# Oregon Investment Council

September 14, 2016
9:00 AM

**PERS Headquarters**
**11410 S.W. 68th Parkway**
**Tigard, OR 97223**

**Katy Durant**
Chair

**John Skjervem**
Chief Investment Officer

**Ted Wheeler**
State Treasurer

# OREGON INVESTMENT COUNCIL

**Agenda**

**September 14, 2016**
**9:00 AM**

PERS Headquarters
11410 S.W. 68th Parkway
Tigard, OR 97223

| Time | A. Action Items | Presenter | Tab |
|---|---|---|---|
| **9:00-9:05** | **1. Review & Approval of Meeting Minutes**<br>August 10, 2016 | **Katy Durant**<br>*OIC Chair* | **1** |
| | **Committee Reports** | **John Skjervem**<br>*Chief Investment Officer* | |
| **9:05-9:20** | **2. Consultant Recommendation**<br>*OST Private Equity Program* | **Michael Langdon**<br>*Senior Investment Officer, Private Equity*<br>**Andy Hayes**<br>*Investment Officer, Private Equity* | **2** |
| **9:20-9:40** | **3. Fund Restructuring and Policy Update**<br>*Public University Fund* | **Tom Lofton**<br>*Investment Officer, Fixed Income* | **3** |
| **9:40-10:00** | **4. Policy Updates**<br>*OPERF and other OST-managed Accounts* | **John Skjervem**<br>**Kim Olson**<br>*Policy Analyst* | **4** |
| | **B. Information Items** | | |
| **10:00-10:35** | **5. NCREIF-ODCE Primer**<br>*OST Real Estate Program* | **Tony Breault**<br>*Senior Investment Officer, Real Estate*<br>**Blake Eagle**<br>*Founder, National Council of Real Estate Investment Fiduciaries*<br>**Christy Fields**<br>*Pension Consulting Alliance*<br>**David Glickman**<br>*Pension Consulting Alliance* | **5** |

**10:35-10:45 -------------------- BREAK --------------------**

**10:45-11:45 6. PERS Presentation and Joint Board Discussion** — **Steve Rodeman**, *PERS Director*; **Karl Cheng**, *Investment Officer, Portfolio Risk & Research*; **David Randall**, *Director of Investment Operations*; **OIC and PERS Board Members** — **6**
*OPERF/Individual Account Program*

**11:45-12:15 7. Operational Review** — **Byron Williams**, *Chief Audit Executive, Oregon State Treasury* — **7**
*OPERF*

**12:15-12:30 8. Performance & Risk Report** — **Karl Cheng**; **Janet Becker-Wold**, *Callan Associates* — **8**
*OPERF, Q2 2016*

**12:30-12:35 9. Asset Allocations & NAV Updates** — **John Skjervem** — **9**

a. Oregon Public Employees Retirement Fund
b. SAIF Corporation
c. Common School Fund
d. Southern Oregon University Endowment Fund

**10. Forward Calendar** — **10**

**C. Public Comment Invited**

10 Minutes

# TAB 1 – REVIEW & APPROVAL OF MINUTES

August 10, 2016 Regular Meeting

OST Committee Reports – Verbal

**JOHN D. SKJERVEM**
**CHIEF INVESTMENT OFFICER**
**INVESTMENT DIVISION**

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**STATE OF OREGON**
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OREGON INVESTMENT COUNCIL
AUGUST 10, 2016
MEETING SUMMARY



| | |
|---|---|
| Members Present: | Katy Durant, Rex Kim, John Russell and Ted Wheeler (via conference call) |
| Staff Present: | Darren Bond, Deena Bothello, John Hershey, Karl Cheng, May Fanning, Karl Hausafus, Debra Day, Michael Langdon, Perrin Lim, Jen Plett, David Randall, Angela Schaffers, Priyanka Shukla, James Sinks, John Skjervem, Michael Viteri, Tony Breault, Amanda Kingsbury, Mike Mueller, Jen Peet, Austin Carmichael, Ben Mahon, Kim Olson, Tom Lofton, William Hiles |
| Consultants Present: | David Fann and Tom Martin (TorreyCove); Allan Emkin, David Glickman, Christy Fields and John Linder (PCA); Janet Becker-Wold; (Callan) |
| Legal Counsel Present: | Dee Carlson, Oregon Department of Justice |

The August 10th, 2016 OIC meeting was called to order at 9:00 am by Katy Durant, Chair.

