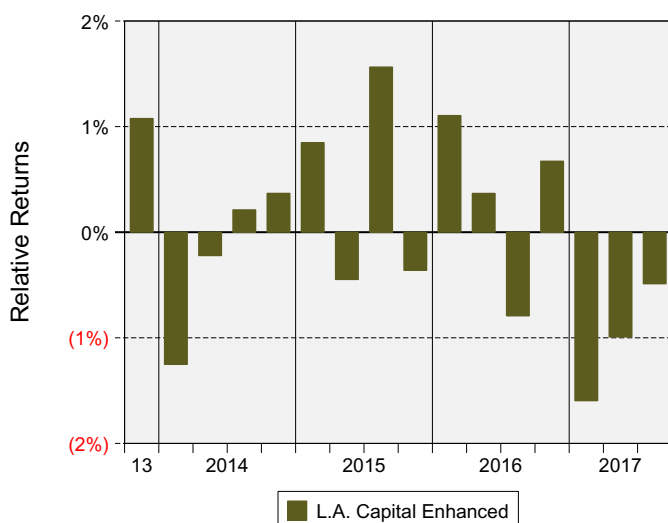
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$200,847,139 |
| Net New Investment | \$-66,669 |
| Investment Gains/(Losses) | \$8,011,535 |
| Ending Market Value | \$208,792,005 |

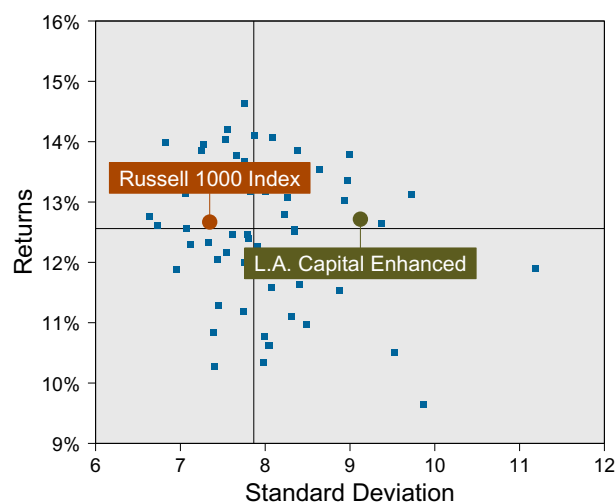
Performance vs Callan Large Cap Core (Gross)



Relative Return vs Russell 1000 Index



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



LSV Asset Management

Period Ended September 30, 2017

Investment Philosophy

The objective of LSV Asset Management's Large Cap Value Equity (U.S.) strategy is to outperform the Russell 1000 Value by at least 200 basis points (gross of fees) per annum over a 3-5 year period with a tracking error of approximately 4%. Their stock selection process is a quantitative approach that ranks a broad universe of stocks on a combination of value and momentum factors and seeks to invest approximately 100 stocks in the most attractive securities possible within strict risk parameters to control the portfolio's tracking error relative to the benchmark. The resulting portfolio is broadly diversified across industry groups and fully invested.

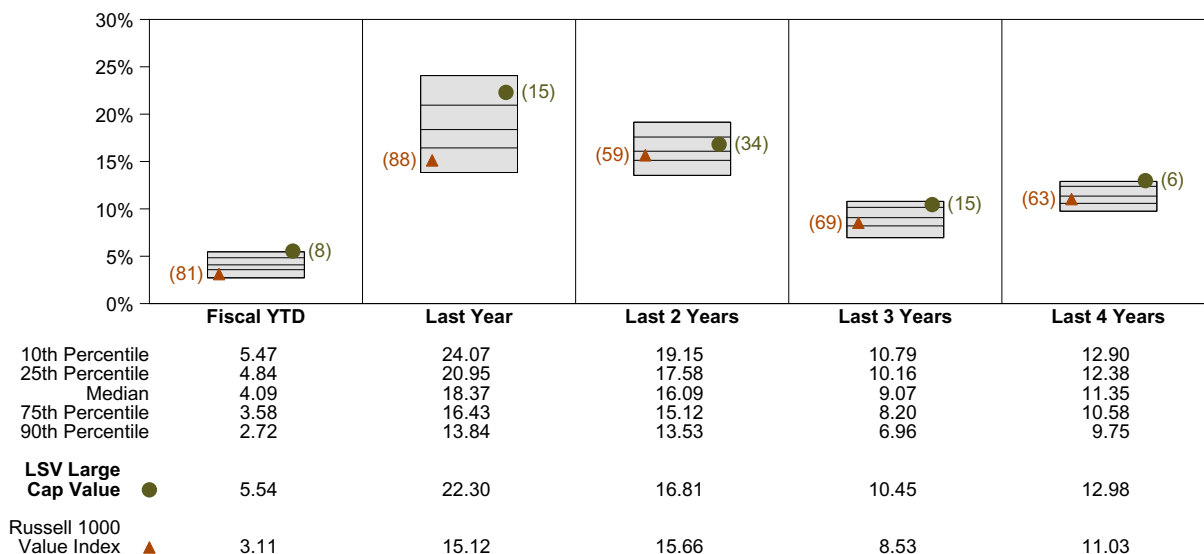
Quarterly Summary and Highlights

- LSV Large Cap Value's portfolio posted a 5.54% return for the quarter placing it in the 8 percentile of the Callan Large Cap Value group for the quarter and in the 15 percentile for the last year.
- LSV Large Cap Value's portfolio outperformed the Russell 1000 Value Index by 2.43% for the quarter and outperformed the Russell 1000 Value Index for the year by 7.18%.

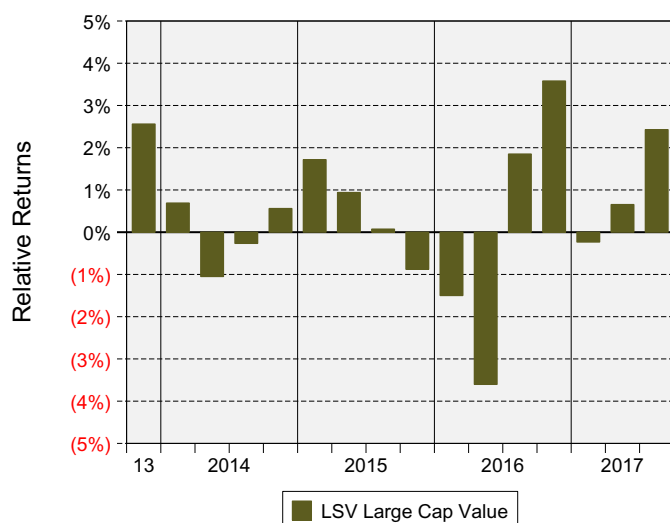
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$311,808,030 |
| Net New Investment | \$-232,989 |
| Investment Gains/(Losses) | \$17,275,307 |
| Ending Market Value | \$328,850,349 |

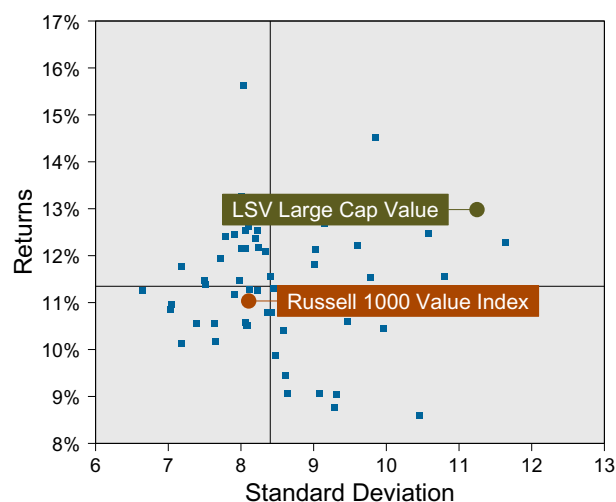
Performance vs Callan Large Cap Value (Gross)



Relative Return vs Russell 1000 Value Index



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



Parametric Clifton Small Cap Period Ended September 30, 2017

Investment Philosophy

Parametric Clifton utilizes equity futures to gain benchmark exposure in constructing the portfolio it believes provides the greatest likelihood of outperforming the index. In this construction the underlying cash portfolio is invested in a liquid, high quality short duration fixed income portfolio. Over market cycles excess return generated by the short duration portfolio, when added to the performance of futures is expected to allow the strategy to achieve 0.50% to 1.00% of gross excess annual performance.

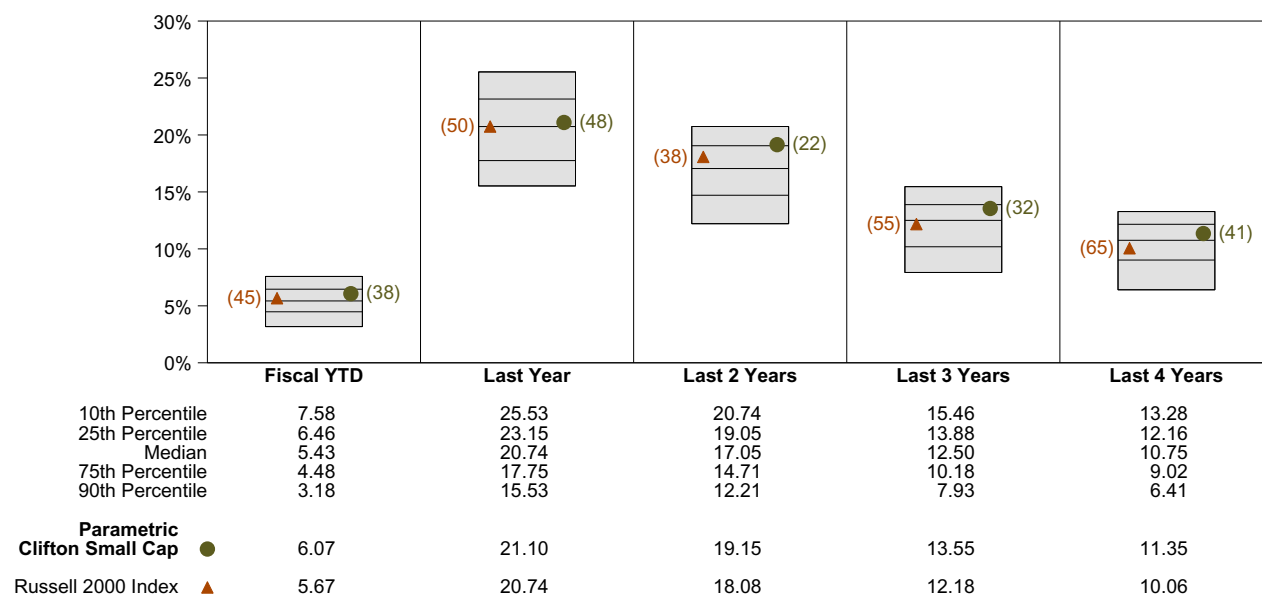
Quarterly Summary and Highlights

- Parametric Clifton Small Cap's portfolio posted a 6.07% return for the quarter placing it in the 38 percentile of the Callan Small Capitalization group for the quarter and in the 48 percentile for the last year.
- Parametric Clifton Small Cap's portfolio outperformed the Russell 2000 Index by 0.40% for the quarter and outperformed the Russell 2000 Index for the year by 0.35%.

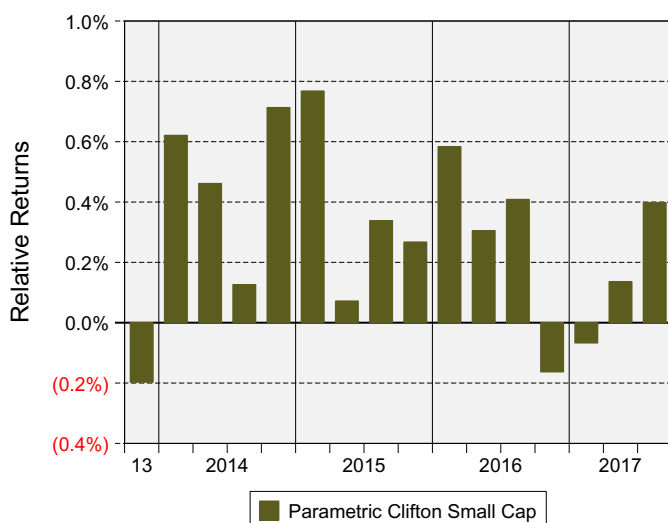
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$208,245,366 |
| Net New Investment | \$-212,781 |
| Investment Gains/(Losses) | \$12,621,239 |
| Ending Market Value | \$220,653,824 |

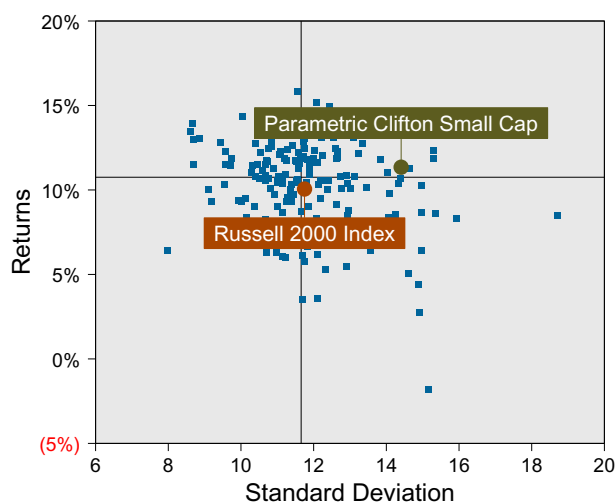
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



Callan Small Capitalization (Gross) Annualized Four Year Risk vs Return



PIMCO RAE Period Ended September 30, 2017

Investment Philosophy

Small company value equity portfolio utilizing the index strategy and philosophy described as the Enhanced RAFI US Small strategy which relies on portfolio weights derived from firm fundamentals (free cash flow, book equity value, total sales and gross dividend), instead of market capitalization. Additionally, the enhanced portfolio strategy uses a quality of earnings screening and a financial distress screening to augment portfolio returns and reduce portfolio volatility.

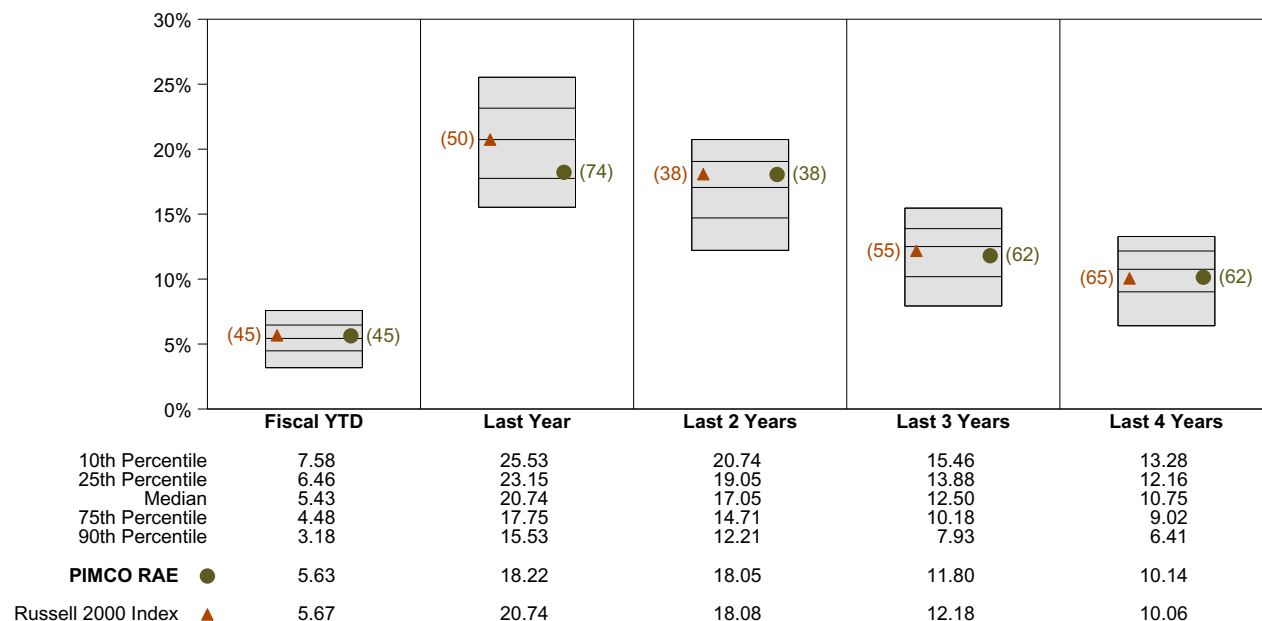
Quarterly Summary and Highlights

- PIMCO RAE's portfolio posted a 5.63% return for the quarter placing it in the 45 percentile of the Callan Small Capitalization group for the quarter and in the 74 percentile for the last year.
- PIMCO RAE's portfolio underperformed the Russell 2000 Index by 0.04% for the quarter and underperformed the Russell 2000 Index for the year by 2.52%.

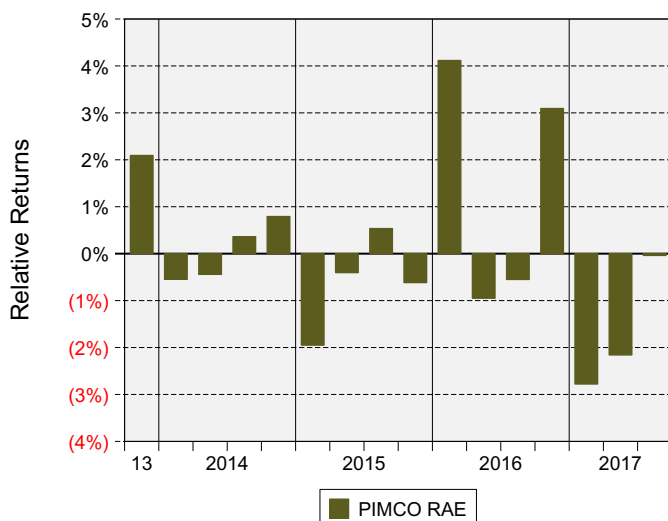
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$171,130,966 |
| Net New Investment | \$-107,688 |
| Investment Gains/(Losses) | \$9,630,543 |
| Ending Market Value | \$180,653,821 |

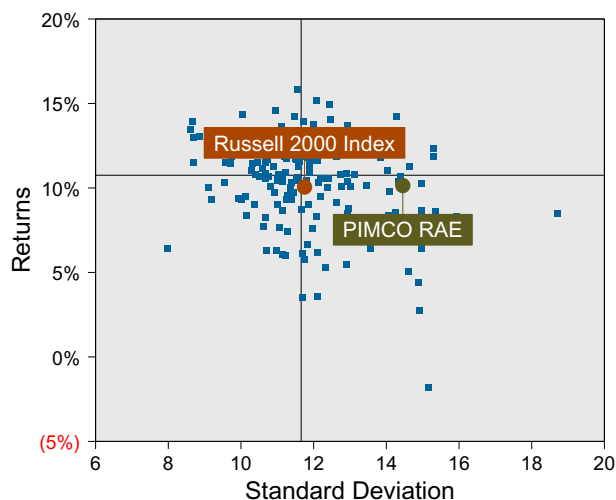
Performance vs Callan Small Capitalization (Gross)



Relative Return vs Russell 2000 Index



Callan Small Capitalization (Gross) Annualized Four Year Risk vs Return



International Equity Period Ended September 30, 2017

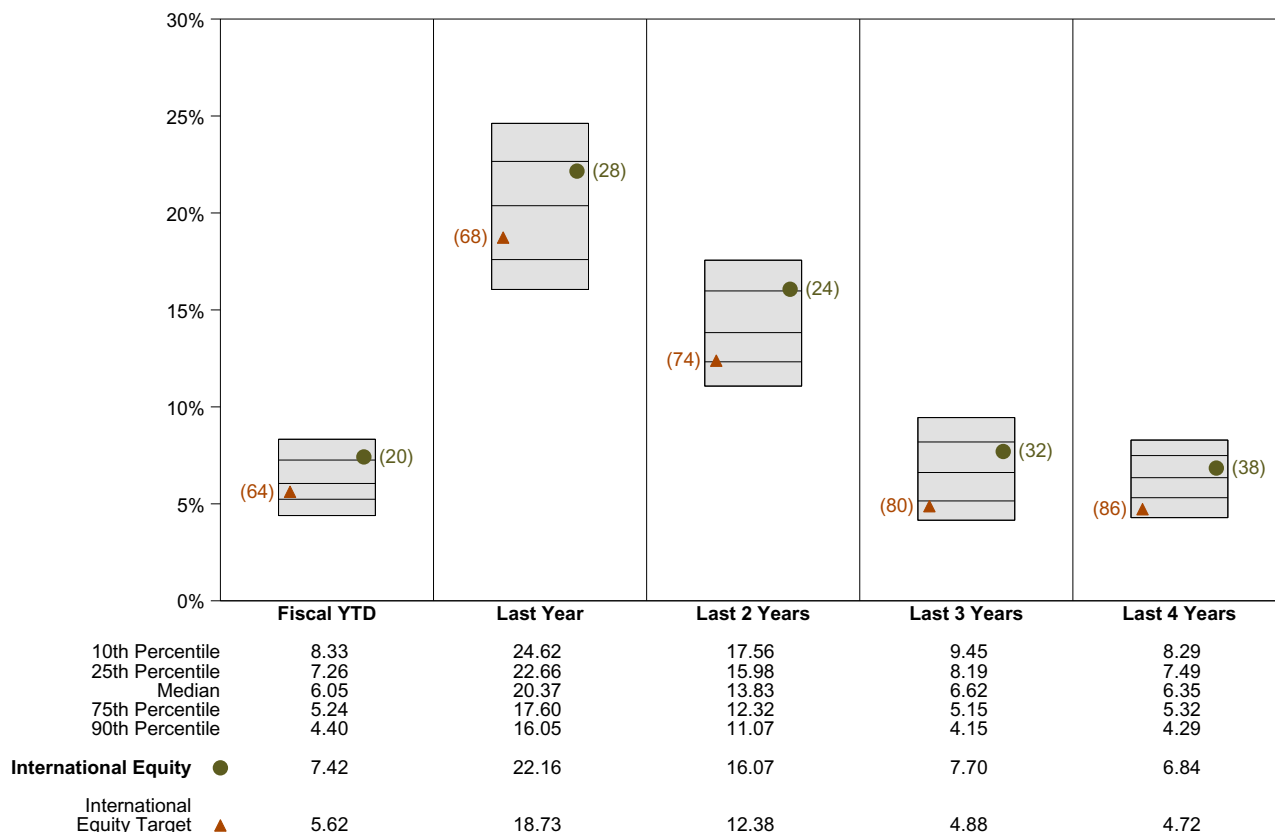
Quarterly Summary and Highlights

- International Equity's portfolio posted a 7.42% return for the quarter placing it in the 20 percentile of the Callan Non-US Equity group for the quarter and in the 28 percentile for the last year.
- International Equity's portfolio outperformed the International Equity Target by 1.80% for the quarter and outperformed the International Equity Target for the year by 3.43%.

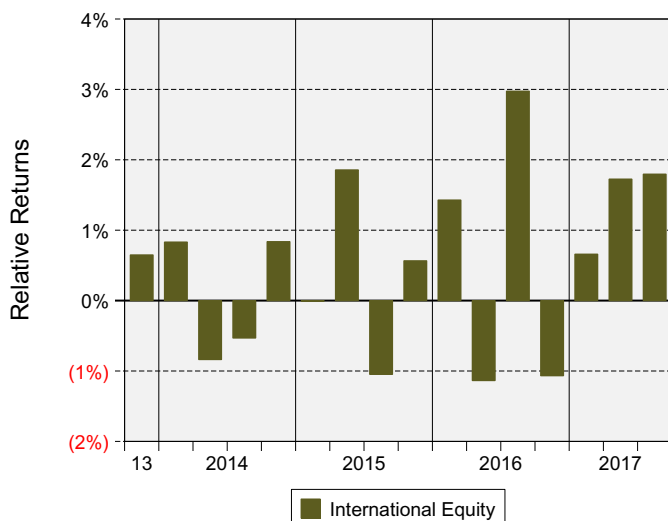
Quarterly Asset Growth

| | |
|---------------------------|-----------------|
| Beginning Market Value | \$938,506,615 |
| Net New Investment | \$-3,731,953 |
| Investment Gains/(Losses) | \$69,803,684 |
| Ending Market Value | \$1,004,578,346 |

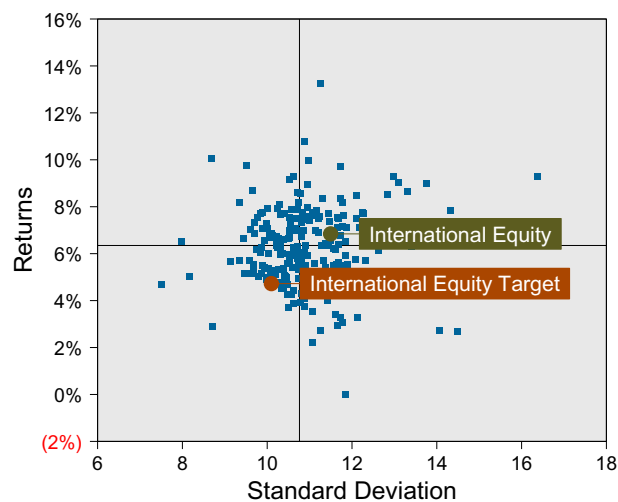
Performance vs Callan Non-US Equity (Gross)



Relative Return vs International Equity Target



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



DFA Intl Small Cap Value Period Ended September 30, 2017

Investment Philosophy

The International Small Cap Value Portfolio invests in the stocks of small, non-US developed markets companies that Dimensional believes to be value stocks at the time of purchase. Specifically, it looks at companies that fall within the smallest 8-10% of each country's market capitalization, and who's shares have a high book value in relation to their market value (BtM). It does not invest in emerging markets.

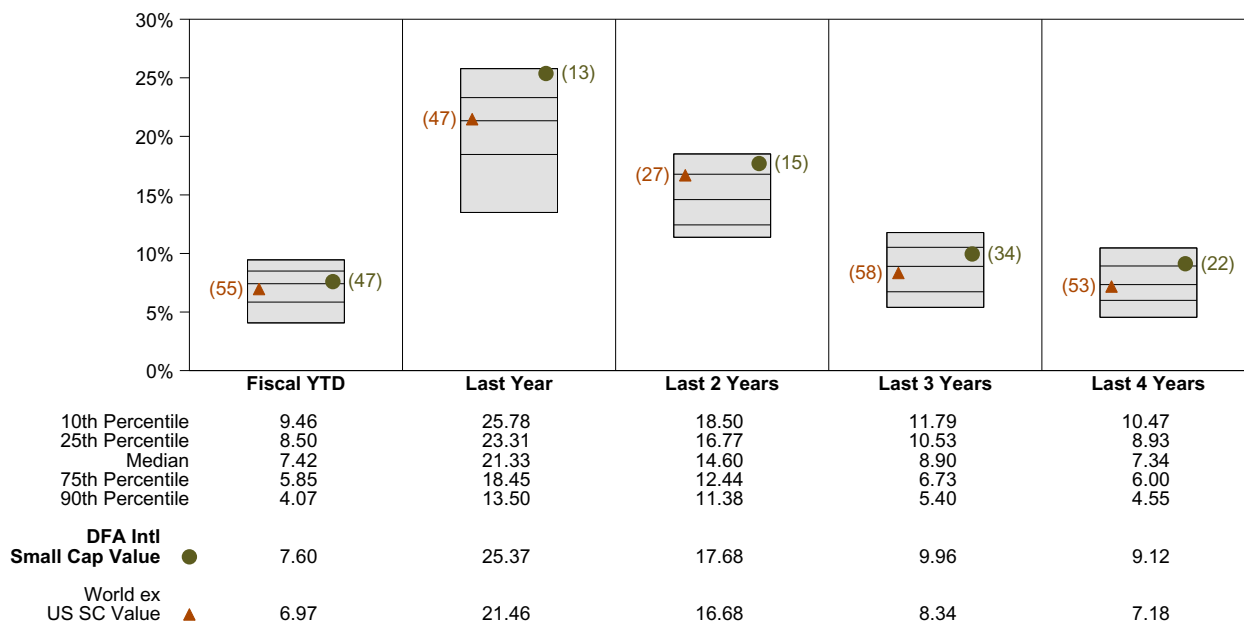
Quarterly Summary and Highlights

- DFA Intl Small Cap Value's portfolio posted a 7.60% return for the quarter placing it in the 47 percentile of the Callan International Small Cap Mutual Fu group for the quarter and in the 13 percentile for the last year.
- DFA Intl Small Cap Value's portfolio outperformed the World ex US SC Value by 0.63% for the quarter and outperformed the World ex US SC Value for the year by 3.90%.

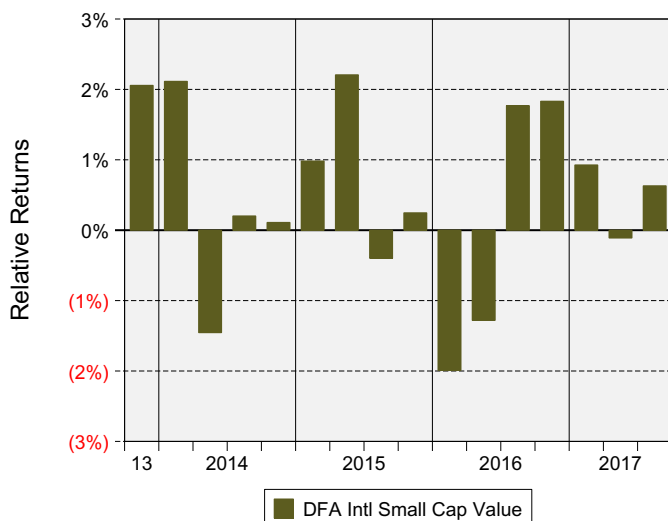
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$93,652,212 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$7,113,532 |
| Ending Market Value | \$100,765,744 |

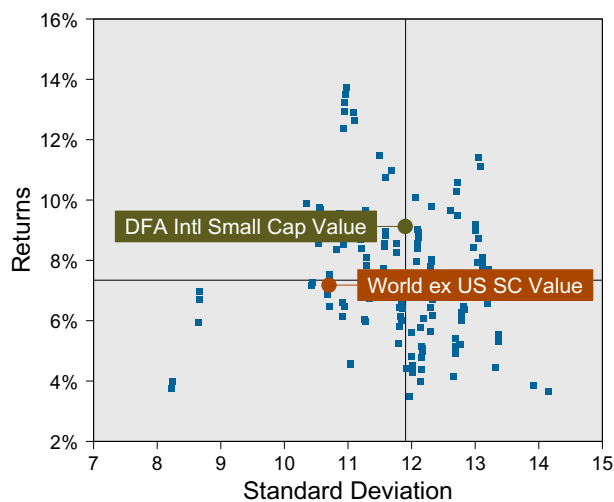
Performance vs Callan International Small Cap Mutual Fu (Net)



Relative Return vs World ex US SC Value



Callan International Small Cap Mutual Fu (Net) Annualized Four Year Risk vs Return



LSV Intl Value Period Ended September 30, 2017

Investment Philosophy

The objective of LSV Asset Management's International Large Cap Value strategy is to outperform the MSCI EAFE Index by at least 250 basis points (gross of fees) per annum over an annualized 3-5 year period with a tracking error of approximately 5-6%. Their stock selection process is a quantitative approach that ranks a broad universe of stocks on a combination of value and momentum factors and seeks to invest approximately 150 stocks in the most attractive securities possible within strict risk parameters to control the portfolio's tracking error relative to the benchmark. The resulting portfolio is broadly diversified across industry groups and fully invested. LSV weights countries at a neutral weight relative to the benchmark country weights. 50% of the portfolio is US dollar hedged.

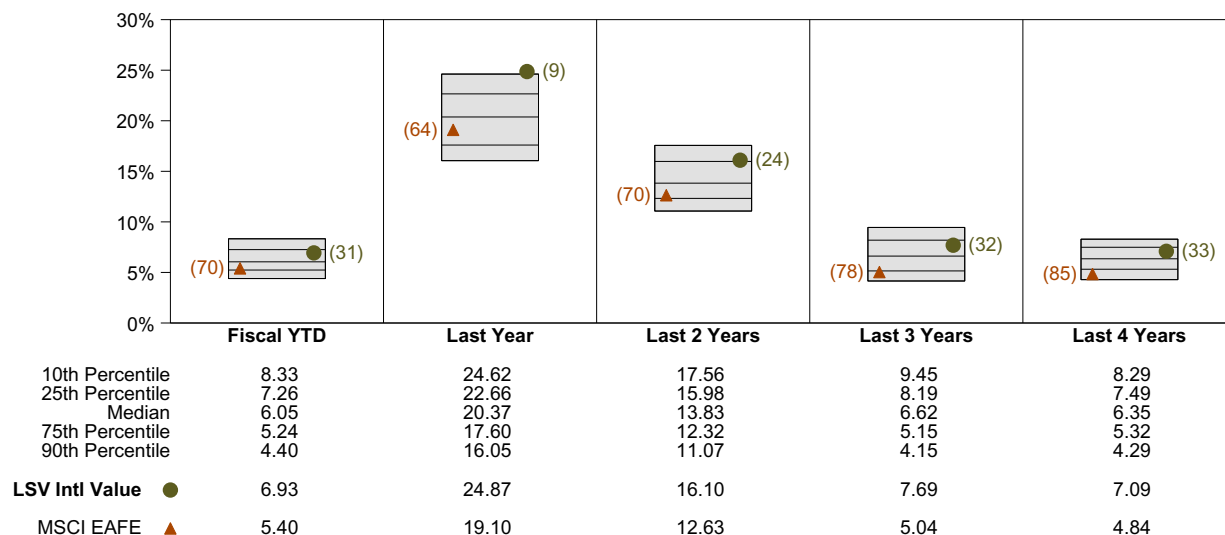
Quarterly Summary and Highlights

- LSV Intl Value's portfolio posted a 6.93% return for the quarter placing it in the 31 percentile of the Callan Non-US Equity group for the quarter and in the 9 percentile for the last year.
- LSV Intl Value's portfolio outperformed the MSCI EAFE by 1.53% for the quarter and outperformed the MSCI EAFE for the year by 5.76%.

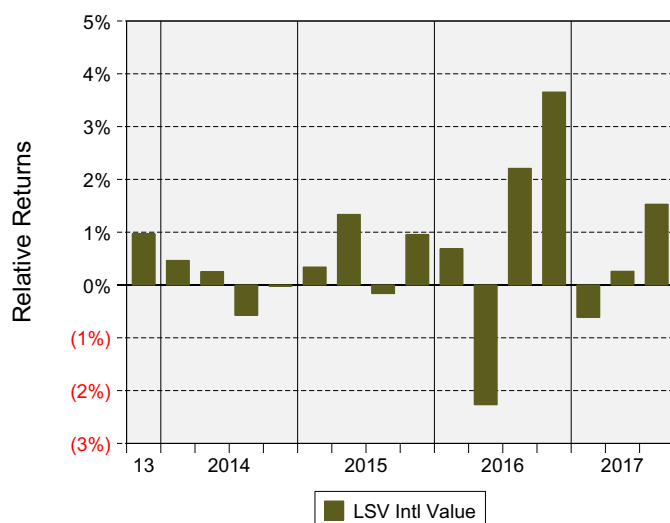
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$382,364,713 |
| Net New Investment | \$-10,372,179 |
| Investment Gains/(Losses) | \$26,323,126 |
| Ending Market Value | \$398,315,660 |

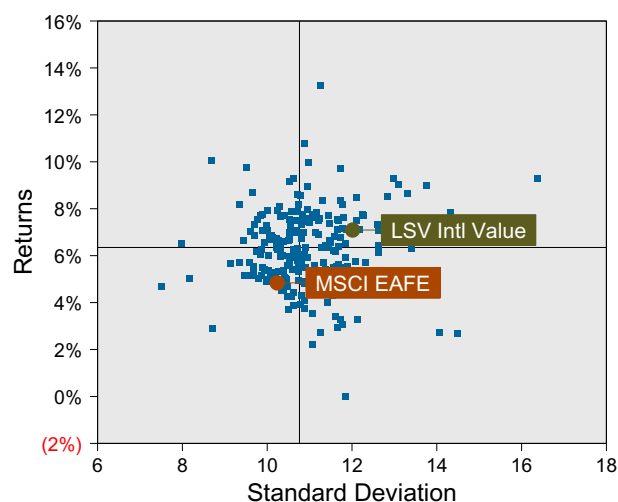
Performance vs Callan Non-US Equity (Gross)



Relative Return vs MSCI EAFE



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



Vanguard Intl Explorer Fund

Period Ended September 30, 2017

Investment Philosophy

Vanguard International Explorer Fund invests primarily in the equity securities of small-capitalization companies located outside the United States that the advisor believes offer the potential for long-term capital appreciation. The advisor considers, among other things, whether a company is likely to have above-average earnings growth, whether the company's securities are attractively valued, and whether the company has any proprietary advantages.

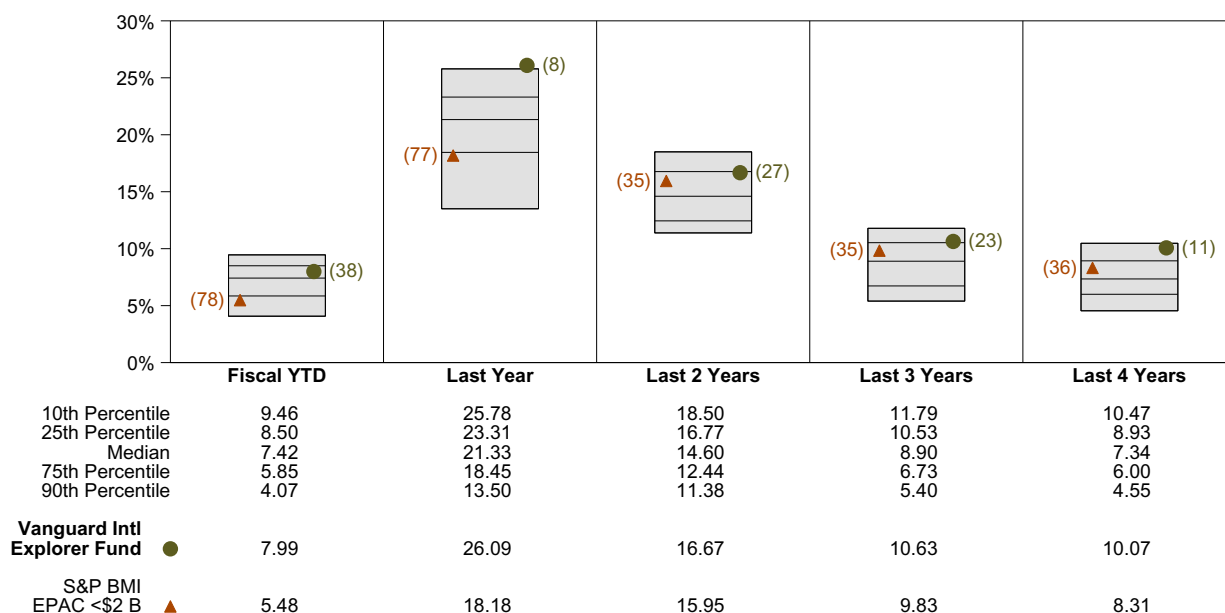
Quarterly Summary and Highlights

- Vanguard Intl Explorer Fund's portfolio posted a 7.99% return for the quarter placing it in the 38 percentile of the Callan International Small Cap Mutual Fu group for the quarter and in the 8 percentile for the last year.
- Vanguard Intl Explorer Fund's portfolio outperformed the S&P BMI EPAC <\$2 B by 2.51% for the quarter and outperformed the S&P BMI EPAC <\$2 B for the year by 7.91%.

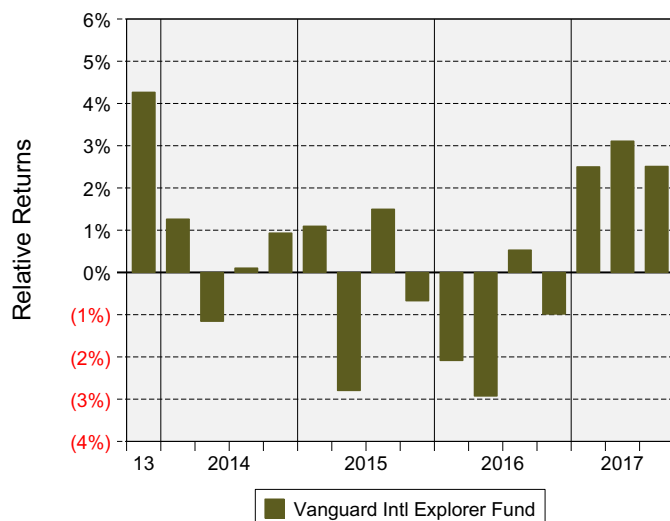
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$93,713,936 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$7,491,461 |
| Ending Market Value | \$101,205,397 |

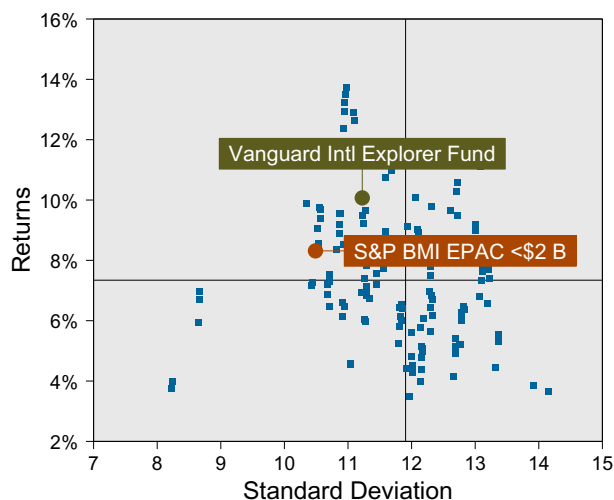
Performance vs Callan International Small Cap Mutual Fu (Net)



Relative Return vs S&P BMI EPAC <\$2 B



Callan International Small Cap Mutual Fu (Net) Annualized Four Year Risk vs Return



William Blair Period Ended September 30, 2017

Investment Philosophy

One of the basic investment tenets of William Blair & Company has been its focus on quality growth companies. They believe that investing in quality growth companies will generate above average results with generally less risk than the market. This opportunity exists because they believe the market underestimates the durability and rate of growth in companies that have the following characteristics: strong management with a unique vision, competitive advantages that prolong the duration and size of earnings growth, and conservative financing. Internationally, they believe that this philosophy can be combined with strategic flexibility in managing geographic exposure, capitalization, sector emphasis, and relative growth and valuation at the portfolio level in order to provide an appropriate degree of adaptability to cyclical conditions.

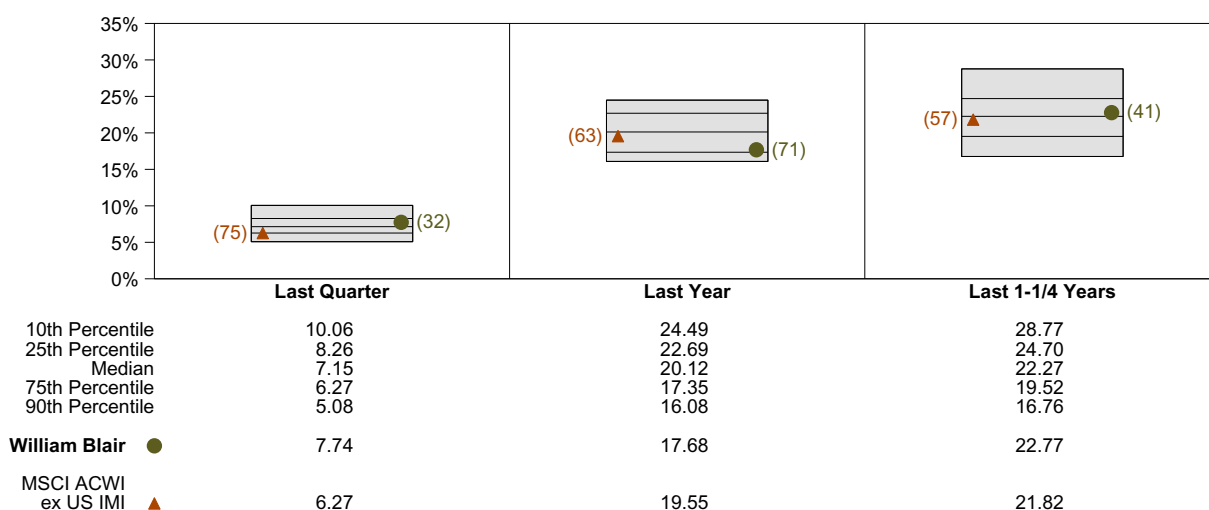
Quarterly Summary and Highlights

- William Blair's portfolio posted a 7.74% return for the quarter placing it in the 32 percentile of the Callan Non-US All Country Growth Equity group for the quarter and in the 71 percentile for the last year.
- William Blair's portfolio outperformed the MSCI ACWI ex US IMI by 1.47% for the quarter and underperformed the MSCI ACWI ex US IMI for the year by 1.87%.