**I. <u>9:00 am Review and Approval of Minutes</u>**

**MOTION:** Mr. Russell moved approval of the June 1, 2016 meeting minutes. Mr. Kim seconded the motion, which then passed by a 4/0 vote.

**COMMITTEE REPORTS**

John Skjervem, OST Chief Investment Officer gave an update on the following committee actions taken since the June, 2016 OIC meeting:

**<u>Private Equity Committee</u>:**
None

**<u>Alternatives Committee</u>:**
None

**<u>Opportunity Portfolio Committee</u>:**
None

**<u>Real Estate Committee</u>:**
None

**II. <u>9:01 am OPERF Consultant Recommendation –</u>** *<u>Alternatives and Opportunity Portfolios</u>*

The Alternatives and Opportunity (Alts/Opp) Portfolios are currently supported by consulting services provided primarily by TorreyCove (TC), with occasional due diligence performed by Callan.

The Private Equity team is currently engaged in an RFP process for a consultant, as the current agreement with TC, which was originally executed in January, 2008, is nearing the end of its most recent extension. Accordingly, services TC provides relative to due diligence and monitoring services, for not only the Alternatives Portfolio, but also the Opportunity Portfolio, need be addressed.

Staff recommended working with TorreyCove and legal counsel to craft a separate contractual relationship for Alts/Opp consulting services on behalf of the OIC. Staff further recommended terms and conditions similar to the existing amendment, a two-year contract period ending December 31, 2018, and one optional two-year extension.

**MOTION:** Mr. Kim moved approval of the staff recommendation. Mr. Russell seconded the motion which then passed by a 4/0 vote.

**III.** **9:06 am** **Fixed Income Policy Recommendation** – *Oregon Short Term Fund*
Tom Lofton, Investment Officer requested Council approval for revisions to Oregon Short Term Fund ("OSTF") guidelines that would allow OSTF to invest up to $250 million in the Oregon Local Government Intermediate Fund ("OLGIF").

Staff believes an OSTF investment in OLGIF will provide a diversified return opportunity for OSTF with limited additional risk. Staff's expectation is that OLGIF will be managed closely to its benchmark, the Barclays 1-5 Year Government/Credit Index.

**MOTION:** Mr. Russell moved approval of the staff recommendation. Mr. Kim seconded the motion which then passed by a 4/0 vote.

**IV.** **9:17 am** **Policy Updates –** *OPERF and other OST-managed Accounts*
Ms. Durant, commenting on the fact that she and the Treasurer will be leaving the Council within the next six months, in addition to the absence of the other most senior Council member (Ms. Adams) deferred consideration of and action on this agenda item to the next regularly scheduled OIC meeting. Other committee members present expressed no objections to this deferral.

**V.** **9:18 am** **Corporate Governance Update** - *Annual Report*
Director of Legal Affairs, Jennifer Peet updated the Council on the investment division's increased emphasis on risk management and compliance. Specifically, she discussed the division's approach to ESG (environmental, social and governance) risks and corporate governance issues (e.g., proxy voting, access, board diversity, pay for performance, etc.), and reported on OST's current and recently-concluded securities litigation efforts.

As required by *INV 605: Exercise of Voting Rights Accompanying Equity Securities*, and to summarize and present votes cast by Glass, Lewis and Co. ("Glass Lewis") on behalf of the OIC, Senior Investment Officer Michael Viteri introduced Mr. Aaron Bertinetti, Vice President of Research and Engagement at Glass Lewis for an update on the proxy environment and how his firm has approached several current proxy issues.

For background, Mr. Viteri noted that soon after the retention of Glass Lewis in 2006, the OIC adopted the MSCI All Country World Investable Market Index (ACWI IMI) as its Public Equity benchmark in order to broaden OPERF's public equity allocation and reduce its "home country" bias. As a result of that benchmark change, the number of securities comprised by OPERF's Public Equity portfolio has increased substantially, as has the corresponding number of proxy votes managed by Glass Lewis.

Summarized below, is the year-over-year increase in proxy voting since 2006:

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|
| Meetings | 2,323 | 2,672 | 4,306 | 4,816 | 5,669 | 5,690 | 6,006 | 7,563 | 6,766 |
| Resolutions | 22,186 | 27,328 | 45,584 | 51,340 | 63,449 | 62,760 | 63,839 | 74,972 | 66,308 |

Mr. Bertinetti provided a presentation with information regarding the current corporate governance landscape and updates on his company's overall position and performance on several proxy-related matters.

**VI. 10:22 am Asset Allocation & NAV Updates**

Mr. Skjervem reviewed asset allocations and NAVs across OST-managed accounts for the period ended June 30, 2016.

**VII. 10:22 am Calendar – Future Agenda Items**

Mr. Skjervem presented and briefly discussed the OIC's forward meeting calendar.

**VIII. 10:22 am Other Items**

None

**10:24 am Public Comments**

1. Rob Sisk, President of SEIU (503) started his remarks by thanking the Council for its excellent work on behalf of OPERF beneficiaries. He then reiterated SEIU's support for improved corporate boardroom diversity in multiple forms including gender, race, sexual orientation, skill and experience.

2. Diane Freaney of Rooted Investing remarked on the Council's need to make investments within the state of Oregon due to a housing crisis and other challenges local citizens are facing. She then went on to suggest creation of an advisory board comprised of PERS retirees that would review and discuss ways to improve overall OPERF results.

Ms. Durant adjourned the meeting at 10:33 am.

Respectfully submitted,

May Fanning

May Fanning
Executive Support Specialist

TAB 2 – Consultant Recommendation

OST Private Equity Program

# TorreyCove Capital Partners, LLC

**Purpose**

Subject to the satisfactory negotiation of all terms and conditions with Staff working in concert with legal counsel, the private equity consultant search committee (the “Committee”) recommends that the Oregon Investment Council (“OIC” or “Council”) pursue a non-discretionary private equity consulting contract with TorreyCove Capital Partners, LLC (“TorreyCove” or “TC”) beginning January 1, 2017.

**Background**

The Private Equity Consultant (“Consultant”) assists the OIC with respect to program construction, investment selection, and portfolio monitoring for all private equity programs under the Council’s oversight. An effective Consultant will provide creative, non-conflicted advice supported by the following: (i) demonstrable “hands-on” private equity expertise; (ii) experience working with large public pension fund boards; and (iii) senior investment professionals focused on working collaboratively with the OIC and Treasury staff. The Council’s existing contract for Private Equity consultant services ends December 31, 2016.

In April 2016, the Committee was formed to undertake a formal procurement process to identify candidate firms to provide Private Equity consulting services following the expiration of the Council’s existing contract. The Committee was comprised of the following individuals:

1. Rukaiyah Adams – OIC Vice Chair
2. John Skjervem – Chief Investment Officer
3. John Hershey – Director of Alternative Investments
4. OST Private Equity Staff:
    a. Michael Langdon – Senior Investment Officer
    b. Sam Green – Investment Officer
    c. Andy Hayes – Investment Officer

With the support and advice of OST Chief Procurement Officer Connie Lelack, the Committee commenced a formal search process by issuing a Request for Proposal (“RFP”) for private equity consulting services on April 26, 2016. The RFP was posted to the Treasury website for more than nine weeks, and seven highly qualified firms submitted proposals by the stipulated June 30, 2016 deadline. A sub-group of the committee (Michael Langdon, Sam Green, and Andy Hayes) independently reviewed and scored all qualifying proposals. Scoring was based on many factors including but not exclusive to key person backgrounds, firm history and experience, proposed service plan, monitoring and reporting, and the proposed retainer based fee schedule. After this exhaustive evaluation process, the sub-group recommended that the Committee interview three semi-finalists.