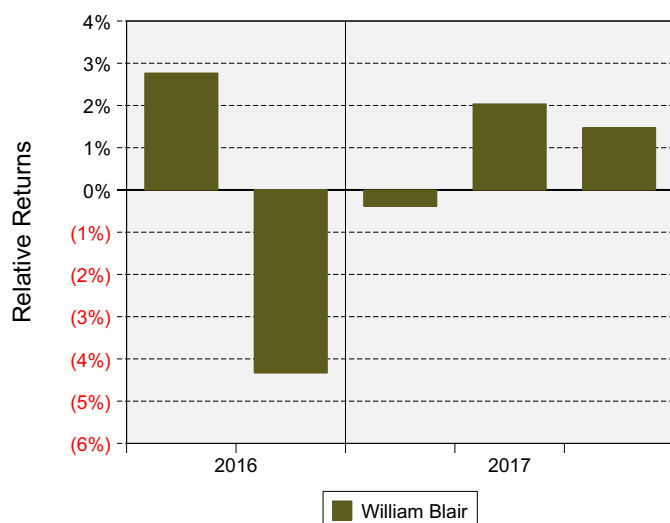
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$368,775,754 |
| Net New Investment | \$6,640,226 |
| Investment Gains/(Losses) | \$28,875,565 |
| Ending Market Value | \$404,291,545 |

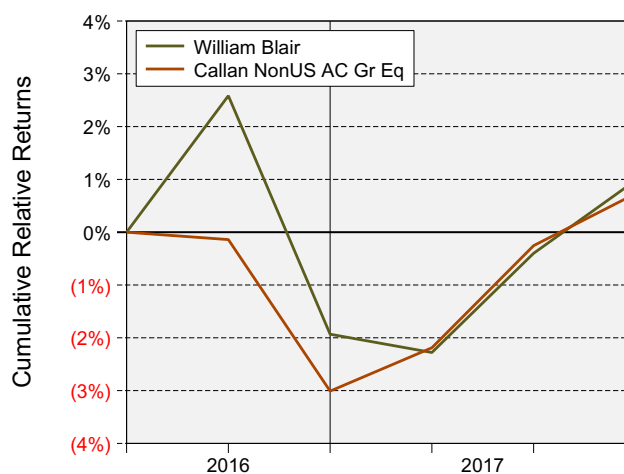
Performance vs Callan Non-US All Country Growth Equity (Gross)



Relative Return vs MSCI ACWI ex US IMI



Cumulative Returns vs MSCI ACWI ex US IMI



Domestic Fixed Income Period Ended September 30, 2017

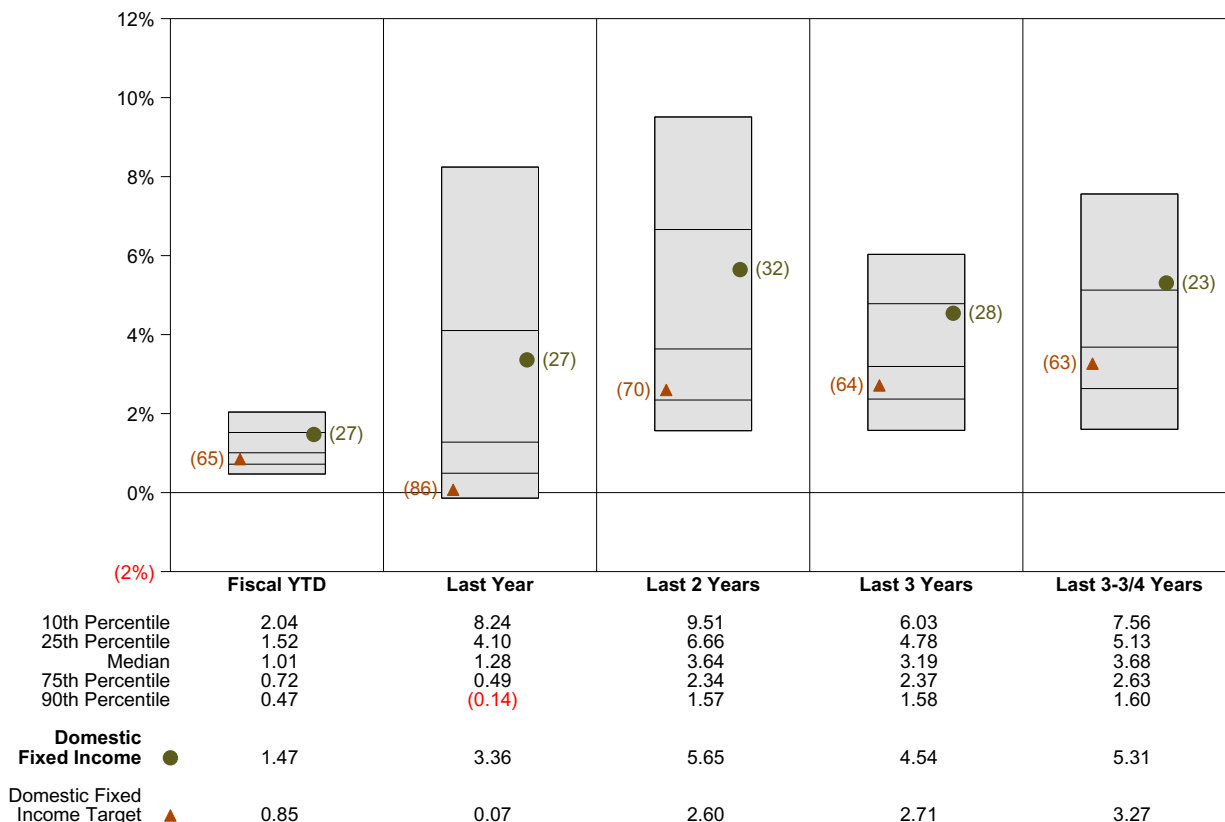
Quarterly Summary and Highlights

- Domestic Fixed Income's portfolio posted a 1.47% return for the quarter placing it in the 27 percentile of the Total Domestic Fixed-Inc Database group for the quarter and in the 27 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Domestic Fixed Income Target by 0.62% for the quarter and outperformed the Domestic Fixed Income Target for the year by 3.29%.

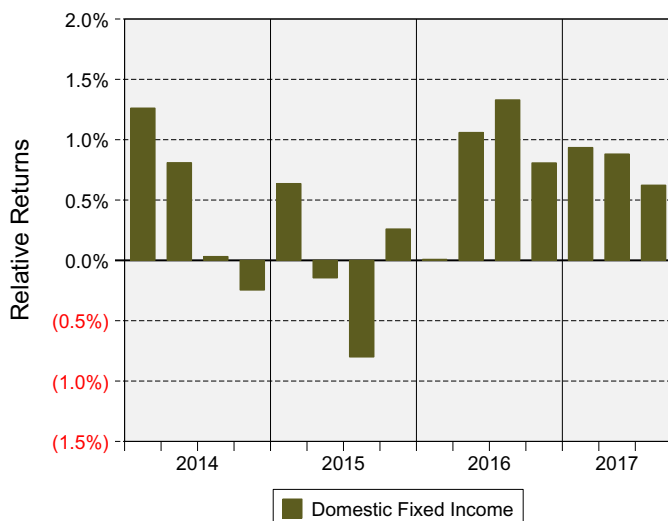
Quarterly Asset Growth

| | |
|---------------------------|-----------------|
| Beginning Market Value | \$1,614,700,564 |
| Net New Investment | \$71,216,286 |
| Investment Gains/(Losses) | \$23,978,342 |
| Ending Market Value | \$1,709,895,192 |

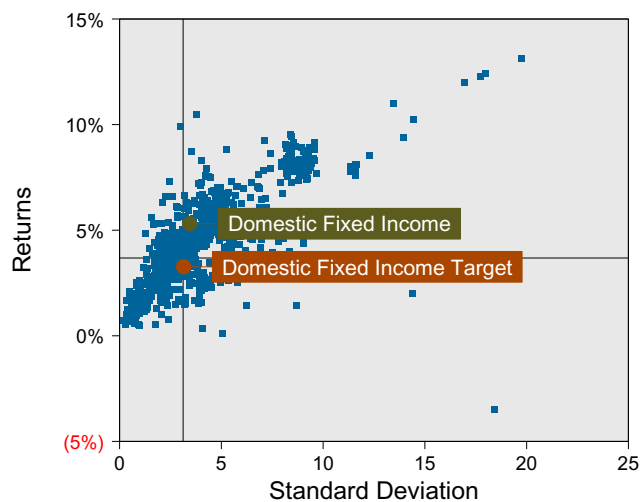
Performance vs Total Domestic Fixed-Inc Database (Gross)



Relative Returns vs Domestic Fixed Income Target



Total Domestic Fixed-Inc Database (Gross) Annualized Three and Three-Quarter Year Risk vs Return



Declaration Total Return Period Ended September 30, 2017

Investment Philosophy

The Fund's portfolio holdings consist primarily of RMBS issued by private sector companies (Non-Agency RMBS) and government agencies (Agency MBS) and CMBS issued by private sector companies. Agency MBS includes securities issued by the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Government National Mortgage Association (Ginnie Mae). Portfolio holdings may range from short tenure senior classes to stressed issues or subordinated securities with substantial risk of non-payment and correspondingly higher yields. Smaller portfolio allocations may include consumer asset-backed securities (ABS), or other structured credit securities and corporate bonds. As a diversification strategy and a potential hedge to credit risk, the Fund may invest in securities which tend to benefit from slow mortgage prepayments and economic growth, such as interest only (IO) MBS.

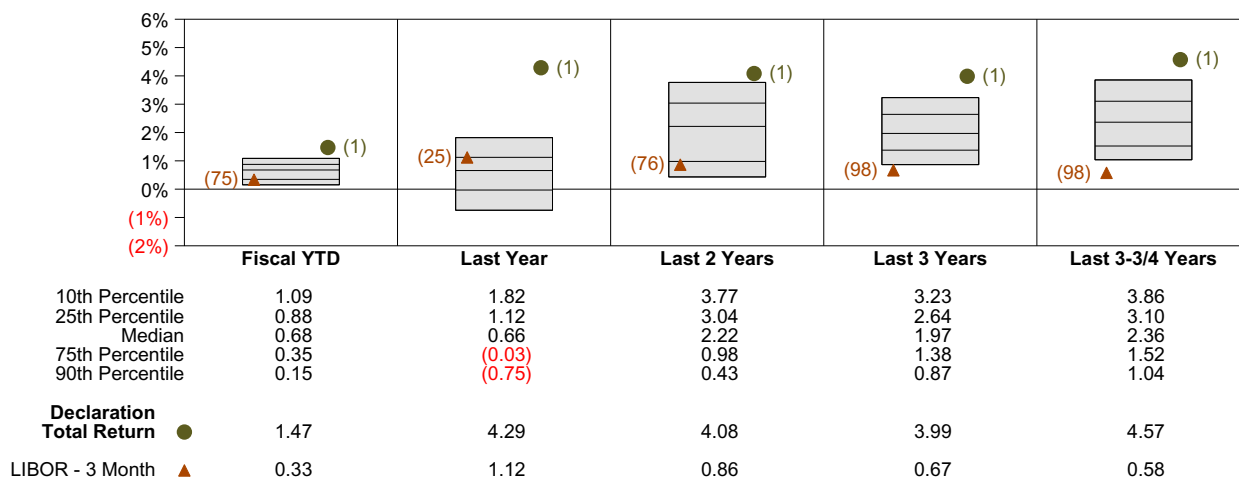
Quarterly Summary and Highlights

- Declaration Total Return's portfolio posted a 1.47% return for the quarter placing it in the 1 percentile of the Callan Intermediate Fixed Income Mutual group for the quarter and in the 1 percentile for the last year.
- Declaration Total Return's portfolio outperformed the LIBOR - 3 Month by 1.14% for the quarter and outperformed the LIBOR - 3 Month for the year by 3.17%.

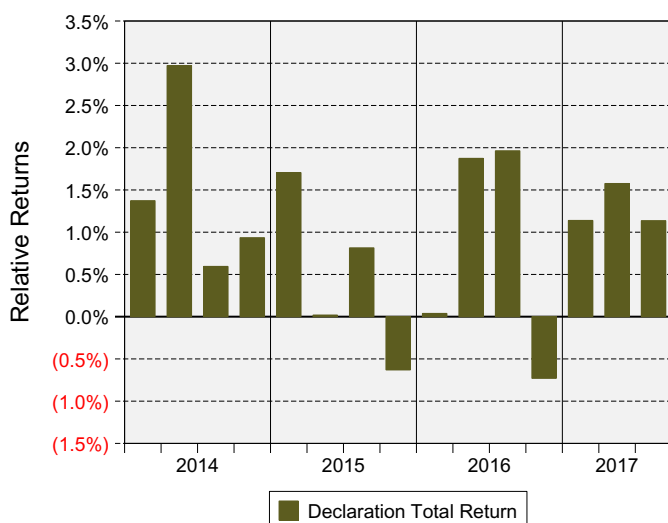
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$126,385,793 |
| Net New Investment | \$-46,253 |
| Investment Gains/(Losses) | \$1,858,498 |
| Ending Market Value | \$128,198,038 |

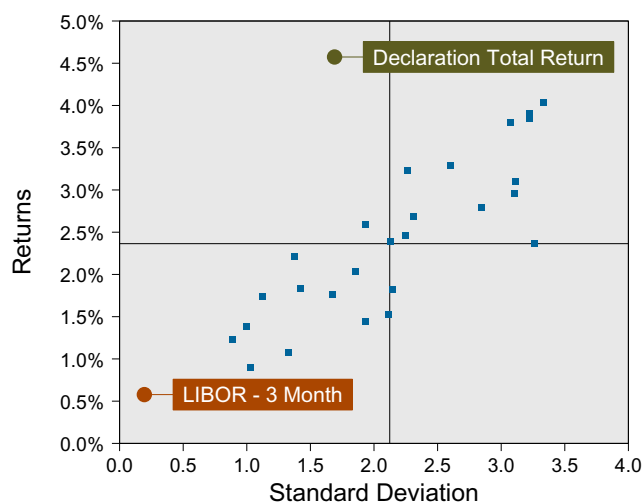
Performance vs Callan Intermediate Fixed Income Mutual (Net)



Relative Return vs LIBOR - 3 Month



Callan Intermediate Fixed Income Mutual (Net) Annualized Three and Three-Quarter Year Risk vs Return



Prudential Period Ended September 30, 2017

Investment Philosophy

The core plus fixed income account is a multi-sector strategy that is diversified across a broad range of fixed income sectors, including Treasuries, agencies, mortgage-backed securities, structured product (asset-backed securities, commercial mortgage-backed securities), investment grade corporate bonds, high yield bonds, bank loans and international debt. The primary sources of excess return are sector allocation and security selection, with duration and yield curve less of a focus.

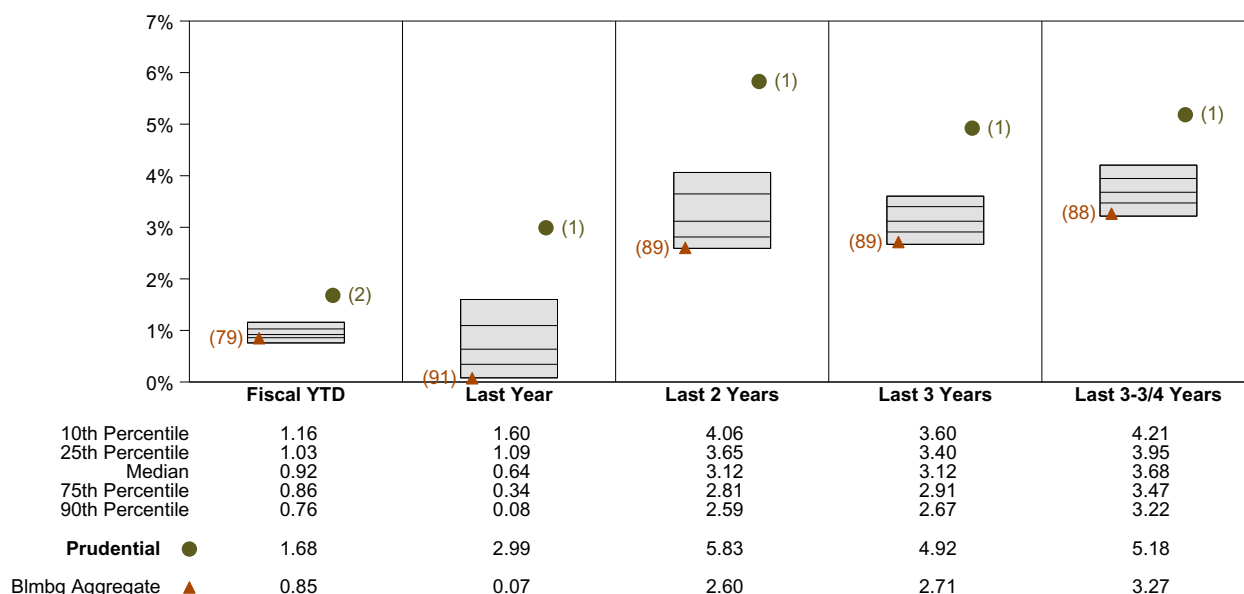
Quarterly Summary and Highlights

- Prudential's portfolio posted a 1.68% return for the quarter placing it in the 2 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 1 percentile for the last year.
- Prudential's portfolio outperformed the Blmbg Aggregate by 0.83% for the quarter and outperformed the Blmbg Aggregate for the year by 2.92%.

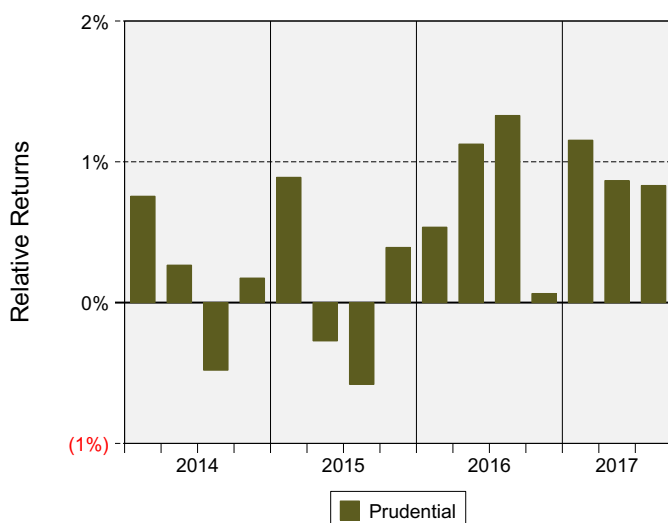
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$178,188,628 |
| Net New Investment | \$-116,417 |
| Investment Gains/(Losses) | \$2,992,732 |
| Ending Market Value | \$181,064,943 |

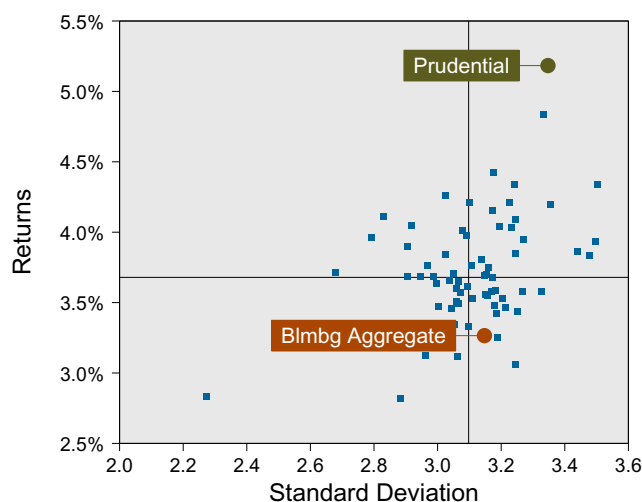
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



Callan Core Bond Fixed Income (Gross) Annualized Three and Three-Quarter Year Risk vs Return



SSgA US Govt Credit Bd Idx Period Ended September 30, 2017

Investment Philosophy

The Fund seeks an investment return that approximates as closely as practicable, before expenses, the performance of the Barclays Capital U.S. Government/Credit Bond Index over the long term.

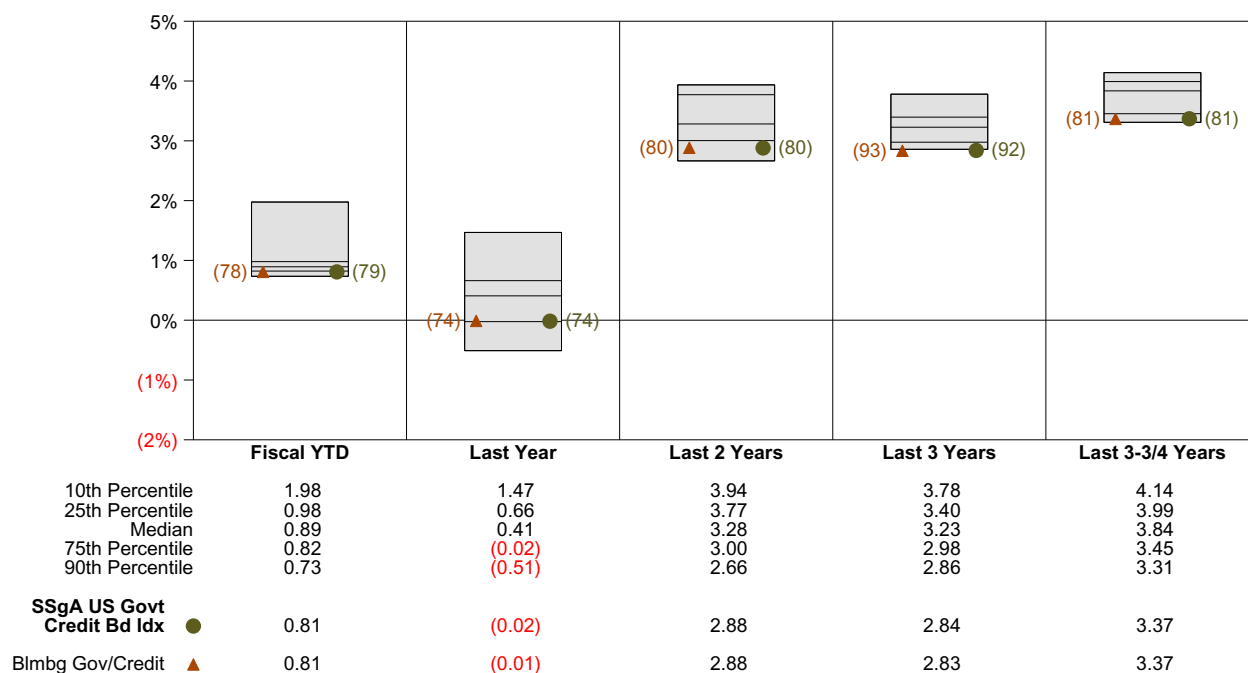
Quarterly Summary and Highlights

- SSgA US Govt Credit Bd Idx's portfolio posted a 0.81% return for the quarter placing it in the 79 percentile of the Callan Government/Credit group for the quarter and in the 74 percentile for the last year.
- SSgA US Govt Credit Bd Idx's portfolio underperformed the Blmbg Gov/Credit by 0.00% for the quarter and underperformed the Blmbg Gov/Credit for the year by 0.01%.

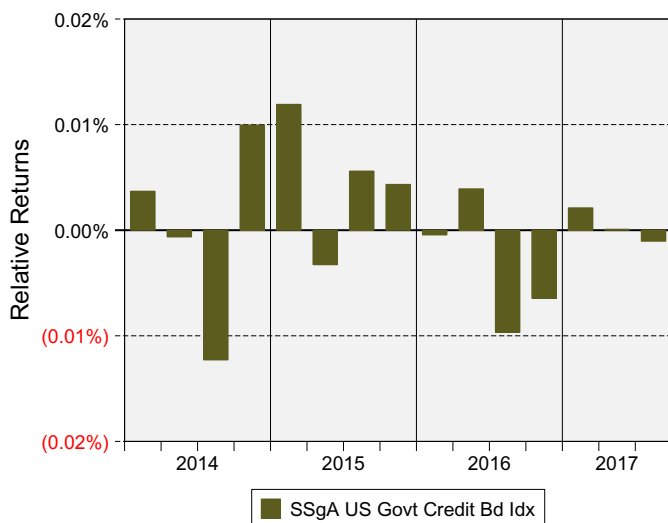
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$231,692,172 |
| Net New Investment | \$0 |
| Investment Gains/(Losses) | \$1,871,296 |
| Ending Market Value | \$233,563,469 |

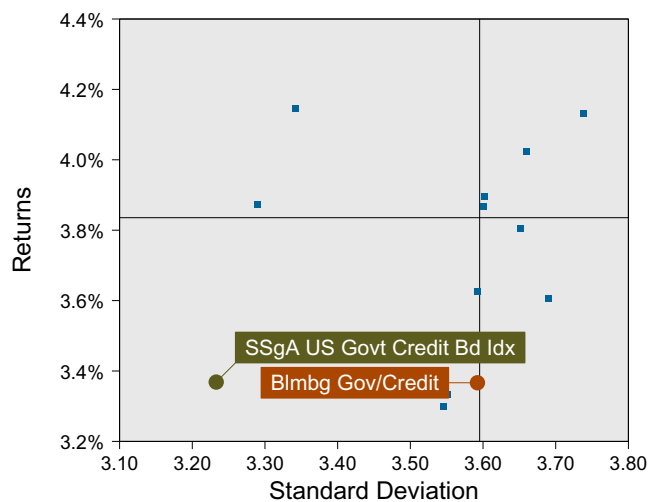
Performance vs Callan Government/Credit (Gross)



Relative Return vs Blmbg Gov/Credit



Callan Government/Credit (Gross) Annualized Three and Three-Quarter Year Risk vs Return



Wells Capital Period Ended September 30, 2017

Investment Philosophy

The Medium Quality Credit fixed income strategy is designed to maximize total return from the high-grade corporate bond market while maintaining a strategic allocation to the BBB portion of the high yield market. The investment process for this fund starts with a "top-down" strategy. Security selection is determined by in-depth credit research, holding that in-depth knowledge of industries, companies, and their management teams can help identify credit trends that can lead to investment opportunities. Furthermore, a disciplined relative value framework is applied to help determine the optimal position to invest within an industry and within an individual issuer's capital structure.

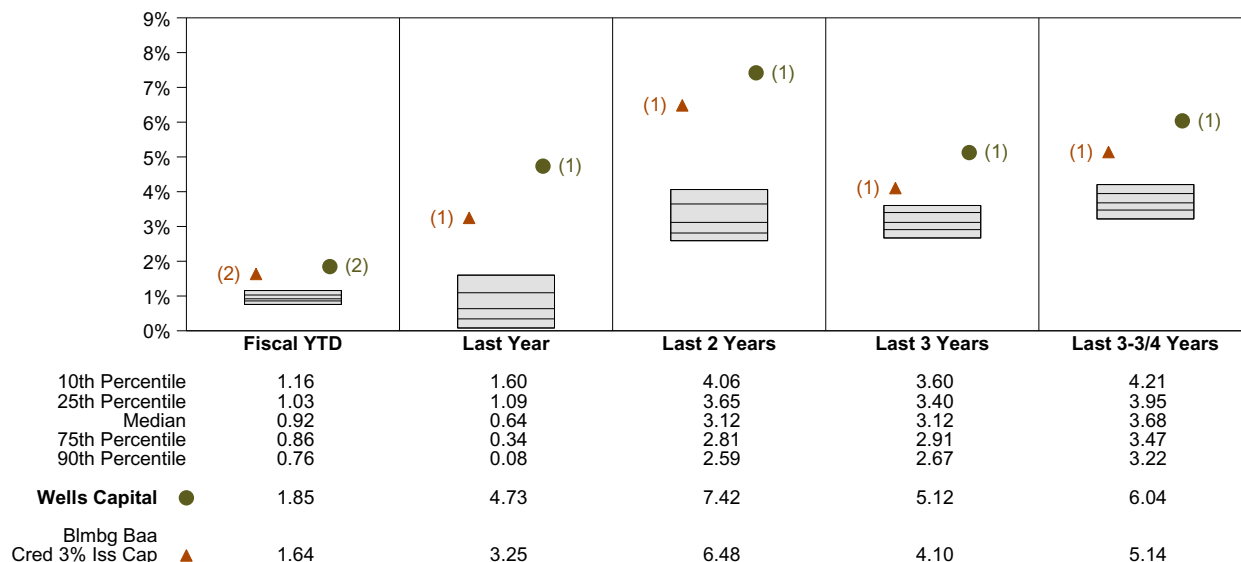
Quarterly Summary and Highlights

- Wells Capital's portfolio posted a 1.85% return for the quarter placing it in the 2 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 1 percentile for the last year.
- Wells Capital's portfolio outperformed the Blmbg Baa Cred 3% Iss Cap by 0.21% for the quarter and outperformed the Blmbg Baa Cred 3% Iss Cap for the year by 1.49%.

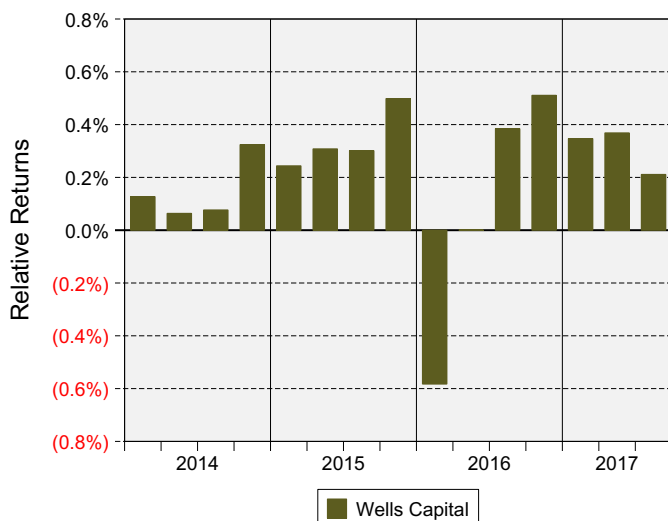
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$473,768,708 |
| Net New Investment | \$18,815,430 |
| Investment Gains/(Losses) | \$8,912,120 |
| Ending Market Value | \$501,496,258 |

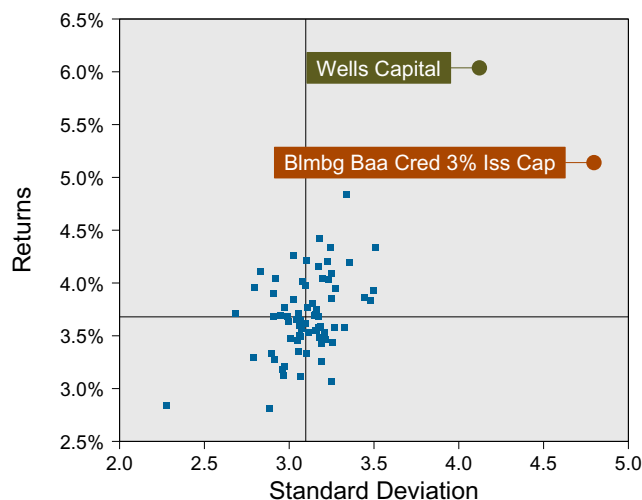
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Returns vs Blmbg Baa Cred 3% Iss Cap



Callan Core Bond Fixed Income (Gross) Annualized Three and Three-Quarter Year Risk vs Return



Western Asset Management Company

Period Ended September 30, 2017

Investment Philosophy

Western Asset designs this portfolio using all major fixed-income sectors with a bias towards non-Treasuries, especially corporate, mortgage-backed and asset-backed securities. Value can be added through sector rotation, issue selection, duration and term structure weighting.

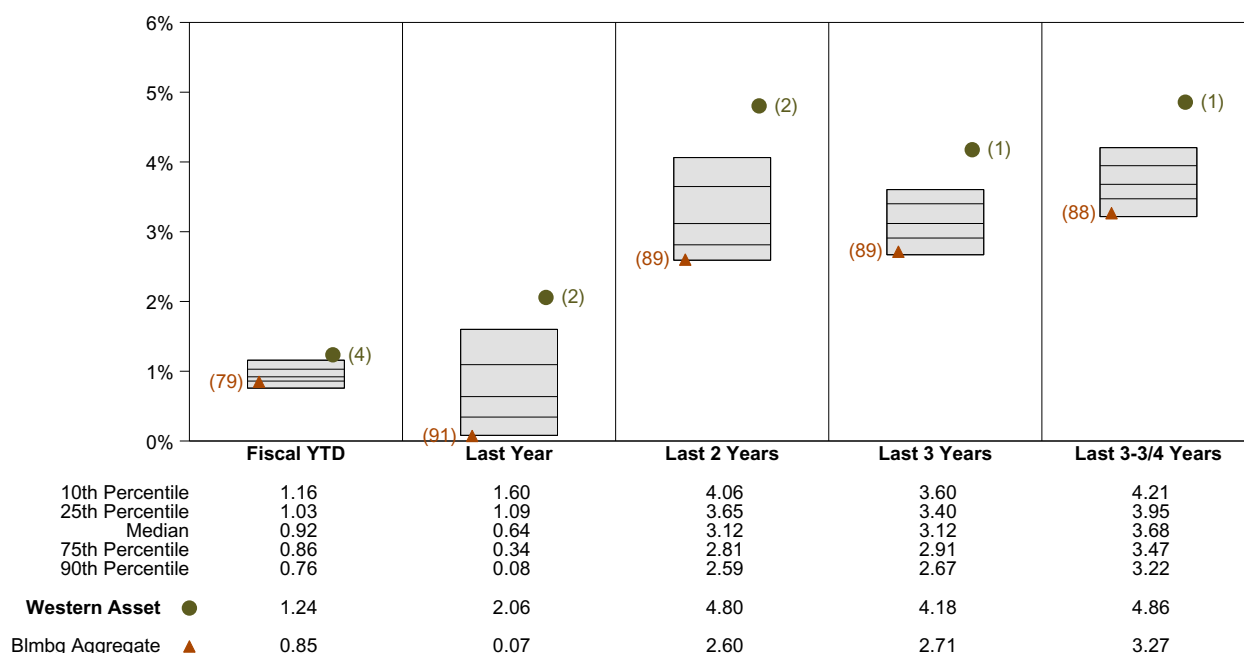
Quarterly Summary and Highlights

- Western Asset's portfolio posted a 1.24% return for the quarter placing it in the 4 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 2 percentile for the last year.
- Western Asset's portfolio outperformed the Blmbg Aggregate by 0.39% for the quarter and outperformed the Blmbg Aggregate for the year by 1.99%.

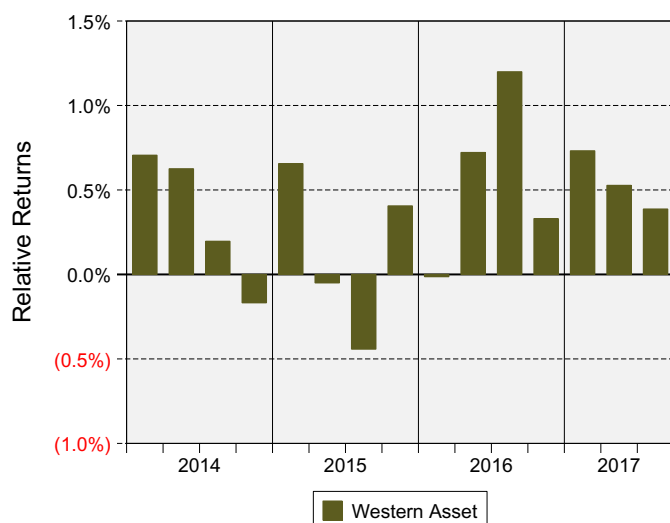
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$472,234,602 |
| Net New Investment | \$17,849,648 |
| Investment Gains/(Losses) | \$5,937,743 |
| Ending Market Value | \$496,021,993 |

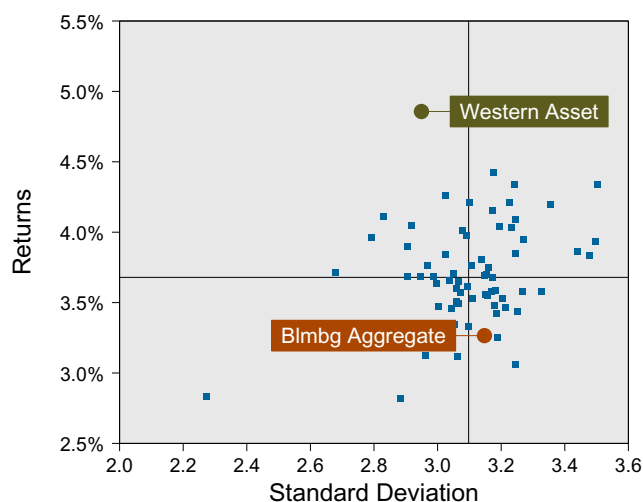
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Return vs Blmbg Aggregate



Callan Core Bond Fixed Income (Gross) Annualized Three and Three-Quarter Year Risk vs Return



Western Asset TIPS Period Ended September 30, 2017

Investment Philosophy

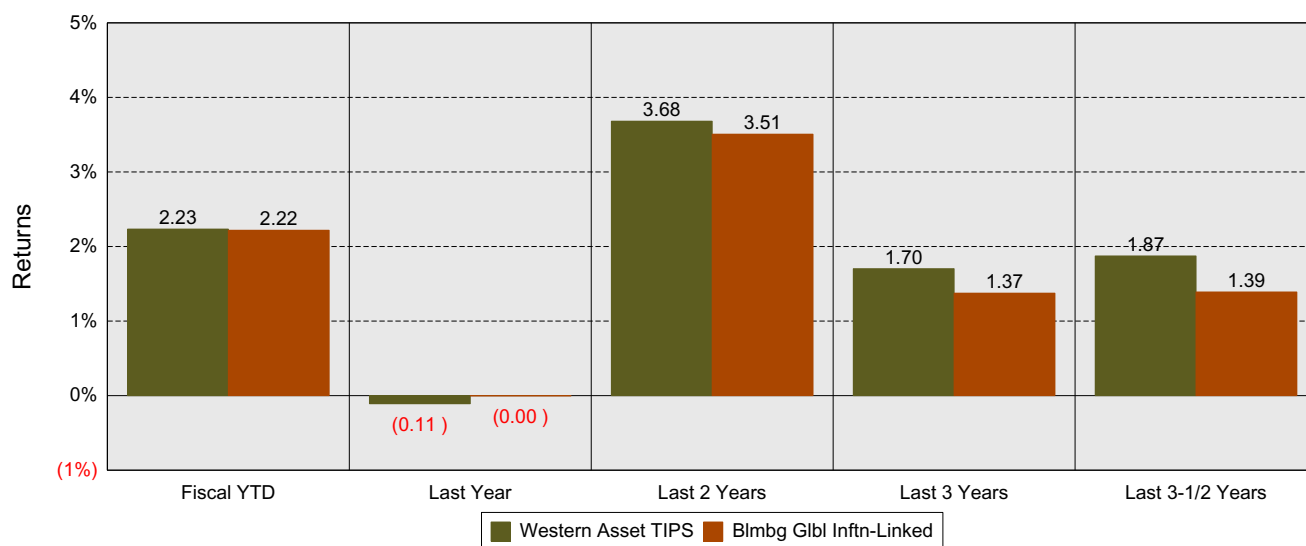
Western Asset's Global Inflation-Linked composite includes portfolios that employ an active, team-managed investment approach around a long-term, value-oriented investment philosophy. Constructed primarily of inflation-indexed securities, these portfolios use diversified strategies in seeking to add value while minimizing risk. Value can be added through country selection, term structure, issue selection, duration management and currency management.

Quarterly Summary and Highlights

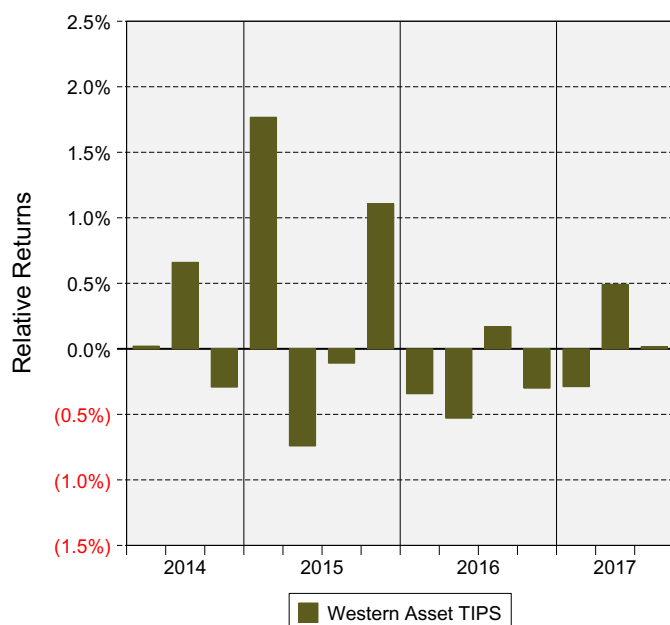
- Western Asset TIPS's portfolio outperformed the Blmbg Gbl Inftn-Linked by 0.02% for the quarter and underperformed the Blmbg Gbl Inftn-Linked for the year by 0.11%.

Quarterly Asset Growth

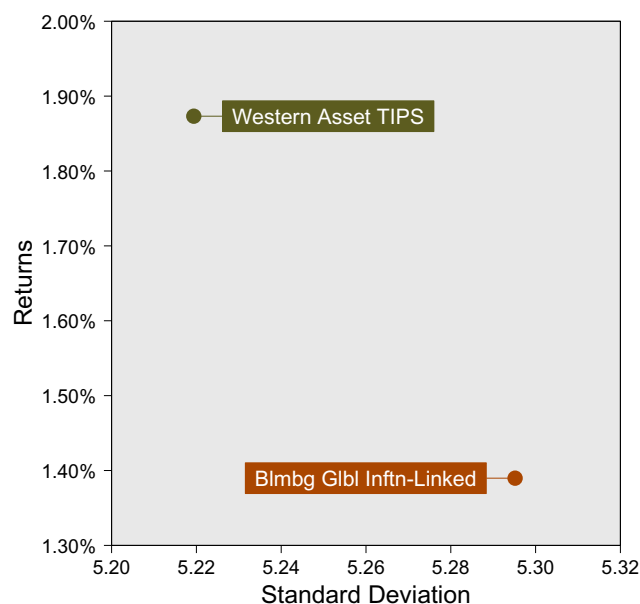
| | |
|---------------------------|---------------|
| Beginning Market Value | \$320,367,717 |
| Net New Investment | \$17,900,101 |
| Investment Gains/(Losses) | \$7,235,852 |
| Ending Market Value | \$345,503,670 |



Relative Return vs Blmbg Gbl Inftn-Linked



Annualized Three and One-Half Year Risk vs Return



JP Morgan Infrastructure Period Ended September 30, 2017

Investment Philosophy

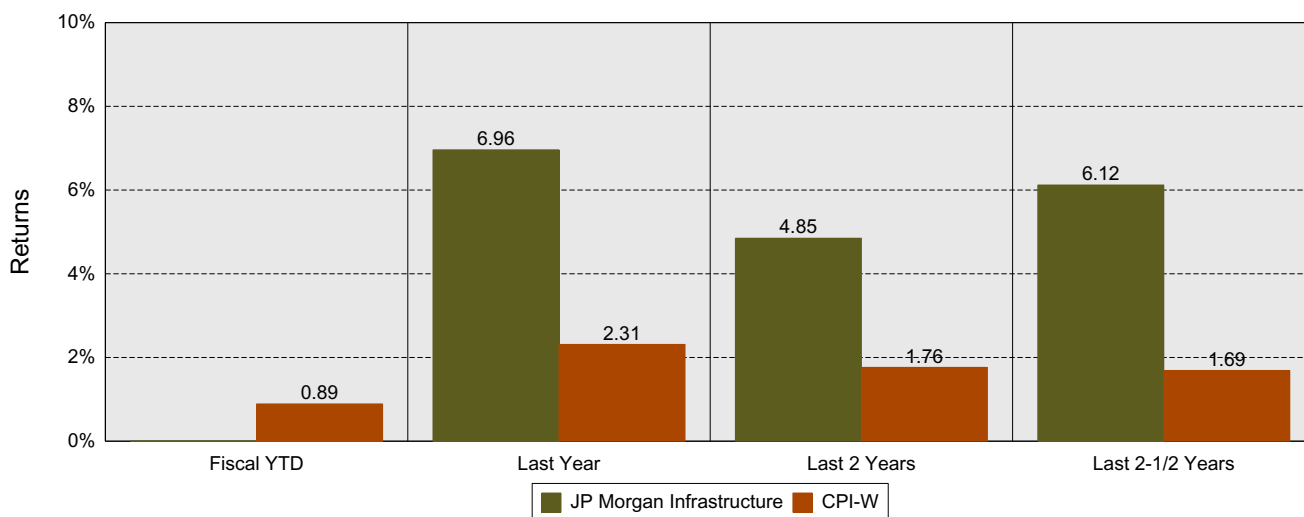
The only open-ended private commingled infrastructure fund in the U.S, the JPMorgan Infrastructure Investments Fund invests in stabilized assets in OECD countries with selected value-added opportunities, across infrastructure industry sub-sectors, including: toll roads, bridges and tunnels; oil and gas pipelines; electricity transmission and distribution facilities; contracted power generation assets; water distribution; waste-water collection and processing; railway lines and rapid rail links; and seaports and airports.

Quarterly Summary and Highlights

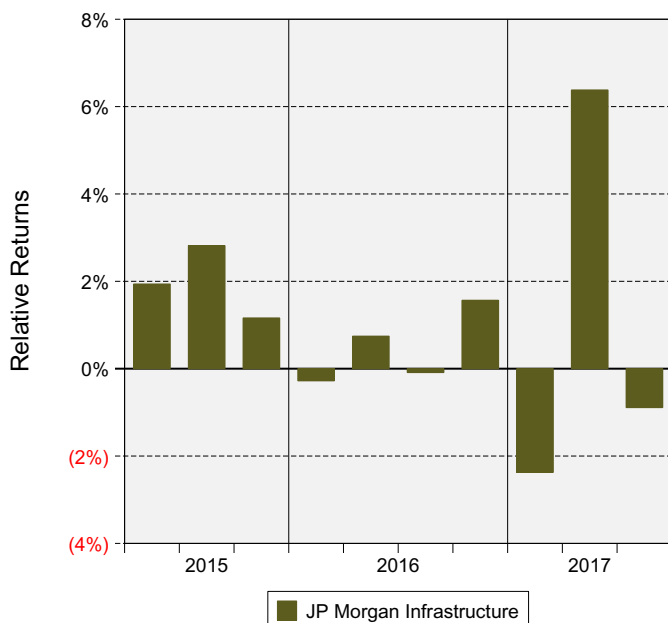
- JP Morgan Infrastructure's portfolio underperformed the CPI-W by 0.89% for the quarter and outperformed the CPI-W for the year by 4.65%.