On July 21, 2016 the three finalists presented to the Committee at OST’s Tigard office, and shortly thereafter the Committee decided to narrow the field to two finalists. The Committee then performed extensive onsite due diligence with the two finalists on August 15 and 16, 2016. This recommendation represents the Committee’s unanimous view that TorreyCove is the most attractive candidate relative to Council objectives and Treasury staff needs.

**TorreyCove Capital Partners**

In November 2011, TorreyCove was formed by the senior management team of PCG Asset Management and a strategic partner, Mitsubishi Corporation (“MC”). The new firm’s founding business philosophy was to create a conflict-free platform serving sophisticated institutional investors with first-class investment research, monitoring capabilities, and a high degree of client service.

TorreyCove currently employs 51 professionals located in offices in San Diego, CA (headquarters), Danvers, MA, and New York, NY. The firm advises on over $46 billion of capital, across 19 clients. TorreyCove has proposed assigning Tom Martin, David Fann and Kara King as the key OPERF client advisory team. These three professionals are founding partners of the firm and average almost 20 years of private equity experience.

**Issues to Consider**

Attributes:

- *Cultural fit.* TorreyCove's culture is characterized by candor and transparency, which marries well with the working style of the OIC and OST Staff.
- *Philosophical fit.* Throughout the RFP process, it became apparent TC's market and investing views were best aligned with the private equity staff and OIC. TorreyCove deeply understands the nuances around the OIC/PE staff/consultant dynamic. As a result, TC is well placed to maintain an effective and open dialogue with the OIC while also maintaining a collaborative relationship with OST staff.
- *Non-conflicted business model.* TorreyCove's sole line of business is non-discretionary consulting. As a result, the firm's clients are insulated from the inevitable conflicts of interest that arise when a consultant also manages discretionary investment mandates. This conflict-free approach is core to TC's market positioning, and the firm seems committed to maintaining this model as a key element of its value proposition.
- *Fee Proposal.* The Committee believes that TorreyCove put forward a highly competitive fee proposal which became more attractive as the process unfolded and the candidate alternatives narrowed.

Concerns:

- *Team size.* Relative to some competing Private Equity consultants, TC has a modestly sized team and no international presence in their office network. [Mitigant: The Committee believes that TC's staff is currently of sufficient size to service the needs of the OPERF portfolio. TC has a history of growing their team as they win mandates, and the firm plans to continue this practice of building capacity along with the workload. Finally, firms with large teams and extensive international office networks will tend to derive a significant portion of revenues from discretionary investment mandates. As such, the Committee believes there is a tension between employing a very large team and maintaining a conflict-free business model.]
- *Client portal.* While TorreyCove's data collection, monitoring, and reporting functions are highly competitive with their peer set, the firm is somewhat behind with respect to offering an interactive client portal with sophisticated analytical tools available on a 24/7 basis. [Mitigant: TC is in the late stages of updating its systems with the hope of launching a new and fully interactive client portal in the near-term.]

**Conclusion**

The Committee recommends that the OIC select TorreyCove Capital Partners, LLC to provide non-discretionary Private Equity consulting services. The Committee further recommends pursuing a three-year initial contract term with two, pre-negotiated 24-month extensions available at the Council's discretion.

# TAB 3 – Fund Restructuring and Policy Update

## Public University Fund

**Purpose**

Participants in the Public University Fund ("PUF" or the "Fund") desire to revise the Fund's investment guidelines as detailed herewith as Appendix A and proposed as revisions to OST Policy No. INV 405.

**Background**

The Public University Fund was established per ORS 352.450 in the Oregon State Treasury ("OST"). PUF is comprised of monies from Oregon public universities listed in ORS 352.002 that choose to participate in the Fund, and PUF investments are managed internally by OST staff. PUF participants have recently expressed the collective desire for greater control over the Fund's investment exposures. Specifically, PUF participants would like to minimize exposure to debt issuers listed on the Carbon Underground 200 as published by Fossil Free Indexes LLC ("FFI").

In order to apply these FFI criteria, PUF participants plan to transfer PUF monies from the Oregon Intermediate Term Pool ("OITP"), a commingled investment fund for state agencies, to a separate account also managed by OST staff. Staff will then manage this separate account with a maturity structure similar to OITP, but with benchmark modifications consistent with the application of the above-mentioned FFI criteria.

**<u>Current Structure</u>**

| Strategy | Allocation | Constraint |
|---|---|---|
| Liquidity | Oregon Short Term Fund | Not less than approximately six (6) months of average monthly operating expenses |
| Core | Oregon Intermediate Term Fund<br>Benchmark: Barclays U.S. Aggregate 3-5 Year | Should not exceed $300 million |
| | PUF Long-Term Fund<br>Benchmark: Barclays U.S. Aggregate 5-7 Year | Should not exceed $120 |

**<u>Revised Structure</u>**

| Strategy | Allocation | Constraint |
|---|---|---|
| Liquidity | Oregon Short Term Fund | Not less than approximately six (6) months of average monthly operating expenses |
| Core | Benchmark:<br>75% Barclays U.S. Aggregate 3-5 Year<br>25% Barclays U.S. Aggregate 5-7 Year | |

PUF will continue to maintain a sizable balance in the Oregon Short Term Fund on which participants intend to actively draw for cash flow needs and so that the Core allocation can remain relatively permanent.

After discussion with PUF participants' designated representative and consultant, Fund investment guidelines were also revised to reflect OST's improved risk management capabilities and to allow for more efficient investment management relative to the Core portfolio's custom benchmark.

**Recommendation**

Staff recommends OIC approve revisions to PUF's Investment Policy as submitted.

# Appendix A – Revised

**OREGON INVESTMENT COUNCIL**
**POLICY DIRECTIVE**

| | |
|---|---|
| POLICY NO.: | INV 405 |
| DATE: | 9/14/16 |
| DIVISION: | INVESTMENTS |
| TITLE: | OREGON PUBLIC UNIVERSITY FUND INVESTMENTS |
| OWNER: | TOM LOFTON, INVESTMENT OFFICER |
| REFERENCES: | OST POLICY 4.03.05 |

## INTRODUCTION & OVERVIEW

**Purpose**
The purpose of this policy is to direct Oregon State Treasury ("OST") investment staff to maximize total return (i.e., principal and income) within stipulated risk parameters and subject to approved investments as prescribed in these guidelines.

**Applicability**
Classified represented, management service, unclassified executive service.

**Authority**
Subject to the terms and conditions of this policy and under the authority of ORS Chapter 293, the designated OST Fixed Income Investment Officer(s) ("investment staff") shall have full discretionary power to direct the investment, exchange, liquidation and reinvestment of Oregon Public University Fund ("PUF") assets. The Oregon Investment Council (OIC) and OST expect that investment staff will recommend changes any time these guidelines are inconsistent with PUF investment objectives, market conditions or other economic or financial considerations.

## POLICY PROVISIONS

**Definitions**
None.

**A. Policy Statements**

1. Funds meeting OST requirements are eligible for segregated investment management by the OST Investment Division and its investment officers according to and within the guidelines established and approved by the OIC. Investments shall be authorized by an OST investment officer and documented in accordance with OST policies and procedures.

2. Funds shall be invested in accordance with the policies and procedures outlined in

this policy and in accordance with statute established by HB 4018, section 7.

**B. Compliance Application and Procedures**

1. OST shall provide an investment compliance program to accomplish the following objectives: a) monitor and evaluate portfolios, asset classes, and other investment funds to determine compliance with OST policies and contractual obligations; b) identify instances of non-compliance and develop appropriate resolution strategies; c) provide relevant compliance information and reports to OST management and the OIC, as appropriate; and d) verify resolution by the appropriate individual or manager within the appropriate time frame.

2. **Resolution of Non-Compliance.** If PUF investments are found to be a) out of compliance with one or more adopted investment guidelines or b) managed inconsistently with governing policy and objectives, OST investment staff shall bring the investments into compliance as soon as is prudently feasible. Actions to bring the portfolio back into compliance and justification for such actions, including documentation of proposed and actual resolution strategies, shall be coordinated with the OST investment compliance program and communicated with the Designated University.