Quarterly Asset Growth

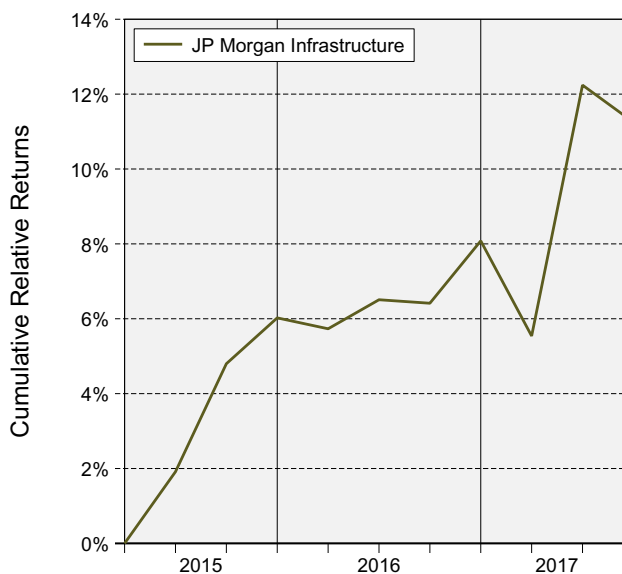
| | |
|---------------------------|---------------|
| Beginning Market Value | \$113,161,582 |
| Net New Investment | \$-1,273 |
| Investment Gains/(Losses) | \$856 |
| Ending Market Value | \$113,161,165 |



Relative Return vs CPI-W



Cumulative Returns vs CPI-W



Grosvenor Cust. Infrastructure Period Ended September 30, 2017

Investment Philosophy

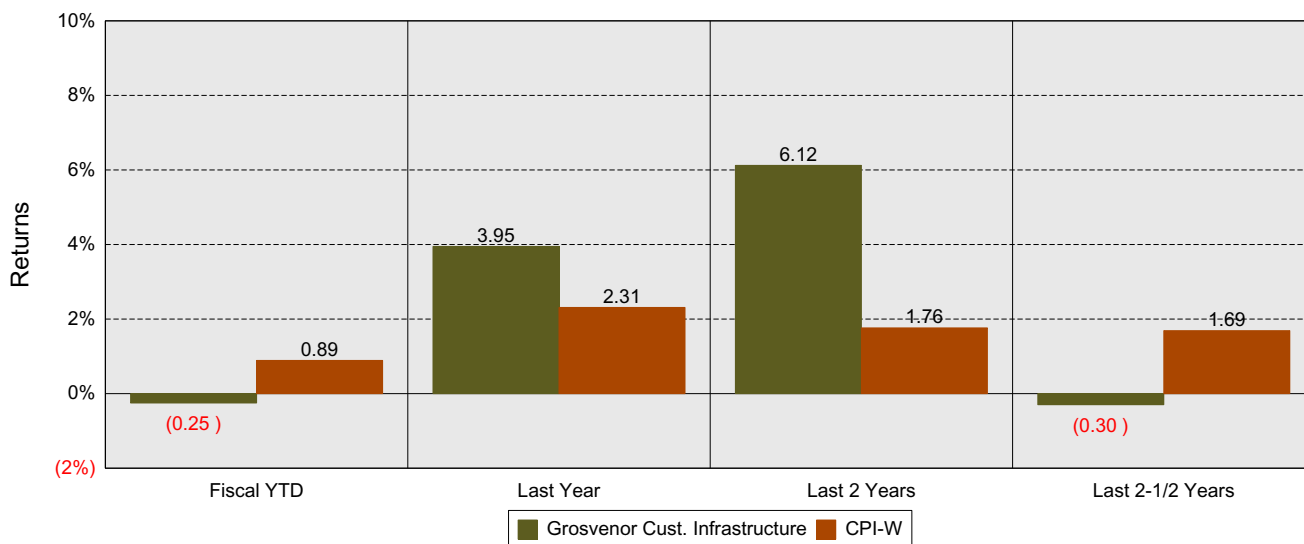
The Customized Infrastructure Strategies LP is a commingled fund focused on providing a comprehensive, diversified solution for investors looking to access the infrastructure asset class. The Fund seeks to generate stable, long-term yield and attractive risk-adjusted returns by investing in a diversified portfolio of primary core and core plus infrastructure funds (30%), co-investments (40%) and opportunistic secondary fund purchases (30%).

Quarterly Summary and Highlights

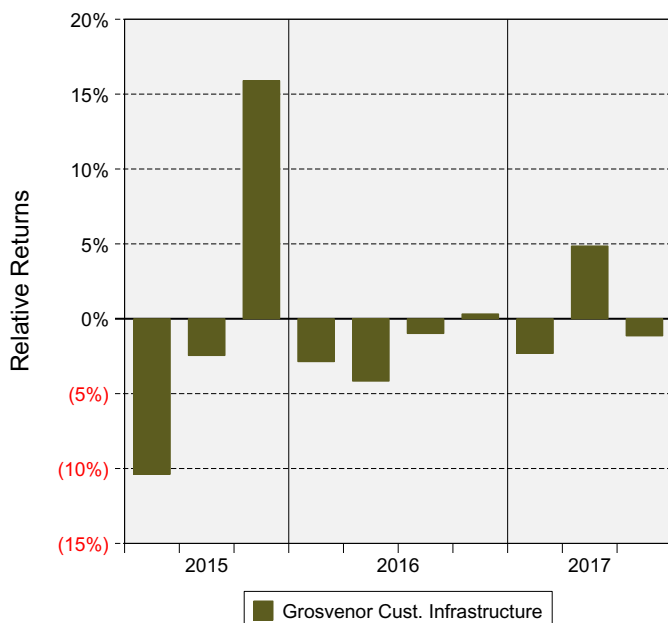
- Grosvenor Cust. Infrastructure's portfolio underperformed the CPI-W by 1.14% for the quarter and outperformed the CPI-W for the year by 1.64%.

Quarterly Asset Growth

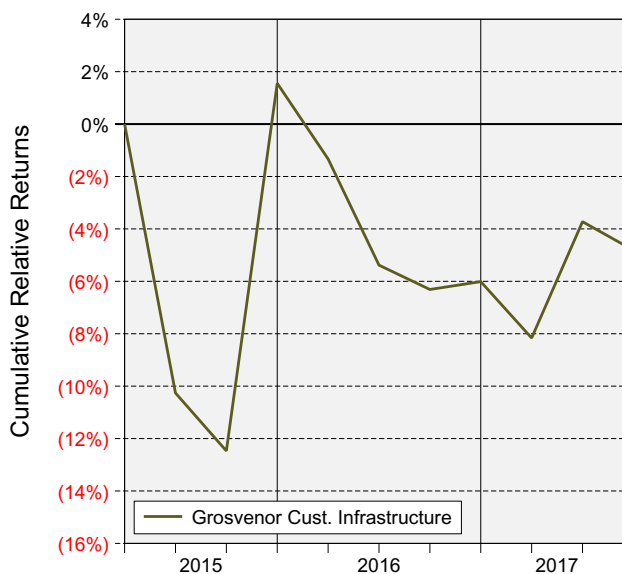
| | |
|---------------------------|--------------|
| Beginning Market Value | \$18,680,554 |
| Net New Investment | \$5,448,767 |
| Investment Gains/(Losses) | \$-46,877 |
| Ending Market Value | \$24,082,444 |



Relative Return vs CPI-W



Cumulative Returns vs CPI-W



Invesco Core Real Estate Period Ended September 30, 2017

Investment Philosophy

IRE's investment philosophy is comprised of two fundamental principles: (1) maximize the predictability and consistency of investment returns and (2) minimize the risk of capital loss. This philosophy forms the cornerstone of the company's real estate investment philosophy.

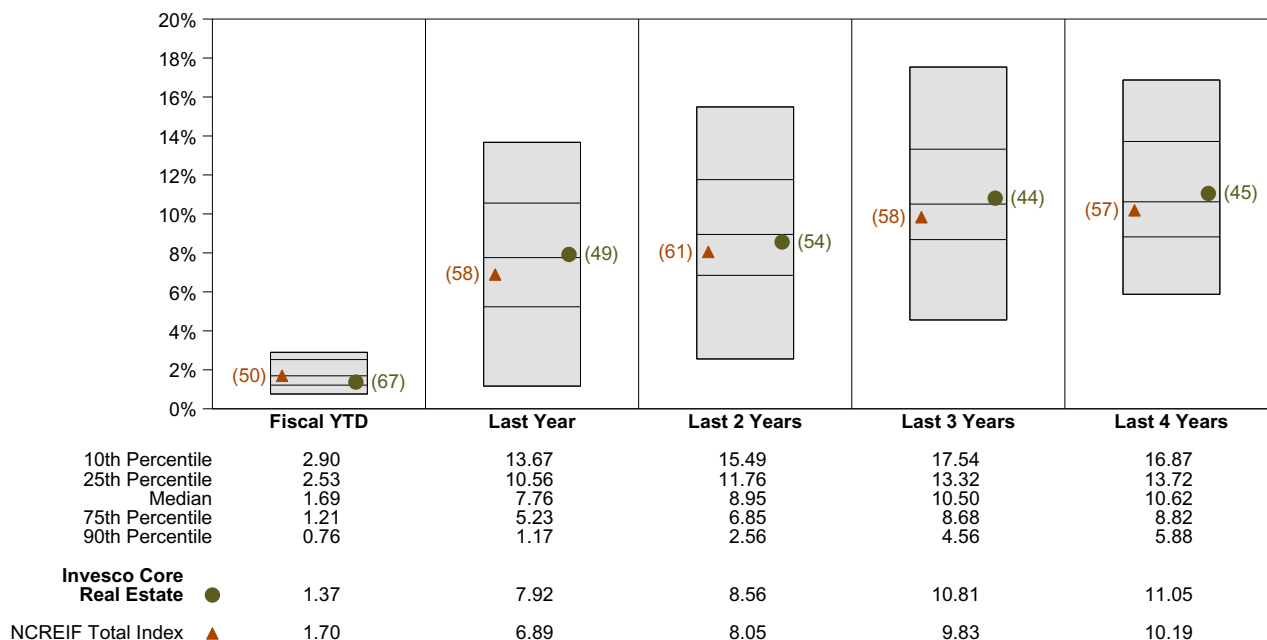
Quarterly Summary and Highlights

- Invesco Core Real Estate's portfolio posted a 1.37% return for the quarter placing it in the 67 percentile of the Callan Total Domestic Real Estate Databa group for the quarter and in the 49 percentile for the last year.
- Invesco Core Real Estate's portfolio underperformed the NCREIF Total Index by 0.32% for the quarter and outperformed the NCREIF Total Index for the year by 1.03%.

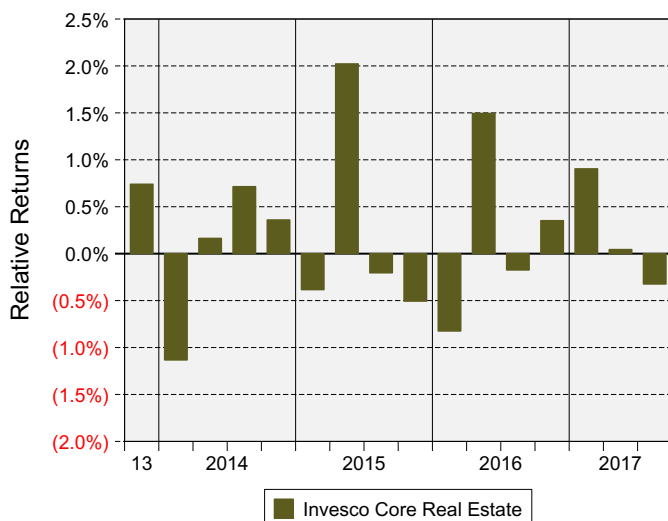
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$127,038,112 |
| Net New Investment | \$-107,463 |
| Investment Gains/(Losses) | \$1,848,787 |
| Ending Market Value | \$128,779,436 |

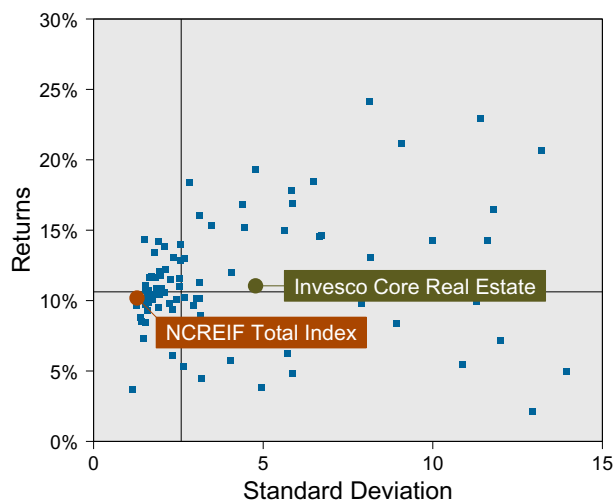
Performance vs Callan Total Domestic Real Estate Databa (Net)



Relative Return vs NCREIF Total Index



Callan Total Domestic Real Estate Databa (Net) Annualized Four Year Risk vs Return



JP Morgan RE Inc & Growth Period Ended September 30, 2017

Investment Philosophy

The J.P. Morgan U.S. Real Estate Income and Growth Fund seeks to construct and opportunistically manage a portfolio of core direct real estate investments, complemented by other real estate and real estate-related assets. The Fund pursues a broadly diversified absolute-return strategy and pursues all property investments on an opportunistic basis. The majority of the Fund's investments will be in direct core properties in the office, industrial, retail and residential sectors.

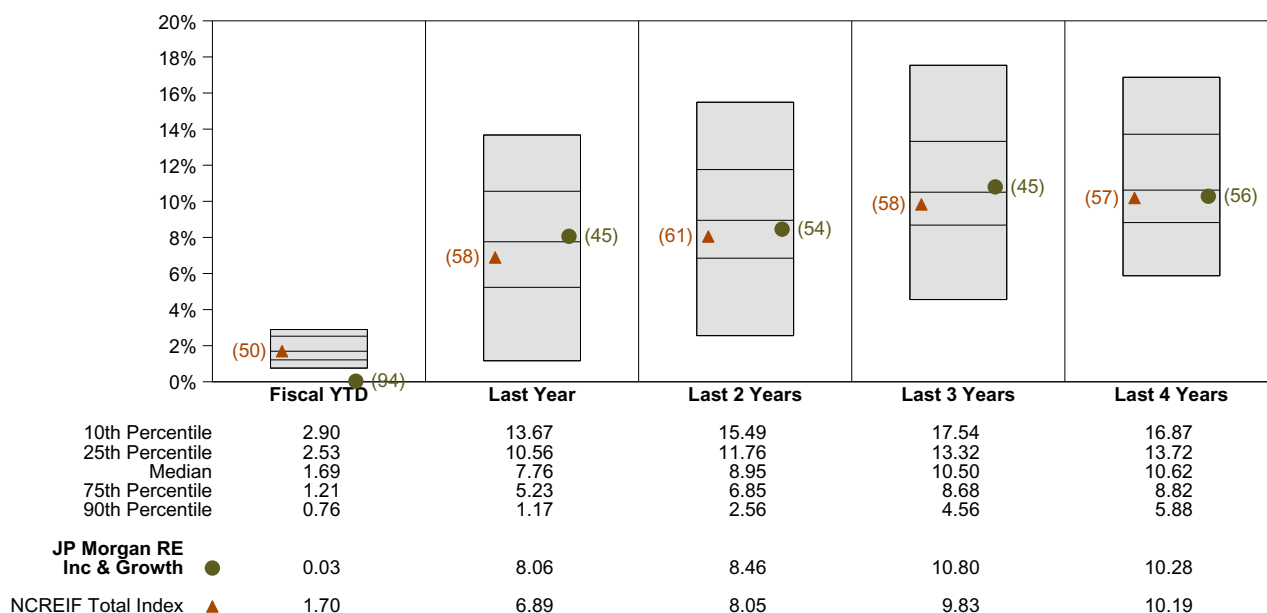
Quarterly Summary and Highlights

- JP Morgan RE Inc & Growth's portfolio posted a 0.03% return for the quarter placing it in the 94 percentile of the Callan Total Domestic Real Estate Databa group for the quarter and in the 45 percentile for the last year.
- JP Morgan RE Inc & Growth's portfolio underperformed the NCREIF Total Index by 1.66% for the quarter and outperformed the NCREIF Total Index for the year by 1.17%.

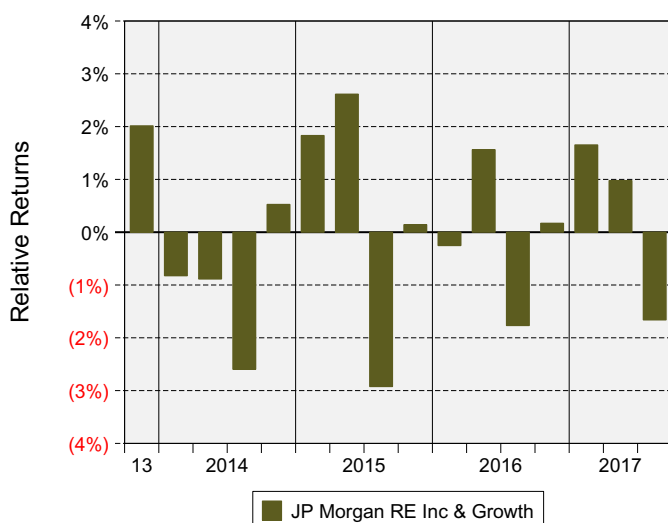
Quarterly Asset Growth

| | |
|---------------------------|---------------|
| Beginning Market Value | \$137,219,677 |
| Net New Investment | \$-46,422 |
| Investment Gains/(Losses) | \$46,422 |
| Ending Market Value | \$137,219,677 |

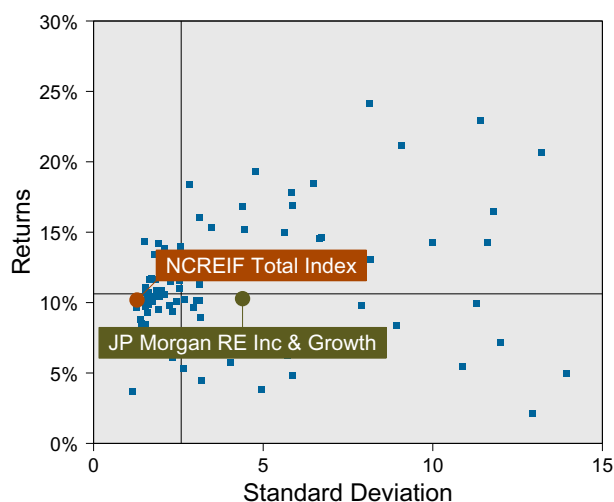
Performance vs Callan Total Domestic Real Estate Databa (Net)



Relative Return vs NCREIF Total Index



Callan Total Domestic Real Estate Databa (Net) Annualized Four Year Risk vs Return



Research and Educational Programs

The Callan Institute provides both research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Anna West at 415.974.5060 / institute@callan.com.

New Research from Callan's Experts



The Private Debt Pie: Do You Want a Slice? Do You Need One? | As institutional investors consider the merits and risks of constructing private debt allocations in their portfolios, Callan's Jay Kloepper, the director of Capital Markets Research; and Jay Nayak, a consultant in our Private Equity Research

group, prepared a set of answers to some key questions about private debt.

Callan 2017 Nuclear Decommissioning Funding Study | This study, done annually, offers key insights into the status of nuclear decommissioning funding in the U.S. The 2017 study covers 54 utilities with an ownership interest in the 99 operating nuclear reactors and 11 of the non-operating reactors in the U.S. It found that the health of nuclear decommissioning funding has remained fairly stable, hovering near 70% over the past decade.



Callan 2017 Private Equity Survey
Callan conducted a survey of institutional private equity investors. We focused on deployment models, patterns of investment and commitment activities

over time, governance and oversight, staffing and resources, and responsibilities for program administration functions. Our Survey included 69 institutional investors with private equity programs totaling \$103.3 billion. Our Survey found that an array of administration issues affect how institutional private equity portfolios are constructed, monitored, and managed. We found these factors led to less than ideal choices for implementing the programs, often including sub-optimal use of the discretionary consultant/fund-of-funds model for certain private equity programs.

The Triple Play: Adding Timberland, Farmland, and Infrastructure to Portfolios | Timberland, farmland, and infrastructure offer diversification, stable income, and inflation protection for institutional investor portfolios. Callan believes a combination of these three real assets offers distinct advantages.

Reaching for Higher Ground: The Evolution of TDFs | Target date funds (TDFs) are an improvement over former common defaults, but they need to evolve. The solutions include using uncorrelated asset classes, in-plan annuities, "dynamic" qualified default investment alternatives, or guaranteed income products.

Periodicals

Private Markets Trends, Summer 2017 | Gary Robertson discusses the surge of money into the private markets as high prices persist.

Hedge Fund Monitor, 3rd Quarter 2017 | Jim McKee discusses four major secular trends that are on a predictable course to increasingly weigh on markets over the longer term: demographics, fiscal policy, monetary policy, and market valuations.

Market Pulse Flipbook, 2nd Quarter 2017 | A quarterly market reference guide covering investment and fund sponsor trends in the U.S. economy, U.S. and non-U.S. equities and fixed income, alternatives, and defined contribution plans.

Capital Market Review, 2nd Quarter 2017 | A quarterly newsletter providing insights on the economy and recent performance in equity, fixed income, alternatives, international, real estate, and other capital markets.

Monthly Periodic Table of Investment Returns | This update reflects the latest results for major indices.

Events

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

Mark your calendars for our upcoming **Regional Workshops**, October 24 in New York and October 26 in Chicago, where we'll cover highlights from our soon-to-be published *Investment Management Fee Survey* and other aspects of fees.

Callan's **National Conference** will be held January 29–31, 2018, 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 sessions are:

Introduction to Investments

San Francisco, April 10-11, 2018

San Francisco, July 24-25, 2018

Chicago, October 2-3, 2018

This program familiarizes fund sponsor trustees, staff, and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals who have less than two years of experience with 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 www.callan.com/events/callan-college-intro or contact Kathleen Cunnie: 415.274.3029 / cunnie@callan.com

Education: By the Numbers

525

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

50+

Unique pieces of research the Institute generates each year

3,500

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, Executive Chairman

List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

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

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

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

| Manager Name |
|---|
| 1607 Capital Partners, LLC |
| Aberdeen Asset Management PLC |
| Acadian Asset Management LLC |
| AEGON USA Investment Management |
| AEW Capital Management |
| Affiliated Managers Group, Inc. |
| Alcentra |
| AllianceBernstein |
| Allianz Global Investors |
| Allianz Life Insurance Company of North America |
| American Century Investments |
| AMP Capital Investors Limited |
| Amundi Smith Breeden LLC |
| 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 |
| Baillie Gifford Overseas Limited |
| Baird Advisors |
| Bank of America |
| Barings LLC |
| Baron Capital Management, Inc. |
| Barrow, Hanley, Mewhinney & Strauss, LLC |
| BlackRock |
| BMO Global Asset Management |
| BNP Paribas Investment Partners |
| BNY Mellon Asset Management |
| Boston Partners |
| Brandes Investment Partners, L.P. |
| Brandywine Global Investment Management, LLC |

| Manager Name |
|--|
| Brigade Capital Management, LP |
| Brown Brothers Harriman & Company |
| Cambiar Investors, LLC |
| Capital Group |
| CastleArk Management, LLC |
| Causeway Capital Management |
| CBRE Global Investors |
| Chartwell Investment Partners |
| ClearBridge Investments, LLC |
| Cohen & Steers Capital Management, Inc. |
| Columbia Management Investment Advisers, LLC |
| Columbus Circle Investors |
| Conning Asset Management Company |
| Corbin Capital Partners, L.P. |
| Cornerstone Capital Management |
| Cramer Rosenthal McGlynn, LLC |
| Credit Suisse Asset Management |
| Crestline Investors, Inc. |
| D.E. Shaw Investment Management, L.L.C. |
| DePrince, Race & Zollo, Inc. |
| Deutsche Asset Management |
| Diamond Hill Capital Management, Inc. |
| Dimensional Fund Advisors LP |
| Doubleline |
| 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 Corporation |
| First Eagle Investment Management, LLC |
| First Hawaiian Bank Wealth Management Division |
| Fisher Investments |

| Manager Name |
|---|
| Franklin Templeton |
| Franklin Templeton Institutional |
| Fred Alger Management, Inc. |
| Fuller & Thaler Asset Management, Inc. |
| GAM (USA) Inc. |
| GMO |
| Goldman Sachs Asset Management |
| Goodwin Capital Advisers |
| Guggenheim Investments |
| Guggenheim Partners Asset Management |
| GW&K Investment Management |
| Harbor Capital Group Trust |
| Hartford Funds |
| Hartford Investment Management Co. |
| Heitman LLC |
| Henderson Global Investors |
| Holland Capital Management |
| Hotchkis & Wiley Capital Management, LLC |
| HSBC Global Asset Management |
| Income Research + Management, Inc. |
| Insight Investment Management Limited |
| INTECH Investment Management, LLC |
| Invesco |
| Investec Asset Management |
| Ivy Investments |
| Janus Capital Management, LLC |
| Jarislowsky Fraser Global Investment Management |
| Jensen Investment Management |
| Jobs Peak Advisors |
| Johnson Institutional Management |
| J.P. Morgan Asset Management |
| J.P. Morgan Chase & Company |
| Kayne Anderson Capital Advisors LP |
| KeyCorp |
| Lazard Asset Management |
| Legal & General Investment Management America |
| Lincoln National Corporation |
| LM Capital Group, LLC |
| LMCG Investments, LLC |
| Longview Partners |
| Loomis, Sayles & Company, L.P. |
| Lord Abbett & Company |
| Los Angeles Capital Management |
| LSV Asset Management |
| Mackay Shields LLC |
| Macquarie Investment Management (formerly Delaware Investments) |
| Man Investments Inc. |
| Manulife Asset Management |
| McKinley Capital Management, LLC |
| MFS Investment Management |
| MidFirst Bank |
| Mondrian Investment Partners Limited |
| Montag & Caldwell, LLC |
| Morgan Stanley Investment Management |
| Mountain Lake Investment Management LLC |
| MUFG Union Bank, N.A. |
| Neuberger Berman |
| Newton Investment Management (fka Newton Capital Mgmt) |
| Nicholas Investment Partners |

| Manager Name |
|---|
| Nikko Asset Management Co., Ltd. |
| Northern Trust Asset Management |
| Nuveen Investments, Inc. |
| OFI Global Asset Management |
| Old Mutual Asset Management |
| O'Shaughnessy Asset Management, LLC |
| Pacific Investment Management Company |
| Parametric Portfolio Associates |
| Peregrine Capital Management, Inc. |
| PGIM |
| PGIM Fixed Income |
| PGIM Real Estate |
| PineBridge Investments |
| Pioneer Investments |
| PNC Capital Advisors, LLC |
| PPM America |
| 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. |
| Rockpoint Group |
| Rothschild Asset Management, Inc. |
| Russell Investments |
| Santander Global Facilities |
| Schroder Investment Management North America Inc. |
| 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. |
| T. Rowe Price Associates, Inc. |
| Taplin, Canida & Habacht |
| Teachers Insurance & Annuity Association of America |
| The Boston Company Asset Management, LLC |
| The Guardian Life Insurance Company of America |
| The Hartford |
| The Lionstone Group |
| The London Company |
| The TCW Group, Inc. |
| Thompson, Siegel & Walmsley LLC |
| Thornburg Investment Management, 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) |
| WCM Investment Management |
| WEDGE Capital Management |
| Wellington Management Company, LLP |
| Wells Capital Management |
| Western Asset Management Company |
| William Blair & Company |

State Investment Board
Teachers' Fund for Retirement
North Dakota Retirement and Investment Office
Bismarck, North Dakota

We have audited the financial statements of the North Dakota Retirement and Investment Office (RIO) as of and for the year ended June 30, 2017, and have issued our report thereon dated November 2, 2017. We have previously communicated to you information about our responsibilities under auditing standards generally accepted in the United States of America, as well as certain information related to the planned scope and timing of our audit. Professional standards also require that we communicate to you the following information related to our audit.

Significant audit findings

Qualitative aspects of accounting practices

Accounting policies

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by RIO are described in Note 1 to the financial statements.

No new accounting policies were adopted and the application of existing policies was not changed during fiscal year 2017.

We noted no transactions entered into by RIO during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. There were significant estimates in the valuation of alternative investments and the calculation of the actuarial information included in the footnotes and required supplementary information.

The valuation of alternative investments, including private equity and real asset investments, are a management estimate which is primarily based upon net asset values reported by the investment managers and comprise 18% of the total investment portfolio. The values for these investments are reported based upon the most recent financial data available and are adjusted for cash flows through June 30, 2017. Our audit procedures validated this approach through the use of confirmations sent directly to a sample of investment managers and the review of the most recent audited financial statements for these sampled funds. Furthermore, we reviewed management's estimate and found it to be reasonable.

The actuarially calculated information was based on the assumptions and methods adopted by the Board, including an expected investment rate of return of 7.75% per annum compounded annually. The valuation takes into account all of the promised benefits required by the Retirement Code to which members are entitled as of July 1, 2017. Our audit procedures included reviewing the actuarial valuation and related assumptions used therein and we believe the estimate to be reasonable.

Financial statement disclosures

Certain financial statement disclosures are particularly sensitive because of their significance to financial statement users. There were no particularly sensitive financial statement disclosures.

The financial statement disclosures are neutral, consistent, and clear.

Difficulties encountered in performing the audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Uncorrected misstatements

Professional standards require us to accumulate all misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. Management did not identify and we did not notify them of any uncorrected financial statement misstatements.

Corrected misstatements

Management did not identify and we did not notify them of any financial statement misstatements detected as a result of audit procedures.

Disagreements with management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditors' report. No such disagreements arose during our audit.

Management representations

We have requested certain representations from management that are included in the attached management representation letter dated November 2, 2017.

Management consultations with other independent accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the entity's financial statements or a determination of the type of auditors' opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Significant issues discussed with management prior to engagement

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to engagement as RIO's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our engagement.

Other information in documents containing audited financial statements

With respect to the required supplementary information (RSI) accompanying the financial statements, we made certain inquiries of management about the methods of preparing the RSI, including whether

the RSI has been measured and presented in accordance with prescribed guidelines, whether the methods of measurement and preparation have been changed from the prior period and the reasons for any such changes, and whether there were any significant assumptions or interpretations underlying the measurement or presentation of the RSI. We compared the RSI for consistency with management's responses to the foregoing inquiries, the basic financial statements, and other knowledge obtained during the audit of the basic financial statements. Because these limited procedures do not provide sufficient evidence, we did not express an opinion or provide any assurance on the RSI.

With respect to the schedules of administrative expenses, consultant expenses, investment expenses, and appropriations – budget basis – fiduciary funds (collectively, the supplementary information) accompanying the financial statements, on which we were engaged to report in relation to the financial statements as a whole, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period or the reasons for such changes, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves. We have issued our report thereon dated November 2, 2017.

Other information is being included in documents containing the audited financial statements and the auditors' report thereon. Our responsibility for such other information does not extend beyond the financial information identified in our auditors' report. We have no responsibility for determining whether such other information is properly stated and do not have an obligation to perform any procedures to corroborate other information contained in such documents. As required by professional standards, we read the introductory, investment, actuarial and statistical sections of the comprehensive annual financial report (the other information) in order to identify material inconsistencies between the audited financial statements and the other information. We did not identify any material inconsistencies between the other information and the audited financial statements.

Our auditors' opinion, the audited financial statements, and the notes to financial statements should only be used in their entirety. Inclusion of the audited financial statements in a document you prepare, such as an annual report, should be done only with our prior approval and review of the document.

* * *

This communication is intended solely for the information and use of the State Investment Board, the Board of the Teachers' Fund for Retirement and management of RIO and is not intended to be, and should not be, used by anyone other than these specified parties.

A handwritten signature in cursive script that reads "CliftonLarsonAllen LLP".

CliftonLarsonAllen LLP

Baltimore, Maryland
November 2, 2017

November 2, 2017

CliftonLarsonAllen LLP
1966 Greenspring Drive, Suite 300
Timonium, MD 21093

This representation letter is provided in connection with your audit of the financial statements of North Dakota Retirement and Investment Office (RIO), which comprise the financial position of the entity as of June 30, 2017, and the changes in financial position for the year then ended, and the related notes to the financial statements, for the purpose of expressing opinions on whether the financial statements are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP).

Certain representations in this letter are described as being limited to matters that are material. Items are considered material, regardless of size, if they involve an omission or misstatement of accounting information that, in light of surrounding circumstances, makes it probable that the judgment of a reasonable person relying on the information would be changed or influenced by the omission or misstatement.

We confirm, to the best of our knowledge and belief, as of November 2, 2017, the following representations made to you during your audit.

Financial Statements

- We have fulfilled our responsibilities, as set out in the terms of the Contract between the State of North Dakota and CliftonLarsonAllen LLP dated March 30, 2015, for the preparation and fair presentation of the financial statements in accordance with U.S. GAAP. The financial statements include all properly classified funds and other financial information of the primary government and all component units required by generally accepted accounting principles to be included in the financial reporting entity.
- We acknowledge and have fulfilled our responsibility for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.
- We acknowledge our responsibility for the design, implementation, and maintenance of internal control to prevent and detect fraud.
- All significant plan amendments, adopted during the period or subsequent to the date of the financial statements, and their effects on benefits and financial status have been disclosed in the financial statements.
- The values of non-readily marketable investments represent good faith estimates of fair value. The methods and significant assumptions used result in a measure of fair value appropriate for financial measurement and disclosure purposes.
- Significant estimates have been appropriately accounted for and disclosed in accordance with the requirements of U.S. GAAP. Significant estimates are estimates at the financial statement date that could change materially within the next year.
- No events, including instances of noncompliance, have occurred subsequent to the financial statement date and through the date of this letter that would require adjustment to, or disclosure in, the financial statements.

- We have not identified or been notified of any uncorrected financial statement misstatements.
- The effects of all known actual or possible litigation, claims, and assessments have been accounted for and disclosed in accordance with U.S. GAAP.
- Guarantees, whether written or oral, under which the entity is contingently liable, if any, have been properly recorded or disclosed in accordance with U.S. GAAP.
- We have no plans or intentions that may materially affect the carrying value or classification of assets and liabilities.
- With respect to actuarial assumptions and valuations:
 - Management agrees with the actuarial methods and assumptions used by the actuary for funding purposes and for determining the total pension liability and has no knowledge or belief that would make such methods or assumptions inappropriate in the circumstances. We did not give any, nor cause any, instructions to be given to RIO's actuary with respect to values or amounts derived, and we are not aware of any matters that have impacted the independence or objectivity of RIO's actuary.
 - There were no omissions from the participant data provided to the actuary for the purpose of determining the total pension liability and other actuarially determined amounts in the financial statements.
 - There have been no changes in the actuarial methods or assumptions used in calculating the amounts recorded or disclosed in the financial statements. There have been no changes in plan provisions between the actuarial valuation date and the date of this letter.
- We believe the plan and trust established under the plan is qualified under the appropriate section of The North Dakota Century Code, and we intend to continue them as a qualified plan and trust.

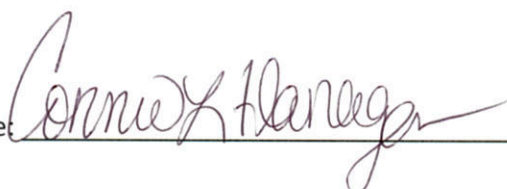
Information Provided

- We have provided you with:
 - Access to all information, of which we are aware, that is relevant to the preparation and fair presentation of the financial statements such as records, documentation, and other matters.
 - Additional information that you have requested from us for the purpose of the audit.
 - Unrestricted access to persons within the entity from whom you determined it necessary to obtain audit evidence.
 - Complete minutes of the meetings of the governing board and related committees, or summaries of actions of recent meetings for which minutes have not yet been prepared.
 - All actuarial reports prepared for the plan during the year.
- All material transactions have been recorded in the accounting records and are reflected in the financial statements.
- We have disclosed to you the results of our assessment of the risk that the financial statements may be materially misstated as a result of fraud.
- We have no knowledge of any fraud or suspected fraud that affects the entity and involves:
 - Management;

- Employees who have significant roles in internal control; or
 - Others when the fraud could have a material effect on the financial statements.
- We have no knowledge of any allegations of fraud, or suspected fraud, affecting the entity's financial statements communicated by employees, former employees, regulators, or others.
- We have no knowledge of any instances of noncompliance or suspected noncompliance with laws and regulations and provisions of contracts, or abuse whose effects should be considered when preparing financial statements.
- We have disclosed to you all known actual or possible litigation, claims, and assessments whose effects should be considered when preparing the financial statements.
- There are no other material liabilities or gain or loss contingencies that are required to be accrued or disclosed in accordance with U.S. GAAP.
- We have disclosed to you the identity of the entity's related parties and all the related party relationships and transactions of which we are aware.
- We are responsible for compliance with the laws, regulations, and provisions of contracts applicable to RIO, and we have identified and disclosed to you all laws, regulations, and provisions of contracts that we believe have a direct and material effect on the determination of financial statement amounts or other financial data significant to the audit objectives, including legal and contractual provisions for reporting specific activities in separate funds.
- There are no violations or possible violations of budget ordinances, laws and regulations (including those pertaining to adopting, approving, and amending budgets), provisions of contracts, or any debt covenants whose effects should be considered for disclosure in the financial statements, or as a basis for recording a loss contingency, or for reporting on noncompliance.
- The entity has complied with all aspects of contractual agreements that would have a material effect on the financial statements in the event of noncompliance.
- We have followed all applicable laws and regulations in adopting, approving, and amending budgets.
- Investments, derivative instruments, and land and other real estate held by RIO are properly valued.
- Expenses have been appropriately classified the statement of changes in net position, and allocations have been made on a reasonable basis.
- Revenues are appropriately classified in the statement of changes in net position.
- Interfund, internal, and intra-entity activity and balances have been appropriately classified and reported.
- Deposits and investment securities and derivative instruments are properly classified as to risk and are properly valued and disclosed.
- Capital assets, including infrastructure and intangible assets, are properly capitalized, reported, and, if applicable, depreciated.
- We acknowledge our responsibility for the required supplementary information (RSI). The RSI is measured and presented within prescribed guidelines and the methods of measurement and presentation have not changed from those used in the prior period. We have disclosed to you any significant assumptions and interpretations underlying the measurement and presentation of the RSI.

- We acknowledge our responsibility for presenting the schedules (the supplementary information) in accordance with U.S. GAAP, and we believe the supplementary information, including its form and content, is fairly presented in accordance with U.S. GAAP. The methods of measurement and presentation of the supplementary information have not changed from those used in the prior period, and we have disclosed to you any significant assumptions or interpretations underlying the measurement and presentation of the supplementary information. If the supplementary information is not presented with the audited financial statements, we will make the audited financial statements readily available to the intended users of the supplementary information no later than the date we issue the supplementary information and the auditors' report thereon.

Signature:  Title: Executive Director/CIO

Signature:  Title: Fiscal & Investment Ops Mgr

**NORTH DAKOTA RETIREMENT
AND INVESTMENT OFFICE**

FINANCIAL STATEMENTS

JUNE 30, 2017 AND 2016

North Dakota Retirement and Investment Office

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June 30, 2017 and 2016

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INDEPENDENT AUDITORS' REPORT

Governor Doug Burgum
The Legislative Assembly
David Hunter, Executive Director/CIO
State Investment Board
Teachers' Fund for Retirement Board
North Dakota Retirement and Investment Office

Report on the Financial Statements

We have audited the accompanying financial statements of the North Dakota Retirement and Investment Office (RIO), a department of the State of North Dakota, which comprise the statement of net position – fiduciary funds as of June 30, 2017 and 2016, and the related statement of changes in net position – fiduciary funds for the year then ended, and the related notes to the financial statements, which collectively comprise RIO's basic financial statements, and the combining and individual fund financial statements as of and for the years ended June 30, 2017 and 2016, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of RIO as of June 30, 2017 and 2016, and the respective changes in financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America. Also, in our opinion, the combining and individual fund financial statements referred to above present fairly, in all material respects, the financial position of each of the individual funds of RIO as of June 30, 2017 and 2016, and the results of the changes in financial position of such funds for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1, the financial statements of RIO are intended to present the financial position and the changes in financial position of only that portion of the State of North Dakota that is attributable to the transactions of RIO. They do not purport to, and do not, present fairly the financial position of the State of North Dakota as of June 30, 2017 and 2016, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the schedules of changes in NPL and related ratios - ND Teachers' Fund for Retirement and employer contributions - ND Teachers' Fund for Retirement, investment returns - ND Teachers' Fund for Retirement, employer's share of NPL – ND Public Employees Retirement System and employer contributions – ND Public Employees Retirement System and related notes, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise RIO's basic financial statements and the combining and individual fund financial statements. The schedules of administrative expenses, consultant expenses, investment expenses, and appropriations – budget basis – fiduciary funds, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements.

These schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information

directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The Introductory, Investment, Actuarial and Statistical Section, as listed in the table of contents, have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Audit Standards*, we have also issued our report dated November 2, 2017, on our consideration of RIO's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of RIO's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering RIO's internal control over financial reporting.

A handwritten signature in black ink that reads "CliftonLarsonAllen LLP". The signature is written in a cursive, flowing style.

CliftonLarsonAllen LLP

Baltimore, Maryland
November 2, 2017

**INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL
REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN
AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE
WITH GOVERNMENT AUDITING STANDARDS**

Governor Doug Burgum
The Legislative Assembly
David Hunter, Executive Director/CIO
State Investment Board
Teacher's Fund for Retirement Board
North Dakota Retirement and Investment Office

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the basic financial statements of the North Dakota Retirement and Investment Office (RIO), a department of the State of North Dakota, which collectively comprise RIO's basic financial statements, and the combining and individual fund financial statements, as of and for the year ended June 30, 2017, and the related notes to the financial statements, and have issued our report thereon dated November 2, 2017.

Internal Control over Financial Reporting

Management of RIO is responsible for establishing and maintaining effective internal control over financial reporting. In planning and performing our audit, we considered RIO's internal control over financial reporting as a basis for designing our auditing procedures for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of RIO's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of RIO's internal control over financial reporting.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether RIO's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of RIO's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering RIO's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

A handwritten signature in cursive script that reads "CliftonLarsonAllen LLP".

Baltimore, Maryland
November 2, 2017

Our discussion and analysis of the ND Retirement and Investment Office's (RIO) financial performance provides an overview of RIO's financial activities for the fiscal year ended June 30, 2017. Please read it in conjunction with the basic financial statements, which follow this discussion.

RIO administers two fiduciary funds, a pension trust fund for the ND Teachers' Fund for Retirement (TFFR) and an investment trust fund for the ND State Investment Board (SIB) consisting of 23 investment clients in two investment pools and four individual investment accounts.

Financial Highlights

Total net position increased in the fiduciary funds by \$972 million or 8.6% from the prior year. Approximately 90% of that increase is due to the growth of the Legacy Fund. The Legacy Fund was created by a constitutional amendment in 2010. The amendment provides that 30% of oil and gas gross production and oil extraction taxes on oil produced after June 30, 2011, be transferred to the Legacy Fund. Transfers into the Legacy Fund totaled \$399.5 million and net investment income exceeded \$480 million during the fiscal year.

Total additions in the fiduciary funds for the year increased over \$1 billion or 93.3% from the previous year. Net investment income rose by \$1.1 billion over the prior year, largely due to strong financial markets. There was a decrease of \$115.1 million in new purchases of units in the investment program mainly due to the slowdown of oil and gas tax collections in the Legacy Fund. Total contributions increased \$6.1 million or 3.8%.

Deductions in the fiduciary funds increased over the prior year by \$656.4 million or 144.5%. Approximately 87% of that increase was due to the drawdown of the Budget Stabilization Fund to cover the State's income shortfall during the 2015-17 biennium. Payments to TFFR members in the form of benefits and refunds increased by \$10.5 million or 5.7%. This increase represented a rise in the total number of retirees drawing retirement benefits from the pension fund as well as an increase in the retirement salaries on which the benefits of new retirees are based.

As of June 30, 2017, the TFFR pension plan had a Net Pension Liability (NPL) of \$1.37 billion and Plan Fiduciary Net Position as a percent of Total Pension Liability (TPL) of 63.2%.

Overview of the Financial Statements

This report consists of four parts – management's discussion and analysis (this section), the basic financial statements, required supplementary information, and additional supplementary information that presents combining statements for the investment trust funds. The basic financial statements include fund financial statements that focus on individual parts of RIO's activities (fiduciary funds).

The financial statements also include notes that explain some of the information in the financial statements and provide more detailed data. The statements are followed by a section of required supplementary information that further explains and supports the information in the financial statements. In addition to these required elements, we have included additional supplementary information, including combining statements that provide details about our investment trust funds, each of which are added together and presented in single columns in the basic financial statements.

Fund Financial Statements

The fund financial statements provide detailed information about RIO's activities. Funds are accounting devices that RIO uses to keep track of specific sources of funding and spending for particular purposes.

RIO uses fiduciary funds as RIO is the trustee, or fiduciary, for TFFR (a pension plan) and SIB (investment trust

North Dakota Retirement and Investment Office
Management's Discussion and Analysis
June 30, 2017 and 2016

funds). RIO is responsible for ensuring that the assets reported in these funds are used for their intended purposes. All of RIO's fiduciary activities are reported in a statement of net position and a statement of changes in net position.