**C. Portfolio Rules for the Public University Fund**

1. <u>Scope</u>: These rules apply to the investment of funds from all eligible and approved PUF participants, and are established under the authority of, and shall not supersede, the requirements established under ORS Chapter 293 and HB 4018 of Oregon Laws 2014.

2. <u>Objective</u>: Provide adequate liquidity for PUF participants' cash flow requirements. Manage the portfolio to maximize total return over a long-term horizon within stipulated risk parameters.

3. <u>Portfolio Allocation and Risk Profile</u>: Allocation parameters listed in the table below are intended as general guidelines, not hard limits subject to OST Compliance monitoring.

| Portfolio | Objective | Allocation |
|---|---|---|
| **Liquidity** | Assure adequate cash for operations. | **Short-Term**<br>Funds invested in the Oregon Short Term Fund. Target allocation of funds based upon aggregated university participant annual cash flow forecasts. Absent cash flow forecasts, the target allocation will be based upon a minimum of six months' estimated operating expenses. |
| **Core** | Actively managed to achieve a diversified portfolio of investment grade bonds invested over longer horizons than permitted in OSTF. Based on historical market performance, total returns generated over extended periods are anticipated to be greater than returns realized in shorter-maturity strategies. | **Intermediate**<br>Investments with a maturity or weighted average life from three years and above. |

4. Permitted Holdings

- Securities eligible for inclusion or included in the designated performance benchmark(s) unless explicitly restricted in this policy.
- The Oregon Short-Term Fund ("OSTF"). Underlying investments of the OSTF are excluded from restrictions in this policy. The OSTF is governed by the OIC and OST-adopted policies and guidelines as documented in OIC Policy INV 303.
- Securities eligible for purchase by the OSTF unless explicitly excluded by this policy.
- Obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities, including inflation-indexed obligations with stated maturities less than 15.25 years.
- Non-U.S. government securities and Instrumentalities with a minimum rating of one or more of Aa2/AA/AA by Moody's Investors Services, Standard & Poor's or Fitch, respectively, and with a stated maturity less than 15.25 years at the time of purchase.

- Municipal debt with a minimum rating of one or more of A3/A-/A- by Moody's Investors Services, Standard & Poor's or Fitch, respectively, and with a final maturity less than 15.25 years at the time of purchase.
- Corporate indebtedness with minimum investment grade ratings by one or more of Moody's Investors Services, Standard & Poor's or Fitch, respectively, and with a stated maturity less than 15.25 years at the time of purchase.
- Asset-backed securities rated AAA at the time of purchase.
- Commercial mortgage-backed securities (CMBS) rated AAA at the time of purchase.
- U.S. agency residential mortgage-backed securities (MBS) and U.S. agency commercial mortgage-backed obligations ("CMO").

5. Diversification

The portfolio should be adequately diversified consistent with the following parameters:

- No more than 3% of portfolio par value may be invested in a single security with the exception of obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities; and
- No more than 5% of portfolio par value may be invested in the securities of a single issuer with the exception of obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities.
  - Maximum market value exposures shall be limited as follows:

| | |
|---|---|
| U.S. Treasury Obligations | 100% |
| U.S. Agency Obligations | 50% |
| U.S. Corporate Indebtedness | 50% |
| Municipal Indebtedness | 30% |
| Asset-backed Securities (ABS) | 20% |
| Mortgage-backed Securities (MBS) | 40% |
| Commercial Mortgage-backed Securities (CMBS) | 10% |
| Structured Securities (Combined ABS, MBS and CMBS) | 50% |

- Issuer, security, and sector-level restrictions shall not apply to OSTF holdings.

6. Counterparties

A list of all broker/dealer and custodian counterparties shall be provided upon request.

7. Strategy

- Maintain an average (measured by market value) credit rating in the Core allocation of A- or better. If a security is rated by more than one rating agency, the lowest rating is used to determine the average rating.
- Maintain an average modified duration level of +/-10% of the custom benchmark.