Financial Analysis

RIO's fiduciary fund total assets as of June 30, 2017, were \$12.4 billion and were comprised mainly of investments. Total assets increased by \$932.2 million or 8.1% from the prior year primarily due to strong financial markets.

Total liabilities as of June 30, 2017, were \$87.2 million. The majority of the liabilities was comprised of the securities lending collateral payable. Total liabilities decreased by \$39.6 million or 31.2% from the prior year due almost entirely to the decrease in securities lending collateral as a result of having fewer securities on loan at year-end.

RIO's fiduciary fund total net position was \$12.3 billion at the close of fiscal year 2017.

North Dakota Retirement and Investment Office
Net Position – Fiduciary Funds
(In Millions)

| | <u>2017</u> | <u>2016</u> | <u>Total % Change</u> |
|---------------------------------------|--------------------|--------------------|---------------------------|
| Assets | | | |
| Investments | \$ 12,251.5 | \$ 11,278.3 | 8.6% |
| Securities Lending Collateral | 77.7 | 116.6 | -33.4% |
| Receivables | 69.0 | 70.5 | -2.2% |
| Cash & Other | 19.3 | 19.9 | -2.9% |
| Total Assets | <u>12,417.5</u> | <u>11,485.3</u> | 8.1% |
| Deferred Outflows of Resources | | | |
| Deferred outflows related to pensions | <u>0.6</u> | <u>0.3</u> | 126.0% |
| Liabilities | | | |
| Obligations under Securities Lending | 77.7 | 116.6 | -33.4% |
| Accounts Payable & Accrued Expenses | 9.5 | 10.1 | -5.5% |
| Total Liabilities | <u>87.2</u> | <u>126.7</u> | -31.2% |
| Deferred Inflows of Resources | | | |
| Deferred inflows related to pensions | <u>0.1</u> | <u>0.1</u> | -21.9% |
| Total Net Position | <u>\$ 12,330.8</u> | <u>\$ 11,358.8</u> | 8.6% |

North Dakota Retirement and Investment Office
Management's Discussion and Analysis
June 30, 2017 and 2016

| | <u>2016</u> | <u>2015</u> | <u>Total % Change</u> |
|---------------------------------------|--------------------|--------------------|---------------------------|
| Assets | | | |
| Investments | \$ 11,278.3 | \$ 10,668.6 | 5.7% |
| Sec Lending Collateral | 116.6 | - | 100.0% |
| Receivables | 70.5 | 61.1 | 15.3% |
| Cash & Other | <u>19.9</u> | <u>19.0</u> | 4.5% |
| Total Assets | <u>11,485.3</u> | <u>10,748.7</u> | 6.9% |
| Deferred Outflows of Resources | | | |
| Deferred outflows related to pensions | 0.3 | 0.1 | 128.8% |
| Liabilities | | | |
| Obligations under Securities Lending | 116.6 | - | 100.0% |
| Accounts Payable & Accrued Expenses | <u>10.1</u> | <u>13.2</u> | -23.7% |
| Total Liabilities | <u>126.7</u> | <u>13.2</u> | 860.4% |
| Deferred Inflows of Resources | | | |
| Deferred inflows related to pensions | <u>0.1</u> | <u>0.2</u> | -25.4% |
| Total Net Position | <u>\$ 11,358.8</u> | <u>\$ 10,735.5</u> | 5.8% |

**North Dakota Retirement and Investment Office
Changes in Net Position – Fiduciary Funds
(In Millions)**

| | <u>2017</u> | <u>2016</u> | <u>Total % Change</u> |
|-------------------------------------|-----------------|-----------------|---------------------------|
| Additions: | | | |
| Contributions | \$ 168.1 | \$ 162.0 | 3.8% |
| Net Investment Income | 1,265.3 | 151.0 | 738.1% |
| Net Securities Lending Income | 1.2 | 1.4 | -16.1% |
| Purchase of Units | <u>648.1</u> | <u>763.2</u> | -15.1% |
| Total Additions | <u>2,082.7</u> | <u>1,077.6</u> | 93.3% |
| Deductions: | | | |
| Payments to TFFR members | 196.5 | 186.0 | 5.7% |
| Administrative Expenses | 3.5 | 2.9 | 19.1% |
| Redemption of Units | <u>910.7</u> | <u>265.4</u> | 243.1% |
| Total Deductions | <u>1,110.7</u> | <u>454.3</u> | 144.5% |
| Total Change in Net Position | <u>\$ 972.0</u> | <u>\$ 623.3</u> | 56.0% |

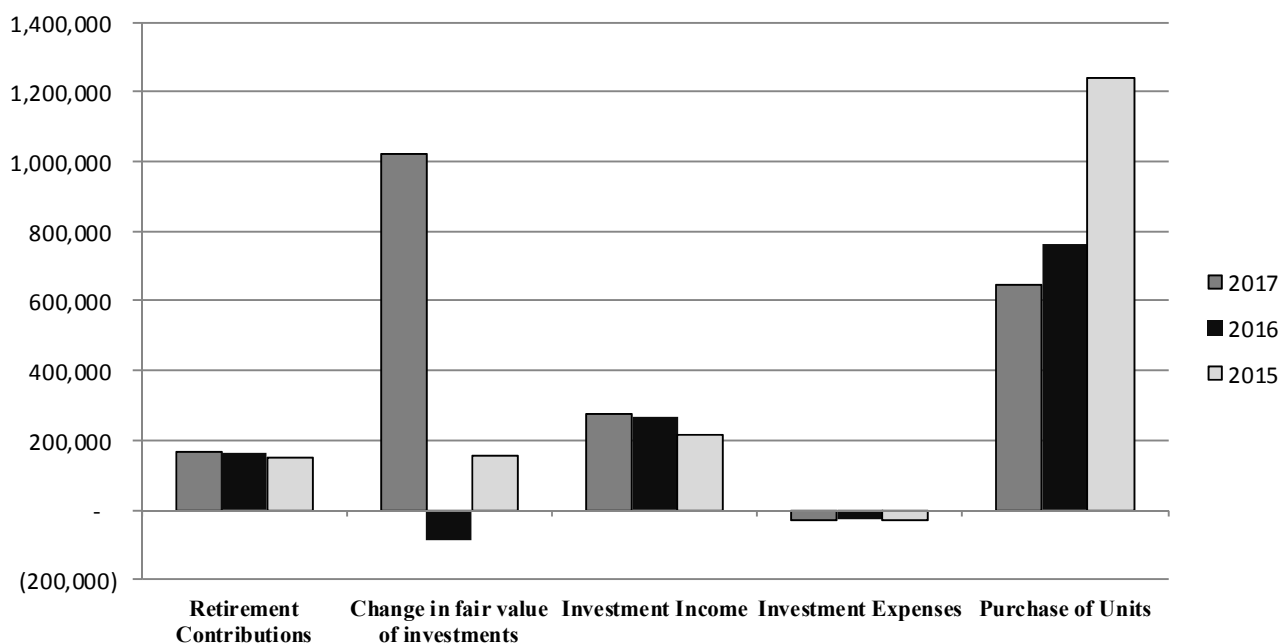
North Dakota Retirement and Investment Office
Management's Discussion and Analysis
June 30, 2017 and 2016

| | 2016 | 2015 | Total % Change |
|-------------------------------------|-----------------|-------------------|-------------------|
| Additions: | | | |
| Contributions | \$ 162.0 | \$ 152.5 | 6.3% |
| Net Investment Income | 151.0 | 340.0 | -55.6% |
| Net Securities Lending Income | 1.4 | - | 100.0% |
| Purchase of Units | 763.2 | 1,239.9 | -38.4% |
| Total Additions | <u>1,077.6</u> | <u>1,732.4</u> | -37.8% |
| Deductions: | | | |
| Payments to TFFR members | 186.0 | 172.2 | 8.0% |
| Administrative Expenses | 2.9 | 2.9 | 1.9% |
| Redemption of Units | 265.4 | 249.1 | 6.6% |
| Total Deductions | <u>454.3</u> | <u>424.2</u> | 7.1% |
| Total Change in Net Position | <u>\$ 623.3</u> | <u>\$ 1,308.2</u> | -52.4% |

Statement of Changes in Net Position – Additions

Contributions collected by the pension trust fund increased by \$6.1 million or 3.8% over the previous fiscal year due to both an increase in the number of active members contributing to the fund and an increase in the average salary of active members. Net investment income (including net securities lending income and net of investment expenses) increased by \$1.1 billion or 731% from last year. This was the result of very strong financial markets during the fiscal year. Deposits of funds into the investment trust fund (purchase of units) decreased by \$115.1 million or 15.1% partially due to lower oil and gas tax collections affecting the Legacy Fund.

Additions to Net Position (in thousands)



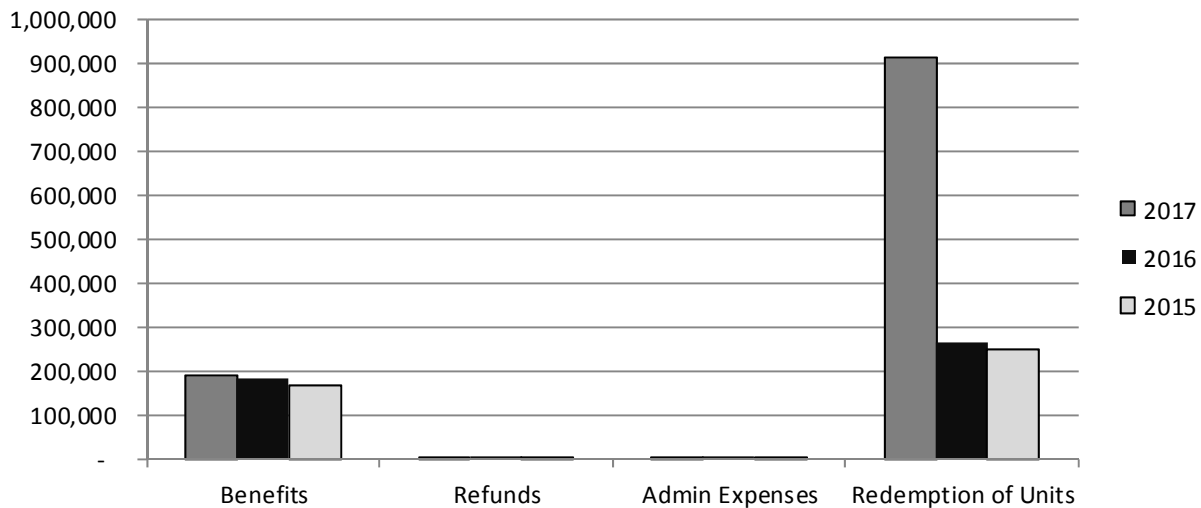
Statement of Changes in Net Position – Deductions

Benefits paid to TFFR plan participants, including partial lump-sum distributions, increased by \$10.5 million or 5.7% during the fiscal year ended June 30, 2017. This was due to an increase in the total number of retirees in the plan as well as an increased retirement salary on which the benefits are based upon. Refunds increased in fiscal year 2017 by \$61K or 1.1%.

Administrative expenses increased by \$559K in fiscal year 2017. This increase was mainly due to an increase in IT contractual services, including the addition of investment risk analysis/monitoring software in the second half of the fiscal year and the payment of the biennial retirement administration software maintenance, as well as an increase in pension expense due to RIO's participation in the NDPERS pension plan.

The redemption of units in the investment trust funds increased by \$645.3 million or 243.1% due mainly to the drawdown of the Budget Stabilization Fund to cover the State's income shortfall during the 2015-17 biennium.

**Deductions from Net Position
(in thousands)**



Conclusion

For the fiscal year ended June 30, 2017, the pension investment pool and the Legacy Fund generated net time weighted investment returns of 12.9% and 12.0%, respectively, surpassing their respective policy benchmarks. The TFFR pension plan generated a net time weighted return of 12.9%, also exceeding its policy benchmark. The insurance investment pool also performed well and achieved a net time weighted return of 7.8% last year. Investment returns exceeded long-term expectations in fiscal 2017 due to the surprising strength and resilience of the global financial markets. Investment performance benefitted from relatively low volatility throughout most of last year despite increasing concerns over geopolitical risk in the U.S. and abroad. Global equities earned 19% overall with the pension international equity portfolio (up 21%) outperforming U.S. equity (up 17%). The story was reversed within fixed income, where U.S. centric debt strategies returned over 6% while international debt earned less than 1%. Real asset performance was mixed with strong, above benchmark returns posted in real estate and infrastructure (both up 9%), while our timber portfolio lost 9% in the last year. Private equity returned 11% for the 1-year ended June 30, 2017.

While cumulative returns in the post-credit crisis era have been strong, investors today face numerous challenges in the future that may limit the potential for high market returns and amplify investment risk. First, one could argue that many asset classes and strategies no longer offer compelling valuations for investors. Second, the ever-growing debt burden from unprecedented monetary policy and muted economic growth in a range of economies makes it less and less likely that authorities will be in a position to provide a cushion in a downturn when it occurs. Finally, the specter of the Federal Reserve continuing to raise short-term interest rates in the near future poses a challenge to certain asset classes and strategies to varying degrees. To meet this challenge, the State Investment Board will continue to research strategies and investment options that mitigate and diversify the sources of risk accepted to address funding issues in the challenging years ahead.

TFFR's funding objective is to meet long-term pension benefit obligations through contributions and investment income. To address TFFR's funding shortfall, the ND State Legislature took action in 2011 and approved legislation to increase contributions (4% member and 4% employer) and modify certain benefits for non-grandfathered members. Increased contribution rates will be in effect until TFFR reaches 100% funding on an actuarial basis. This comprehensive funding recovery plan, along with solid investment performance in the future, is expected to improve TFFR's funding level over the long term.

As of July 1, 2017, TFFR's funding level was 63.7% on an actuarial basis (and 63.2% on a market basis). Investment performance for FY2017, and for the last five years, has been greater than expected, resulting in improvement in TFFR's funding status in 2017. Over the long term, the plan's funding level is expected to gradually improve with full funding expected in 30 years, if all actuarial assumptions are met in the future, including the 7.75% investment return assumption. Protecting the long term solvency of the pension plan is the TFFR Board's fiduciary responsibility. The Board will continue to proactively address TFFR funding issues so the plan will be financially strong and sustainable for past, present, and future ND educators.

Contacting RIO Financial Management

This financial report is designed to provide our Boards, our membership, our clients and the general public with a general overview of RIO's finances and to demonstrate RIO's accountability for the money we receive. If you have any questions about this report or need additional information, contact the North Dakota Retirement and Investment Office, PO Box 7100, Bismarck, ND 58507-7100.

North Dakota Retirement and Investment Office
Statement of Net Position – Fiduciary Funds
June 30, 2017 and 2016

| | Pension Trust | | Investment Trust | | Total | |
|--|------------------|------------------|------------------|------------------|-------------------|-------------------|
| | 2017 | 2016 | 2017 | 2016 | 2017 | 2016 |
| Assets: | | | | | | |
| Investments, at fair value | | | | | | |
| Equities | \$ - | \$ - | \$ 2,418,573,847 | \$ 1,900,710,606 | \$ 2,418,573,847 | \$ 1,900,710,606 |
| Equity pool | 1,275,571,112 | 1,131,917,482 | 2,175,628,519 | 1,921,253,074 | 3,451,199,631 | 3,053,170,556 |
| Fixed income | - | - | 1,694,762,634 | 1,415,525,781 | 1,694,762,634 | 1,415,525,781 |
| Fixed income pool | 521,927,872 | 479,086,760 | 1,843,971,620 | 2,285,945,327 | 2,365,899,492 | 2,765,032,087 |
| Real assets | - | - | 712,121,488 | 615,513,449 | 712,121,488 | 615,513,449 |
| Real assets pool | 407,547,460 | 369,771,496 | 949,595,089 | 889,167,336 | 1,357,142,549 | 1,258,938,832 |
| Private equity pool | 76,976,255 | 73,374,321 | 90,185,661 | 85,965,628 | 167,161,916 | 159,339,949 |
| Cash pool | 27,243,767 | 18,515,640 | 57,364,379 | 91,516,800 | 84,608,146 | 110,032,440 |
| Total investments | 2,309,266,466 | 2,072,665,699 | 9,942,203,237 | 9,205,598,001 | 12,251,469,703 | 11,278,263,700 |
| Invested securities lending collateral | 12,839,759 | 19,859,451 | 64,829,660 | 96,710,963 | 77,669,419 | 116,570,414 |
| Receivables: | | | | | | |
| Investment income | 8,947,870 | 9,517,943 | 33,653,192 | 35,454,773 | 42,601,062 | 44,972,716 |
| Contributions | 26,326,188 | 25,494,939 | - | - | 26,326,188 | 25,494,939 |
| Miscellaneous | 7,398 | 7,963 | 21,368 | 13,880 | 28,766 | 21,843 |
| Total receivables | 35,281,456 | 35,020,845 | 33,674,560 | 35,468,653 | 68,956,016 | 70,489,498 |
| Due from other state agency | 36 | - | 14 | - | 50 | - |
| Cash and cash equivalents | 19,073,513 | 19,747,422 | 263,961 | 168,372 | 19,337,474 | 19,915,794 |
| Equipment & Software (net of depr) | 8,549 | - | - | - | 8,549 | - |
| Total assets | 2,376,469,779 | 2,147,293,417 | 10,040,971,432 | 9,337,945,989 | 12,417,441,211 | 11,485,239,406 |
| Deferred outflows of resources | | | | | | |
| Related to pensions | 384,391 | 168,324 | 252,274 | 113,380 | 636,665 | 281,704 |
| Liabilities: | | | | | | |
| Accounts payable | 191,738 | 118,477 | 201,551 | 38,269 | 393,289 | 156,746 |
| Investment expenses payable | 1,583,834 | 1,713,404 | 5,165,064 | 6,349,541 | 6,748,898 | 8,062,945 |
| Securities lending collateral | 12,839,759 | 19,859,451 | 64,829,660 | 96,710,963 | 77,669,419 | 116,570,414 |
| Accrued expenses | 1,685,809 | 1,354,756 | 644,911 | 443,950 | 2,330,720 | 1,798,706 |
| Miscellaneous payable | - | - | 16,983 | 17,233 | 16,983 | 17,233 |
| Due to other state agencies | 6,613 | 10,055 | 1,649 | 7,234 | 8,262 | 17,289 |
| Total liabilities | 16,307,753 | 23,056,143 | 70,859,818 | 103,567,190 | 87,167,571 | 126,623,333 |
| Deferred inflows of resources | | | | | | |
| Related to pensions | 55,342 | 70,310 | 32,528 | 42,271 | 87,870 | 112,581 |
| Net position: | | | | | | |
| Restricted for pensions | 2,360,491,075 | 2,124,335,288 | - | - | 2,360,491,075 | 2,124,335,288 |
| Held in trust for external investment pool participants: | | | | | | |
| Pension pool | - | - | 2,978,824,123 | 2,637,238,130 | 2,978,824,123 | 2,637,238,130 |
| Insurance pool | - | - | 2,035,100,078 | 2,538,236,673 | 2,035,100,078 | 2,538,236,673 |
| Held in trust for individual investment accounts | - | - | 4,956,407,159 | 4,058,975,105 | 4,956,407,159 | 4,058,975,105 |
| Total net position | \$ 2,360,491,075 | \$ 2,124,335,288 | \$ 9,970,331,360 | \$ 9,234,449,908 | \$ 12,330,822,435 | \$ 11,358,785,196 |
| Each participant unit is valued at \$1.00 | | | | | | |
| Participant units outstanding | | | 9,970,331,360 | 9,234,449,908 | | |

The accompanying notes are an integral part of these financial statements.

North Dakota Retirement and Investment Office
Statement of Changes in Net Position – Fiduciary Funds
For the years ended June 30, 2017 and 2016

| | Pension Trust | | Investment Trust | | Total | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| | 2017 | 2016 | 2017 | 2016 | 2017 | 2016 |
| Additions: | | | | | | |
| Contributions: | | | | | | |
| Employer contributions | \$ 86,058,868 | \$ 82,839,932 | \$ - | \$ - | \$ 86,058,868 | \$ 82,839,932 |
| Member contributions | 79,309,153 | 76,342,685 | - | - | 79,309,153 | 76,342,685 |
| Purchased service credit | 2,553,200 | 2,768,245 | - | - | 2,553,200 | 2,768,245 |
| Interest, penalties and other | 235,890 | 44,966 | - | - | 235,890 | 44,966 |
| Total contributions | 168,157,111 | 161,995,828 | - | - | 168,157,111 | 161,995,828 |
| Investment income: | | | | | | |
| Net change in fair value of investments | 221,797,589 | (35,952,316) | 797,372,051 | (51,056,400) | 1,019,169,640 | (87,008,716) |
| Interest, dividends and other income | 50,718,890 | 49,982,337 | 224,483,911 | 217,167,354 | 275,202,801 | 267,149,691 |
| | 272,516,479 | 14,030,021 | 1,021,855,962 | 166,110,954 | 1,294,372,441 | 180,140,975 |
| Less investment expenses | 6,011,791 | 6,034,689 | 23,033,769 | 23,130,811 | 29,045,560 | 29,165,500 |
| Net investment income | 266,504,688 | 7,995,332 | 998,822,193 | 142,980,143 | 1,265,326,881 | 150,975,475 |
| Securities lending activity: | | | | | | |
| Securities lending income | 229,936 | 304,571 | 1,254,228 | 1,465,052 | 1,484,164 | 1,769,623 |
| Less securities lending expenses | (45,973) | (60,907) | (250,628) | (292,852) | (296,601) | (353,759) |
| Net securities lending income | 183,963 | 243,664 | 1,003,600 | 1,172,200 | 1,187,563 | 1,415,864 |
| Purchase of units (\$1 per unit) | - | - | 648,096,361 | 763,176,205 | 648,096,361 | 763,176,205 |
| Total additions | 434,845,762 | 170,234,824 | 1,647,922,154 | 907,328,548 | 2,082,767,916 | 1,077,563,372 |
| Deductions: | | | | | | |
| Benefits paid to participants | 190,029,141 | 179,625,551 | - | - | 190,029,141 | 179,625,551 |
| Partial lump-sum distributions | 1,075,553 | 992,233 | - | - | 1,075,553 | 992,233 |
| Refunds | 5,411,850 | 5,350,896 | - | - | 5,411,850 | 5,350,896 |
| Administrative expenses | 2,173,431 | 1,851,656 | 1,303,019 | 1,066,070 | 3,476,450 | 2,917,726 |
| Redemption of units (\$1 per unit) | - | - | 910,737,683 | 265,411,054 | 910,737,683 | 265,411,054 |
| Total deductions | 198,689,975 | 187,820,336 | 912,040,702 | 266,477,124 | 1,110,730,677 | 454,297,460 |
| Change in net position | 236,155,787 | (17,585,512) | 735,881,452 | 640,851,424 | 972,037,239 | 623,265,912 |
| Net position: | | | | | | |
| Beginning of year | 2,124,335,288 | \$ 2,141,920,800 | \$ 9,234,449,908 | \$ 8,593,598,484 | \$ 11,358,785,196 | \$ 10,735,519,284 |
| End of Year | <u>\$ 2,360,491,075</u> | <u>\$ 2,124,335,288</u> | <u>\$ 9,970,331,360</u> | <u>\$ 9,234,449,908</u> | <u>\$ 12,330,822,435</u> | <u>\$ 11,358,785,196</u> |

The accompanying notes are an integral part of these financial statements.

Note 1 - Summary of Significant Accounting Policies

RIO is an agency of the State of North Dakota operating through the legislative authority of North Dakota Century Code (NDCC) Chapter 54-52.5 and is considered part of the State of North Dakota financial reporting entity and included in the State of North Dakota's Comprehensive Annual Financial Report.

For financial reporting purposes, RIO has included all funds, and has considered all potential component units for which RIO is financially accountable, and other organizations for which the nature and significance of their relationship with RIO are such that exclusion would cause RIO's financial statements to be misleading or incomplete. The Governmental Accounting Standards Board has set forth criteria to be considered in determining financial accountability. This criteria includes appointing a voting majority of an organization's governing body and (1) the ability of RIO to impose its will on that organization or (2) the potential for the organization to provide specific financial benefits to, or impose specific financial burdens on RIO.

Based upon these criteria, there are no component units to be included within RIO as a reporting entity and RIO is part of the State of North Dakota as a reporting entity.

Fund Financial Statement

All activities of RIO are accounted for within the pension and investment trust funds and are shown, by fund, in the fiduciary fund financial statements.

Measurement Focus, Basis of Accounting and Financial Statement Presentation

The financial statements of RIO are reported using the economic resources measurement focus and the accrual basis of accounting.

This measurement focus includes all assets and liabilities associated with the operations of the fiduciary funds on the statements of net position. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows.

New Accounting Standards

In fiscal year 2016, the Plan implemented GASB Statement No. 72, Fair Value Measurement and Application, ("GASB 72"). This statement defines fair value and describes how state and local governments should define and measure fair value, what assets and liabilities should be measured at fair value, and what information about fair value should be disclosed in the notes to the financial statements. GASB 72 enhances transparency through new note disclosures as reflected in Note 3 Investments - Fair Value Measurement.

Fiduciary Fund

A pension trust fund and investment trust funds have been established to account for the assets held by RIO in a trustee capacity for TFFR and as an agent for other governmental units or funds which have placed certain investment assets under the management of SIB. The SIB manages two external investment pools and four individual investment accounts. The two external investment pools consist of a pension pool and insurance pool. SIB manages the investments of the North Dakota Public Employees Retirement System, Bismarck City Employees and Police, City of Grand Forks Employees and City of Grand Forks Park District Employees pension plans in the pension pool. The investments of Workforce Safety & Insurance, State Fire and Tornado, State

North Dakota Retirement and Investment Office

Notes to Combined Financial Statements

June 30, 2017 and 2016

Bonding, Petroleum Tank Release Compensation Fund, Insurance Regulatory Trust, North Dakota Association of Counties Fund, Risk Management, Risk Management Workers Comp, PERS Group Insurance, City of Bismarck Deferred Sick Leave, City of Fargo FargoDome Permanent Fund, Cultural Endowment Fund, ND State Board of Medicine, and Budget Stabilization Fund are managed in the insurance pool. The Legacy Fund, Job Service of North Dakota, Tobacco Prevention and Control Fund, and PERS Retiree Health investments are managed by SIB in individual investment accounts; except for a small portion of the Legacy Fund fixed income assets that will remain pooled until they are liquidated at a future date and their cash allocation that will remain pooled for operational efficiency.

RIO has no statutory authority over, nor responsibility for, these investment trust funds other than the investment responsibility provided for by statute or through contracts with the individual agencies. The funds that are required to participate according to statute are: Public Employees Retirement System, Workforce Safety & Insurance, State Fire and Tornado, State Bonding, Petroleum Tank Release Compensation Fund, Insurance Regulatory Trust, Risk Management, Risk Management Workers Comp, Cultural Endowment Fund, Legacy Fund and Budget Stabilization Fund.

RIO follows the pronouncements of the Governmental Accounting Standards Board (GASB), which is the nationally accepted standard setting body for establishing accounting principles generally accepted in the United States of America for governmental entities.

Pension and Investment Trust Funds are accounted for using the accrual basis of accounting. Member contributions are recognized in the period in which they are due. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the NDCC.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

RIO utilizes various investment instruments. Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such change could materially affect the amounts reported in the statements of net position.

Budgetary Process

RIO operates through a biennial appropriation, which represents appropriations recommended by the Governor and presented to the General Assembly (the Assembly) at the beginning of each legislative session. The Assembly enacts RIO's budget through passage of a specific appropriation bill. The State of North Dakota's budget is prepared principally on a modified accrual basis. The Governor has line item veto power over all legislation, subject to legislative override.

Once passed and signed, the appropriation bill becomes RIO's financial plan for the next two years. Changes to the appropriation are limited to Emergency Commission authorization, initiative, or referendum action. The Emergency Commission can authorize receipt of federal or other moneys not appropriated by the Assembly if the

North Dakota Retirement and Investment Office

Notes to Combined Financial Statements

June 30, 2017 and 2016

Assembly did not indicate intent to reject the money. The Emergency Commission may authorize pass-through federal funds from one state agency to another. The Emergency Commission may authorize the transfer of expenditure authority between appropriated line items, however RIO has specific authority as a special fund to transfer between the contingency line item and other line items. Unexpended appropriations lapse at the end of each biennium, except certain capital expenditures covered under the NDCC section 54-44.1-11.

RIO does not use encumbrance accounting. The legal level of budgetary control is at the agency, appropriation and expenditure line item level. RIO does not formally budget revenues and it does not budget by fund. The statement of revenues, expenditures and changes in fund balances - budget and actual is not prepared because revenues are not budgeted.

Capital Assets and Depreciation

Capital asset expenditures greater than \$5,000 are capitalized at cost in accordance with Section 54-27-21 of the NDCC. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. The estimated useful lives are as follows:

| | <u>Years</u> |
|------------------------|--------------|
| Office equipment | 5 |
| Furniture and fixtures | 5 |

Investments

NDCC Section 21-10-07 states that the SIB shall apply the prudent investor rule when investing funds under its supervision. The prudent investor rule means that in making investments, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation, but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income.

The pension fund belonging to TFFR and investment trust funds attributable to the City of Bismarck Employee Pension Plan, the City of Bismarck Police Pension Plan, Job Service of North Dakota, City of Grand Forks Employee Pension Plan, City of Grand Forks Park District Pension Plan and the Public Employees Retirement System (PERS) must be invested exclusively for the benefit of their members. All investments are made in accordance with the respective fund's long-term investment objectives and performance goals.

Pooled Investments

Most funds whose investments are under the supervision of the SIB participate in pooled investments. The agencies transfer money into the investment pools and receive an appropriate percentage ownership of the pooled portfolio based upon fair value. All activities of the investment pools are allocated to the agencies based upon their respective ownership percentages. Each participant unit is valued at \$1.00 per unit.

Investment Valuation and Income Recognition

Investments are reported at fair value. Quoted market prices, when available, have been used to value investments. The fair values for securities that have no quoted market price represent estimated fair value. International securities are valued based upon quoted foreign market prices and translated into U.S. dollars at the

North Dakota Retirement and Investment Office

Notes to Combined Financial Statements

June 30, 2017 and 2016

exchange rate in effect at June 30. In general, corporate debt securities have been valued at quoted market prices or, if not available, values are based on yields currently available on comparable securities of issuers with similar credit ratings. Mortgages have been valued on the basis of their future principal and interest payments discounted at prevailing interest rates for similar instruments. The fair value of real estate investments, including timberland, is based on appraisals plus fiscal year-to-date capital transactions. Publicly traded alternative investments are valued based on quoted market prices. When not readily available, alternative investment securities are valued using current estimates of fair value from the investment manager. Such valuations consider variables such as financial performance of the issuer, comparison of comparable companies' earnings multiples, cash flow analysis, recent sales prices of investments, withdrawal restrictions, and other pertinent information. Because of the inherent uncertainty of the valuation for these other alternative investments, the estimated fair value may differ from the values that would have been used had a ready market existed.

The net change in fair value of investments consists of the realized gains or losses and the unrealized increase or decrease in fair value of investments during the year. Realized gains and losses on sales of investments are computed based on the difference between the sales price and the original cost of the investment sold. Realized gains and losses on investments that had been held in more than one fiscal year and sold in the current fiscal year were included as a change in the fair value of investments reported in the prior year(s) and the current year.

Unrealized gains and losses are computed based on changes in the fair value of investments between years. Security transactions are accounted for on a trade date basis. Interest income is recognized when earned. Dividend income is recorded on the ex-dividend date.

Pensions

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the ND Public Employees Retirement System (NDPERS) and additions to/deductions from NDPERS' fiduciary net position have been determined on the same basis as they are reported by NDPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Note 2 - Cash and Cash Equivalents

Custodial Credit Risk

State law generally requires that all state funds be deposited in the Bank of North Dakota. NDCC 21-04-01 provides that public funds belonging to or in the custody of the state shall be deposited in the Bank of North Dakota. Also, NDCC 6-09-07 states, "[a]ll state funds ... must be deposited in the Bank of North Dakota" or must be deposited in accordance with constitutional and statutory provisions.

Pension Trust Fund

Deposits held by the Pension Trust Fund at June 30, 2017 were deposited in the Bank of North Dakota. At June 30, 2017 and 2016, the carrying amount of TFFR's deposits was \$19,073,513 and \$19,747,422, respectively, and the bank balance was \$19,081,337 and \$19,799,474, respectively. The difference results from checks outstanding or deposits not yet processed by the bank. These deposits are exposed to custodial credit risk as uninsured and uncollateralized. However, these deposits at the Bank of North Dakota are guaranteed by the State of North Dakota through NDCC Section 6-09-10.

North Dakota Retirement and Investment Office

Notes to Combined Financial Statements

June 30, 2017 and 2016

Investment Trust Funds

Certificates of deposit, an insurance pool cash account and a pension pool cash account are recorded as investments and have a cost and carrying value of \$92,016,033 and \$81,143,786 at June 30, 2017 and 2016, respectively. In addition these funds carry cash and cash equivalents totaling \$263,961 and \$168,372 at June 30, 2017 and 2016, respectively. These deposits are exposed to custodial credit risk as uninsured and uncollateralized. However, these deposits held at the Bank of North Dakota are guaranteed by the State of North Dakota through NDCC Section 6-09-10.

Note 3 - Investments

The investment policy of the SIB is governed by NDCC 21-10. The SIB shall apply the prudent investor rule in investing for funds under its supervision. The “prudent investor rule” means that in making investments, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The retirement funds belonging to the teachers’ fund for retirement and the public employees’ retirement system must be invested exclusively for the benefit of their members and in accordance with the respective funds’ investment goals and objectives.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The price of a debt security typically moves in the opposite direction of the change in interest rates. The SIB does not have a formal investment policy that limits investment maturities as a means of managing its exposure to potential fair value losses arising from future changes in interest rates.

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At June 30, 2017 and 2016, the following tables show the investments by investment type and maturity (expressed in thousands).

| 2017 | Total Fair Value | Less than 1 Year | 1-6 Years | 6-10 Years | More than 10 Years |
|-------------------------------|------------------|------------------|--------------|--------------|--------------------|
| Asset Backed Securities | \$ 101,522 | \$ - | \$ 16,105 | \$ 24,636 | \$ 60,781 |
| Bank Loans | 3,687 | 100 | 2,301 | 1,286 | - |
| Commercial Mortgage-Backed | 119,452 | - | 3,999 | 777 | 114,676 |
| Corporate Bonds | 1,199,355 | 44,108 | 391,131 | 376,693 | 387,423 |
| Corporate Convertible Bonds | 14,457 | - | 5,026 | 4,582 | 4,849 |
| Government Agencies | 105,235 | 8,803 | 62,171 | 20,754 | 13,507 |
| Government Bonds | 464,441 | 2,402 | 155,204 | 105,268 | 201,567 |
| Gov't Mortgage Backed | 651,844 | 1,055 | 18,024 | 27,933 | 604,832 |
| Gov't-issued CMB | 57,767 | 343 | 4,089 | 7,011 | 46,324 |
| Index Linked Government Bonds | 31,880 | - | 13,599 | 12,357 | 5,924 |
| Municipal/Provincial Bonds | 46,016 | 4,172 | 11,454 | 7,198 | 23,192 |
| Non-Government Backed CMOs | 73,991 | 2,567 | 10,902 | 571 | 59,951 |
| Other Fixed Income | 3,575 | 1,681 | 1,894 | - | - |
| Repurchase Agreements | (3,208) | (3,208) | - | - | - |
| Short Term Bills and Notes | 7,827 | 7,827 | - | - | - |
| Funds/Pooled Investments | 1,962,531 | - | 361,109 | 1,043,860 | 557,562 |
| Total Debt Securities | \$ 4,840,372 | \$ 69,850 | \$ 1,057,008 | \$ 1,632,926 | \$ 2,080,588 |

| 2016 | Total Fair Value | Less than 1 Year | 1-6 Years | 6-10 Years | More than 10 Years |
|-------------------------------|------------------|------------------|--------------|--------------|--------------------|
| Asset Backed Securities | \$ 214,093 | \$ 1,354 | \$ 73,333 | \$ 35,566 | \$ 103,840 |
| Bank Loans | 7,523 | - | 5,407 | 2,116 | - |
| Commercial Mortgage-Backed | 143,357 | 67 | 17 | 5,760 | 137,513 |
| Corporate Bonds | 1,292,451 | 56,049 | 432,650 | 433,705 | 370,047 |
| Corporate Convertible Bonds | 8,502 | - | 6,629 | 190 | 1,683 |
| Government Agencies | 68,113 | 5,900 | 44,149 | 8,266 | 9,798 |
| Government Bonds | 567,638 | 26,480 | 273,899 | 107,544 | 159,715 |
| Gov't Mortgage Backed and CMB | 715,219 | 256 | 27,624 | 36,868 | 650,471 |
| Repurchase Agreements | (14,482) | (14,482) | - | - | - |
| Index Linked Government Bonds | 34,183 | 5,903 | - | 7,456 | 20,824 |
| Municipal/Provincial Bonds | 36,951 | 154 | 5,845 | 9,704 | 21,248 |
| Non-Government Backed CMOs | 60,641 | - | 8,303 | 900 | 51,438 |
| Other Fixed Income | 6,528 | 1,455 | 5,073 | - | - |
| Short Term Bills and Notes | 17,161 | 17,161 | - | - | - |
| Funds/Pooled Investments | 1,713,792 | 172,187 | 701,969 | 442,005 | 397,631 |
| Total Debt Securities | \$ 4,871,670 | \$ 272,484 | \$ 1,584,898 | \$ 1,090,080 | \$ 1,924,208 |

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In the tables above, the fair values of inflation indexed bonds are reflected in the columns based on their stated maturity dates. The principal balances of these bonds are adjusted every six months based on the inflation index for that period.

Some investments are more sensitive to interest rate changes than others. Variable and floating rate collateralized mortgage obligations (CMOs), asset-backed securities (ABS), interest-only and principal-only securities are examples of investments whose fair values may be highly sensitive to interest rate changes.

Interest-only (IO) and principal-only (PO) strips are transactions which involve the separation of the interest and principal components of a security. They are highly sensitive to prepayments by mortgagors, which may result from a decline in interest rates. The SIB held IOs valued at \$8.7 million and \$7.7 million and POs valued at \$4.8 million and \$6.7 million at June 30, 2017 and 2016, respectively. The SIB has no policy regarding IO or PO strips.

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The State Investment Board maintains a highly diversified portfolio of debt securities encompassing a wide range of credit ratings. Although the SIB has no overall policy regarding credit risk, each debt securities manager is given a specific set of guidelines to invest within based on the mandate for which it was hired. The guidelines specify in which range of credit the manager may invest. These ranges include investment grade and below investment grade categories. The following tables present the SIB's ratings as of June 30, 2017 and 2016, (expressed in thousands).

| 2017 | Total Fair Value | Credit Rating* | | | | | | | | | | |
|--------------------------------------|---------------------|----------------|-------------|------------|--------------|------------|------------|-----------|----------|--------|----------|--------|
| | | AAA | AA | A | BBB | BB | B | CCC | CC | C | D | NR |
| Asset Backed Securities | \$ 101,522 | \$ 55,001 | \$ 4,386 | \$ 9,003 | \$ 10,555 | \$ 4,143 | \$ 2,805 | \$ 11,811 | \$ 1,766 | \$ 67 | \$ 1,985 | \$ - |
| Bank Loans | 3,687 | - | - | - | 396 | 1,993 | 426 | - | - | - | - | 872 |
| Commercial Mortgage Backed | 85,465 | 44,485 | 8,826 | 6,350 | 6,958 | 7,045 | 4,366 | 5,349 | 455 | - | 1,532 | 99 |
| Corporate Bonds | 1,199,355 | 8,280 | 38,298 | 195,825 | 744,656 | 142,769 | 60,766 | 8,201 | - | 105 | 455 | - |
| Corporate Convertible Bonds | 14,457 | - | - | - | 1,627 | 3,499 | 3,911 | 5,420 | - | - | - | - |
| Gov't Agencies | 89,139 | 11,380 | 53,086 | 3,228 | 19,666 | 1,779 | - | - | - | - | - | - |
| Gov't Bonds | 123,863 | - | 9,813 | 46,574 | 45,427 | 17,267 | 4,782 | - | - | - | - | - |
| Gov't Mortgage Backed | 492,868 | - | 492,868 | - | - | - | - | - | - | - | - | - |
| Gov't Issued CMB | 11,824 | - | 11,597 | - | 227 | - | - | - | - | - | - | - |
| Municipal/Provincial Bonds | 46,016 | 3,909 | 14,473 | 9,834 | 15,514 | - | 2,286 | - | - | - | - | - |
| Non-Gov't Backed CMOs | 72,957 | 17,748 | 10,630 | 20,144 | 3,981 | 3,000 | 3,246 | 7,752 | 3,588 | - | 2,868 | - |
| Other Fixed Income | 3,575 | 3,575 | - | - | - | - | - | - | - | - | - | - |
| Repurchase Agreements | (3,208) | - | (3,208) | - | - | - | - | - | - | - | - | - |
| Short Term Bills & Notes | 3,892 | - | 3,597 | 295 | - | - | - | - | - | - | - | - |
| Funds/Pool Investments | 1,962,531 | 161,292 | 1,005,167 | 198,871 | 329,090 | 247,377 | 20,734 | - | - | - | - | - |
| Total Credit Risk of Debt Securities | 4,207,943 | \$ 305,670 | \$1,649,533 | \$ 490,124 | \$ 1,178,097 | \$ 428,872 | \$ 103,322 | \$ 38,533 | \$ 5,809 | \$ 172 | \$ 6,840 | \$ 971 |
| US Gov't & Agencies ** | 632,429 | | | | | | | | | | | |
| Total Debt Securities | <u>\$ 4,840,372</u> | | | | | | | | | | | |

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| 2016 | Total Fair Value | Credit Rating* | | | | | | | | | | |
|---|---------------------|----------------|-------------|------------|--------------|------------|-----------|-----------|----------|------|----------|--------|
| | | AAA | AA | A | BBB | BB | B | CCC | CC | C | D | NR |
| Asset Backed Securities | \$ 213,219 | \$ 123,092 | \$ 21,414 | \$ 30,455 | \$ 19,980 | \$ 3,822 | \$ 2,797 | \$ 9,202 | \$ 1,804 | \$ - | \$ 653 | \$ - |
| Bank Loans | 7,523 | - | - | - | 2,977 | 2,305 | 2,241 | - | - | - | - | - |
| Commercial Mortgage Backed | 111,063 | 47,154 | 23,370 | 10,891 | 9,682 | 5,798 | 6,791 | 6,618 | - | - | 759 | - |
| Commercial Paper | - | - | - | - | - | - | - | - | - | - | - | - |
| Corporate Bonds | 1,292,451 | 2,026 | 45,795 | 218,343 | 783,700 | 165,038 | 64,841 | 9,969 | 471 | - | 2,268 | - |
| Corporate Convertible Bonds | 8,502 | - | - | - | 34 | 2,689 | 3,905 | 1,477 | - | - | 397 | - |
| Gov't Agencies | 63,908 | 4,305 | 44,179 | 1,066 | 14,358 | - | - | - | - | - | - | - |
| Gov't Bonds | 128,745 | 8,315 | 12,427 | 34,160 | 41,997 | 28,531 | 3,315 | - | - | - | - | - |
| Gov't Issued Commercial & Gov't Mortgage Backed | 507,990 | 2,587 | 505,403 | - | - | - | - | - | - | - | - | - |
| Index Linked Bonds | - | - | - | - | - | - | - | - | - | - | - | - |
| Municipal/Provincial Bonds | 36,951 | 4,517 | 16,036 | 7,456 | 8,788 | - | - | - | - | - | - | 154 |
| Non-Gov't Backed CMOs | 59,280 | 7,493 | 6,533 | 18,982 | 8,676 | 699 | 4,242 | 4,664 | 2,924 | - | 5,067 | - |
| Other Fixed Income | 6,528 | - | 6,528 | - | - | - | - | - | - | - | - | - |
| Repurchase Agreements | (14,482) | 3,700 | (18,182) | - | - | - | - | - | - | - | - | - |
| Short Term Bills & Notes | 15,697 | - | 15,697 | - | - | - | - | - | - | - | - | - |
| Funds/Pooled Investments | 1,713,792 | 107,858 | 940,656 | 418,236 | 190,616 | 49,459 | 6,967 | - | - | - | - | - |
| Total Credit Risk of Debt Securities | 4,151,167 | \$ 311,047 | \$1,619,856 | \$ 739,589 | \$ 1,080,808 | \$ 258,341 | \$ 95,099 | \$ 31,930 | \$ 5,199 | \$ - | \$ 9,144 | \$ 154 |
| US Gov't & Agencies ** | 720,503 | | | | | | | | | | | |
| Total Debt Securities | <u>\$ 4,871,670</u> | | | | | | | | | | | |

* Ratings are determined in the following order:

1. S&P rating
2. Moody's rating
3. Fitch rating
4. Manager-determined rating (internal rating)
5. If no ratings available using steps 1-4, then shown as not rated.

** US government agency securities explicitly guaranteed by the US government are categorized here. Credit ratings of US government agency securities that are only implicitly guaranteed by the US government are categorized accordingly in the main body of these tables. Implicitly guaranteed agency securities included in the *Gov't Issued Commercial & Gov't Mortgage Backed*, *Gov't Agencies*, and *Short Term Bills and Notes* categories are issued by FNMA, FDIC, FHLB, FHLMC, FICO, FAMC and NCUA and TVA.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of an investment in a single issuer. As of June 30, 2017 and 2016, the SIB's portfolio has no single issuer exposure that comprises 5% or more of the overall portfolio, excluding investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools, and other pooled investments. Therefore, there is no concentration of credit risk.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. Although the SIB does not have a formal investment policy governing foreign currency risk, the SIB manages its exposure to fair value loss by requiring their international securities investment managers to maintain diversified portfolios to limit foreign currency and security risk. The SIB's exposure to foreign currency risk is presented in the following tables as of June 30, 2017 and 2016 (expressed in thousands).

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2017

| Currency | Short-Term | Debt | Equity | Real Estate | Total |
|--|------------|------------|--------------|-------------|--------------|
| Argentine peso | \$ - | \$ 509 | \$ - | \$ - | \$ 509 |
| Australian dollar | 3,344 | 8,461 | 64,338 | - | 76,143 |
| Brazilian real | 641 | 6,742 | 14,678 | - | 22,061 |
| British pound sterling | 14,956 | 9,761 | 195,199 | - | 219,916 |
| Canadian dollar | 6,084 | - | 55,194 | - | 61,278 |
| Chilean peso | 54 | - | - | - | 54 |
| Colombian peso | 204 | - | - | - | 204 |
| Czech koruna | - | - | 760 | - | 760 |
| Danish krone | - | - | 13,941 | - | 13,941 |
| Euro | (13,111) | 13,951 | 401,660 | 9,954 | 412,454 |
| Hong Kong dollar | 1,601 | - | 77,234 | - | 78,835 |
| Hungarian forint | 89 | - | 4,413 | - | 4,502 |
| Indian rupee | 7,193 | 1,398 | - | - | 8,591 |
| Indonesian Rupiah | 59 | 6,939 | 1,003 | - | 8,001 |
| Japanese yen | 712 | 381 | 221,644 | - | 222,737 |
| Malaysian Ringgit | 74 | 8,006 | 1,530 | - | 9,610 |
| Mexican peso | (45) | 26,092 | - | - | 26,047 |
| New Israeli shekel | 543 | - | 4,103 | - | 4,646 |
| New Taiwan dollar | (378) | - | 3,896 | - | 3,518 |
| New Zealand dollar | 88 | - | 2,177 | - | 2,265 |
| Norwegian krone | 8,121 | - | 12,450 | - | 20,571 |
| Peruvian nuevo sol | 2 | - | - | - | 2 |
| Polish zloty | (5) | 9,101 | 1,684 | - | 10,780 |
| Russian ruble | 325 | - | - | - | 325 |
| Singapore dollar | 300 | - | 6,177 | - | 6,477 |
| South African rand | 47 | 7,137 | 7,663 | - | 14,847 |
| South Korean won | 134 | - | 12,364 | - | 12,498 |
| Swedish krona | 6,408 | - | 39,213 | - | 45,621 |
| Swiss franc | 128 | - | 79,937 | - | 80,065 |
| Thai baht | 197 | - | 5,013 | - | 5,210 |
| Turkish lira | 25 | 2,461 | 806 | - | 3,292 |
| International commingled funds (various currencies) | - | 105,946 | 916,411 | 61,315 | 1,022,357 |
| Total international investment securities | \$ 37,790 | \$ 206,885 | \$ 2,143,488 | \$ 71,269 | \$ 2,398,117 |

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June 30, 2017 and 2016

2016

| Currency | Short-Term | Debt | Equity | Total |
|--|------------|------------|--------------|--------------|
| Australian dollar | \$ 508 | \$ 11,044 | \$ 40,740 | \$ 52,292 |
| Brazilian real | 560 | 7,856 | 4,035 | 12,451 |
| British pound sterling | (839) | 8,370 | 194,291 | 201,822 |
| Canadian dollar | 48 | - | 22,605 | 22,653 |
| Chilean peso | 54 | 9,704 | 853 | 10,611 |
| Chinese yuan renminbi | (17) | - | - | (17) |
| Columbian peso | - | 2,184 | - | 2,184 |
| Czech koruna | - | - | 743 | 743 |
| Israeli shekel | 46 | - | 5,332 | 5,378 |
| Danish krone | 70 | - | 12,863 | 12,933 |
| Euro | (9,287) | 12,557 | 287,286 | 290,556 |
| Hong Kong dollar | 419 | - | 67,721 | 68,140 |
| Hungarian forint | 3 | 5,619 | 1,912 | 7,534 |
| Indian rupee | 6,858 | - | - | 6,858 |
| Indonesian Rupiah | 33 | 6,771 | 1,051 | 7,855 |
| Japanese yen | 2,582 | 397 | 190,320 | 193,299 |
| Malaysian Ringgit | 59 | 6,469 | - | 6,528 |
| Mexican peso | (304) | 25,778 | 7,358 | 32,832 |
| New Zealand dollar | 28 | 5,187 | 2,476 | 7,691 |
| Norwegian krone | 4,735 | - | 12,551 | 17,286 |
| Polish zloty | - | 2,952 | 1,177 | 4,129 |
| Russian ruble | (546) | - | - | (546) |
| Singapore dollar | 113 | - | 6,049 | 6,162 |
| South African rand | 93 | 4,540 | 9,775 | 14,408 |
| South Korean won | 486 | - | 18,227 | 18,713 |
| Swedish krona | 9,995 | - | 27,601 | 37,596 |
| Swiss franc | 62 | - | 68,795 | 68,857 |
| Taiwan dollar | 9 | - | 2,807 | 2,816 |
| Thai baht | 387 | - | 3,838 | 4,225 |
| Turkish lira | 42 | - | 1,173 | 1,215 |
| International commingled funds (various currencies) | - | 110,368 | 762,502 | 872,870 |
| Total international investment securities | \$ 16,197 | \$ 219,796 | \$ 1,754,081 | \$ 1,990,074 |

Negative amounts represent short positions.

Prior to 2017, foreign currency related to real estate was included in the equity column.

Derivative Securities

Derivatives are financial arrangements between two parties whose payments are based on, or “derived” from, the performance of some agreed upon benchmark. The investment policies of the SIB’s clients allow the use of derivative securities to hedge or replicate underlying exposures but not for speculation. All derivatives are considered investment derivative instruments. The fair value of all derivative securities is reported in the statement of net position. At June 30, 2017 and 2016, the SIB had four types of derivative securities: futures, options, swaps and currency forwards.

Futures

Futures represent commitments to purchase (asset) or sell (liability) securities at a future date and at a specific price. Futures contracts are traded on organized exchanges (exchange traded) thereby minimizing the SIB’s counterparty risk. The net change in the futures contracts’ value is settled daily in cash with the exchanges. Net gains or losses resulting from the daily settlements are included in net change in fair value of investments in the statement of changes in net position and totaled \$133.8 million and \$(7.5) million for fiscal years 2017 and 2016, respectively. At June 30, 2017 and 2016, the SIB investment portfolio had the notional futures balances shown below (expressed in thousands).

| <u>Futures</u> | <u>Notional Value</u> | |
|---|-----------------------|----------------------|
| | <u>June 30, 2017</u> | <u>June 30, 2016</u> |
| Cash & Cash Equivalent Derivative Futures | | |
| Long | \$ 68,249 | \$ 37,736 |
| Short | (725,425) | (946,602) |
| Equity Derivative Futures | | |
| Long | 623,945 | 623,571 |
| Short | - | - |
| Fixed Income Derivative Futures | | |
| Long | 287,137 | 509,240 |
| Short | (194,390) | (290,226) |
| Total Futures | <u>\$ 59,516</u> | <u>\$ (66,281)</u> |

Options

Options represent or give buyers the right, but not the obligation, to buy (call) or sell (put) an asset at a preset price over a specified period. Options are traded on organized exchanges (exchange traded) thereby minimizing the SIB’s counterparty credit risk. The option’s price is usually a small percentage of the underlying asset’s value. As a seller of a financial option, the SIB, through its investment manager, receives a premium at the beginning of the agreement and bears the risk of an unfavorable change in the price of the financial instrument underlying the option. As a buyer of a financial option, the SIB, through its investment manager, pays a premium at the beginning of the agreement and the counterparty bears the risk of an unfavorable change in the price of the financial instrument underlying the option. Gains and losses on options are determined based on fair values and recorded with the net change in fair value of investments in the statement of changes in net position and totaled \$(0.2) million and \$0.4 million for fiscal years 2017 and 2016, respectively. At June 30, 2017 and 2016, the SIB

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investment portfolio had the following option balances (expressed in thousands).

| <u>Options</u> | Fair Value | |
|----------------------|----------------------|----------------------|
| | <u>June 30, 2017</u> | <u>June 30, 2016</u> |
| Cash & Other Options | | |
| Call | \$ (2) | \$ (72) |
| Put | 23 | 72 |
| Fixed Income Options | | |
| Call | 88 | (37) |
| Put | 203 | (1) |
| Total Options | <u>\$ 312</u> | <u>\$ (38)</u> |

Swaps

A swap is a derivative in which counterparties exchange certain benefits of one party's financial instrument for those of the other party's financial instrument. Specifically, the two counterparties agree to exchange one stream of cash flows for another stream. The SIB, through its investment managers, has entered into various swap agreements in an attempt to manage its exposure to interest rate, inflation, credit, currency and total return risk.

Gains and losses on swaps are determined based on fair values and are recorded with the net change in fair value of investments in the statement of changes in net position and totaled \$9.2 million and \$(10.7) million for fiscal years 2017 and 2016, respectively. The maximum loss that would be recognized at June 30, 2017 and 2016, if all counterparties failed to perform as contracted is \$2.0 million and \$3.25 million, respectively. Swap fair values are determined by a third party pricing source. At June 30, 2017 and 2016, the SIB's investment portfolio had the swap fair value balances as shown below (expressed in thousands).

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Credit Default Swaps

Credit risk represents the exposure to fair value losses arising from a credit event such as default, failure to pay, restructuring or bankruptcy. In a credit default swap (CDS) contract, the protection buyer of the CDS makes a series of payments to the protection seller and, in exchange, receives a payoff if the credit instrument experiences a credit event. CDS contracts are also used to establish exposure to a desired credit instrument.

| Counterparty/Moody's Rating | Notional Amount | | Expiration Date Range | Fair Value | |
|---|-------------------|--------------------|--------------------------|-----------------|---------------|
| | June 30, 2017 | June 30, 2016 | | June 30, 2017 | June 30, 2016 |
| Bank of America/A3 (1 contract) | \$ - | \$ (2,600) | 12/2018 | \$ - | \$ 40 |
| Bank of America/A1 (2 contracts) | (2,700) | | 12/2018 - 12/2021 | 35 | |
| Barclays/A2 (1 contract) | | (100) | 9/2019 | | 1 |
| BNP Paribas/A1 (2 contracts) | (600) | | 6/2019 - 6/2022 | (5) | |
| BNP Paribas/A2 (2 contracts) | | (450) | 12/2016 - 6/2019 | | (44) |
| Citibank/A1 (4 contracts) | (7,750) | | 12/2018 - 12/2019 | 119 | |
| Citibank/A3 (4 contracts) | | (11,050) | 12/2018 - 12/2019 | | 105 |
| Citigroup Global Markets/A1 | | (6,500) | 12/2018 | | 75 |
| Credit Suisse First Boston/A1 (8 contracts) | 11,550 | | 12/2017 - 6/2022 | (759) | |
| Credit Suisse First Boston/A1 (2 contracts) | | 4,340 | 6/2021 | | (81) |
| Deutsche Bank/A2 (2 contracts) | | 2,400 | 6/2017 | | (18) |
| Goldman Sachs/A3 (2 contracts) | (1,800) | | 6/2019 - 3/2020 | 22 | |
| Goldman Sachs/A3 (5 contracts) | | (1,850) | 12/2016 - 3/2020 | | (2) |
| HSBC Bank/A1 (1 contract) | (100) | | 6/2022 | (1) | |
| JP Morgan Chase/Aa3 (3 contracts) | (930) | | 12/2019 - 9/2020 | 2 | |
| JP Morgan Chase/Aa3 (14 contracts) | | 2,181 | 12/2016 - 11/2045 | | (51) |
| Total Credit Default Swaps | <u>\$ (2,330)</u> | <u>\$ (13,629)</u> | | <u>\$ (587)</u> | <u>\$ 25</u> |

The notional amount may be positive or negative, depending on whether the position is long or short, respectively.

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Currency Swaps

Currency risk represents the exposure to fair value losses arising from the change in price of one currency against another. A currency swap is a foreign-exchange agreement between two parties to exchange principal and interest in one currency for the same in another currency.

| Counterparty/Moody's Rating | Notional Amount | | Expiration Date Range | Fair Value | |
|-----------------------------------|-----------------|-------------------|--------------------------|---------------|---------------|
| | June 30, 2017 | June 30, 2016 | | June 30, 2017 | June 30, 2016 |
| Deutsche Bank London/A2 | \$ - | \$ 281 | 5/2017 | \$ - | \$ 1 |
| Goldman Sachs/A3 | | 150 | 1/2017 | | 5 |
| JP Morgan Chase/Aa3 (1 contract) | 106 | | 2/2020 | (6) | |
| JP Morgan Chase/Aa3 (8 contracts) | | 181,560 | 11/2016 - 11/2024 | | - |
| Total Currency Swaps | <u>\$ 106</u> | <u>\$ 181,991</u> | | <u>\$ (6)</u> | <u>\$ 6</u> |

The notional amount may be positive or negative, depending on whether the position is long or short, respectively.

Interest Rate Swaps

Interest rate risk represents the exposure to fair value losses arising from future changes in prevailing market interest rates. In the most common type of interest rate swap arrangement, one party agrees to pay fixed interest payments on designated dates to a counterparty, who in turn agrees to make return interest payments that float with some reference rate.

| Counterparty/Moody's Rating | Notional Amount | | Expiration Date Range | Fair Value | |
|--|---------------------|---------------------|--------------------------|-----------------|-------------------|
| | June 30, 2017 | June 30, 2016 | | June 30, 2017 | June 30, 2016 |
| Bank of America/A3 (1 contract) | \$ - | \$ 6,243 | 1/2018 | \$ - | \$ (50) |
| Citigroup Global Markets/A1 (3 contracts) | | (3,055) | 8/2020 | | (178) |
| Credit Suisse First Boston/A1 (34 contracts) | (231,315) | | 12/2017 - 3/2048 | 1,168 | |
| Credit Suisse First Boston/A1 (24 contracts) | | (235,092) | 12/2017 - 6/2046 | | (3,352) |
| Credit Suisse International/A1 (4 contracts) | | 8,137 | 1/2018 - 1/2021 | | (76) |
| Deutsche Bank/A2 (4 contracts) | | 6,697 | 1/2018 - 1/2021 | | (18) |
| Goldman Sachs/A3 (1 contract) | 5 | | 12/2017 | - | |
| Goldman Sachs/A3 (3 contracts) | | 7,850 | 1/2021 - 6/2026 | | (69) |
| HSBC Bank/A1 (2 contracts) | | 20,500 | 3/2020 - 9/2033 | | (4) |
| JP Morgan Chase/Aa3 (130 contracts) | 42,989 | | 8/2017 - 9/2046 | 1,322 | |
| JP Morgan Chase/Aa3 (86 contracts) | | (4,765) | 2/2019 - 6/2046 | | (3,798) |
| Morgan Stanley/A3 (1 contract) | 3,900 | | 5/2022 | (3) | |
| Morgan Stanley/Baa1 (1 contract) | | 3,900 | 5/2022 | | 8 |
| Total Interest Rate Swaps | <u>\$ (184,421)</u> | <u>\$ (189,585)</u> | | <u>\$ 2,487</u> | <u>\$ (7,537)</u> |

The notional amount may be positive or negative, depending on whether the position is long (fixed rate payer) or short (floating rate payer), respectively.

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Inflation Swaps

Inflation risk represents the exposure to fair value losses arising from future changes in prevailing market inflation. In an inflation swap, one party pays a fixed rate on a notional principal amount, while the other party pays a floating rate linked to an inflation index, such as the Consumer Price Index (CPI).

| Counterparty/Moody's Rating | Notional Amount | | Expiration Date Range | Fair Value | |
|---|-----------------|-----------------|--------------------------|----------------|----------------|
| | June 30, 2017 | June 30, 2016 | | June 30, 2017 | June 30, 2016 |
| Bank of America/A3 (7 contracts) | \$ - | \$ 700 | 1/2020 | \$ - | \$ (10) |
| Credit Suisse First Boston/A1 (3 contracts) | 426 | | 1/2020 - 11/2030 | (3) | |
| BNP Paribas/A2 (3 contracts) | | 600 | 1/2020 | | (8) |
| Citibank/A3 (4 contracts) | | 520 | 3/2020 - 6/2030 | | (11) |
| Deutsche Bank/A2 (1 contract) | | 206 | 11/2030 | | 16 |
| Goldman Sachs/A3 (5 contracts) | 1,530 | | 3/2020 - 1/2030 | (14) | |
| Goldman Sachs/A3 (11 contracts) | | 4,430 | 1/2020 - 1/2030 | | (52) |
| Total Inflation Swaps | <u>\$ 1,956</u> | <u>\$ 6,456</u> | | <u>\$ (17)</u> | <u>\$ (65)</u> |

The notional amount may be positive or negative, depending on whether the position is long (fixed rate payer) or short (floating rate payer), respectively.

Total Return Swaps

A total return swap is an agreement in which one party makes payments based on a set rate, either fixed or variable, while the other party makes payments based on the return of an underlying asset (income and capital gains). The underlying asset, or reference asset, is owned by the party receiving the set rate payment.

| Counterparty/Moody's Rating | Notional Amount | | Expiration Date Range | Fair Value | |
|--|-----------------|-----------------|--------------------------|---------------|----------------|
| | June 30, 2017 | June 30, 2016 | | June 30, 2017 | June 30, 2016 |
| Credit Suisse International/A1 (2 contracts) | \$ 4,800 | \$ - | 1/2041 | \$ 21 | \$ - |
| Credit Suisse International/A1 (2 contracts) | | 2,252 | 1/2041 | | (26) |
| Total Total Return Swaps | <u>\$ 4,800</u> | <u>\$ 2,252</u> | | <u>\$ 21</u> | <u>\$ (26)</u> |

The notional amount may be positive or negative, depending on whether the position is long (fixed rate payer) or short (floating rate payer), respectively.

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Currency Forwards

Currency forwards represent forward exchange contracts that are entered into in order to manage the exposure to changes in currency exchange rates on the currency denominated portfolio holdings. A forward exchange contract is a commitment to purchase (positive) or sell (negative) a currency at a future date at a negotiated forward rate. The gain or loss arising from the difference between the original contracts and the closing of such contracts is included in the net change in fair value of investments in the statements of changes in net position and totaled \$0.5 million and \$0.9 million for fiscal years 2017 and 2016, respectively. At June 30, 2017 and 2016, the SIB's investment portfolio included the currency forwards balances shown below (expressed in thousands).

| Currency | Cost | Purchases | Sales | Fair Value | |
|---|----------|-----------|----------|------------|-----------|
| | | | | 6/30/2017 | 6/30/2016 |
| Australian dollar | \$ 3,175 | \$ 3,234 | \$ (59) | \$ 3,297 | \$ (60) |
| Brazilian real | 501 | 1,028 | (527) | 480 | 230 |
| British pound sterling | 12,934 | 14,836 | (1,902) | 13,007 | (1,222) |
| Canadian dollar | 6,003 | 6,280 | (277) | 6,110 | (84) |
| Chilean peso | 87 | 3,766 | (3,679) | - | 9,704 |
| Chinese yuan renminbi | 6 | 228 | (222) | - | (4,492) |
| Colombian peso | 214 | 214 | - | 204 | - |
| Euro | (15,804) | 264 | (16,068) | (16,369) | (7,919) |
| Hong Kong dollar | - | - | - | - | 4,475 |
| Hungarian forint | (19) | - | (19) | (20) | (19) |
| Indian rupee | 7,186 | 7,186 | - | 7,193 | 6,858 |
| Israeli shekel | (26) | - | (26) | (27) | - |
| Japanese yen | (320) | 7,553 | (7,873) | (329) | (2,353) |
| South Korean won | (169) | - | (169) | (166) | - |
| Mexican peso | (1,129) | 561 | (1,690) | (1,125) | (467) |
| Norwegian krone | 7,146 | 7,146 | - | 7,333 | 4,099 |
| Peruvian nuevo sol | - | 332 | (332) | 2 | - |
| Polish zloty | 43 | 43 | - | 46 | - |
| Russian ruble | 338 | 424 | (86) | 325 | (546) |
| Singapore dollar | (513) | - | (513) | (514) | - |
| South African rand | (514) | - | (514) | (515) | - |
| Swedish krona | 6,245 | 6,245 | - | 6,415 | 9,986 |
| Turkish lira | 446 | 446 | - | 446 | - |
| New Taiwan dollar | (503) | - | (503) | (498) | - |
| United States dollar | (25,329) | 34,457 | (59,786) | (25,329) | (18,315) |
| Total forwards subject to currency risk | | | | \$ (34) | \$ (125) |

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Derivative Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the value of an interest rate-based derivative investment. The SIB does not have a formal investment policy regarding such derivative investments. At June 30, 2017 and 2016, the tables below show the SIB's derivative investments subject to interest rate risk (expressed in thousands).

2017

| | Total Notional Value | 3 months or less | 3 to 6 months | 6 to 12 months | 1-5 years | Greater than 5 years |
|---------------------------------|----------------------------|---------------------|-------------------|--------------------|--------------------|-------------------------|
| Futures-interest rate contracts | \$ (564,429) | \$ (615,292) | \$ 128,182 | \$ (63,483) | \$ (13,836) | \$ - |
| Total | <u>\$ (564,429)</u> | <u>\$ (615,292)</u> | <u>\$ 128,182</u> | <u>\$ (63,483)</u> | <u>\$ (13,836)</u> | <u>\$ -</u> |

| | Total Fair Value | 3 months or less | 3 to 6 months | 6 to 12 months | 1-5 years | Greater than 5 years |
|-----------------------------------|---------------------|------------------|---------------|----------------|----------------|-------------------------|
| Options - caps and floors | \$ 46 | \$ - | \$ - | \$ - | \$ 46 | \$ - |
| Options - interest rate contracts | (1) | (1) | - | - | - | - |
| Options on futures | 253 | 253 | - | - | - | - |
| Swaps - interest rate contracts | 2,470 | 136 | 131 | 97 | 532 | 1,574 |
| Swaps - credit contracts | (587) | - | 1 | - | (588) | - |
| Total | <u>\$ 2,181</u> | <u>\$ 388</u> | <u>\$ 132</u> | <u>\$ 97</u> | <u>\$ (10)</u> | <u>\$ 1,574</u> |

2016

| | Total Notional Value | 3 months or less | 3 to 6 months | 6 to 12 months | 1-5 years | Greater than 5 years |
|--|----------------------------|---------------------|--------------------|------------------|--------------------|-------------------------|
| Futures-interest rate contracts | \$ (689,852) | \$ (586,165) | \$ (93,571) | \$ 37,736 | \$ (47,852) | \$ - |
| Options-margined interest rate contracts | (2) | (2) | - | - | - | - |
| Total | <u>\$ (689,854)</u> | <u>\$ (586,167)</u> | <u>\$ (93,571)</u> | <u>\$ 37,736</u> | <u>\$ (47,852)</u> | <u>\$ -</u> |

| | Total Fair Value | 3 months or less | 3 to 6 months | 6 to 12 months | 1-5 years | Greater than 5 years |
|----------------------------------|---------------------|------------------|---------------|----------------|-------------------|-------------------------|
| Options on interest rate futures | \$ (37) | \$ (37) | \$ - | \$ - | \$ - | \$ - |
| Options - credit contracts | (1) | (1) | - | - | - | - |
| Swaps - interest rate contracts | (7,602) | - | - | - | (1,103) | (6,499) |
| Swaps - credit contracts | 24 | - | 1 | (16) | 83 | (44) |
| Total | <u>\$ (7,616)</u> | <u>\$ (38)</u> | <u>\$ 1</u> | <u>\$ (16)</u> | <u>\$ (1,020)</u> | <u>\$ (6,543)</u> |

Fair Value Measurement

The SIB categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements).

Level 1 Unadjusted quoted prices for identical instruments in active markets.

Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.

Level 3 Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

The following tables show the fair value leveling of the SIB's investment portfolio at June 30, 2017 and 2016 (expressed in thousands).

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| 2017 | Fair Value Measures Using | | | |
|--|---------------------------|---|---|---|
| | Fair Value 6/30/17 | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
| Investments by fair value level | | | | |
| Short Term Securities | | | | |
| Short Term Bills and Notes | \$ 7,826 | \$ - | \$ 7,532 | \$ 294 |
| Short Term Securities | 7,826 | - | 7,532 | 294 |
| Fixed income investments | | | | |
| Asset Backed Securities | 100,985 | - | 100,823 | 162 |
| Bank Loans | 3,687 | - | 3,687 | - |
| Commercial Mortgage-Backed | 119,451 | - | 119,451 | - |
| Corporate Bonds | 1,199,355 | - | 1,198,360 | 995 |
| Corporate Convertible Bonds | 14,456 | - | 14,456 | - |
| Funds - Fixed Income ETF | 29,259 | 29,259 | - | - |
| Government Agencies | 104,775 | - | 98,097 | 6,678 |
| Government Bonds | 464,441 | - | 464,441 | - |
| Government Mortgage Backed Securities | 652,306 | - | 651,753 | 553 |
| Gov't-issued Commercial Mortgage-Backed | 57,767 | - | 57,767 | - |
| Index Linked Government Bonds | 31,880 | - | 31,880 | - |
| Municipal/Provincial Bonds | 46,016 | - | 46,016 | - |
| Non-Government Backed C.M.O.s | 65,402 | - | 62,487 | 2,915 |
| Other Fixed Income | 3,578 | - | 3,575 | 3 |
| Total fixed income investments | 2,893,358 | 29,259 | 2,852,793 | 11,306 |
| Equity investments | | | | |
| Common Stock | 3,752,805 | 3,752,771 | - | 34 |
| Convertible Equity | 1,746 | - | 1,746 | - |
| Funds - Common Stock | 4,149 | 4,149 | - | - |
| Funds - Equities ETF | 221,791 | 221,791 | - | - |
| Preferred Stock | 2,898 | 2,898 | - | - |
| Rights/Warrants | 12 | - | - | 12 |
| Stapled Securities | 4,547 | 4,547 | - | - |
| Total equity investments | 3,987,948 | 3,986,156 | 1,746 | 46 |
| Derivative investments | | | | |
| Exchange Cleared Swaps | 1,842 | - | 1,851 | (9) |
| Options | 312 | 253 | 59 | - |
| Swaps | 58 | - | 58 | - |
| Total derivative investments | 2,212 | 253 | 1,968 | (9) |
| Total investments by fair value level | \$ 6,891,344 | \$ 4,015,668 | \$ 2,864,039 | \$ 11,637 |

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| Investments measured at the net asset value (NAV) | | Unfunded Commitments | Redemption Frequency (If Currently Eligible) | Redemption Notice Period |
|---|-----------------------------|-------------------------|---|-----------------------------|
| Commingled Funds-Debt | \$ 1,729,361 | \$ - | Daily, monthly | 1-15 days |
| Commingled Funds-Equities | 1,039,323 | - | Daily, monthly | 1-15 days |
| Distressed Debt | 318,519 | 12,500 | Quarterly, Not eligible | 60 days |
| Long/Short | 193,356 | - | Monthly | 15 days |
| Mezzanine Debt | 1,781 | 8,526 | Not eligible | Not eligible |
| Private Equity | 167,162 | 286,819 | Not eligible | Not eligible |
| Real Assets | 1,603,883 | 163,475 | Quarterly, Not eligible | 30-90 days |
| Total investments measured at the NAV | \$ 5,053,385 | \$ 471,320 | | |
| Investments at other than fair value | | | | |
| Cash and adjustments to cash | \$ 244,004 | | | |
| Bank Certificates of Deposit | 56,819 | | | |
| Other miscellaneous securities | 9,126 | | | |
| Repurchase Agreements | (3,208) | | | |
| Total investments at other than fair value | \$ 306,741 | | | |
| Total investments | <u>\$ 12,251,470</u> | | | |

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| 2016 | Fair Value Measures Using | | | |
|--|---------------------------|---|---|---|
| | Fair Value 6/30/16 | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
| Investments by fair value level | | | | |
| Short Term Securities | | | | |
| Short Term Bills and Notes | \$ 17,161 | \$ - | \$ 17,161 | \$ - |
| Short Term Securities | 17,161 | - | 17,161 | - |
| Fixed income investments | | | | |
| Asset Backed Securities | 214,093 | - | 212,013 | 2,080 |
| Bank Loans | 7,524 | - | 7,524 | - |
| Commercial Mortgage-Backed | 143,357 | - | 141,957 | 1,400 |
| Corporate Bonds | 1,292,451 | - | 1,289,656 | 2,795 |
| Corporate Convertible Bonds | 8,502 | - | 8,312 | 190 |
| Funds - Fixed Income ETF | 29,531 | 29,531 | - | - |
| Government Agencies | 68,113 | - | 68,113 | - |
| Government Bonds | 567,638 | - | 567,638 | - |
| Government Mortgage Backed Securities | 657,728 | - | 656,882 | 846 |
| Gov't-issued Commercial Mortgage-Backed | 57,491 | - | 57,491 | - |
| Index Linked Government Bonds | 34,183 | - | 34,183 | - |
| Municipal/Provincial Bonds | 36,951 | - | 36,951 | - |
| Non-Government Backed C.M.O.s | 60,641 | - | 55,099 | 5,542 |
| Other Fixed Income | 6,528 | - | 6,528 | - |
| Total fixed income investments | 3,184,731 | 29,531 | 3,142,347 | 12,853 |
| Equity investments | | | | |
| Common Stock | 3,136,055 | 3,130,843 | 4,375 | 837 |
| Convertible Equity | 1,495 | 899 | 596 | - |
| Funds - Common Stock | 22,430 | 22,430 | - | - |
| Funds - Equities ETF | 84,030 | 84,030 | - | - |
| Preferred Stock | 2,550 | 2,550 | - | - |
| Rights/Warrants | 12 | - | - | 12 |
| Stapled Securities | 2,228 | 2,228 | - | - |
| Total equity investments | 3,248,800 | 3,242,980 | 4,971 | 849 |
| Derivative investments | | | | |
| Exchange Cleared Swaps | (6,584) | - | (6,584) | - |
| Options | (38) | (52) | 14 | - |
| Swaps | (1,015) | - | (1,018) | 3 |
| Total derivative investments | (7,637) | (52) | (7,588) | 3 |
| Total investments by fair value level | \$ 6,443,055 | \$ 3,272,459 | \$ 3,156,891 | \$ 13,705 |

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| | | Unfunded | Redemption | Redemption |
|---|-----------------------------|-------------------|-----------------------------------|---------------|
| | | Commitments | Frequency (If Currently Eligible) | Notice Period |
| Investments measured at the net asset value (NAV) | | | | |
| Commingled Funds-Debt | \$ 1,510,097 | \$ - | Daily, monthly | 1-15 days |
| Commingled Funds-Equities | 885,713 | - | Daily, monthly | 1-15 days |
| Distressed Debt | 268,329 | 20,000 | Quarterly, Not eligible | 60 days |
| Long/Short | 167,752 | - | Monthly | 15 days |
| Mezzanine Debt | 3,686 | 13,147 | Not eligible | Not eligible |
| Private Equity | 159,340 | 107,028 | Not eligible | Not eligible |
| Real Assets | 1,457,778 | 212,297 | Quarterly, Not eligible | 30-90 days |
| Total investments measured at the NAV | \$ 4,452,695 | \$ 352,472 | | |
| Investments at other than fair value | | | | |
| Cash and adjustments to cash | \$ 315,852 | | | |
| Bank Certificates of Deposit | 81,144 | | | |
| Repurchase Agreements | (14,482) | | | |
| Total investments at other than fair value | \$ 382,514 | | | |
| Total investments | <u>\$ 11,278,264</u> | | | |

Securities classified in Level 1 are valued using quoted prices in active markets for those securities. Securities classified in Level 2 and Level 3 are valued using methodologies such as various bid evaluations, market averages and other matrix pricing techniques as well as values derived from associated traded securities or last trade data. In instances where inputs used to measure fair value fall into different levels, the fair value is categorized based on the lowest level input that is significant to the valuation.

Investments valued at the net asset value (NAV) per share (or its equivalent) have been classified separately in the tables above and include investments considered to be *alternative investments* as defined by the AICPA. The definition includes investments for which a readily determinable fair value does not exist (that is, investments not listed on national exchanges or over-the-counter markets, or for which quoted market prices are not available from sources such as financial publications, the exchanges, or NASDAQ). These types of investments can be held within any of the asset classes used by the SIB based on underlying portfolio holdings and analysis of risk and return relationships. These investments can be structured in different ways, including limited partnerships, limited liability companies, common trusts and mutual funds. Some are closed-ended with a specific life and capital commitment while others are open-ended with opportunity for ad hoc contributions or withdrawals and termination upon proper notice.

Commingled/Mutual Funds — These types of funds are open-ended funds and may be utilized in equity or fixed income asset classes. They are funds made up of underlying securities that have readily available fair values (publicly traded stocks or bonds). The SIB owns units of these funds rather than the individual securities. Contributions or withdrawals from these funds can be made as needed, generally with daily or monthly liquidity, with a notice period of one to fifteen days. Because they are liquid funds, there are no unfunded commitments for these types of investments.

Private Equity — Private Equity investments are typically private interests in corporations across different areas of the capital structure and in different stages of the corporations' development via limited partnership vehicles. Private Equity investments are illiquid and long term in nature (10-12 years), typically held until maturity. Private Equity portfolios generally have a "J-Curve Effect" whereby there are low to negative returns in the initial years due to the payment of investment management fees and initial funding of

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investments made by the General Partner during a period when investments are typically carried at cost and returns have not been realized. To diversify the program, Private Equity investments are made across business cycles, vintage years, and different strategies. The SIB has a dedicated asset class for private equity investments. The SIB does not have the option to request redemptions from its private equity funds. The General Partner distributes earnings and proceeds from the sale of the underlying investments as transactions occur. The SIB has \$286.8 million and \$107.0 million in unfunded private equity commitments as of June 30, 2017 and 2016, respectively.

Venture Capital — these include investments in companies in a range of stages of development from start-up/seed stage, early stage, and later/expansion stage. Investments are typically made in years one through six and returns typically occur in years four through ten.

Buyouts — these include investments in funds that seek out and purchase underperforming or undervalued companies in order to improve them and sell them or take them public many years later. These funds are also often involved in management buyouts, which are buyouts conducted by the management of the company being purchased, and they often play key roles in leveraged buyouts, which are buyouts that are funded with borrowed money.

Distressed Debt — these include investments in the debt instruments of companies which may be publicly traded or privately held that are financially distressed and are either in bankruptcy or likely candidates for bankruptcy. Typical holdings are senior and subordinated debt instruments, mortgages and bank loans. The SIB is including these types of investments in its fixed income asset classes. As of June 30, 2017 and 2016, unfunded commitments in one of its two distressed debt funds totaled \$12.5 million and \$20.0 million, respectively. This fund is not eligible for redemptions. The other fund is eligible for redemptions with quarterly liquidity and 60 days notice, and has no unfunded commitment.

Mezzanine Debt — This strategy is a hybrid of debt and equity financing. It is essentially debt capital that gives the lender the rights to convert to an ownership or equity interest in the company if the loan is not paid back in time and in full. It is generally subordinated to senior debt. The SIB utilizes this strategy, through a limited partnership structure, in its below investment grade fixed income allocation. The two funds in this category are not eligible for redemptions, have remaining lives of 2-5 years, and unfunded commitments of \$8.5 million and \$13.2 million as of June 30, 2017 and 2016 respectively.

Equity Long/Short — This strategy is a combination of long and short positions, primarily in publicly traded equities. The SIB utilizes this strategy, through a limited partnership structure, within its US equity allocations. This is an open-ended fund with monthly liquidity with a notice period of 15 days. There was no unfunded commitment as of June 30, 2017 and 2016.

Real Estate and Real “Tangible” Assets — These investments are intended to provide allocations to tangible assets that are expected to be inflation protected and provide performance above the inflation rate as indicated by the CPI. Investments are generally structured as limited partnerships or limited liability companies. Investments in Real Estate and Real Assets include:

Real Estate — includes investments in private vehicles through limited partnerships or commingled vehicles that have an ownership interest in direct real estate properties. The investment strategies may include “value added” strategies, which derive their return from both income and appreciation, “opportunistic”, which derive their return primarily through appreciation, and “alternative” which invest

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in less traditional types of property. Both domestic and international real estate funds are utilized. The SIB has a dedicated asset class for these types of investments. There are currently 11 different real estate funds in the portfolio. Three of those funds are open-ended vehicles that accept redemption requests quarterly with a 30-90 day notification period. One fund is in wind-down and will be distributing the final proceeds within the next 6-12 months. The remaining seven funds are closed-ended limited partnerships that are not eligible for redemptions. Those eight funds have a combined unfunded commitment of \$78.4 million and \$112.2 million as of June 30, 2017 and 2016, respectively.

Timberland — includes investments in limited liability companies that have an ownership interest in properties where the value of the property is derived mainly from income-producing timber but also from the “higher and better use” value of the underlying land. The SIB has a dedicated asset class for these types of investments. There are three funds in the portfolio and they have no unfunded commitments. The funds are not eligible for redemption other than distributions of income and/or proceeds as determined by the investment manager. The funds have remaining lives of 2-8 years.

Infrastructure — includes investments in limited partnerships that have an ownership interest in transportation assets such as toll roads, tunnels and bridges; and regulated assets such as electricity transmission, gas and oil distribution and wastewater collection. Other possible investments would include communication assets and social infrastructure. The SIB has a dedicated asset class for these types of investments. The infrastructure investments in the portfolio as of June 30, 2017 and 2016, include both open and closed-ended funds. The open-ended funds have no unfunded commitments and are eligible for redemptions quarterly with 90 days notice. There may be a 3-12 month queue for receiving redemptions. The closed-ended funds have unfunded commitments of \$85.0 million and \$100.1 million at June 30, 2017 and 2016, respectively, and are not eligible for redemptions.

Securities Lending

State statutes permit and the SIB has authorized the use of securities lending – loans of securities to broker-dealers and other entities for collateral with a simultaneous agreement to return the collateral for the same securities in the future. Northern Trust is the securities lending agent for the SIB. Securities are loaned versus collateral that may include cash, U.S. government securities and irrevocable letters of credit. U.S. securities are loaned versus collateral valued at 102% of the market value of the securities plus any accrued interest. Non-U.S. securities are loaned versus collateral valued at 105% of the market value of the securities plus any accrued interest.

Non-cash collateral cannot be pledged or sold unless the borrower defaults. All securities loans can be terminated on demand by either the lender or the borrower, although the average term of SIB loans was approximately 59 and 69 days as of June 30, 2017 and 2016, respectively. Cash open collateral is invested in a short term investment pool, which had an interest sensitivity of 3 days and 1 day as of June 30, 2017 and 2016. This pool is valued based on amortized cost. There were no violations of legal or contractual provisions, no borrower or lending agent default losses known to the securities lending agent. There are no dividends or coupon payments owing on the securities lent. Securities lending earnings are credited to participating clients on approximately the fifteenth day of the following month.

Indemnification deals with the situation in which a client's securities are not returned due to the insolvency of a borrower and Northern Trust has failed to live up to its contractual responsibilities relating to the lending of those securities. Northern Trust's responsibilities include performing appropriate borrower and collateral investment credit analyses, demanding adequate types and levels of collateral, and complying with applicable Department of

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Labor and Federal Financial Institutions Examination Council regulations concerning securities lending.

For securities loaned at fiscal year end, the SIB has no credit risk exposure to borrowers because the amounts the SIB owes the borrowers exceeds the amounts the borrowers owe the SIB.

The following represents the balances relating to the securities lending transactions at June 30, 2017 and 2016 (expressed in thousands).

| | | Non-Cash | Cash |
|---|-------------------|-------------------|-------------------|
| | Securities | Collateral | Collateral |
| | Lent | Value | Investment |
| | | | Value |
| 2017 | | | |
| Lent for cash collateral: | | | |
| US agency securities | \$ 546 | \$ - | \$ 558 |
| US government securities | 2,268 | - | 2,326 |
| US corporate fixed income securities | 23,063 | - | 23,596 |
| Global government fixed income securities | 3,285 | - | 3,443 |
| US equities | 43,984 | - | 45,032 |
| Global equities | 2,531 | - | 2,714 |
| Lent for non-cash collateral: | | | |
| US agency securities | 4,978 | 5,071 | - |
| US government securities | 2,089 | 2,128 | - |
| US corporate fixed income securities | 112,041 | 114,160 | - |
| US equities | 187,733 | 191,606 | - |
| Global equities | 40,229 | 42,734 | - |
| Total | <u>\$ 422,747</u> | <u>\$ 355,699</u> | <u>\$ 77,669</u> |

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| 2016 | Securities Lent | Non-Cash Collateral Value | Cash Collateral Investment Value |
|---|--------------------|---------------------------------|---|
| Lent for cash collateral: | | | |
| US agency securities | \$ 10 | \$ - | \$ 10 |
| US government securities | 10,435 | - | 10,603 |
| US corporate fixed income securities | 29,492 | - | 29,954 |
| Global government fixed income securities | 2,992 | - | 3,125 |
| US equities | 65,991 | - | 66,969 |
| Global equities | 5,603 | - | 5,909 |
| Lent for non-cash collateral: | | | |
| US agency securities | - | - | - |
| US government securities | 212 | 216 | - |
| US corporate fixed income securities | 1,574 | 1,599 | - |
| US equities | 18,636 | 18,949 | - |
| Global equities | 20,525 | 21,776 | - |
| Total | <u>\$ 155,470</u> | <u>\$ 42,540</u> | <u>\$ 116,570</u> |

Note 4 - Capital Assets

| | June 30, 2015 | Additions | Retirements | June 30, 2016 | Additions | Retirements | June 30, 2017 |
|---|---------------|-------------|-------------|---------------|-----------------|-------------|-----------------|
| Office equipment | \$19,321 | \$ - | \$ - | \$19,321 | \$ 8,999 | \$ (11,441) | \$16,879 |
| Less accumulated depreciation on office equipment | (19,321) | - | - | (19,321) | (450) | 11,441 | (8,330) |
| Software | 1,213,500 | - | - | 1,213,500 | - | - | 1,213,500 |
| Less accumulated depreciation on software | (1,213,500) | - | - | (1,213,500) | - | - | (1,213,500) |
| | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 8,549</u> | <u>\$ -</u> | <u>\$ 8,549</u> |

Note 5 - State Agency Transactions

Due From/To Other State Agencies

Amounts due from/to other state agencies are as follows as of June 30, 2017 and 2016:

| | <u>2017</u> | <u>2016</u> |
|-----------------------------------|-----------------|------------------|
| Due To | | |
| Information Technology Department | \$ 6,617 | \$ 8,469 |
| Office of Attorney General | 1,356 | 8,666 |
| Office of Management and Budget | <u>289</u> | <u>154</u> |
| Total due to other state agencies | <u>\$ 8,262</u> | <u>\$ 17,289</u> |
| Due From | | |
| Surplus Property | <u>\$ 50</u> | <u>\$ -</u> |

These balances are a result of a time lag between the dates that services are provided, the payments are made, and the transactions are entered into the accounting system.

Note 6 - Operating Leases

RIO leased office space under an operating lease effective July 1, 2015 through June 30, 2017. RIO also incurs rent expense at other locations on a temporary basis to sponsor retirement education for TFR members. Rent expense totaled \$82,861 and \$81,886 for fiscal years 2017 and 2016, respectively. RIO has entered into a new lease effective July 1, 2017 through June 30, 2019. Minimum payments under that lease for fiscal 2018 and 2019 are \$86,171 annually.

Note 7 - Changes in Noncurrent Liabilities

Changes in noncurrent liabilities are included in accrued expenses in the statements of changes in net position. The changes for the years ended June 30, 2017 and 2016 are summarized as follows:

| | Beginning Balance <u>7/1/2016</u> | <u>Additions</u> | <u>Reductions</u> | Ending Balance <u>6/30/2017</u> | Amounts Due Within <u>One Year</u> |
|---------------|---|------------------|--------------------|---------------------------------------|--|
| Accrued Leave | <u>\$171,503</u> | <u>\$144,423</u> | <u>(\$139,062)</u> | <u>\$176,864</u> | <u>\$109,212</u> |
| | Beginning Balance <u>7/1/2015</u> | <u>Additions</u> | <u>Reductions</u> | Ending Balance <u>6/30/2016</u> | Amounts Due Within <u>One Year</u> |
| Accrued Leave | <u>\$155,443</u> | <u>\$138,889</u> | <u>(\$122,829)</u> | <u>\$171,503</u> | <u>\$96,470</u> |

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Pension and Investment Trust Funds liquidate the accrued annual leave.

Note 8 - North Dakota Teachers' Fund for Retirement

Administration

The following brief description of TFFR is provided for general information purposes only. Participants should refer to NDCC Chapter 15-39.1 for more complete information.

TFFR is a cost-sharing multiple-employer defined benefit pension plan covering all North Dakota public teachers and certain other teachers who meet various membership requirements. TFFR provides for pension, death and disability benefits. The cost to administer the TFFR plan is financed by investment income and contributions.

Responsibility for administration of the TFFR benefits program is assigned to a seven-member Board of Trustees (Board). The Board consists of the State Treasurer, the Superintendent of Public Instruction, and five members appointed by the Governor. The appointed members serve five-year terms which end on June 30 of alternate years. The appointed Board members must include two active teachers, one active school administrator, and two retired members. The TFFR Board submits any necessary or desirable changes in statutes relating to the administration of the fund, including benefit terms, to the Legislative Assembly for consideration. The Legislative Assembly has final authority for changes to benefit terms and contribution rates.