8. Investment Restrictions
    - All investments will be in U.S. dollar denominated securities.
    - All investments will be non-convertible to equity.
    - Collateralized debt obligations (CDO), Collateralized Loan obligations (CLO) and Z-tranche investments are not permitted.
    - Investments in Alt-A, sub-prime, limited documentation or other "sub-prime" residential mortgage pools are not permitted. There shall be no use of leverage in any investments (excluding use of securities in a securities lending program). Structured securities such as ABS, MBS and CMBS shall not be considered as using leverage.
    - For newly issued securities with unassigned ratings, "expected ratings" may be used as a proxy for assigned ratings up to 30 business days after settlement date.
    - Investments in issuers identified by the Carbon Underground 200 published by the Fossil Free Indexes LLC ("FFI").
        - This restricted security list will be updated annually at calendar year-end and enforced for all new security purchases.
        - Exposures to issuers added to the Carbon Underground 200 subsequent to purchase may be held to maturity.

9. Policy Compliance
    - OST Investment Staff will submit a written action plan to the Designated University regarding any investment downgraded by at least one rating agency to below investment grade within 10 days of the downgrade. The plan may indicate why the investment should continue to be held and/or outline an exit strategy.
    - OST Staff will consult with the Designated University, on a pre-trade basis, if an investment trade or trades will result in a cumulative net loss greater than 1% over 3 months prior to trade settlement date.

10. Performance Expectations/Reviews
    - Excluding the short-term allocation, the Core allocation is expected to perform in-line with the following custom benchmark:
        - 75% Bloomberg Barclays U.S. Aggregate 3-5 Year Index; and
        - 25% Bloomberg Barclays U.S. Aggregate 5-7 Year Index.
    - OST will provide the Designated University with a monthly report of all non-passive compliance violations of this policy's guidelines.
    - Investment reviews between OST investment staff and the Designated University will occur quarterly and focus on the following elements:
        - Performance relative to objectives;
        - Adherence to this policy; and
        - Trading activity.

**Exceptions**

None.

**Failure to Comply**
Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# Appendix A – Redlined Revisions

**OREGON INVESTMENT COUNCIL**
**POLICY DIRECTIVE**

| | |
|---|---|
| POLICY NO.: | INV 405 |
| DATE: | ~~09/01/2015~~ 9/14/16 |
| DIVISION: | INVESTMENTS |
| TITLE: | OREGON PUBLIC UNIVERSITY FUND INVESTMENTS |
| OWNER: | TOM LOFTON, INVESTMENT OFFICER |
| REFERENCES: | OST POLICY 4.03.05 |

## INTRODUCTION & OVERVIEW

~~**Summary Policy Statement**~~
~~The Oregon Investment Council (OIC or Council) approves the investment policy for the Oregon Public University Fund (PUF).~~

**Purpose ~~and Goals~~**
The ~~goal~~purpose of this policy is to direct~~provide guidance to~~ Oregon State Treasury ~~(~~(“OST~~)~~ ”) investment staff ~~regarding~~to maximize total return (i.e., principal and income) within ~~the~~ stipulated risk parameters and subject to ~~the~~ approved investments as prescribed in these~~ investment~~ ~~of PUF~~guidelines.

**Applicability**
Classified represented, management service, unclassified executive service.

**Authority**
~~**293.726 Standard of judgment**~~Subject to the terms and ~~**care in investments;**~~ conditions of this policy and under the authority of ORS Chapter 293, the designated OST Fixed Income Investment Officer(s) ("investment ~~**in corporate stock.**~~

~~(1)~~staff") shall have full discretionary power to direct the investment ~~funds shall be invested and the investments of those funds managed as a prudent investor would do, under the circumstances then prevailing and in light of the purposes, terms, distribution requirements~~, exchange, liquidation and reinvestment of Oregon Public University Fund (“PUF”) assets. The Oregon Investment Council (OIC) and ~~laws governing each~~ OST expect that investment ~~fund.~~

~~(2) The standard stated in subsection (1) of this section requires the exercise of reasonable care, skill and caution, and is to be applied to investments not in isolation but in the context of each~~staff will recommend ~~guideline~~ changes any time these guidelines are inconsistent with PUF investment ~~fund’s investment portfolio and as a part of an overall investment strategy, which should incorporate risk and return~~ objectives ~~reasonably suitable to the particular investment fund.~~