Membership

As of June 30, 2017 and 2016, the number of participating employer units was 215 and 214, respectively, consisting of the following:

| | <u>June 30, 2017</u> | <u>June 30, 2016</u> |
|----------------------------|----------------------|----------------------|
| Public School Districts | 176 | 176 |
| County Superintendents | 6 | 6 |
| Special Education Units | 19 | 19 |
| Vocational Education Units | 5 | 5 |
| Other | 9 | 8 |
| Total | <u>215</u> | <u>214</u> |

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TFFR's membership consisted of the following:

| | 2017 | 2016 |
|---|---------------|---------------|
| Retirees and beneficiaries currently receiving benefits | 8,501 | 8,249 |
| Terminated employees - vested | 1,600 | 1,601 |
| Terminated employees - nonvested | 878 | 779 |
| Total | <u>10,979</u> | <u>10,629</u> |
| Current employees | | |
| Vested | 7,543 | 7,433 |
| Nonvested | <u>3,331</u> | <u>3,380</u> |
| Total | <u>10,874</u> | <u>10,813</u> |

Member and Employer Contributions

Member and employer contributions paid to TFFR are set by NDCC Section 15-39.1-09. Every eligible teacher in the State of North Dakota is required to be a member of TFFR and is assessed at a rate of 11.75% of salary as defined by NDCC Section 15-39.1-04. Every governmental body employing a teacher must also pay into TFFR a sum equal to 12.75% of the teacher's salary. Member and employer contributions will be reduced to 7.75% each when the fund reaches 100% funded ratio on an actuarial basis.

A vested member who terminates covered employment may elect a refund of contributions paid plus 6% interest or defer payment until eligible for pension benefits. A nonvested member who terminates covered employment must claim a refund of contributions paid before age 70½. Refunded members forfeit all service credits under TFFR. These service credits may be repurchased upon return to covered employment under certain circumstances, as defined by the NDCC.

Pension Benefits

For purposes of determining pension benefits, members are classified within one of three categories. Tier 1 grandfathered and Tier 1 non-grandfathered members are those with service credit on file as of July 1, 2008. Tier 2 members are those newly employed and returning refunded members on or after July 1, 2008.

Tier 1 Grandfathered

A Tier 1 grandfathered member is entitled to receive unreduced benefits when three or more years of credited service as a teacher in North Dakota have accumulated, the member is no longer employed as a teacher and the member has reached age 65, or the sum of age and years of service credit equals or exceeds 85. TFFR permits early retirement from ages 55 to 64, with benefits actuarially reduced by 6% per year for every year the member's retirement age is less than 65 years or the date as of which age plus service equal 85. In either case, benefits may not exceed the maximum benefits specified in Section 415 of the Internal Revenue Code.

Pension benefits paid by TFFR are determined by NDCC Section 15-39.1-10. Monthly benefits under TFFR are equal to the three highest annual salaries earned divided by 36 months and multiplied by 2.00% times the number

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of service credits earned. Retirees may elect payment of benefits in the form of a single life annuity, 100% or 50% joint and survivor annuity, ten or twenty-year term certain annuity, partial lump-sum option or level income with Social Security benefits. Members may also qualify for benefits calculated under other formulas.

Tier 1 Non-grandfathered

A Tier 1 non-grandfathered member is entitled to receive unreduced benefits when three or more years of credited service as a teacher in North Dakota have accumulated, the member is no longer employed as a teacher and the member has reached age 65, or has reached age 60 and the sum of age and years of service credit equals or exceeds 90. TFFR permits early retirement from ages 55 to 64, with benefits actuarially reduced by 8% per year from the earlier of age 60/Rule of 90 or age 65. In either case, benefits may not exceed the maximum benefits specified in Section 415 of the Internal Revenue Code.

Pension benefits paid by TFFR are determined by NDCC Section 15-39.1-10. Monthly benefits under TFFR are equal to the three highest annual salaries earned divided by 36 months and multiplied by 2.00% times the number of service credits earned. Retirees may elect payment of benefits in the form of a single life annuity, 100% or 50% joint and survivor annuity, ten or twenty-year term certain annuity, partial lump-sum option or level income with Social Security benefits. Members may also qualify for benefits calculated under other formulas.

Tier 2

A Tier 2 member is entitled to receive unreduced benefits when five or more years of credited service as a teacher in North Dakota have accumulated, the member is no longer employed as a teacher and the member has reached age 65, or has reached age 60 and the sum of age and years of service credit equals or exceeds 90. TFFR permits early retirement from ages 55 to 64, with benefits actuarially reduced by 8% per year from the earlier of age 60/Rule of 90 or age 65. In either case, benefits may not exceed the maximum benefits specified in Section 415 of the Internal Revenue Code.

Pension benefits paid by TFFR are determined by NDCC Section 15-39.1-10. Monthly benefits under TFFR are equal to the five highest annual salaries earned divided by 60 months and multiplied by 2.00% times the number of service credits earned. Retirees may elect payment of benefits in the form of a single life annuity, 100% or 50% joint and survivor annuity, ten or twenty-year term certain annuity, partial lump-sum option or level income with Social Security benefits. Members may also qualify for benefits calculated under other formulas.

Death and Disability Benefits

Death benefits may be paid to a member's designated beneficiary. If a member's death occurs before retirement, the benefit options available are determined by the member's vesting status prior to death. If a member's death occurs after retirement, the death benefit received by the beneficiary (if any) is based on the retirement plan the member selected at retirement.

An active member is eligible to receive disability benefits when: (a) a total disability lasting 12 months or more does not allow the continuation of teaching, (b) the member has accumulated five years of credited service in North Dakota, and (c) the Board of Trustees of TFFR has determined eligibility based upon medical evidence. The amount of the disability benefit is computed by the retirement formula in NDCC Section 15-39.1-10 without consideration of age and uses the member's actual years of credited service. There is no actuarial reduction for reason of disability retirement.

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Investment Rate of Return

The annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 12.81% and 0.39% for the years ended June 30, 2017 and 2016, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Realized Gains and Losses

Realized gains and losses on sales of investments are components of net change in fair value of investments and are computed as described in Note 1. For the years ended June 30, 2017 and 2016, TFFR had net realized gains of \$72,282,438 and \$60,426,737, respectively.

Net Pension Liability

The components of the net pension liability of TFFR at June 30, 2017 and 2016 (expressed in thousands), were as follows:

| | June 30, 2017 | June 30, 2016 |
|--|---------------------|---------------------|
| Total pension liability | \$ 3,734,017 | \$ 3,589,394 |
| Plan fiduciary net position | <u>(2,360,491)</u> | <u>(2,124,335)</u> |
| Net pension liability (NPL) | <u>\$ 1,373,526</u> | <u>\$ 1,465,059</u> |
| Plan fiduciary net position as a percentage of the total pension liability | 63.2% | 59.2% |

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of July 1, 2017 and 2016, using the following actuarial assumptions:

| Valuation date | July 1, 2017 | July 1, 2016 |
|----------------------------|---|---|
| Inflation | 2.75% | 2.75% |
| Salary increases | 4.25% to 14.50%; varying by service, including inflation and productivity | 4.25% to 14.50%; varying by service, including inflation and productivity |
| Cost of living adjustments | None | None |
| Investment rate of return | 7.75% net of investment expenses, including inflation | 7.75% net of investment expenses, including inflation |

For active and inactive members, mortality rates were based on the RP-2014 Employee Mortality Table projected generationally using Scale MP-2014. For healthy retirees, mortality rates were based on the RP-2014 Healthy Annuitant Mortality Table set back one year, multiplied by 50% for ages under 75 and grading up to 100% by age 80, projected generationally using Scale MP-2014. For disabled retirees, mortality rates were based on the RP-2014 Disabled Mortality Table set forward four years.

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The actuarial assumptions used in the July 1, 2017 and 2016 valuations were based on the results of an actuarial experience study dated April 30, 2015, for the period July 1, 2009 – June 30, 2014. An actuarial experience study is generally conducted every five years.

The TFFR Board is responsible for establishing investment policy for the fund assets under NDCC 15-39.1-05.2. Benefit payments are projected to occur over a long period of time. This allows TFFR to adopt a long-term investment horizon and asset allocation policy for the management of fund assets. Asset allocation policy is critical because it defines the basic risk and return characteristics of the investment portfolio. Asset allocation targets are established using an asset-liability analysis designed to assist the Board in determining an acceptable volatility target for the fund and an optimal asset allocation policy mix. This asset-liability analysis considers both sides of the plan balance sheet, utilizing both quantitative and qualitative inputs, in order to estimate the potential impact of various asset class mixes on key measures of total plan risk, including the resulting estimated impact of funded status and contribution rates.

The long-term expected rate of return on TFFR investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the TFFR target asset allocation as of June 30, 2017 and 2016 are summarized in the following tables:

| 2017 | | Long-Term Expected |
|---------------------|-------------------|-----------------------|
| | Target | Real Rate of |
| <u>Asset Class</u> | <u>Allocation</u> | <u>Return</u> |
| Global Equity | 58.0% | 6.7% |
| Global Fixed Income | 23.0% | 0.8% |
| Global Real Assets | 18.0% | 5.2% |
| Cash Equivalents | 1.0% | 0.0% |

| 2016 | | Long-Term Expected |
|---------------------|-------------------|-----------------------|
| | Target | Real Rate of |
| <u>Asset Class</u> | <u>Allocation</u> | <u>Return</u> |
| Global Equity | 58.0% | 7.3% |
| Global Fixed Income | 23.0% | 0.9% |
| Global Real Assets | 18.0% | 5.3% |
| Cash Equivalents | 1.0% | 0.0% |

Private equity is included in the Global Equity asset class.

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As part of the most recent asset/liability study, the total fund real rate of return was upwardly adjusted by 0.50% to reflect a longer investment time horizon than is assumed in the investment consultant's expected returns and to account for above benchmark returns achieved through active management. In order to estimate the nominal rate of return, the real rate of return was adjusted upward by 2.75% for expected inflation.

Discount Rate

The discount rate used to measure the total pension liability was 7.75% as of June 30, 2017 and 2016. The projection of cash flows used to determine the discount rate assumed that member and employer contributions will be made at rates equal to those based on the July 1, 2017 and 2016 Actuarial Valuation Report. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, TFFR's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members as of July 1, 2017 and 2016. Therefore, the long-term expected rate of return on TFFR investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2017 and 2016.

Sensitivity of Net Pension Liability

The following presents the net pension liability of the TFFR employers calculated using the discount rate of 7.75% as of June 30, 2017 and 2016, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

| | | | |
|----------------------------------|------------------------|----------------------------------|------------------------|
| 2017 | | | |
| | 1% Decrease (6.75%) | Current Discount Rate (7.75%) | 1% Increase (8.75%) |
| Employers' net pension liability | \$ 1,826,126,843 | \$ 1,373,525,753 | \$ 996,748,988 |
| 2016 | | | |
| | 1% Decrease (6.75%) | Current Discount Rate (7.75%) | 1% Increase (8.75%) |
| Employers' net pension liability | \$ 1,900,291,033 | \$ 1,465,058,563 | \$ 1,102,551,032 |

Note 9 - Public Employees Retirement System (PERS)

Permanent employees of RIO participate in PERS, which is also an agency of the State of North Dakota financial reporting entity and is included in the State of North Dakota's Comprehensive Annual Financial Report. The following brief description of NDPERS is provided for general information purposes only. Participants should refer to NDCC Chapter 54-52 for more complete information.

NDPERS is a cost-sharing multiple-employer defined benefit pension plan that covers substantially all employees of the State of North Dakota, its agencies and various participating political subdivisions (Main System). NDPERS provides for pension, death and disability benefits. The cost to administer the plan is financed through the contributions and investment earnings of the plan.

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Responsibility for administration of the NDPERS defined benefit pension plan is assigned to a Board comprised of seven members. The Board consists of a Chairman, who is appointed by the Governor, one member appointed by the Attorney General; one member appointed by the State Health Officer; three members elected by the active membership of the NDPERS system; and one member elected by the retired public employees. Effective July 1, 2015, the board was expanded to include two members of the legislative assembly appointed by the chairman of the legislative management.

Pension Benefits

Benefits are set by statute. NDPERS has no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases. Members of the Main System are entitled to unreduced monthly pension benefits beginning when the sum of age and years of credited service equal or exceed 85 (Rule of 85), or at normal retirement age (65). For members hired on or after January 1, 2016 the Rule of 85 is replaced with the Rule of 90 with a minimum age of 60. The monthly pension benefit is equal to 2.00% of their average monthly salary, using the highest 36 months out of the last 180 months of service, for each year of service. The plan permits early retirement at ages 55-64 with three or more years of service.

Members may elect to receive the pension benefits in the form of a single life, joint and survivor, term-certain annuity, or partial lump sum with ongoing annuity. Members may elect to receive the value of their accumulated contributions, plus interest, as a lump sum distribution upon retirement or termination, or they may elect to receive their benefits in the form of an annuity. For each member electing an annuity, total payment will not be less than the members' accumulated contributions plus interest.

Death and Disability Benefits

Death and disability benefits are set by statute. If an active member dies with less than three years of service, a death benefit equal to the value of the member's accumulated contributions, plus interest, is paid to the member's beneficiary. If the member has earned more than three years of credited service, the surviving spouse will be entitled to a single payment refund, life-time monthly payment in an amount equal to 50% of the member's accrued normal retirement benefit, or monthly payments in an amount equal to the member's accrued 100% Joint and Survivor retirement benefit if the member had reached normal retirement age prior to date of death. If the surviving spouse dies before the member's accumulated pension benefits are paid, the balance will be payable to the surviving spouse's beneficiary.

Eligible members, who become totally disabled after a minimum of 180 days of service, receive monthly disability benefits equal to 25% of their final average salary with a minimum benefit of \$100. To qualify under this section, the member has to become disabled during the period of eligible employment and apply for benefits within one year of termination. The definition for disabled is set by the System in the North Dakota Administrative Code.

Refunds of Member Contributions

Upon termination, if a member is not vested (is not 65 or does not have three years of service credited for the NDPERS) they will receive the accumulated member contributions plus interest, or may elect to receive this amount at a later date. If a member has vested, they have the option of applying for a refund or can remain as a terminated vested participant. If a member terminated and withdrew their accumulated member contributions and is subsequently reemployed, they have the option of repurchasing their previous service.

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Member and Employer Contributions

Member and employer contributions paid to NDPERS are set by statute and are established as a percent of salaries and wages. Member contribution rates are 7% and employer contribution rates are 7.12% of covered compensation.

The member's account balance includes the vested employer contributions equal to the member's contributions to an eligible deferred compensation plan. The minimum member contribution is \$25 and the maximum may not exceed the following:

- 1 to 12 months of service – Greater of one percent of monthly salary or \$25
- 13 to 24 months of service – Greater of two percent of monthly salary or \$25
- 25 to 36 months of service – Greater of three percent of monthly salary or \$25
- Longer than 36 months of service – Greater of four percent of monthly salary or \$25

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2017 and 2016, RIO reported a liability of \$1,490,832 and \$989,688, respectively, for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2016 and 2015, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. RIO's proportion of the net pension liability was based on RIO's share of covered payroll in the pension plan relative to the covered payroll of all participating NDPERS Main System employers. At June 30, 2016, RIO's proportion was 0.152969 percent and as of June 30, 2015, RIO's proportion was 0.145546 percent.

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For the years ended June 30, 2017 and 2016, RIO recognized pension expense of \$121,469 and \$122,885, respectively. At June 30, 2017 and 2016, RIO reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

| | Deferred Outflows of Resources | | Deferred Inflows of Resources | |
|---|-----------------------------------|-------------------|----------------------------------|-------------------|
| | 2017 | 2016 | 2017 | 2016 |
| Differences between expected and actual experience | \$ 22,395 | \$ 28,712 | \$ 13,805 | \$ - |
| Changes in assumptions | 137,436 | - | 74,065 | 88,177 |
| Net differences between projected and actual earnings on pension plan investments | 207,993 | - | | 20,892 |
| Changes in proportion and differences between employer contributions and proportionate share of contributions | 155,225 | 145,647 | | 3,512 |
| Employer contributions subsequent to the measurement date | <u>113,616</u> | <u>107,345</u> | | <u>-</u> |
| Total | <u>\$ 636,665</u> | <u>\$ 281,704</u> | <u>\$ 87,870</u> | <u>\$ 112,581</u> |

Deferred outflows of resources related to pensions resulting from employer contributions subsequent to the measurement date in the amount of \$113,616 will be recognized as a reduction of the net pension liability in the year ended June 30, 2018.

Other amounts reported as deferred outflows of resources and (deferred inflows of resources) related to pensions will be recognized in pension expense as follows:

| Year Ended June 30 | |
|--------------------|-------------------|
| 2018 | \$ 87,559 |
| 2019 | 87,559 |
| 2020 | 132,932 |
| 2021 | 97,977 |
| 2022 | <u>29,152</u> |
| | <u>\$ 435,179</u> |

Actuarial assumptions

The total pension liability in the July 1, 2016 and 2015 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|----------------------------------|-----------------------------------|
| Inflation | 3.50% |
| Salary increase (Payroll Growth) | 4.50% per annum |
| Investment Rate of Return | 8.00%, net of investment expenses |
| Cost of Living Adjustment | None |

For active members, inactive members and healthy retirees, mortality rates were based on the RP-2000 Combined Healthy Mortality Table set back two years for males and three years for females, projected generationally using the SSA 2014 Intermediate Cost scale from 2014. For disabled retirees, mortality rates were based on the RP-2000 Disabled Mortality Table set back one year for males (no setback for females) multiplied by 125%.

The actuarial assumptions used were based on the results of an actuarial experience study completed in 2015. They are the same as the assumptions used in the July 1, 2016 and 2015, funding actuarial valuation for NDPERS.

As a result of the 2015 actuarial experience study, the NDPERS Board adopted several changes to the actuarial assumptions effective July 1, 2015. This includes changes to the mortality tables, disability incidence rates, retirement rates, administrative expenses, salary scale, and percent married assumption.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Fund's target asset allocation are summarized in the following table:

| <u>Asset Class</u> | <u>Target Allocation</u> | <u>Long-Term Expected Real Rate of Return</u> |
|---------------------|------------------------------|---|
| Global Equity | 58% | 7.2% |
| Global Fixed Income | 23% | 1.1% |
| Global Real Assets | 18% | 5.2% |
| Cash Equivalents | 1% | 0.0% |

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Discount rate

The discount rate used to measure the total pension liability was 8 percent as of June 30, 2016. The projection of cash flows used to determine the discount rate assumes that member and employer contributions will be made at rates equal to those based on the July 1, 2016 Actuarial Valuation Report. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments for current plan members as of June 30, 2016. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2016.

Sensitivity of the Employer's proportionate share of the net pension liability to changes in the discount rate

The following presents the Employer's proportionate share of the net pension liability calculated using the discount rate of 8 percent, as well as what the Employer's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (7 percent) or 1-percentage-point higher (9 percent) than the current rate:

| | | | |
|----------------------------------|---------------------|-------------------------------|---------------------|
| 2017 | | | |
| | 1% Decrease (7%) | Current Discount Rate (8%) | 1% Increase (9%) |
| Employers' net pension liability | \$ 2,114,716 | \$ 1,490,832 | \$ 965,177 |
| 2016 | | | |
| | 1% Decrease (7%) | Current Discount Rate (8%) | 1% Increase (9%) |
| Employers' net pension liability | \$ 1,517,637 | \$ 989,688 | \$ 557,730 |

Pension plan fiduciary net position

Detailed information about the pension plan's fiduciary net position is available in the separately issued NDPERS Comprehensive Annual Financial Report. This report can be accessed on the NDPERS website at <https://ndpers.nd.gov/about/financial/annual-report-archive/>.

Note 10 - Related Parties

As stated in Note 1, RIO is an agency of the State of North Dakota; as such, other agencies of the state are related parties.

Note 11 - Contingencies/Litigation

The State Investment Board has been named as a defendant in two cases, arising out of the Tribune and General Motors bankruptcy proceedings, relating to securities that were purchased by external investment managers in one or more portfolios held by the SIB on behalf of its investment client funds. Outside counsel has been retained for both cases, in addition to assistance received from the ND Office of Attorney General. As of June 30, 2017, no liability has been recorded for the General Motors bankruptcy proceedings as it is too early in the litigation process to reasonably determine whether any payments will be required. The claim against the SIB in the Tribune bankruptcy litigation has been dismissed, but a final order has not been entered because the Court has yet to decide the remaining claims in the case against unrelated defendants. Any final judgment (including with respect to the claim against the SIB) is subject to appeal. Accordingly, no liability has been recorded at this time.

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios
North Dakota Teachers' Fund for Retirement
Last 10 Fiscal Years*
(Dollars in thousands)

| | 2017 | 2016 | 2015 | 2014 |
|---|--------------------|--------------------|--------------------|---------------------|
| Total pension liability | | | | |
| Service cost | \$ 75,476 | \$ 68,239 | \$ 60,618 | \$ 56,752 |
| Interest | 276,412 | 265,440 | 249,064 | 237,821 |
| Changes of benefit terms | - | - | - | - |
| Differences between expected and actual experience | (10,749) | (8,093) | 2,209 | 9,347 |
| Changes of assumptions | - | - | 171,325 | - |
| Benefit payments, including refunds of member contributions | (196,516) | (185,969) | (172,239) | (162,259) |
| Net change in total pension liability | 144,623 | 139,617 | 310,977 | 141,661 |
| Total pension liability - beginning | 3,589,394 | 3,449,777 | 3,138,800 | 2,997,139 |
| Total pension liability - ending (a) | \$3,734,017 | \$3,589,394 | \$3,449,777 | \$ 3,138,800 |
| Plan fiduciary net position | | | | |
| Contributions - employer | \$ 86,059 | \$ 82,840 | \$ 78,422 | \$ 62,355 |
| Contributions - member | 79,309 | 76,343 | 72,268 | 56,555 |
| Contributions - purchased service credit | 2,553 | 2,768 | 1,601 | 2,034 |
| Contributions - other | 236 | 45 | 172 | 48 |
| Net investment income | 266,688 | 8,239 | 73,205 | 294,246 |
| Benefit payments, including refunds of member contributions | (196,516) | (185,969) | (172,239) | (162,259) |
| Administrative expenses | (2,173) | (1,852) | (1,923) | (1,586) |
| Net change in plan fiduciary net position | 236,156 | (17,586) | 51,506 | 251,393 |
| Plan fiduciary net position - beginning ** | 2,124,335 | 2,141,921 | 2,090,415 | 1,839,584 |
| Plan fiduciary net position - ending (b) | \$2,360,491 | \$2,124,335 | \$2,141,921 | \$ 2,090,977 |
| Plan's net pension liability - ending (a) - (b) | \$1,373,526 | \$1,465,059 | \$1,307,856 | \$ 1,047,823 |
| Plan fiduciary net position as a percentage of the total pension liability | 63.2% | 59.2% | 62.1% | 66.6% |
| Covered-employee payroll | \$ 674,971 | \$ 649,725 | \$ 615,105 | \$ 580,053 |
| Plan's net pension liability as a percentage of covered-employee payroll | 203.5% | 225.5% | 212.6% | 180.6% |

Notes to Schedule:

* Complete data for this schedule is not available prior to 2014.

** Restated in 2015 due to GASB 68 implementation.

Changes of assumptions: In 2015, amounts reported as changes of assumptions resulted primarily from a decrease in the investment return assumption from 8% to 7.75% and an updated mortality improvement scale.

Schedule of Employer Contributions
North Dakota Teachers' Fund for Retirement
Last 10 Fiscal Years
(Dollars in thousands)

| Fiscal Year | Actuarially determined contribution | Contributions in relation to the actuarially determined contribution | Contribution deficiency (excess) | Covered- employee payroll | Contributions as a percentage of covered- employee payroll |
|-------------|---|--|--|---------------------------------|---|
| 2008 | \$ 44,115 | \$ 33,684 | \$ 10,431 | \$ 434,626 | 7.75% |
| 2009 | 41,986 | 37,488 | 4,498 | 454,396 | 8.25% |
| 2010 | 52,053 | 39,837 | 12,216 | 482,868 | 8.25% |
| 2011 | 65,113 | 44,545 | 20,568 | 509,091 | 8.75% |
| 2012 | 69,374 | 46,126 | 23,248 | 527,156 | 8.75% |
| 2013 | 52,396 | 59,301 | (6,905) | 551,656 | 10.75% |
| 2014 | 59,513 | 62,355 | (2,842) | 580,053 | 10.75% |
| 2015 | 71,168 | 78,422 | (7,254) | 615,105 | 12.75% |
| 2016 | 84,724 | 82,840 | 1,884 | 649,725 | 12.75% |
| 2017 | 89,231 | 86,059 | 3,172 | 674,971 | 12.75% |

Notes to Schedule

Valuation Date: Actuarially determined contributions for each fiscal year are based on the actuarial valuation as of the beginning of the year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

| | |
|-------------------------------|--|
| Actuarial cost method | Entry age |
| Amortization method | Level percentage of payroll, closed |
| Remaining amortization period | 26 years |
| Asset valuation method | 5-year smoothed market |
| Inflation | 2.75%; decreased from 3% prior to July 1, 2015. |
| Salary increases | 4.25% - 14.5%, including inflation and productivity; 4.5% - 14.75% prior to July 1, 2015. |
| Investment rate of return | 7.75%, net of investment expenses, including inflation. Rate was decreased from 8% beginning July 1, 2015. |
| Retirement age | In the 2015 valuation, rates of retirement were changed to better reflect anticipated future experience. In the 2010 valuation, expected retirement ages of plan members were adjusted to more closely reflect actual experience. |
| Mortality | In the 2015 valuation, assumed life expectancies were adjusted as a result of adopting the RP-2014 mortality tables with generational improvement. In prior years, those assumptions were based on percentages of GRS post termination non-disabled tables and RP-2000 disabled-life tables. |

Schedule of Investment Returns
North Dakota Teachers' Fund for Retirement
Last 10 Fiscal Years*

| | <u>2017</u> | <u>2016</u> | <u>2015</u> | <u>2014</u> | <u>2013</u> |
|--|-------------|-------------|-------------|-------------|-------------|
| Annual money-weighted rate of return, net of investment expense | 12.81% | 0.39% | 3.56% | 16.35% | 13.60% |

***Note:** Annual money-weighted rates of return not available prior to 2013.

Schedule of Employer's Share of Net Pension Liability
ND Public Employees Retirement System
Last 10 Fiscal Years*
(Dollars in thousands)

| | <u>2017</u> | <u>2016</u> | <u>2015</u> |
|---|------------------|------------------|------------------|
| RIO's proportion of NDPERS net pension liability (asset) | <u>0.152969%</u> | <u>0.145546%</u> | <u>0.121849%</u> |
| RIO's proportionate share of NDPERS net pension liability (asset) | <u>\$ 1,491</u> | <u>\$ 990</u> | <u>\$ 773</u> |
| RIO's covered-employee payroll | <u>\$ 1,507</u> | <u>\$ 1,377</u> | <u>\$ 1,026</u> |
| RIO's proportionate share of NDPERS net pension liability (asset) as a percentage of its covered-employee payroll | <u>98.94%</u> | <u>71.90%</u> | <u>75.34%</u> |
| NDPERS Plan fiduciary net position as a percentage of the total pension liability | <u>70.46%</u> | <u>77.15%</u> | <u>77.70%</u> |

*Complete data for this schedule is not available prior to 2015.

Amounts presented for each fiscal year have a measurement date of the previous fiscal year end.

Schedule of Employer Contributions
ND Public Employees Retirement System
Last 10 Years*
(Dollars in thousands)

| | <u>2017</u> | <u>2016</u> | <u>2015</u> | <u>2014</u> |
|--|-------------|-------------|-------------|-------------|
| RIO's Statutorily required contributions | \$ 114 | \$ 107 | \$ 98 | \$ 73 |
| RIO's Contributions in relation to the statutory required contribution | <u>114</u> | <u>107</u> | <u>98</u> | <u>73</u> |
| Contribution deficiency (excess) | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> |
| RIO's Covered-employee payroll | \$ 1,596 | \$ 1,507 | \$ 1,377 | \$ 1,026 |
| RIO's Contributions as a percentage of covered-employee payroll | 7.12% | 7.12% | 7.12% | 7.12% |

*Complete data for this schedule is not available prior to 2014.

| | Pension Pool Participants | | | | | Insurance Pool Participants | | | | | | |
|--|---------------------------|---------------|---------------|---------------|---|-----------------------------|---------------|------------------|--------------|--------------|------------|--------------|
| | Public | Bismarck | Bismarck | City of | City of Grand Forks Park District | Workforce | State | State Bonding | Petroleum | Insurance | Cultural | Risk |
| | Employees | City | City | Grand Forks | | Safety & | Fire & | | Tank | Regulatory | Endowment | |
| | Retirement | Employee | Police | Employee | | Grand Forks | Tornado | | Release | Trust | Fund | |
| | System | Pension Plan | Pension Plan | Pension Plan | | Insurance | | | Comp. Fund | Fund | Fund | Mgmt |
| Assets: | | | | | | | | | | | | |
| Investments | | | | | | | | | | | | |
| Equities | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Equity pool | 1,545,325,416 | 39,619,222 | 17,988,730 | 35,188,399 | 3,749,992 | 468,704,171 | 7,700,401 | - | - | 1,590,266 | 237,498 | 1,740,072 |
| Fixed income | - | - | - | - | - | - | - | - | - | - | - | - |
| Fixed income pool | 63,195,477 | 3,121,832 | 11,035,760 | 15,349,945 | 1,532,157 | 996,919,448 | 11,994,245 | 1,832,575 | 3,147,347 | 1,841,923 | 159,492 | 3,708,392 |
| Real assets | | | | | | | | | | | | |
| Real assets pool | 504,434,723 | 18,367,467 | 7,628,749 | 9,602,403 | 626,178 | 404,652,132 | - | - | - | - | 21,400 | - |
| Private equity pool | 83,862,751 | 2,391,283 | 1,328,566 | 2,376,851 | 226,210 | - | - | - | - | - | - | - |
| Cash pool | 10,472,896 | 241,073 | 97,062 | 824,548 | 214,15 | 14,865,520 | 2,180,276 | 151,657,1 | 3,194,278 | 1,848,607 | 12,918 | 286,493 |
| Total investments | 2,776,050,553 | 91,837,877 | 38,078,867 | 63,342,146 | 6,155,952 | 1,885,141,271 | 21,874,922 | 3,349,146 | 6,341,625 | 5,280,796 | 431,308 | 5,734,957 |
| Invested securities lending collateral | 15,935,976 | 540,955 | 232,608 | 388,398 | 19,644 | 13,348,052 | 188,823 | 13,788 | 23,489 | 35,019 | 4,365 | 51,714 |
| Investment income receivable | 5,296,506 | 116,286 | 57,917 | 50,239 | 4,616 | 9,473,522 | 13,404 | 25,252 | 54,785 | 8,369 | 163 | 46,047 |
| Operating Cash | 88,280 | - | - | - | - | 64,600 | 1,148 | 995 | 1,159 | 1,188 | 32 | 1,223 |
| Miscellaneous receivable | 6,336 | - | - | - | - | 4,413 | 52 | 8 | 16 | 5 | 1 | 14 |
| Due from other state agency | 4 | - | - | - | - | 3 | - | - | - | - | - | - |
| Total assets | 2,797,377,655 | 92,495,118 | 38,369,392 | 63,780,783 | 6,180,212 | 1,908,031,861 | 22,198,349 | 3,389,189 | 6,421,074 | 5,325,377 | 435,869 | 5,833,955 |
| Deferred outflows of resources | | | | | | | | | | | | |
| Related to pensions | 74,094 | - | - | - | - | 52,527 | 640 | 94 | 192 | 48 | 12 | 172 |
| Liabilities: | | | | | | | | | | | | |
| Investment expenses payable | 19,12,009 | 64,873 | 27,202 | 44,571 | 1,747 | 688,422 | 10,536 | 668 | 1,163 | 1,889 | 246 | 2,597 |
| Securities lending collateral | 15,935,976 | 540,955 | 232,608 | 388,398 | 19,644 | 13,348,052 | 188,823 | 13,788 | 23,489 | 35,019 | 4,365 | 51,714 |
| Accounts payable | 60,267 | - | - | - | - | 41,589 | 493 | 74 | 149 | 45 | 10 | 132 |
| Accrued expenses | 208,675 | - | - | - | - | 150,929 | 2,231 | 283 | 616 | 130 | 33 | 536 |
| Miscellaneous payable | - | 2,737 | 1,132 | - | 1,826 | - | - | - | - | - | - | - |
| Due to other state agencies | 489 | - | - | - | - | 341 | 4 | 1 | 1 | - | - | 1 |
| Total liabilities | 18,117,416 | 608,565 | 260,942 | 432,969 | 23,217 | 14,229,333 | 202,087 | 14,814 | 25,418 | 37,083 | 4,654 | 54,980 |
| Deferred inflows of resources | | | | | | | | | | | | |
| Related to pensions | 10,022 | - | - | - | - | 7,479 | 117 | 15 | 32 | 1 | 2 | 32 |
| Net position held in trust for external investment pool participants | \$ 2,779,324,311 | \$ 91,886,553 | \$ 38,108,450 | \$ 63,347,814 | \$ 6,156,995 | \$ 1,893,847,576 | \$ 21,996,785 | \$ 3,374,454 | \$ 6,395,816 | \$ 5,288,341 | \$ 431,225 | \$ 5,779,115 |
| Each participant unit is valued at \$ 100 | | | | | | | | | | | | |
| Participant units outstanding | 2,779,324,311 | 91,886,553 | 38,108,450 | 63,347,814 | 6,156,995 | 1,893,847,576 | 21,996,785 | 3,374,454 | 6,395,816 | 5,288,341 | 431,225 | 5,779,115 |

North Dakota Retirement and Investment Office
Combining Statement of Net Position – Investment Trust Funds – Fiduciary Funds
June 30, 2017 (with Comparative Totals for 2016)

| Insurance Pool Participants | | | | | | | Individual Investment Accounts | | | | | | |
|-----------------------------|----------------------------|----------------------|---------------------------|--------------------------------------|-------------------------------|-------------------------|--------------------------------|-----------------------------|-------------------------------------|---------------------------------|------------------|------------------|--|
| Risk Mgmt Workers' Comp | ND Ass'n. of Counties Fund | PERS Group Insurance | Budget Stabilization Fund | City of Bismarck Deferred Sick Leave | City of Fargo Fargo Dome Fund | State Board of Medicine | Legacy Fund | Job Service of North Dakota | Tobacco Prevention and Control Fund | PERS Retiree Health Credit Fund | Totals | | |
| | | | | | | | | | | | 2017 | 2016 | |
| \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 2,342,635,671 | \$ - | \$ 5,723,979 | \$ 70,214,197 | \$ 2,418,573,847 | \$ 1,900,710,606 | |
| 2,043,119 | 1,319,297 | - | - | 209,408 | 20,742,271 | 461,521 | - | 29,008,736 | - | - | 2,175,628,519 | 1,921,253,074 | |
| - | - | - | - | - | - | - | 1,605,730,810 | - | 43,110,708 | 45,921,116 | 1,694,762,634 | 1,415,525,781 | |
| 3,323,271 | 2,501,005 | 35,938,094 | 5,494,545 | 453,102 | 16,225,823 | 1,680,251 | - | 67,660,646 | - | - | 1,843,971,620 | 2,285,945,327 | |
| - | - | - | - | - | - | - | 712,121,488 | - | - | - | 712,121,488 | 615,513,449 | |
| - | - | - | - | - | 4,218,171 | 43,866 | - | - | - | - | 949,595,089 | 889,167,336 | |
| - | - | - | - | - | - | - | - | - | - | - | 90,185,661 | 85,965,628 | |
| 164,610 | 563,020 | 1,782,066 | 185,398 | 34,285 | 411,619 | 7,202 | 9,349,540 | 663,259 | 8,626,110 | 15,613 | 57,364,379 | 91,516,800 | |
| 5,531,000 | 4,383,322 | 37,720,160 | 5,679,943 | 696,795 | 41,597,884 | 2,192,840 | 4,669,837,509 | 97,332,641 | 57,460,797 | 116,150,926 | 9,942,203,237 | 9,205,598,001 | |
| 52,833 | 35,751 | 177,305 | 29,496 | 5,987 | 429,706 | 14,494 | 33,301,257 | - | - | - | 64,829,660 | 96,710,963 | |
| 3,627 | 600 | (219,845) | 447,902 | 1,337 | 37,035 | (12,929) | 18,126,221 | 178 | 1,939 | 21 | 33,653,192 | 35,454,773 | |
| 1,224 | - | - | 8,470 | - | - | - | 95,642 | - | - | - | 263,961 | 168,372 | |
| 14 | - | - | 15 | - | - | - | 10,494 | - | - | - | 21,368 | 13,880 | |
| - | - | - | - | - | - | - | 7 | - | - | - | 14 | - | |
| 5,588,698 | 4,419,673 | 37,677,620 | 6,165,826 | 704,119 | 42,064,625 | 2,194,405 | 4,721,371,130 | 97,332,819 | 57,462,736 | 116,150,947 | 10,040,971,432 | 9,337,945,989 | |
| 168 | - | - | 4,943 | - | - | - | 119,384 | - | - | - | 252,274 | 113,380 | |
| 2,686 | 1,977 | 17,521 | 4,144 | 344 | 24,764 | 1,125 | 2,187,485 | 72,896 | 7,690 | 88,509 | 5,165,064 | 6,349,541 | |
| 52,833 | 35,751 | 177,305 | 29,496 | 5,987 | 429,706 | 14,494 | 33,301,257 | - | - | - | 64,829,660 | 96,710,963 | |
| 132 | - | - | 136 | - | - | - | 98,524 | - | - | - | 201,551 | 38,269 | |
| 492 | - | - | 27,848 | - | - | - | 253,138 | - | - | - | 644,911 | 443,950 | |
| - | 250 | 1,264 | - | 236 | 1,309 | 250 | - | 3,289 | 1,467 | 3,223 | 16,983 | 17,233 | |
| 1 | - | - | 1 | - | - | - | 810 | - | - | - | 1,649 | 7,234 | |
| 56,144 | 37,978 | 196,090 | 61,625 | 6,567 | 455,779 | 15,869 | 35,841,214 | 76,185 | 9,157 | 91,732 | 70,859,818 | 103,567,190 | |
| 28 | - | - | 3,231 | - | - | - | 11,569 | - | - | - | 32,528 | 42,271 | |
| \$ 5,532,694 | \$ 4,381,695 | \$ 37,481,530 | \$ 6,105,913 | \$ 697,552 | \$ 41,608,846 | \$ 2,178,536 | \$ 4,685,637,731 | \$ 97,256,634 | \$ 57,453,579 | \$ 116,059,215 | \$ 9,970,331,360 | \$ 9,234,449,908 | |
| 5,532,694 | 4,381,695 | 37,481,530 | 6,105,913 | 697,552 | 41,608,846 | 2,178,536 | 4,685,637,731 | 97,256,634 | 57,453,579 | 116,059,215 | 9,970,331,360 | 9,234,449,908 | |

| | Pension Pool Participants | | | | | Insurance Pool Participants | | | | | |
|---|------------------------------------|-------------------------------------|-----------------------------------|---|--|------------------------------|----------------------|---------------|-----------------------------------|---------------------------------|-------------------------|
| | Public Employees Retirement System | Bismarck City Employee Pension Plan | Bismarck City Police Pension Plan | City of Grand Forks Employee Pension Plan | City of Grand Forks Park District Pension Plan | Workforce Safety & Insurance | State Fire & Tornado | State Bonding | Petroleum Tank Release Comp. Fund | Insurance Regulatory Trust Fund | Cultural Endowment Fund |
| Additions: | | | | | | | | | | | |
| Investment income: | | | | | | | | | | | |
| Net change in fair value of investments | \$ 266,102,905 | \$ 7,655,028 | \$ 3,396,504 | \$ 5,945,750 | \$ 611,751 | \$ 105,693,277 | \$ 1,593,978 | \$ 30,591 | \$ 53,887 | \$ 109,740 | \$ 40,393 |
| Interest, dividends and other income | 61,615,229 | 2,110,479 | 862,083 | 1,342,535 | 119,884 | 46,210,318 | 491,258 | 50,948 | 99,013 | 41,650 | 9,403 |
| | 327,718,134 | 9,765,507 | 4,258,587 | 7,288,285 | 731,635 | 151,903,595 | 2,085,236 | 81,539 | 152,900 | 151,390 | 49,796 |
| Less investment expenses | 7,250,325 | 255,656 | 106,294 | 160,995 | 13,430 | 4,085,404 | 36,787 | 2,568 | 4,744 | 3,667 | 871 |
| Net investment income | 320,467,809 | 9,509,851 | 4,152,293 | 7,127,290 | 718,205 | 147,818,191 | 2,048,449 | 78,971 | 148,156 | 147,723 | 48,925 |
| Securities lending activity: | | | | | | | | | | | |
| Securities lending income | 280,172 | 8,907 | 3,781 | 6,445 | 558 | 184,972 | 2,952 | 81 | 154 | 250 | 68 |
| Less Securities lending expenses | (56,015) | (1,780) | (755) | (1,288) | (111) | (36,942) | (588) | (17) | (32) | (50) | (14) |
| Net securities lending income | 224,157 | 7,127 | 3,026 | 5,157 | 447 | 148,030 | 2,364 | 64 | 122 | 200 | 54 |
| Purchase of units (\$ 1 per unit) | 4,785,000 | - | - | 3,777,523 | 282,104 | 7,500,000 | - | - | - | 8,155,600 | - |
| Total Additions | 325,476,966 | 9,516,978 | 4,155,319 | 10,909,970 | 1,000,756 | 155,466,221 | 2,050,813 | 79,035 | 148,278 | 8,303,523 | 48,979 |
| Deductions: | | | | | | | | | | | |
| Administrative Expenses | 403,185 | - | - | - | - | 262,771 | 3,299 | 1,047 | 1,115 | 1,030 | 610 |
| Redemption of units (\$ 1 per unit) | 3,025,000 | - | - | 5,486,114 | 559,697 | 92,500,000 | 4,125,000 | - | 900,000 | 4,100,000 | 3,500 |
| Total Deductions | 3,428,185 | - | - | 5,486,114 | 559,697 | 92,762,771 | 4,128,299 | 1,047 | 901,115 | 4,101,030 | 4,110 |
| Change in net position | 322,048,781 | 9,516,978 | 4,155,319 | 5,423,856 | 441,059 | 62,703,450 | (2,077,486) | 77,988 | (752,837) | 4,202,493 | 44,869 |
| Net position: | | | | | | | | | | | |
| Beginning of year | 2,457,275,530 | 82,369,575 | 33,953,131 | 57,923,958 | 5,715,936 | 1,831,144,126 | 24,074,271 | 3,296,466 | 7,148,653 | 1,085,848 | 386,356 |
| End of year | \$ 2,779,324,311 | \$ 91,886,553 | \$ 38,108,450 | \$ 63,347,814 | \$ 6,156,995 | \$ 1,893,847,576 | \$ 21,996,785 | \$ 3,374,454 | \$ 6,395,816 | \$ 5,288,341 | \$ 431,225 |

North Dakota Retirement and Investment Office
Combining Statement of Changes in Net Position – Investment Trust Funds – Fiduciary Funds
Year Ended June 30, 2017 (with Comparative Totals for 2016)

| Insurance Pool Participants | | | | | | | | Individual Investment Accounts | | | | | Totals | |
|-----------------------------|-------------------------|---------------------------|----------------------|---------------------------|--------------------------------------|-------------------------------|-------------------------|--------------------------------|-----------------------------|-------------------------------------|---------------------------------|------------------|------------------|------|
| Risk Mgmt | Risk Mgmt Workers' Comp | ND Ass'n of Counties Fund | PERS Group Insurance | Budget Stabilization Fund | City of Bismarck Deferred Sick Leave | City of Fargo Fargo Dome Fund | State Board of Medicine | Legacy Fund | Job Service of North Dakota | Tobacco Prevention and Control Fund | PERS Retiree Health Credit Fund | | 2017 | 2016 |
| \$ 371,439 | \$ 401,369 | \$ 254,411 | \$ (673,576) | \$ (2,161,212) | \$ 43,207 | \$ 3,624,439 | \$ 69,279 | \$ 389,970,910 | \$ 3,337,293 | \$ 839,579 | \$ 10,061,109 | \$ 797,372,051 | \$ (510,564,000) | |
| 135,891 | 128,181 | 88,365 | 809,996 | 5,327,628 | 14,747 | 814,008 | 51,834 | 99,597,760 | 2,187,163 | 33,094 | 2,342,444 | 224,483,911 | 217,167,354 | |
| 507,330 | 529,550 | 342,776 | 136,420 | 3,166,416 | 57,954 | 4,438,447 | 121,115 | 489,568,670 | 5,524,456 | 872,673 | 12,403,553 | 1,021,855,962 | 166,110,954 | |
| 8,699 | 8,993 | 7,656 | 106,491 | 258,392 | 2,097 | 81,422 | 7,288 | 9,982,236 | 285,579 | 28,415 | 335,760 | 23,033,769 | 23,130,811 | |
| 498,631 | 520,557 | 335,120 | 29,929 | 2,908,024 | 55,857 | 4,357,025 | 113,825 | 479,586,434 | 5,238,877 | 844,258 | 12,067,793 | 998,822,193 | 142,980,143 | |
| 628 | 673 | 488 | 1,011 | 3,912 | 80 | 7,031 | 186 | 751,879 | - | - | - | 1,254,228 | 1,465,052 | |
| (125) | (135) | (98) | (202) | (781) | (14) | (1401) | (38) | (150,242) | - | - | - | (250,628) | (292,852) | |
| 503 | 538 | 390 | 809 | 3,131 | 66 | 5,630 | 148 | 601,637 | - | - | - | 1,003,600 | 1,172,200 | |
| - | - | - | 206,150,000 | - | - | 6,000,000 | - | 399,501,134 | - | 9,500,000 | 2,445,000 | 648,096,361 | 763,176,205 | |
| 499,134 | 521,095 | 335,510 | 206,180,738 | 2,911,155 | 55,923 | 10,362,655 | 113,973 | 879,689,205 | 5,238,877 | 10,344,258 | 14,512,793 | 1,647,922,154 | 907,328,548 | |
| 1,082 | 1,086 | - | - | 34,979 | - | - | - | 592,815 | - | - | - | 1,303,019 | 1,066,070 | |
| 1,250,000 | 500,000 | - | 206,400,000 | 572,485,454 | - | 7,500,000 | 142,654 | - | 4,510,264 | 7,250,000 | - | 910,737,683 | 265,411,054 | |
| 1,251,082 | 501,086 | - | 206,400,000 | 572,520,433 | - | 7,500,000 | 142,654 | 592,815 | 4,510,264 | 7,250,000 | - | 912,040,702 | 266,477,124 | |
| (751,948) | 20,009 | 335,510 | (219,262) | (569,609,278) | 55,923 | 2,862,655 | (28,681) | 879,096,390 | 728,613 | 3,094,258 | 14,512,793 | 735,881,452 | 640,851,424 | |
| 6,531,063 | 5,512,685 | 4,046,185 | 37,700,792 | 575,715,191 | 641,629 | 38,746,191 | 2,207,217 | 3,806,541,341 | 96,528,021 | 54,359,321 | 101,546,422 | 9,234,449,908 | 8,593,598,484 | |
| \$ 5,779,115 | \$ 5,532,694 | \$ 4,381,695 | \$ 37,481,530 | \$ 6,105,913 | \$ 697,552 | \$ 41,608,846 | \$ 2,178,536 | \$ 4,685,637,731 | \$ 97,256,634 | \$ 57,453,579 | \$ 116,059,215 | \$ 9,970,331,360 | \$ 9,234,449,908 | |

North Dakota Retirement and Investment Office
Pension and Investment Trust Funds – Schedule of Administrative Expenses
Years Ended June 30, 2017 and 2016

| | Pension Trust | | Investment Trust | |
|--|---------------------|---------------------|-------------------|-------------------|
| | 2017 | 2016 | 2017 | 2016 |
| Salaries and wages: | | | | |
| Salaries and wages | \$ 819,284 | \$ 759,748 | \$ 795,303 | \$ 766,619 |
| Fringe benefits | 392,012 | 318,254 | 294,409 | 250,520 |
| Total salaries and wages | <u>1,211,296</u> | <u>1,078,002</u> | <u>1,089,712</u> | <u>1,017,139</u> |
| Operating expenses: | | | | |
| Travel | 23,870 | 28,153 | 25,098 | 37,121 |
| Supplies | 13,216 | 2,746 | 6,454 | 1,083 |
| Postage and Mailing Services | 55,577 | 53,804 | 31,428 | 31,194 |
| Printing | 17,106 | 15,057 | 6,375 | 6,743 |
| Small Office Equipment and Furniture | 30,542 | 2,655 | 12,589 | 1,557 |
| Insurance | 405 | 401 | 233 | 230 |
| Rent/Lease of Building Space | 51,561 | 50,841 | 31,300 | 31,045 |
| Repairs | 596 | - | 314 | 12 |
| Information Technology and Communications | 68,469 | 71,447 | 14,928 | 16,231 |
| IT Contractual Services | 173,580 | 17,575 | 212,767 | 61,061 |
| Professional Development | 13,563 | 16,052 | 4,189 | 7,477 |
| Operating Fees and Services | 16,445 | 16,535 | 22,148 | 7,115 |
| Professional Fees and Services | 10,446 | 10,242 | 9,619 | 13,019 |
| Consultant Services | 264,493 | 270,302 | 57,681 | 52,887 |
| Total operating expenses | <u>739,869</u> | <u>555,810</u> | <u>435,123</u> | <u>266,775</u> |
| Pension trust portion of investment program expenses | 221,816 | 217,844 | (221,816) | (217,844) |
| Depreciation | 450 | - | - | - |
| Total administrative expenses | <u>2,173,431</u> | <u>1,851,656</u> | <u>1,303,019</u> | <u>1,066,070</u> |
| Capital assets purchased | <u>8,999</u> | <u>-</u> | <u>-</u> | <u>-</u> |
| Less - nonappropriated items: | | | | |
| Consultant Services | 264,493 | 270,302 | 57,681 | 52,887 |
| Other operating fees paid under continuing appropriation | 75,026 | 37,530 | 275,461 | 121,645 |
| Depreciation | 450 | - | - | - |
| Accrual adjustments to employee benefits | 75,607 | 22,352 | 51,223 | 13,046 |
| Total nonappropriated items | <u>415,576</u> | <u>330,184</u> | <u>384,365</u> | <u>187,578</u> |
| Total appropriated expenditures | <u>\$ 1,766,854</u> | <u>\$ 1,521,472</u> | <u>\$ 918,654</u> | <u>\$ 878,492</u> |

North Dakota Retirement and Investment Office
Pension and Investment Trust Funds – Schedule of Consultant Expenses
Years Ended June 30, 2017 and 2016

| | Pension Trust | | Investment Trust | |
|-------------------------------------|-------------------|-------------------|------------------|------------------|
| | 2017 | 2016 | 2017 | 2016 |
| Actuary fees: | | | | |
| Cavanaugh MacDonald Consulting | \$ 38,632 | \$ - | \$ - | \$ - |
| Segal Company | 91,742 | 144,633 | - | - |
| Total Actuary Fees | 130,374 | 144,633 | - | - |
| Auditing/Accounting fees: | | | | |
| CliftonLarsonAllen LLP | 108,987 | 104,507 | 28,213 | 27,993 |
| Total Auditing Fees | 108,987 | 104,507 | 28,213 | 27,993 |
| Disability consulting fees: | | | | |
| Sanford Health | 300 | 300 | - | - |
| Legal fees: | | | | |
| K&L Gates LLP | 3,152 | 2,598 | 4,171 | 3,401 |
| Kasowitz, Benson, Torres & Friedman | 1,357 | - | 1,777 | - |
| Ice Miller LLP | - | - | - | - |
| ND Attorney General | 20,323 | 18,264 | 23,520 | 21,493 |
| Total legal fees: | 24,832 | 20,862 | 29,468 | 24,894 |
| Total consultant expenses | <u>\$ 264,493</u> | <u>\$ 270,302</u> | <u>\$ 57,681</u> | <u>\$ 52,887</u> |

North Dakota Retirement and Investment Office
Pension and Investment Trust Funds – Schedule of Investment Expenses
Years Ended June 30, 2017 and 2016

| | Pension Trust | | Investment Trust | |
|--|----------------------|----------------------|----------------------|----------------------|
| | 2017 | 2016 | 2017 | 2016 |
| Investment managers' fees: | | | | |
| Global equity managers | \$ 1,426,842 | \$ 1,230,533 | \$ 1,835,909 | \$ 1,594,767 |
| Domestic large cap equity managers | 551,198 | 903,523 | 3,136,644 | 3,847,413 |
| Domestic small cap equity managers | 455,668 | 563,542 | 1,424,504 | 2,268,783 |
| International equity managers | 852,764 | 977,198 | 5,315,874 | 4,609,027 |
| Emerging markets equity managers | 633,942 | 529,699 | 955,585 | 770,162 |
| Domestic fixed income managers | 2,017,975 | 1,005,950 | 12,073,101 | 7,607,743 |
| Below investment grade fixed income managers | 1,383,336 | 1,082,779 | 1,997,463 | 1,462,837 |
| Diversified Real Assets | - | - | 2,634,755 | 3,001,349 |
| International fixed income managers | 423,318 | 376,723 | 481,699 | 457,845 |
| Real estate managers | 2,541,836 | 2,053,698 | 5,885,718 | 4,873,012 |
| Infrastructure managers | 803,006 | 1,027,901 | 990,596 | 1,241,458 |
| Timber managers | 437,057 | (956,302) | 524,309 | (1,130,962) |
| Private equity managers | 1,225,954 | 1,399,707 | 1,436,330 | 1,639,900 |
| Short term fixed income managers | - | - | 347,423 | 719,134 |
| Cash & equivalents managers | 20,203 | 23,185 | 60,352 | 149,960 |
| Balanced account managers | - | - | 896,911 | 642,747 |
| Total investment managers' fees | \$ 12,773,099 | \$ 10,218,136 | \$ 39,997,173 | \$ 33,755,175 |
| Custodian fees | 213,843 | 197,310 | 839,740 | 831,889 |
| Investment consultant fees | 124,539 | 204,752 | 446,215 | 475,338 |
| SIB Service Fees | - | - | 70,812 | 60,211 |
| Total investment expenses | <u>\$ 13,111,481</u> | <u>\$ 10,620,198</u> | <u>\$ 41,353,940</u> | <u>\$ 35,122,613</u> |

Reconciliation of investment expenses to financial statements

| | 2017 | 2016 | 2017 | 2016 |
|---|----------------------|----------------------|----------------------|----------------------|
| Investment expenses as reflected in the financial statements | \$ 6,011,791 | \$ 6,034,689 | \$ 23,033,769 | \$ 23,130,811 |
| Plus investment management fees included in investment income | | | | |
| Domestic large cap equity managers | 137,262 | 354,231 | 449,770 | 872,120 |
| Domestic small cap equity managers | - | 207,192 | - | 267,457 |
| International equity managers | 245,130 | 216,778 | 1,324,344 | 1,121,711 |
| Emerging markets equity managers | 633,942 | 529,699 | 955,585 | 770,162 |
| Domestic fixed income managers | 1,636,949 | 727,899 | 8,458,272 | 4,282,647 |
| Below investment grade fixed income managers | 984,510 | 660,499 | 1,427,213 | 901,054 |
| Diversified real assets managers | - | - | 937,298 | 1,093,122 |
| Real estate managers | 1,458,158 | 999,958 | 2,025,430 | 1,245,203 |
| Infrastructure managers | 340,728 | 453,976 | 419,451 | 548,295 |
| Timber managers | 437,057 | (956,302) | 524,309 | (1,130,962) |
| Private equity managers | 1,225,954 | 1,391,579 | 1,436,329 | 1,630,377 |
| Cash equivalents managers | - | - | 40,973 | 113,080 |
| Balanced account managers | - | - | 321,197 | 277,536 |
| Investment expenses per schedule | <u>\$ 13,111,481</u> | <u>\$ 10,620,198</u> | <u>\$ 41,353,940</u> | <u>\$ 35,122,613</u> |

Timber manager fees include a refund of incentive-based fees from prior years that were renegotiated in FY2016.

North Dakota Retirement and Investment Office
Schedule of Appropriations – Budget Basis – Fiduciary Funds
July 1, 2015 to June 30, 2017 Biennium

| | Approved 2015-2017 Appropriation | 2015-2017 Appropriation Adjustment | Adjusted 2015-2017 Appropriation | Fiscal 2016 Expenses | Fiscal 2017 Expenses | Unexpended Appropriations |
|--------------------|--|--|--|-------------------------|-------------------------|------------------------------|
| All Fund Types: | | | | | | |
| Salaries and wages | \$ 4,340,551 | \$ 2,005 | \$ 4,342,556 | \$ 2,059,743 | \$ 2,174,177 | \$ 108,636 |
| Operating expenses | 990,874 | - | 990,874 | 340,221 | 502,332 | 148,321 |
| Contingency | 82,000 | - | 82,000 | - | 8,999 | 73,001 |
| Total | <u>\$ 5,413,425</u> | <u>\$ 2,005</u> | <u>\$ 5,415,430</u> | <u>\$ 2,399,964</u> | <u>\$ 2,685,508</u> | <u>\$ 329,958</u> |

NOTE: Only those expenses for which there are appropriations are included in this statement.

Reconciliation of Administrative Expenses
to Appropriated Expenditures

| | 2016 | 2017 |
|--|---------------------|---------------------|
| Administrative expenses as reflected in the financial statements | \$ 2,917,726 | 3,476,450 |
| Plus: | | |
| Capitalized equipment purchases - appropriated | 0 | 8,999 |
| Less: | | |
| Professional fees* | (323,189) | (322,174) |
| Other operating fees paid under continuing appropriations* | (159,175) | (350,487) |
| Depreciation expense | 0 | (450) |
| Changes in benefit accrual amounts | (35,398) | (126,830) |
| Total appropriated expenses | <u>\$ 2,399,964</u> | <u>\$ 2,685,508</u> |

* North Dakota Century Code 21-10-06.2 and 15-39.1-05.2 provide authorization for the continuing appropriation.

**Special Comments Requested by the Legislative Audit
and Fiscal Review Committee
Year Ended June 30, 2017**

The Legislative Audit and Fiscal Review Committee requires that certain items be addressed by auditors performing audits of state agencies. These items and our responses are as follows:

Audit Report Communications

1. What type of opinion was issued on the financial statements?

Unmodified

2. Was there compliance with statutes, laws, rules, regulations under which the agency was created and is functioning?

Yes

3. Was internal control adequate and functioning effectively?

Yes

4. Were there any indications of lack of efficiency in financial operations and management of the agency?

No

5. Has action been taken on findings and recommendations included in prior year reports?

There were no prior year findings or recommendations.

6. Was a management letter issued? If so, provide a summary below, including any recommendations and the management response.

No

Audit Committee Communications

1. Identify any significant changes in accounting policies, any management conflicts of interest, any contingent liabilities, or any significant unusual transactions.

No new accounting policies were adopted and the application of existing policies was not changed during fiscal year 2017.

2. Identify any significant accounting estimates, the process used by management to formulate the accounting estimates, and the basis for the auditor's conclusions regarding the reasonableness of those estimates.

The valuation of alternative investments, including private equity and real asset investments, are a management estimate which is primarily based upon net asset values reported by the investment managers and comprise 18% of the total investment portfolio. The values for these investments are reported based upon the most recent financial data available and are adjusted for cash flows through June 30, 2017. Our audit procedures validated this approach through the use of confirmations sent directly to a sample of investment managers and the review of the most recent audited financial statements for these funds. Furthermore, we reviewed management's estimate and found it to be reasonable.

The actuarial valuation was based on the actuarial assumptions and methods adopted by the Board, including an actuarial expected investment rate of return of 7.75% per annum compounded annually. The valuation takes into account all of the promised benefits to which members are entitled as of July 1, 2017 as required by the North Dakota Century Code. The valuation provides certain information required by GASB to be disclosed in the financial statements. Additionally, the valuation is used to determine the adequacy of the current employer contribution rate. Our audit procedures included reviewing the actuarial valuation and related assumptions used therein and we believe the estimate to be reasonable.

3. Identify any significant audit adjustments.

None

4. Identify any disagreements with management, whether or not resolved to the auditor's satisfaction, relating to financial accounting, reporting, or auditing matters that could be significant to the financial statements.

None

5. Identify any significant difficulties encountered in performing the audit.

None

6. Identify any major issues discussed with management prior to retention.

None

7. Identify any management consultations with other accounts about auditing and accounting matters.

None

8. Identify any high-risk information technology systems critical to operations based on the auditor's overall assessment of the importance of the system to the agency and its mission or whether any exceptions identified in the six audit report questions addressed above are directly related to the operations of an information technology system.

Based on the audit procedures performed, the Retirement and Investment Office's critical information technology system is the CPAS system. There were no material weaknesses identified that were directly related to this application.

This report is intended solely for the information and use of the audit committee, management, the Legislative Audit and Fiscal Review Committee, and other state officials, and is not intended to be and should not be used by anyone other than these specified parties.

CliftonLarsonAllen LLP

Baltimore, Maryland
November 2, 2017



ND STATE INVESTMENT BOARD AUDIT COMMITTEE MEETING

Thursday November 16, 2017 - 3:00 PM
North Dakota Retirement and Investment Office (RIO)
3442 East Century Avenue, Bismarck, ND 58503

AGENDA

1. Call to Order and Approval of Agenda - Chair (committee action) (5 minutes)
2. Approval of September 22, 2017 Minutes - Chair (committee action) (5 minutes)
3. RIO's Financial Audit Report June 30, 2017 - CliftonLarsonAllen (committee action) (1 hour)
4. 2017 - 2018 First Quarter Audit Activities Report - Ms. Thorsen (committee action) (15 minutes)
5. 2017 - 2018 Second Quarter Audit Activities - Mr. Hunter , Ms. Thorsen (10 minutes)
6. Agency and Audit Staffing Update - Mr. Hunter, Ms. Kopp, and Ms. Thorsen (informational) (10 minutes)
7. Other - Next SIB Audit Committee Meeting

North Dakota Retirement and Investment Office
3442 E Century Ave, Bismarck, ND 58503
Thursday, February 22, 2018 @ 3:00 PM

8. Adjournment

Any individual requiring an auxiliary aid or service should contact the Retirement and Investment Office at (701) 328-9885 at least (3) days prior to the scheduled meeting.

**STATE INVESTMENT BOARD
AUDIT COMMITTEE MEETING
MINUTES OF THE
SEPTEMBER 22, 2017, MEETING**

COMMITTEE MEMBERS PRESENT: Mike Gessner, TFFR Board
Yvonne Smith, PERS Board
Cindy Ternes, Workforce Safety & Insurance
Josh Wiens, External Representative

MEMBERS ABSENT: Rebecca Dorwart, Chair

STAFF PRESENT: Bonnie Heit, Assist to the Audit Committee
David Hunter, ED/CIO
Fay Kopp, Dep ED/CRO
Terra Miller Bowley, Suprv Audit Services
Cody Schmidt, Compliance Officer
Dottie Thorsen, Internal Auditor

CALL TO ORDER:

Mr. Gessner called the State Investment Board (SIB) Audit Committee meeting to order at 8:30 a.m. on Friday, September 22, 2017, at the Peace Garden Room, State Capitol, Bismarck, ND.

A quorum was present for the purpose of conducting business.

AGENDA:

IT WAS MOVED BY MS. TERNES AND SECONDED BY MR. WIENS AND CARRIED BY A ROLL CALL VOTE TO APPROVE THE AGENDA FOR THE SEPTEMBER 22, 2017, MEETING AS DISTRIBUTED.

AYES: MS. SMITH, MS. TERNES, MR. WIENS, AND MR. GESSNER

NAYS: NONE

MOTION CARRIED

ABSENT: MS. DORWART

MINUTES:

IT WAS MOVED BY MR. WIENS AND SECONDED BY MS. TERNES AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE MAY 25, 2017, MINUTES AS DISTRIBUTED.

AYES: MR. GESSNER, MS. SMITH, MS. TERNES, AND MR. WIENS

NAYS: NONE

MOTION CARRIED

ABSENT: MS. DORWART

ELECTION OF OFFICERS:

IT WAS MOVED BY MS. TERNES AND SECONDED BY MR. WIENS AND CARRIED BY A ROLL CALL VOTE TO NOMINATE MS. DORWART AS CHAIR, MS. SMITH AS VICE CHAIR, AND MR. GESSNER AS LIAISON TO THE SIB.

AYES: MR. TERNES, MR. WIENS, MS. SMITH, AND MR. GESSNER

NAYS: NONE

MOTION CARRIED

ABSENT: MS. DORWART

Ms. Smith presided over the remainder of the meeting.

CODE OF CONDUCT:

Mr. Schmidt reviewed the SIB Board Members' Code of Conduct Policy B-8, which details the code of ethical responsibility applicable to members of the SIB. The SIB is required to affirm their understanding of the policy on an annual basis. As a standing committee of the SIB, the SIB Audit Committee is required to adhere to any applicable policies contained within the SIB Governance Manual. Committee members were advised to affirm their understanding of the policy by signing and returning the acknowledgment to Mr. Schmidt.

AUDIT ACTIVITIES REPORT:

Ms. Miller Bowley reviewed year-end activities of the Audit Division for the period of July 1, 2016 - June 30, 2017.

For fiscal year 2017, twenty-five employer audits were completed. This entailed two Special Audits, one Not In Compliance review, and twenty-two Compliance Audits.

Three compliance audits were in progress at the conclusion of fiscal year 2017. Two compliance audits were pending but not yet started at the conclusion of fiscal year 2017. Audit information was pending from three employers who had been notified of an upcoming audit at the conclusion of fiscal year 2017. Fourteen employers received audit notifications in fiscal year 2017. Data on two employers was pending review with audit notifications anticipated at the beginning of fiscal year 2018. Audit planning for fiscal year 2017-18 was completed in the fourth quarter and was presented to and approved by the SIB Audit Committee in May 2017.

Ms. Miller Bowley stated the following audits were completed for the same period: Benefit Payments Audit, TFFR File Maintenance (three quarters, fourth in progress), Annual Salary Verification Project, Executive Limitation Audit, Executive Director/CIO Effectiveness Survey, and the SIB Executive Review Committee Survey.

Ms. Miller Bowley noted GASB 68 has resulted in the creation of a Master Payroll File. When used in conjunction with ACL analytics software, the Master Payroll File will allow for improved audit sampling and the possibility of 100% audits. Audit Services leveraged the Master Payroll File without ACL and utilized the file on all 100% audits.

The Audit Division also assisted RIO's external auditor, CliftonLarsonAllen, with a variety of tasks related to the annual financial audit of RIO and the GASB 68 census data audits.

Ms. Miller Bowley also stated Audit Services continues to pursue networking and professional development opportunities via the IIA's local chapter, Central Nodak. Ms. Miller Bowley completed the requirements for a Certified Internal Auditor (CIA) designation in July 2016.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. TERNES AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE YEAR END ACTIVITIES REPORT FOR THE PERIOD OF JULY 1, 2016 - JUNE 30, 2017.

AYES: MR. GESSNER, MR. WIENS, MS. SMITH, AND MS. TERNES
 NAYS: NONE
 MOTION CARRIED
 ABSENT: MS. DORWART

REPORT TO THE SIB:

Ms. Miller Bowley presented a draft of the Audit Committee's report to the SIB for the period of July 1, 2016 - June 30, 2017.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MR. WIENS AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE JULY 1, 2016 - JUNE 30, 2017 AUDIT COMMITTEE ACTIVITY REPORT TO THE SIB.

AYES: MS. SMITH, MS. TERNES, MR. WIENS, AND MR. GESSNER
 NAYS: NONE
 MOTION CARRIED
 ABSENT: MS. DORWART

CHARTER:

Ms. Miller Bowley stated per the Charter of the Audit Committee, the Audit Committee, on an annual basis, is to review and assess the adequacy of their charter. After review and discussion,

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. TERNES AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE REVIEW OF RESPONSIBILITIES OF THE SIB AUDIT COMMITTEE CHARTER FOR THE PERIOD OF JULY 1, 2016 - JUNE 30, 2017.

AYES: MR. GESSNER, MS. SMITH, MS. TERNES, AND MR. WIENS
 NAYS: NONE
 MOTION CARRIED
 ABSENT: MS. DORWART

Ms. Miller Bowley also informed the Audit Committee, RIO's management was notified by RIO's legal counsel, Ms. Murtha, that the current practice of the Audit Committee to meet with RIO's independent auditors, RIO's management, and RIO's audit staff independently, out of the presence of other parties, puts the Audit Committee at risk of violating North Dakota's open records and meeting laws. The State's open records and meeting laws prevent public boards from asking individuals to exit public meetings except in specific situations such as when an executive session has been properly noticed.

Staff's recommendation is to cease this practice moving forward. The Charter will then need to be revised to address the independent meetings and forwarded to legal counsel for review, returned to the Audit Committee for final approval, and finally to the SIB for approval. After discussion,

The Audit Committee requested further clarification from legal counsel. Staff will inquire if Ms. Murtha would be available to provide further guidance to the Audit Committee at their November 16, 2017, meeting.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. TERNES AND CARRIED BY A ROLL CALL VOTE TO DEFER THE REVISIONS TO THE CHARTER UNTIL THE NEXT MEETING.

AYES: MS. TERNES, MR. WIENS, MS. SMITH, AND MR. GESSNER

NAYS: NONE

MOTION CARRIED

ABSENT: MS. DORWART

OTHER:

The next Audit Committee meeting is scheduled for Thursday, November 16, 2017, at 3:00 pm at the Retirement and Investment Office.

With no further business to come before the Audit Committee, Ms. Smith adjourned the meeting at 9:03 a.m.

Respectfully Submitted:

Ms. Yvonne Smith, Vice Chair
SIB Audit Committee

Bonnie Heit
Assistant to the Audit Committee

BOARD ACTION REQUESTED

TO: State Investment Board

FROM: Dave Hunter

DATE: November 9, 2017

SUBJECT: **Global Securities Litigation Monitoring**

RIO recommends the SIB engage Financial Recovery Technologies (FRT) to provide comprehensive global monitoring and claims filing services. This service will seek to enhance our U.S. claims filing process (currently provided by Northern Trust) while expanding our global securities litigation monitoring and oversight. RIO intends to work with FRT and legal counsel to enhance our “Securities Monitoring and Litigation” policy (E-14). The revised governance policy will be brought to the SIB for review and approval during the first calendar quarter of 2018.

The SIB previously approved RIO's recommendation to engage a class action claims monitoring firm to review our historical U.S. activity. FRT completed this review in mid-2017 and confirmed that Northern Trust provided excellent overall service for U.S. cases. In summary, FRT's review identified nearly \$411,000 of “missed, disputed or potentially recoverable transition claims” over the past 8.25 years (from January 1, 2009 to March 31, 2017). This equates to roughly \$50,000 of incremental cash flow per year (\$411,000 divided by 8.25 years = \$49,818) before fees. For comparison, Northern Trust generated over \$2.43 million in recoveries for our SIB clients during the last 5.25 years after fees. This equates to \$460,000/year of additional cash flow noting that Northern Trust earned approximately \$5,000/year for this service. Additionally FRT found that RIO had exposure to claim recovery opportunities outside the U.S.

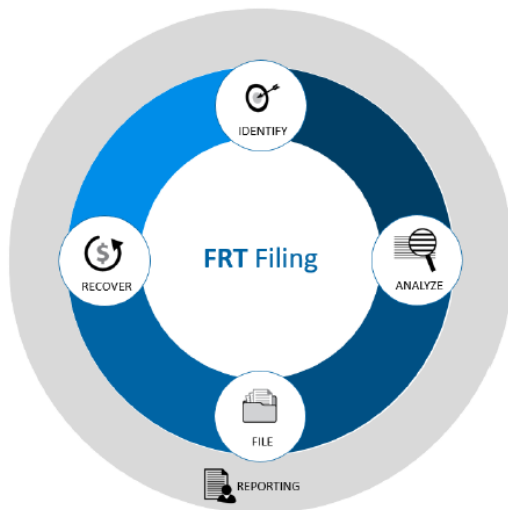
FRT has offered to provide U.S., Global & Antitrust claims filing service on a fixed fee, contingency or hybrid basis. (If the SIB would like to discuss pricing, we should enter Executive Session* as it is deemed to be a “trade secret”.) After a presentation by FRT, RIO will discuss the proposal and formally request a motion by the SIB.

In summary, Northern Trust has done an excellent job for the SIB in the U.S. and we believe that our global claims filing recovery rate may be increased by engaging a firm such as FRT to provide a comprehensive class action claims monitoring service. RIO notes that Northern Trust does not provide international class action nor Antitrust claims filing service, but recently identified ISS and BroadRidge to offer global services. RIO performed significant due diligence on ISS and BroadRidge in the past year. **RIO considers all three firms to be excellent service providers. Based on professional references, RIO recommends the SIB engage FRT to provide comprehensive global securities litigation monitoring and claim recovery services.** RIO notes that Callan utilizes FRT's global securities litigation claims filing program for their OCIO (Outsourced Chief Investment Officer) business.

**Possible Executive Session to discuss confidential commercial information pursuant to 44-04-18.4(1).*

FRT Securities Class Action Filing

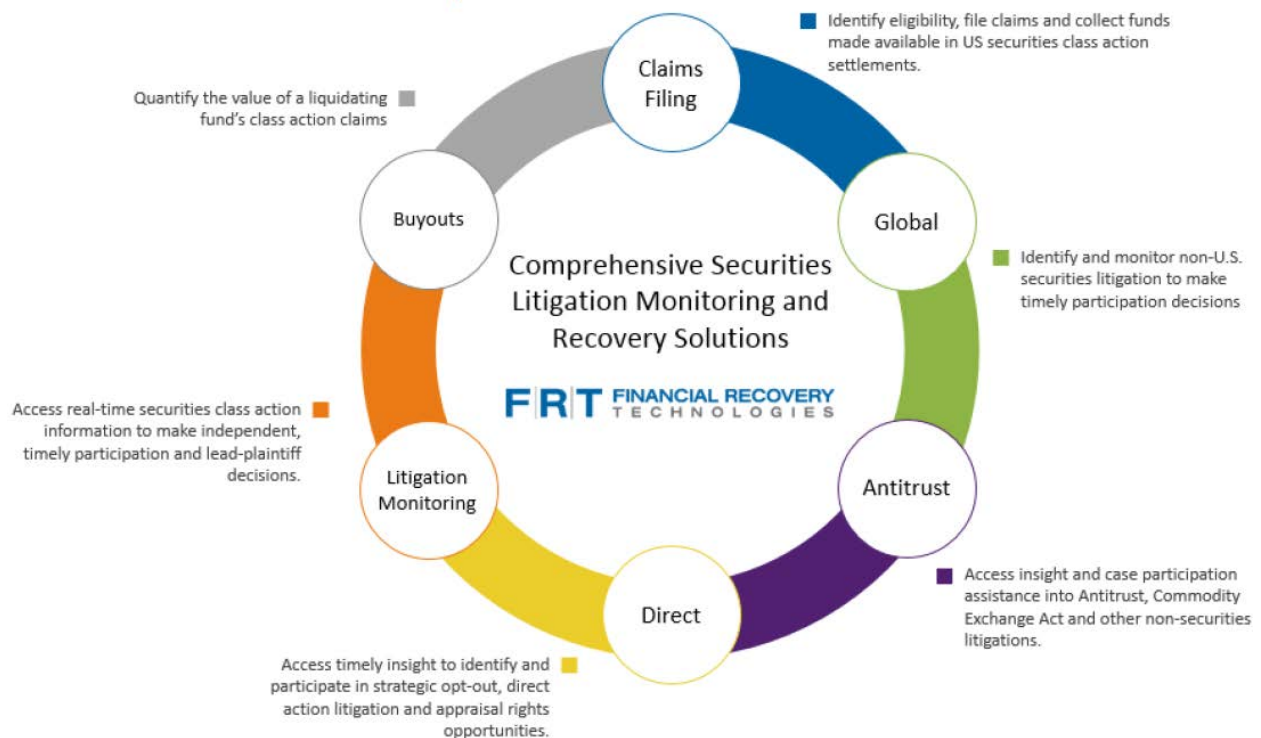
Identify eligibility, file claims, and recover funds from securities class action settlements



1. **Identify:** FRT proactively scours industry data sources to identify all cases and to ensure that every possible filing can be made.
2. **Analyze:** We analyze and match your trading history against our proprietary database to ensure that all relevant matches are evaluated against open class action cases and that filings are properly prepared
3. **File:** Prepare and submit filings to claims administrators and conduct pre-filing analysis on behalf of customers.
4. **Recover funds,** verify accuracy and remit funds to client
5. **Report:** FRT provides detailed distribution reports that provide a complete accounting and audit trail

Comprehensive Monitoring and Claims Filing Services

Corporate governance solutions to address the growing complexities of the global securities class action landscape.



Class Action Claims Filing

FRT Class Action Claims Filing, our core service, helps over 500 institutional investors identify eligibility, file claims and collect funds made available in securities class action settlements.

| Features | Benefits |
|---|---|
| <ul style="list-style-type: none">• Identification of eligibility in all securities class action settlements, including trading and recognized loss calculation | <ul style="list-style-type: none">• Assurance your firm is not missing any cases |
| <ul style="list-style-type: none">• Pre-Filing Analytics and Claims filing for all eligible accounts before the deadline | <ul style="list-style-type: none">• Insight into how much each of your firm's claims may be worth |
| <ul style="list-style-type: none">• Constant communication with claims administrators | <ul style="list-style-type: none">• Knowledgeable Account Manager provides insight into cases and claims to resolve any issues that may arise |
| <ul style="list-style-type: none">• Payment reconciliation on every case that disburses | <ul style="list-style-type: none">• Ensure your firm recovers everything for which its eligible |
| <ul style="list-style-type: none">• Frequent reporting on all eligibility, claim filing and recovery activity | <ul style="list-style-type: none">• Visibility and an audit trail of the entire lifecycle of a claim |

Client Service is Our Priority

Working with FRT

All clients receive a dedicated client service resource, allowing us to tailor our service to each clients unique needs. Your Account Manager is responsible for the following:

- Coordinated with Northern Trust to onboard your holdings and transactions information and subsequently will ensure we schedule regular data refreshes.
- Manages the data normalization process with our operations staff
- Act as your liaison between FRT's expert legal team and claims administrators as well as facilitate access to senior management
- Be single point of contact for all questions, assist with customizing and defining all your reporting requirements (monthly/quarterly/ad-hoc)

The Value of Portfolio Monitoring

Presentation to:

North Dakota Retirement and Investment Office

David Hunter

Executive Director/Chief
Investment Officer

Connie Flanagan

Fiscal and Investment
Operations Manager

Janilyn Murtha

Assistant Attorney General
North Dakota Attorney
General's Office

October 11, 2017



Hiring our law firm to monitor
North Dakota's portfolio does
NOT mean you will have to
become an active litigant.

Why Monitoring Is Helpful

- ▶ There are instances where our Firm has ensured a recovery for our client without them actually becoming actively involved.
- ▶ Public Pension Funds have begun to feel very vulnerable about foreign claims and their role in those settlements.
- ▶ It is considered best practice for funds to be aware of misconduct and litigation impacting their investments, and monitoring helps protect against scrutiny from others, including auditors, the press, and members.
- ▶ From time to time, an issue or case arises and the Fund may want to get advice or a second opinion without generating any further costs to the Fund.



The fiduciary duty of pension fund trustees

“Officers have a fiduciary obligation to recover funds lost through investments in public securities as the result of corporate mismanagement and/or fraud.”

*Government Finance Officers Association (U.S.)
Recommended Practice*

Courts expect large pension funds to engage monitoring counsel

- ▶ Courts recognize that monitoring firms provide a valuable service in helping institutional investor trustees fulfill their fiduciary duties. Indeed, courts presume that large public funds have outside counsel to monitor the status of class actions.

See, e.g., Larson v. JPMorgan Chase & Co., 530 3d. 578, 581 (7th Cir. 2008) (Posner, J.)

Changes in the law require pension funds to take steps to ensure they can recover losses caused by fraud

- ▶ The role monitoring counsel play is even more important now, in the wake of the U.S. Supreme Court's recent *ANZ Securities* decision—which reversed decades of law concerning class action “tolling.”
- ▶ While filing a class action previously served to preserve class members' claims, that is no longer the case. Now, investors may be forced to file a “protective” lawsuit if they believe the class action will not sufficiently protect their interests.

As Justice Ginsburg explained in dissent, as result of the decision, “every fiduciary who must safeguard investor assets, will have strong cause to file a protective claim, in a separate complaint or in a motion to intervene” before the limitations period expires.

Calif. Pub. Empls. Ret. Sys. v. ANZ Secs., Inc., 137 S.Ct. 2042, 2058 (2017) (Ginsburg, J., dissenting).

POLICY TYPE: INVESTMENTS

POLICY TITLE: SECURITIES MONITORING AND LITIGATION

General Purpose

1. The North Dakota State Investment Board ("SIB") is a fiduciary for assets held in trust for the benefit of SIB clients' including their beneficiaries and to defray expenses of administration of their respective investment funds.
2. In order to carry out its fiduciary duty to prudently invest and diversify the assets of the various investment funds, the SIB invests considerable assets in global public securities markets.
3. The efficient and effective deployment of plan assets requires that in seeking returns market risks must be prudently assumed and managed. Investing in publicly-traded securities in regulated markets under accounting, disclosure and business practice laws and regulations provides general, but not perfect assurance that the information forming the basis for investments is accurate, conforms with accepted accounting practices, and is not distorted due to misfeasance, malfeasance or nonfeasance, or the timing of information disclosures by persons or entities with the ability to affect market prices of the investment securities.
4. Legal action is sometimes necessary to attempt to recover all or part of losses the fund may incur due to alleged improper action or inaction that results in the impairment of the value of the fund's security holdings.
5. Most such actions will be prosecuted by the class action bar whether or not the SIB takes an active role as a plaintiff or a passive role as a member of a certified class of plaintiffs. Any ultimate award or settlement from a class action filing will be ratably allocated among legitimate claimants.
6. The SIB will generally only consider pursuing active participation in securities actions when such a role is expected to add value by enhancing the prospect for recovery, increasing the amount of recovery, assuring more efficient and effective prosecution of the case, or identifying and addressing corporate governance issues through litigation.

For purposes of this Policy, "active participation" means seeking status as lead plaintiff, co-lead plaintiff, or filing separate legal action.

Non-Active Recovery and Filing

1. SIB will require as part of its agreement with its custodial bank, that adequate securities class action monitoring is maintained on an ongoing basis, sufficient to assure that most of the actual awards and settlements for such cases are tracked and identified and that proof of claim forms, including supporting documentation, will be properly and timely filed.
2. To augment and enhance coverage, identification and tracking of class-action cases (potential or actual) SIB may engage one or more legal firms that specialize in monitoring and prosecuting security class-action cases; any such engagement is subject to the special appointment requirements of N.D.C.C. § 54-12-08. For these purposes only, such firm(s) may be granted ongoing access to security holdings information through the custodian bank.

3. A monitoring agreement with any law firm for monitoring service access and reporting will not commit SIB to employing said firm in the event that it seeks to represent SIB as an active participant in any securities related litigation. Such representation must be effected by a separate retainer agreement between the SIB and said firm, or another, depending on such factors as the potential monetary scope, the nature of the case and industry specialty that may be required, the allocation of current or past cases among candidate firms, the likely duration and cost of prosecuting such a case, retainer fees or contingency splits, the venue in which the case is to be filed, and other considerations.
4. The custodial bank will be required to provide the Retirement and Investment Office ("RIO") with periodic reports that detail class action cases monitored, claims filed, and award or settlement distributions received. RIO will maintain these records and provide an update to the SIB with regards to accounting information on distributions received on claims filed by the custodian bank on our behalf.

Active Participation in Cases

1. The Executive Director will initiate active participation in securities cases only upon prior review and approval of the SIB. Before bringing any recommendations to the Board, the Executive Director with significant assistance by legal counsel from the Office of the Attorney General, will assess the merits and prospects for active participation by reference to the criteria and factors outlined in this section.
2. Decision Criteria and Factors:
 - a. The decision to participate in an active capacity in security litigation should be based on the totality of the circumstances. Dollar loss amounts are important, but not the sole or overriding factor to consider in making such recommendations by the Executive Director, or determinations by the SIB.
 - b. Potential losses to SIB clients must be significant in order to warrant participation as a lead plaintiff, co-lead plaintiff, or separate "opt-out" litigant. Generally, in cases where the potential loss does not exceed the greater of 0.1% of trust assets, the SIB will avoid active participation.
 - c. The *prima facie* merits of the claim for loss, and the factual basis for the action, recognizing that the full discovery process will not commence until the class has been certified by the court in which such case is to be filed.
 - d. The availability of witnesses, and possible support that may be obtained from investment managers, consultants, and the custodial bank through discovery.
 - e. The potential that any defendants or insurers will be able to pay an adequate recovery to the class, without impairing the value of any current security holdings SIB may yet hold in the issuer in the portfolio.
 - f. The ability of the law firm recommending action on the part of SIB to prosecute the case effectively, in the venue where such case is likely to be filed, and the experience of the firm in managing such cases individually or in partnership with other firms.

- g. Potential long-term benefits from corporate governance changes from pursuing litigation.
 - h. The ability of SIB to serve as a fiduciary on behalf of all class members in the case, especially in relative terms to other institutional investors that may be considering the same case.
 - i. Potential costs that may be incurred. Special consideration must be given to any case that must be filed in a non-U.S. venue under the “Morrison” criteria established by the U. S. Supreme Court in a 2010 decision, since costs of litigation and potential liabilities of unsuccessful claims may be significant.
 - j. Current workload and staffing resources required for the fulfillment of SIB’s primary member service functions, and whether participation might displace time and staff resources needed for core business functions.
3. Decision Criteria and Factors for cases filed in a non-U.S. venue: In addition to the Criteria and Factors set forth in Subsection 2, the SIB may consider the following:
- a. The proposed funding arrangements for the action.
 - b. Evaluate the merits and risks of the case in light of the law of the jurisdiction in which the action would be brought.
 - c. The role or level of participation in the case by the SIB.

Roles in Managing and Monitoring Litigation

1. The SIB will make the final determination of whether it is in the SIB’s best interest to pursue active participation in any case and whether to engage any law firm and the terms of such engagement.
2. Decisions regarding the conduct and implementation of the Board’s decision to participate will be the responsibility of the Executive Director, or an approved member of the management staff if he so delegates. When feasible and advisable, the Executive Director shall seek advice and direction from the Board on strategic and legal issues that may arise in prosecuting the action on behalf of the SIB and its clients. The Executive Director shall timely report to the Board on the progress of the litigation.
3. The Executive Director shall be responsible for management of the relationship with any portfolio monitoring law firm or organization for such purpose. Based on the need for additional coverage, the Executive Director will determine whether one or several firms are needed to fulfill the goals of this Policy and may terminate such monitoring agreements as judgment advises.
4. Any agreement for portfolio monitoring services that includes a fee or subscription cost must first be approved by the SIB before execution by the Executive Director.

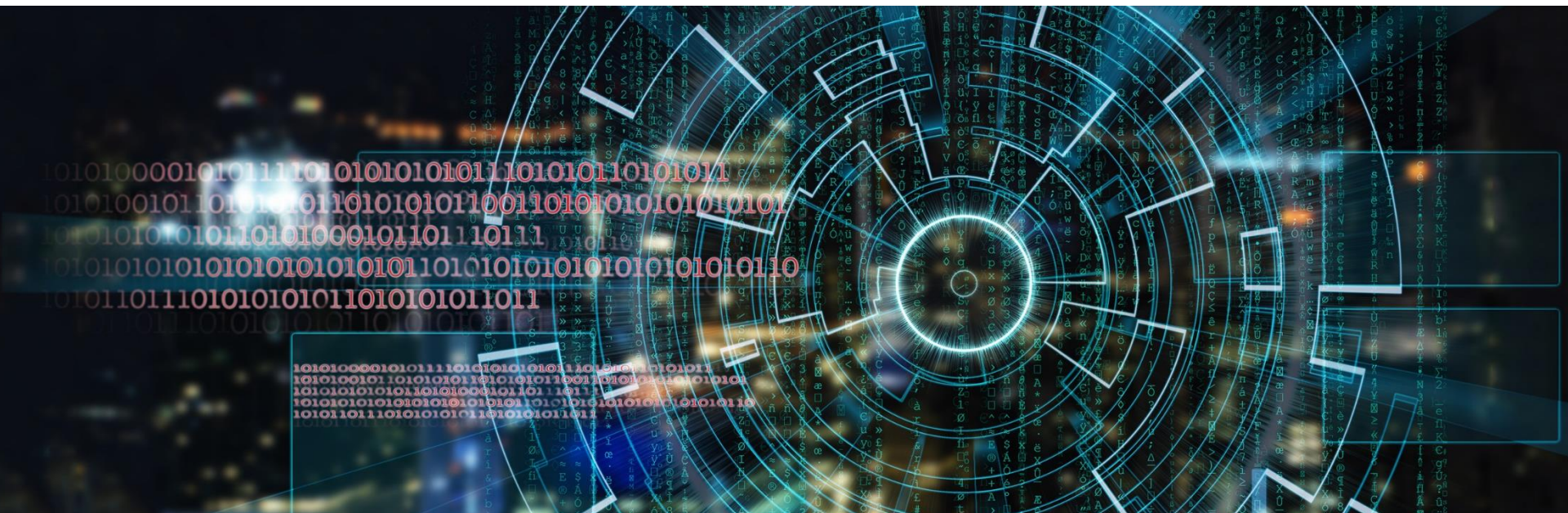
Policy Review

1. The Board shall review this policy at least every three years to ensure that it remains relevant and appropriate.

Policy Implemented: November 20, 2015

Best in Class Recoveries

NORTH DAKOTA STATE INVESTMENT BOARD



Class Action Market Evolution

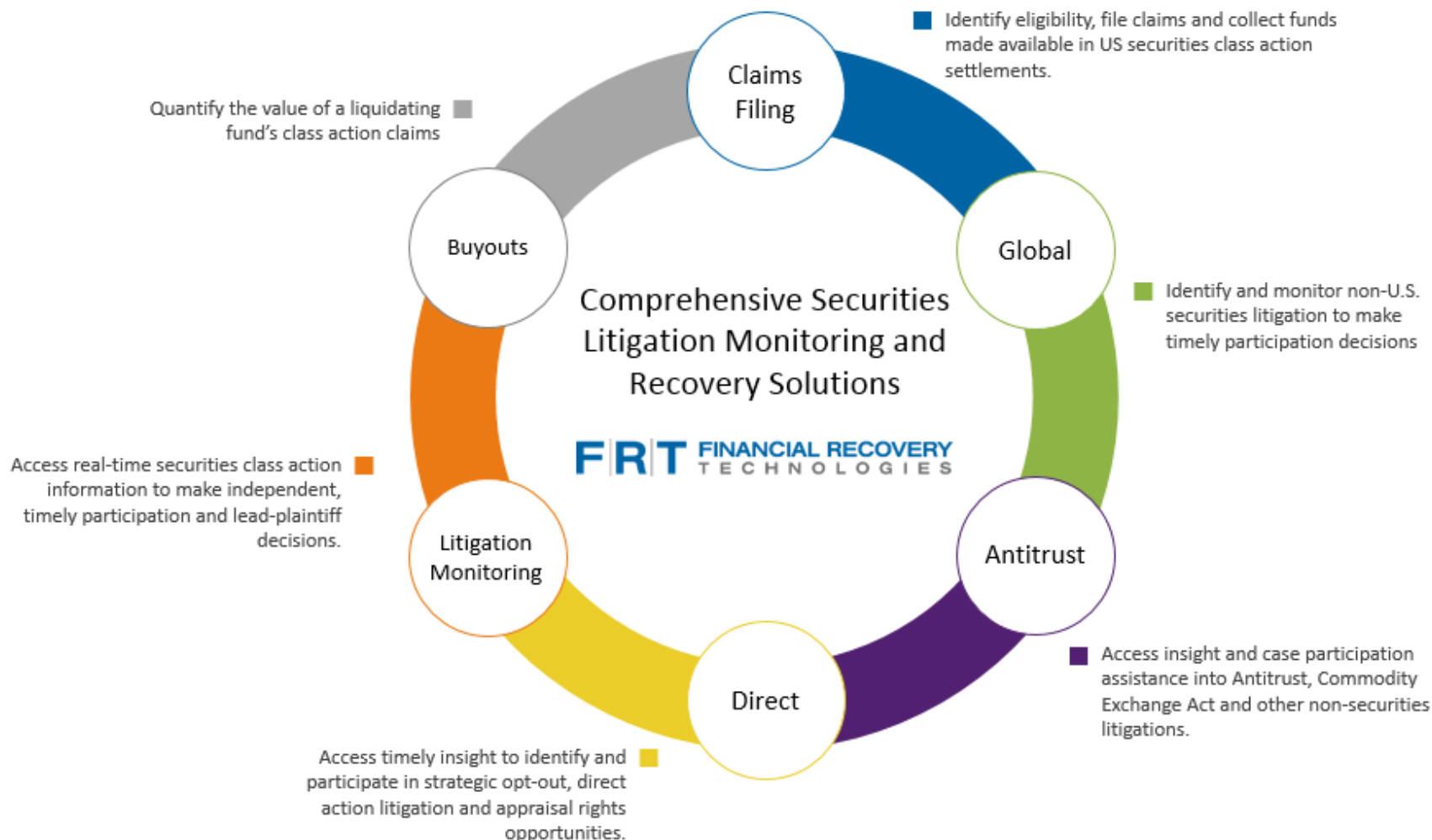
The world of class actions has evolved dramatically over the last five years requiring investors to upgrade their existing governance, controls, and protocols:

- Demand for improved corporate governance and transparency has never been higher. Class actions is not immune.
- Class action “type” activity has increased exponentially
 - Morrison (2010) has led to the growth of active jurisdictions and global group litigations (VW, Toshiba, Tesco, Treasury Wine Estates)
 - Antitrust settlements (CDS, LIBOR, FOREX) are on the rise
 - Appraisal and Direct litigations are increasing (Dell, Petrobras . . .)
- Legacy systems and bespoke manual processes have not kept up with the evolving landscape and can’t handle today’s data requirements
 - Enhanced filing capabilities and pre-filing analysis
 - Claims administrators make mistakes
 - Dynamic reporting and portfolio monitoring

FRT'S SOLUTIONS & SERVICES

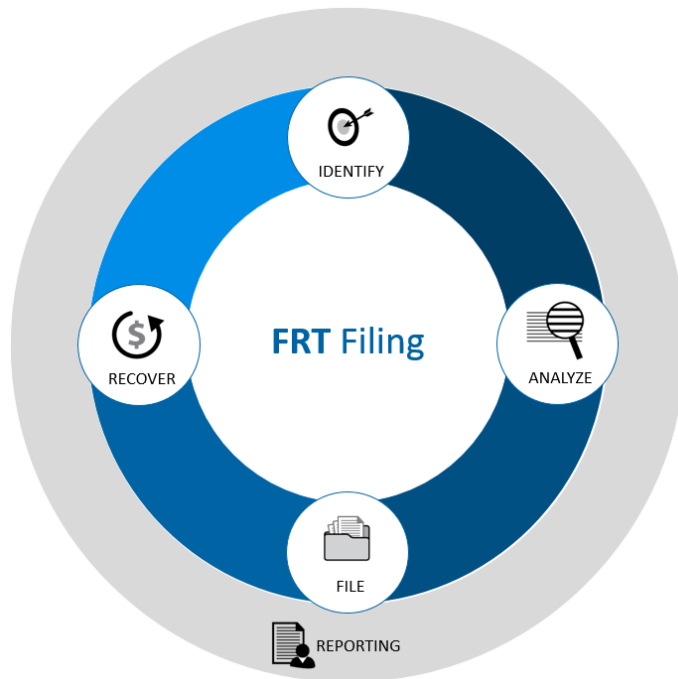
Comprehensive Monitoring and Claims Filing Services

Corporate governance solutions to address the growing complexities of the global securities class action landscape.



FRT Securities Class Action Filing

Identify eligibility, file claims, and recover funds from securities class action settlements



1. **Identify:** FRT proactively scours industry data sources to identify all cases and to ensure that every possible filing can be made.
2. **Analyze:** We analyze and match your trading history against our proprietary database to ensure that all relevant matches are evaluated against open class action cases and that filings are properly prepared
3. **File:** Prepare and submit filings to claims administrators and conduct pre-filing analysis on behalf of customers.
4. **Recover** funds, verify accuracy and remit funds to client
5. **Report:** FRT provides detailed distribution reports that provide a complete accounting and audit trail

Class Action Claims Filing

FRT Class Action Claims Filing, our core service, helps 599 institutional investors identify eligibility, file claims and collect funds made available in securities class action settlements.

| Features | Benefits |
|---|---|
| <ul style="list-style-type: none">• Identification of eligibility in all securities class action settlements, including trading and recognized loss calculation | <ul style="list-style-type: none">• Assurance your firm is not missing any cases |
| <ul style="list-style-type: none">• Pre-Filing Analytics and Claims filing for all eligible accounts before the deadline | <ul style="list-style-type: none">• Insight into how much each of your firm's claims may be worth |
| <ul style="list-style-type: none">• Constant communication with claims administrators | <ul style="list-style-type: none">• Knowledgeable Account Manager provides insight into cases and claims to resolve any issues that may arise |
| <ul style="list-style-type: none">• Payment reconciliation on every case that disburses | <ul style="list-style-type: none">• Ensure your firm recovers everything for which its eligible |
| <ul style="list-style-type: none">• Frequent reporting on all eligibility, claim filing and recovery activity | <ul style="list-style-type: none">• Visibility and an audit trail of the entire lifecycle of a claim |

Client Service is Our Priority

Working with FRT

All clients receive a dedicated client resource, allowing us to tailor our service to each client's unique needs. Your Account Manager is responsible for the following:

- Coordinating with Northern Trust to onboard your holdings and transactions information and subsequently will ensure we schedule regular data refreshes.
- Manages the data normalization process with our operations staff
- Act as your liaison between FRT's expert legal team and claims administrators as well as facilitate access to senior management
- Be the single point of contact for all questions, assist with customizing and defining all your reporting requirements (monthly/Board/annual)

North Dakota Class Action Recoveries Retrospective

MISSED CLAIMS SUMMARY

| Settled Cases | | | | |
|--------------------|---------------------------|--------------------|-------------------|---------|
| # of Missed Claims | | | Value of Claims | |
| | | | 31 | \$7,647 |
| Disbursed Cases | | | | |
| Year | Northern Trust Recoveries | # of Missed Claims | Missed Recoveries | |
| 2009 | \$574,494 | 7 | \$89 | |
| 2010 | \$314,739 | 12 | \$1,869 | |
| 2011 | \$397,999 | 15 | \$120 | |
| 2012 | \$217,772 | 10 | \$1,291 | |
| 2013 | \$879,179 | 25 | \$4,868 | |
| 2014 | \$401,650 | 11 | \$19,029 | |
| 2015 | \$836,538 | 12 | \$3,308 | |
| 2016 | \$853,660 | 23 | \$25,769 | |
| 2017 | \$943,598 | 4 | \$0 | |
| \$5,419,627 | | 119 | \$56,343 | |
| Total: | | | \$63,990 | |

As an added benefit we have audited your Northern Trust class action filings and recoveries. It was beneficial for FRT to obtain transaction data as far back as possible (inception is the best case scenario, Northern provided 2000 - 2017) as many of today's settlements have class periods with damages from fraudulent activity dating as far back as 1999 (Haliburton). FRT's database of coded "plans of allocation" for every case available allows us to complete this analysis.

North Dakota Class Action Recoveries Retrospective

SUBOPTIMAL SUMMARY

| Fund Level VS. Portfolio (Manager) Level | | |
|--|------------|---------------------|
| | # of Cases | Recovery Difference |
| Settled Cases | 9 | \$19,991 |
| Disbursed Cases | 15 | \$132,485 |
| Transfer Analysis | | |
| | # of Cases | Recovery Difference |
| Settled Cases | 11 | \$40,468 |
| Disbursed Cases | 7 | \$154,194 |
| Total: | | \$347,137 |

Our proprietary software enables a comparison of each filing option to determine which method yields a greater potential recovery

FRT's technology advancements allows us to accurately track and document free receipts and free delivers to reflect the correct cost basis which is essential for accurate claims filing

We developed operational controls in conjunction with claims administrators to effectively manage & streamline the process

North Dakota State Investment Board Global Litigation Review

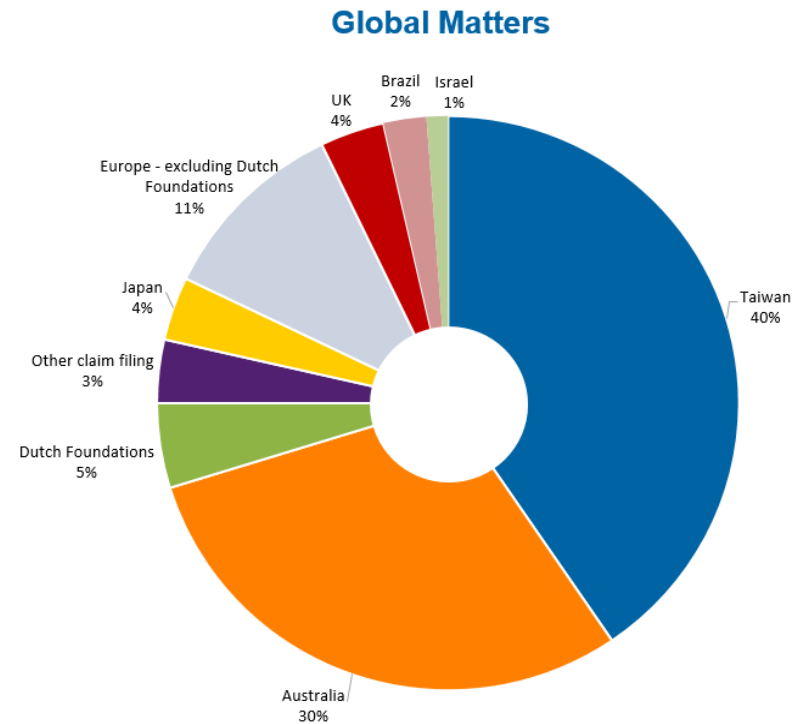
Non-US Litigation Summary as of 5/4/2017

North Dakota State Investment Board

| Summary | | |
|---------------|----------------------------|--|
| | Eligible | Current Non-US Activity |
| Non-US Cases | 40 | 181 |
| Jurisdictions | AU, CH, DE, GB, JP, NL, PT | AU, BE, BR, CA, CH, DE, DK, ES, FR, GB, IT, JP, LU, NL, NZ, PT, SP, TW |

Majority non-U.S. matters (excluding Taiwan) involve claim filing or 'opt-out' jurisdictions risk profile

- 2015-2017 = 87 global matters
- **Australia (27)**: more 'open' classes w/ claim submissions
- **Dutch Foundations (4)**: post-settlement claim filings
- **Other (4)**: e.g. Tesco Comp Scheme (U.K.), HIH insolvency (AU), Mylan (Israel)
- *Result*: 70% (35/50) = claim filing
- **Japan (3)**: low risk jurisdiction
- *Result*: 76% (38/50) = claim & low risk
- **Remainder**: Brazil, U.K., Europe



Global programs can largely be automated

Trends in Antitrust Class Actions

- Reliance on partial defendant data to project Recognized Loss
- Complex modeling to estimate artificial inflation to price or spread
- Online admin portals with estimated transactions and preliminary damages
- Non-U.S. competition based direct claims (UK, AU, CAN)
- Rise of Dutch Foundations

Different laws impacting the investment community in different ways with unique processes for recovery resulting in investor challenges to data/damages and claims submission

Antitrust Settlement Pipeline Snapshot

FRT is tracking 45+ cases that will impact institutional investors

Forex \$2.3 billion

- Alleged scheme among banks to rig the foreign exchange market, affecting the prices of a variety of FX instruments to the detriment of FX traders
- 15 out of 16 defendants have settled including Bank of America, Barclays, BNP Paribas, Citigroup, Goldman Sachs, HSBC, JP Morgan, RBS, and UBS.

Libor \$460 million

- Alleged global conspiracy among banks to manipulate the London InterBank Offered Rate (LIBOR).
- Barclays has settled for \$120 Million on behalf of plaintiffs who traded LIBOR instruments over-the-counter. Citigroup has also settled for \$130 million in LIBOR OTC, but FRT expects the filing process to be different from the Barclays LIBOR OTC filing process as Claim forms have not been sent out.
- For LIBOR bondholders, Barclays, UBS and HSBC have agreed to settle for \$36 Million. Many defendants have agreed to settle for \$151.9 on behalf of Exchange based members. JPMorgan has settled \$22 million with Swiss Franc members.

Gold Price Fixing \$60 million

- Alleged scheme among banks to manipulate market prices for gold as well as the various financial instruments pegged to gold
- Deutsche Bank is the only bank to settle thus far. Five banks have yet to settle.

CLASS ACTION POLICY TEMPLATE REVIEW

Why FRT?

The world of class actions has evolved dramatically over the last five years requiring investors to evaluate their existing governance, controls, and protocols. FRT's comprehensive suite meets our customers' needs with deep domain expertise, client-centric products, actionable intelligence, powered by the most robust, reliable and resilient technology.



Innovation

- **Disruptive tech business** with a proven track record of being first to market with comprehensive coverage of Global, Antitrust, and Appraisal Rights cases
- **As the industry has evolved, so has FRT.** We've experienced over 50% growth for the past three years and are the leaders in class action recovery with over 70 employees, 550+ clients.



Technology

- Purpose-built technology that automates back-end processes** such as claims identification, filing, and recovery and allows us to concentrate our expertise on value-added services
- **Pre- and post-analysis** to automatically calculate recognized loss and reconcile payments with filing options to maximize client returns
 - **Continuous investment in our Information Security** – tried and tested by our clients including the largest custodial banks, hedge funds, and pension funds



Expertise

- **Unbiased information, analytics and consultative services** to help you make informed decisions, reduce risk and drive Alpha.
- **Dedicated in-house legal and research teams** built to lift hours and hours of work into actionable information and comprehensive alerts.
- **Domain experts in the rising litigations of Global and Antitrust opportunities** – tracking 65 Antitrust cases, 200+ Global cases across every relevant jurisdiction



World-Class Service & Operations

- Seasoned leadership team in the financial services industry
- World-Class Service team of 29 client service and operations individuals dedicated to claims filing and recoveries

FRT's Value Proposition to North Dakota RIO

1. Pre-Filing Analytics – we are able to calculate a Recognized Loss for all settlements by coding algorithms into our system for ALL settled actions and running them across the complete FRT client database to establish a receivable for all eligible claims to ensure no recoveries are missed
2. Enhanced Filing Methods that include correcting for any cost basis changes made post manager terminations or asset allocation changes along with the ability to file at either the manager or the client level to maximize your recoveries.
3. Transparency Benefits via our dashboard reporting delivered through our secure portal - all case and NDSIB specific information kept in an intuitive searchable format to improve corporate governance.
4. Globally Tracking 200+ cases covering all markets - active in 21 international jurisdictions providing Alerts and & actionable analysis on Opt-in cases like VW, Petrobras, Tesco, Toshiba (Custodians do not provide this service)
5. Anti-Trust focus - \$2 billion [Forex Case Spotlight](#) and 45 other opportunities with billions of dollars escrowed for distribution (Custodians do not offer this coverage)
6. Post Recovery Validation - We have the ability to verify the accuracy of Claims Administrator payments using the Recognized Loss calculation in conjunction with the court approved pro rata payouts to ensure NDSIB is getting their fair share of the settlement pool distribution

APPENDIX

FRT Client Portal

Eligibility, Filing & Recovery

The screenshot shows the FRT Client Portal interface. At the top, there are navigation links: Home, About FRT, and Our Services. The main header displays the FRT Financial Recovery Technologies logo. Below the header, there are three summary cards:

- My Cases - Next 30 days:** Claim Deadline (9), Opt-Out Deadline (3).
- My Cases - Last 30 days:** Settled (2), Passed Claim Deadline (16), Passed Opt-Out Deadline (4).
- My Claims - Last 30 Days:** Filed (137), Remitted (35), Amount Recovered (\$2,933,458.11).

Below these cards is a search bar labeled "SEARCH CASE HERE...". Underneath the search bar are filter sections:

- Standard Filters:** Last 365 Day Filed.
- Custom Filters:** Accounts, Claim Status, Date Ranges, and an APPLY FILTER button.

The main part of the dashboard is a table with the following columns: Case Name / Account Name, Account #, Market Loss, Rec.Loss*, Damaged Shares, Claim Status, Claim Deadline, Opt-Out Deadline, Filed Date, and Claim #. The table lists several cases, including GLOBAL GEOPHYSICAL SERVICES, INC., INVACARE CORPORATION, IMPAX LABORATORIES, INC., J.P. MORGAN CHASE & COMPANY, BANK OF NEW YORK MELLON CORPORAT, WELLS FARGO INTERNATIONAL LTD., MF GLOBAL HOLDINGS LIMITED, and DELCATH SYSTEMS, INC.

The **Dashboard** gives you a quick look into what has happened in your eligible cases and claims within the past 30 days and what to be aware of in the next 30 days.

The **Case Search Bar** allows you to look up information about any case in our database. Start typing the name of the case or defendant and results matching your entry will appear.

Download whatever data is currently being returned in the grid into a CSV file by selecting the Download button.

The **data grid** displays information about cases and claims as they stand today. You can expand the Case Row to show your eligible accounts for that case.

Select from a dropdown of **Standard Filters** that return information most frequently asked for including upcoming deadlines, recent settlements, filing and remittance activity, and all cases with eligible accounts.


Define your own **Custom Filters** for specific queries based on eligibility of certain accounts, return claims of a given status, and even specify date ranges for when something has settled, been filed, or remitted.

The Class Action Landscape

- Over 3,000 settled or pending securities class actions over the past 10 years
- Over 300 new cases filed in 2016
- Roughly 150-250 new settlements and 150-250 prior case disbursements each year
- Probability of a company being a target in a given year is 4.2% (221/5,209)
 - Investor with 25 stocks in portfolio is highly likely to have at least one claim per year
 - Large cap stock portfolios have increased frequently
- Over \$55B in total settlement dollars have been made available to investors (2007-2016)
- Aggregate annual settlement amount has ranged from \$2.7B-11.6B (2007-2016)
- Average settlement amount grew 36% in 2016
- Average settlement size as a percentage of investor losses has ranged from 0.6%-18.4% (1996-2016)

Source: *Recent Trends in Securities Class Action Litigation: 2016 Full-Year Review*, NERA Economic Consulting, January 2017

FRT Global Alerts



FRT Global: Update Alert
April 15, 2016

UPDATED ALERT: GLOBAL OPT-IN OPPORTUNITY

Date of Alert
Company
Jurisdiction
Exchange
Industry
Claim

April 15, 2016
Volkswagen AG (VW)
Germany, Netherlands
German and other European exchanges
Automotive
Securities fraud and misrepresentation

| | Jurisdiction Risk ¹ | | |
|-----------|--------------------------------|--------|------|
| | Low | Medium | High |
| Costs | ✓ | | |
| Anonymity | | ✓ | |
| Discovery | | ✓ | |

Summary of Matter

FRT previously alerted you to the 8 efforts being organized against VW in Germany and the Netherlands. The purpose of this Alert is to update you on their progress and participation deadlines, the expansion of covered securities by DRRT, and to highlight the benefits of Dutch Foundation involvement should you wish to participate in this low-risk, low-effort potential settlement vehicle, regardless of your loss size.

Updated Participation Deadlines*

| Effort | Old Deadline | New Deadline |
|-----------------------|---------------------|-----------------------|
| DRRT | 2/29/2016 | 5/30/2016 |
| Quinn Emanuel/Bentham | 3/18/2016 | "As soon as possible" |
| Rotter | 3/31/2016 | 4/30/2016 |
| Deminor | 3/25/2016 | "Registration Open" |
| TISAB | 2/29/2016 | 5/30/2016 |
| Nieding + Barth | 9/18/2016 | 9/18/2016 |
| Labaton Sucharow | "Earlier is better" | 5/30/2016 |
| Bernstein Litowitz | "Earlier is better" | 5/30/2016 |

*Note: the deadlines set by each of the organizers above are a function of their respective legal strategies and German Law considerations related to limitation periods for certain trading activity.

Updated Securities Covered in DRRT Action

DRRT filed an initial complaint on March 14, 2016 covering VW equity securities, and plans to file a second group complaint by September 17, 2016. This second complaint will cover a larger number of affected securities, including certain VW debt and derivatives, as well as shares of Audi AG. Upon request, FRT can update your loss calculations for these additional securities.

Foundation Participation

Joining a Dutch Foundation – being proposed by Labaton Sucharow and Bernstein Litowitz – requires little in terms of risk and effort on the part of joining members. Dutch Foundations are organized for the primary purpose of global resolution of claims through the Court of Appeals in Amsterdam.

Securities Information

Ticker: VOW
CUSIP/ISIN:
DE0007664005 (common)
DE0007664039 (preferred)
Additional securities covered by DRRT action (discussed below)

Relevant Parties

See the Comparison Chart and Participation deadlines in the Summary of Matter section

Participation Requirements

See the Comparison Chart and Participation deadlines in the Summary of Matter section

Next Steps

This Alert and attached [Comparison Chart](#) is being provided to assist you in making an informed decision regarding your participation in these matters.

Upon request, FRT will provide your trading data – anonymously and without disclosure of your identity – to any or all of these organizers for further evaluation of your losses and potential claims.

Receive notifications of strategic direct action opportunities likely to result in significant recovery relative to passive claims filing

Quickly access high level case information including name of case, settlement amount, court in which the case is proceeding, and the legal theories under which the claim is being brought.

Jurisdiction Risk: Assess country-specific litigation risks relevant to institutional investors.

- Costs – out of pocket risk for the client joining non-us action
- Anonymity – public exposure of clients name and participation
- Discovery – documentation or testimony requirement

Summary of Matter: Access high level case information including name of case, court in which the case is proceeding, the legal theories under which the claim is being brought, and eligibility requirements.

Securities Information: View relevant security identifiers including ticker, ISIN and CUSIP to help identify recovery opportunities and quickly determine eligibility for recovery

Relevant Parties: View partners involved to quickly scan for known counsel to help understand the strength of the case, known claims administrator, 3rd party data providers for preliminary assessment purposes, and litigation funders and investment recovery firms.

Participation Requirements: Understand what documentation and supporting trading data are required for participation

Next Steps: Quickly understand any steps that you may need to take if your firm decides to pursue the global opportunity

FRT Antitrust Alerts

FRT Antitrust Preliminary Alert
May 11, 2016

PRELIMINARY ALERT: ANTITRUST RECOVERY OPPORTUNITY

Date of Alert: May 11, 2016

Case: Alaska Electrical Pension Fund v. Bank of America Corp. et al. ("ISDAfix")

Settlement Amount: \$324 million

Court: US District Court - Southern District of New York

Claims: Federal antitrust violations; Commodity Exchange Act; unjust enrichment

Summary of Matter

FRT was recently notified of a partial settlement in the above referenced class action related to alleged rigging of the "ISDAfix", the benchmark rate used to set the terms for swap transactions. This Alert serves as preliminary notice of this potential recovery opportunity. Once a claim form and filing deadline have been established, FRT will send you a Full Alert with additional details.

Defendants in this case include the banks listed below, along with ICAP PLC, the interdealer broker tasked with the daily setting of the U.S. dollar-rate version of ISDAfix.

The settlement class is presently defined as "all Persons or entities who entered into, received or made payments on, terminated, transacted in, or held an ISDAfix instrument during the Settlement Class Period," defendants and their affiliates excluded. The settlement has yet to be approved by the court, preliminarily or otherwise.

Counsel Information

Class Counsel:
Robbins Geller Rudman & Dowd LLP
Scott + Scott LLP
Quinn Emanuel Urquhart & Sullivan, LLP

Covered Instruments

ISDAfix instruments (see below)

Important Dates

Relevant Period: Jan. 1, 2006 – Jan. 31, 2014

Opt-out Deadline: To be determined

Claim Filing Deadline: To be determined

Next Steps

You are receiving this Alert because you may be eligible to recover funds from this settlement at some future date.

Please note that your current Service Agreement may not expressly cover antitrust cases. Upon receipt of instructions from you to assist in this matter – or to assist in all such matters – FRT will provide FRT Antitrust services subject to the same contingency fee arrangement in your Service Agreement.

If you would like assistance in this matter, or to learn more about the FRT Antitrust program, please contact your FRT Representative.

Additional Information

1. What is this case about?

This case concerns an investigation into manipulation of the ISDAfix benchmark rate, which is used to set the rate for interest rate derivative products. As of May 3, 2016, seven banks have agreed to a pay a total of \$342 million to settlement the class action. Several defendants have yet to settle.

The Complaint filed September 4, 2014 alleges that the defendant banks conspired together with interdealer broker ICAP PLC, which was responsible for managing the daily setting of the U.S. dollar-rate version of the ISDAfix, to manipulate the ISDAfix to the financial detriment of those purchasing or selling ISDAfix referenced financial products.

According to a recent Law360 article¹,

[t]he banks were responsible for submitting rate quotes, which ICAP essentially compiled. But the suit says the parties worked together to set the rate at the point where it was most profitable to them, including engaging in a process known in the industry as "banging the close" where they bought and sold derivative products just before the fix was closed in order to get the price they wanted.

Specifically, the Complaint alleges: (1) conspiracy to restrain trade in violation of Section 1 of the Sherman Act; (2) manipulation in violation of the Commodity Exchange Act; (3) principal-agent liability in violation of Section 2 of the Commodity Exchange Act; (4) aiding and abetting liability in violation of Section 22 of the Commodity Exchange Act; and (5) unjust enrichment.

Receive notifications when new cases are added and significant milestones are reached:

- **Preliminary Alerts:** Alert clients that the case has settled and recovery opportunities will be forthcoming.
- **Full Alerts:** Alert clients that the recovery opportunity is available, plan of distribution has been finalized and client should consider taking some sort of action.

Quickly access high level case information including name of case, settlement amount, court in which the case is proceeding, and the legal theories under which the claim is being brought.

Summary of Matter: Provides additional details on the type of notice, known case information and details about the class definition.

Counsel Information: View partners involved to quickly scan for known counsel to help understand the strength of the case, known claims administrator, and 3rd party data providers for preliminary assessment purposes.

Covered Instruments: Determine which instruments are included within the recovery opportunity. Antitrust cases often involve complex financial instruments or contracts not tied to a security identifier, therefore it's critical to understand the covered instruments to determine eligibility for recovery and weight the costs / benefits of getting involved.

Important Dates: View relevant periods for trades in covered instruments, opt-out deadlines for firms with outsized losses and claims filing and data submission deadlines for recovery opportunities.

Additional Information: Supplementing the summary of matter, FRT provides in-depth case information including allegations involved, defendant parties, and case status. In addition, this section provides a comprehensive FAQ of all relevant and known information for assessing eligibility, potential for recovery, potential recovery amount, and ways in which FRT can facilitate in the recovery process.

Ten Largest Securities Class Action Settlements

| Settlement Name | Settlement Amount |
|--------------------------------------|-------------------|
| Enron Corporation | \$7,242,000,000 |
| WorldCom, Inc. | \$6,196,000,000 |
| Cendant Corporation | \$3,692,000,000 |
| Tyco International Ltd. | \$3,200,000,000 |
| AOL Time Warner, Inc. | \$2,650,000,000 |
| Bank Of America/Merrill Lynch | \$2,425,000,000 |
| Household International, Inc. | \$1,577,000,000 |
| Nortel Networks Corp. (I) | \$1,143,500,000 |
| Royal Ahold Corporation | \$1,100,000,000 |
| Nortel Networks Corp. (I) | \$1,143,500,000 |
| ** FOREX ** Antitrust | \$2,310,500,000 |
| ** Credit Default Swaps ** Antitrust | \$1,300,000,000 |

THANK YOU



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BOARD ACTION REQUESTED

TO: State Investment Board
FROM: Dave Hunter and Janilyn Murtha
DATE: November 10, 2017
SUBJECT: **SIB Governance Discussion Points for Consideration**

Based on discussion with SIB Chairman Brent Sanford and Assistant Attorney General Janilyn Murtha, RIO suggests the SIB consider the following governance related questions.

1. RIO believes our current governance structure is effective and efficient, but invite board member discussion on the length and frequency of board meetings and the greater utilization of subcommittees;
2. RIO would like the SIB to consider establishing a permanent sub-committee for litigation monitoring with quarterly monitoring meetings;
3. Many governance “experts” suggest investment manager hiring and firing decisions should be delegated to staff investment professionals, although this delegation may be accompanied by a maximum dollar threshold – RIO invites board discussion on this concept including any potential maximum limit;
4. Given the rapid growth of our investment program, the substantial increase in assets under management, and the corresponding increase in the complexity of our investment opportunities and agreements over the last six years, legal counsel and RIO recommends the SIB request the appointment of a special assistant attorney general to assist RIO staff and our designated assistant attorney general with legal review of our investment management contracts in the future; and
5. Our legal counsel would also like to emphasize the fiduciary and risk management implications of our overall investment manager due diligence process including regular meetings with our investment managers in their offices – RIO investment staff clearly need to be cost conscious and aware of public perception, while emphasizing the importance of onsite due diligence trips in representing the SIB and all of our clients from a fiduciary risk perspective.

If the board concurs, RIO recommends the SIB make a motion to: 1) establish a new permanent litigation monitoring sub-committee; and 2) request the appointment of a special assistant attorney general to assist RIO and our designated assistant attorney general with legal review of our investment management contracts. Alternatively, the SIB may choose to continue this discussion at our next board meeting on January 26, 2018, when Jeanna Cullins, Aon Hewitt - Partner and Fiduciary Services Practice Leader, will provide further board governance education on these topics and others.



**Jeanna Cullins, JD
Partner
Fiduciary Services
Practice Leader**

- Works with a wide array of institutional investor clients with a primary focus in the areas of fiduciary and management reviews, policy development, compliance, strategic planning, trustee education, and other board and plan governance matters
- Has worked with over 50 public fund boards, corporate pension funds, endowments and foundations to enhance their governance and management processes
- Served as the Executive Director and General Counsel for a public retirement board
- Over 30 years of industry experience
- Holds a BA, cum laude, from Brooklyn College, City University of New York; and a J.D. from Georgetown University Law Center
- Licensed to practice law in Washington, D.C.
- NACD Member

Public Funds Can Still Compete: Key Findings

- In past findings, public funds struggled to outperform endowments and foundations (E&Fs), as reported in our paper titled “Can Public Funds Compete?” dated Winter 2003/2004.¹
- In a study conducted in 2011, we confirmed that public funds can compete with returns above E&Fs.²
- An update on this study through 2016 concluded that public funds have continued to outperform E&Fs on average by 100 basis points over the last five years ending December 31, 2016.
- Public funds had larger allocations to public equities—namely U.S. equities versus E&Fs, which has contributed to outperformance.
- Public funds’ preference for private equity versus hedge fund exposure helped boost relative returns.
- Public funds typically have a cost advantage given their size (economies of scale).

¹Richard M. Ennis, “Can Public Funds Compete?,” *The Journal of Investment Consulting* (Vol. 6, No. 2, Winter 2003/2004)

²Sudhakar Attaluri and Mike Sebastian, “Research Note: Public Funds Can Compete,” June 2012. We excluded corporate funds from this discussion as their framework for investing has changed significantly with the passage of the Pension Protection Act of 2006 (PPA).

Annualized gross returns for the SIB Pension Trust was 8.92% for the 5-years ended 12/31/16 (8.48% net of fees).

Performance Summary

- In a prior research study¹, we confirmed that Public Funds had outperformed E&Fs during the 2003 to 2011 period
- This research study updates the prior study and concludes that Public Funds have continued to outperform E&Fs by an annualized 1.00% (gross of fees) from 2012 to 2016
 - Additionally, Public Funds have achieved that outperformance at a lower level of volatility
- The annualized total return for Public Funds also exceeded the current average public fund actuarial assumed rate of return of 7.5%³

| Annualized Return (Gross of Fees) ² | 2012-2016 (5 Years) |
|--|---------------------|
| Public Funds | 8.47% |
| E&Fs | 7.47% |
| Difference (Public Funds Minus E&Fs) | +1.00% |

Past performance is no guarantee of future results

- While this data reflects gross of fee returns, we see no reason to believe that the cost advantage that existed in prior studies for public funds over E&Fs has changed. Historically the average fees for public funds were approximately 31 basis points less than E&Fs (45 bps average for public funds vs. 76 bps for E&Fs)⁴

¹ Sudhakar Attaluri and Mike Sebastian, "Research Note: Public Funds Can Compete," June 2012.

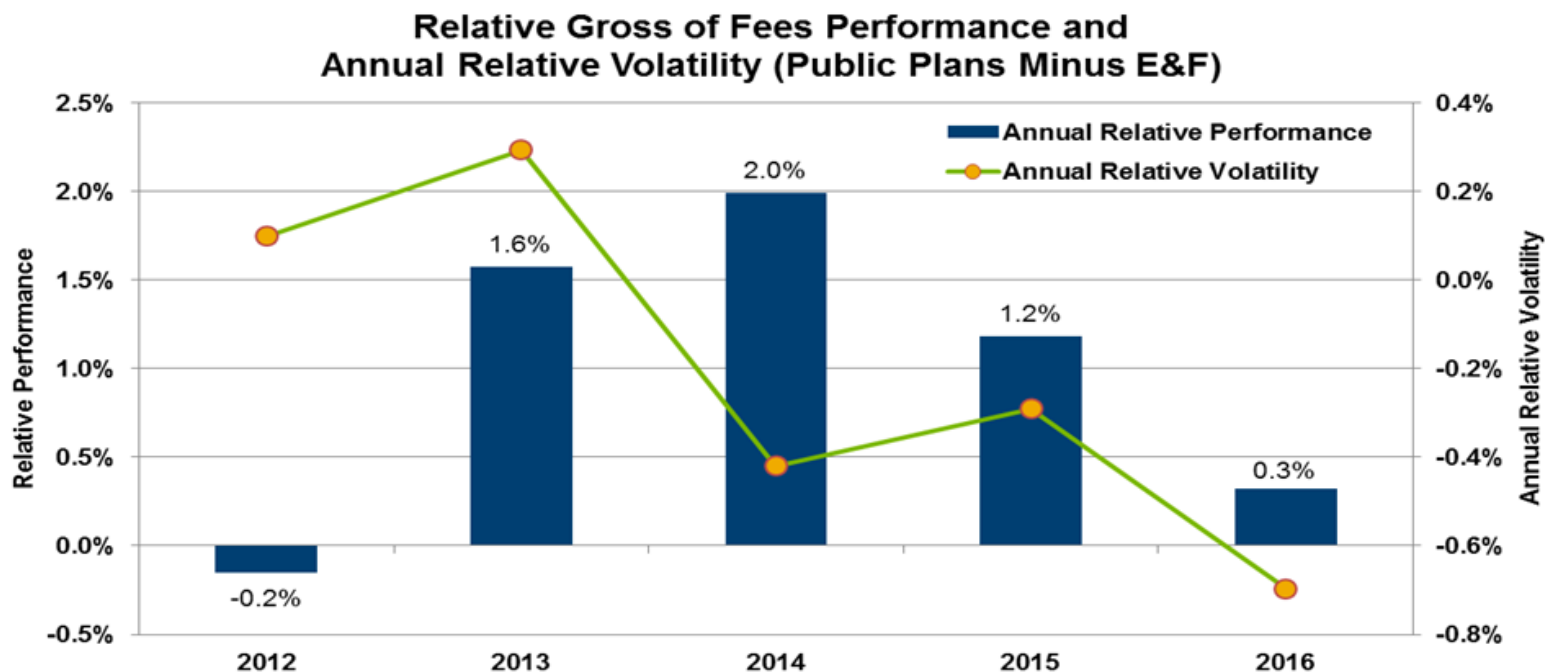
² Source: Aon Hewitt/PARIS, a performance reporting program and universe generator from Investment Metrics representing approximately 400 Public Funds and 300 E&Fs.

³Source: NASRA Issue Brief Public Pension Plan Investment Return Assumptions Updated February 2017

⁴ Greenwich Associates

Performance Summary (cont.)

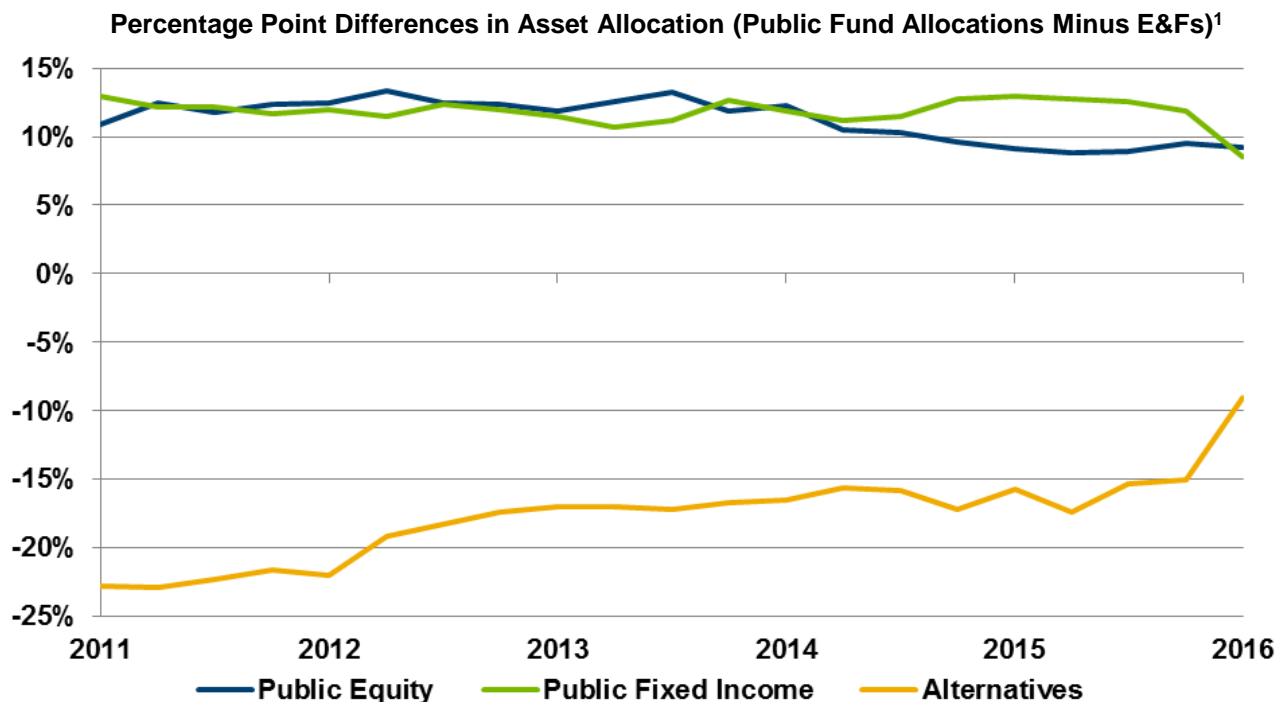
- Public funds have not only outperformed E&Fs, but have achieved that outperformance at a lower level of volatility
- While public funds have relied heavily on higher volatility public equities, public funds have also consistently held a higher allocation to lower-risk fixed income than E&Fs, which has helped dampen volatility



Past performance is no guarantee of future results

Recent Drivers of Relative Performance: Asset Allocation

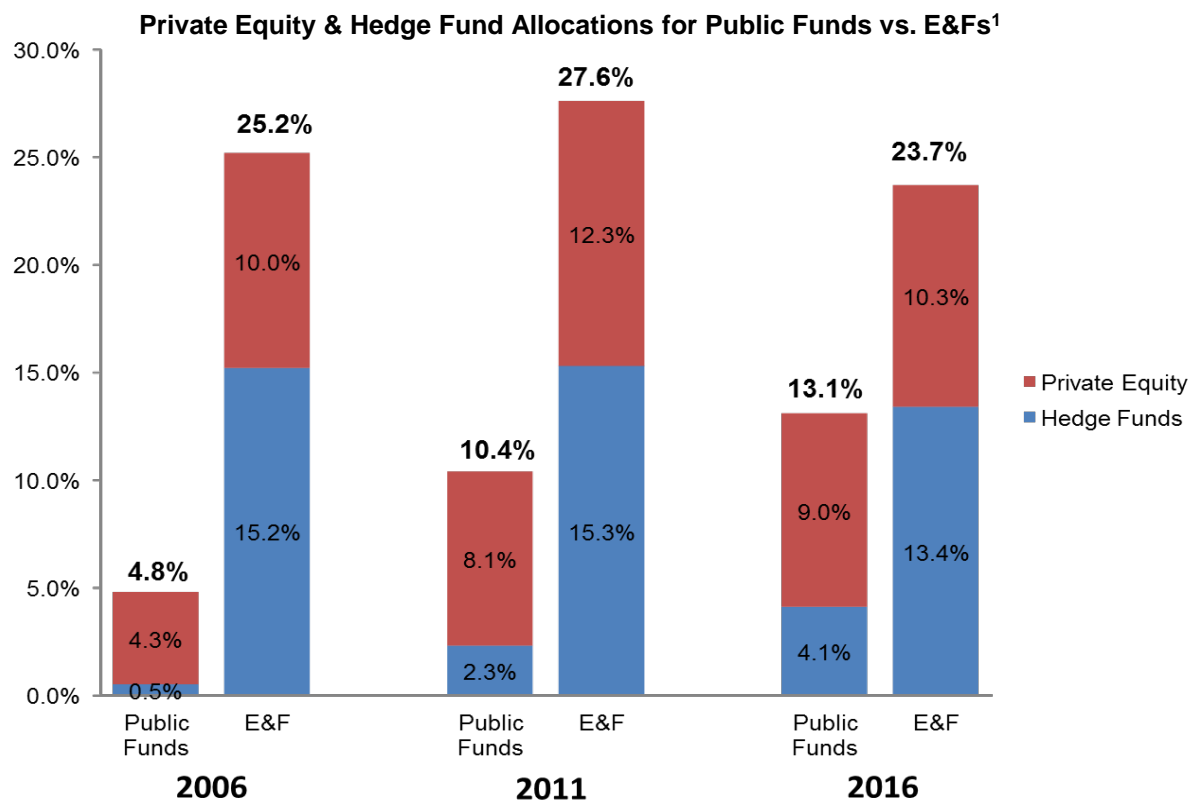
- Allocations have varied greatly between Public Funds and E&Fs
 - Public Funds have preferred public equities and fixed income whereas E&Fs have preferred more alternatives
 - This has benefited public fund performance over the past five years given the strong returns in public equities during this period



¹ Source: Aon Hewitt/ PARis, a performance reporting program and universe generator from Investment Metrics representing approximately 400 Public Funds and 300 E&Fs.

Recent Drivers of Relative Performance: Asset Class Structure

- Public funds have allocated less to hedge funds and private equity than E&Fs
- Within these allocations, public funds have relied more heavily on private equity than hedge funds
- Outperformance of private equity over hedge funds has benefited public funds over the past five years



¹ Source: Greenwich Market Trends 2006, 2011, 2016

Looking Forward: Tools for Navigating the Current Market

Active Risk

Carefully consider optimal places to take active risk. Active risk should be taken when risk tolerance exists and where there is a strong probability for earning alpha

Medium Term Views

Medium term views (1–3 year views of capital markets) can impact rebalancing activity, investing contributions, tilting the portfolio, etc.

Illiquidity

Determine the fund's tolerance for illiquidity given liabilities and cash flow positioning

Market Dislocations

Take advantage of short-term market dislocations (recent examples: TARP, PIMCO BRAVO, energy)

Diversification

Ensure diversification across risk premiums, investment strategies, lock-up structures, and vehicles

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Looking to the Future: Identifying Competitive Advantages



Governance Structure

- Board delegation of investment decisions to the Fund's Staff increases the ability to be nimble and opportunistic



Investment Team Expertise

- Access to internal and external resources and expertise
- Ability to hire specific asset class/strategy expertise



Board/Committee Expertise

- Stakeholders may have specific expertise that can be an advantage
- Education may be required in a particular area



Fund Size

- Larger funds have more access but maybe less nimble
- Niche strategy funds may be too small for larger funds
- Small funds can be more nimble but may miss out on the best managers



Time Horizon

- Long time horizons allow for higher levels of illiquidity and more risk
- Shorter time horizons (low funded status & high negative net cash flow), limit ability to take risk & illiquidity

Bottom Line

Public funds **can** compete.

And they will **continue** to compete with other institutional investment programs like endowments and foundations.

Public funds have unique, competitive advantages that enable them to use different tools for navigating a difficult, complex, and challenging future market environment.

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