~~(3) In making and implementing investment decisions, the Oregon Investment Council and the investment officer have a duty to diversify the investments of the investment funds unless, under the circumstances, it is not prudent to do so.~~

~~(4) In addition to the duties stated in subsection (3) of this section, the council and the investment officer must:~~

~~(a) Conform to the fundamental fiduciary duties of loyalty and impartiality;~~

~~(b) Act with prudence in deciding whether and how to delegate authority and in the selection and supervision of agents; and~~

~~(c) Incur only costs that are reasonable in amount and appropriate to the investment responsibilities imposed by law.~~

~~(5) The duties of the council and the investment officer under this section are subject to contrary provisions of privately created public trusts the assets of which by law are made investment funds. Within the limitations of the standard stated in subsection (1) of this section and subject to subsection (6) of this section, there may be acquired, retained, managed and disposed of as investments of the investment funds every kind of investment which persons of prudence, discretion and intelligence acquire, retain, manage and dispose of for their own account.~~

~~(6) Notwithstanding subsection (1) of this section, not more than 50 percent of the moneys contributed to the Public Employees Retirement Fund~~ , market conditions or ~~the Industrial Accident Fund may be invested in common stock, and not more than 65 percent of the moneys contributed to the~~ other ~~trust and endowment funds managed by the Oregon Investment Council~~economic or ~~the State Treasurer may be invested in common stock~~financial considerations.

~~(7) Subject to the standards set forth in this section, moneys held in the Deferred Compensation Fund may be invested in the stock of any company, association or corporation, including but not limited to shares of a mutual fund. Investment of moneys in the Deferred Compensation Fund is not subject to the limitation imposed by subsection (6) of this section. [1967 c.335 §7; 1971 c.53 §1; 1973 c.385 §1; 1981 c.880 §12; 1983 c.456 §1; 1983 c.466 §1; 1987 c.759 §1; 1993 c.18 §59; 1993 c.75 §1; 1997 c.129 §2; 1997 c.179 §22; 1997 c.804 §5; 2005 c.294 §1]~~

~~**293.731 Council to formulate and review investment policies; exception.** Subject to the objective set forth in ORS 293.721 and the standards set forth in ORS 293.726, the Oregon Investment Council shall formulate policies for the investment and reinvestment of moneys in the investment funds and the acquisition, retention, management and disposition of investments of the investment funds. The council, from time to time, shall review those policies and make changes therein as it considers necessary or desirable. The council may formulate separate policies for any fund included in the investment funds. This section does not apply to the Oregon Growth Account, the Oregon Growth Fund, the~~

~~Oregon Growth Board, the Oregon Commercialized Research Fund, the Oregon Innovation Fund or the Oregon Innovation Council. [1967 c.335 §8; 1993 c.210 §20; 1999 c.42 §1; 1999 c.274 §18; 2001 c.835 §9; 2001 c.922 §§15a,15b; 2005 c.748 §§15,16; 2012 c.90 §§22,32; 2013 c.732 §8]~~

## POLICY PROVISIONS

**Definitions**
None.

### A. Policy Statements

1. Funds meeting OST requirements are eligible for segregated investment management by the OST Investment Division and its investment officers according to and within the guidelines established and approved by the OIC. Investments shall be authorized by an OST investment officer and documented in accordance with OST policies and procedures.

2. Funds shall be invested in accordance with the policies and procedures outlined in this policy and in accordance with statute established by HB 4018, section 7.

### B. Compliance Application and Procedures

1. OST shall provide an investment compliance program to accomplish the following objectives: a) monitor and evaluate portfolios, asset classes, and other investment funds to determine compliance with OST policies and contractual obligations; b) identify instances of non-compliance and develop appropriate resolution strategies; c) provide relevant compliance information and reports to OST management and the OIC, as appropriate; and d) verify resolution by the appropriate individual or manager within the appropriate time frame.

2. **Resolution of Non-Compliance.** If PUF investments are found to be a) out of compliance with one or more adopted investment guidelines or b) managed inconsistently with governing policy and objectives, OST investment staff shall bring the investments into compliance as soon as is prudently feasible. Actions to bring the portfolio back into compliance and justification for such actions, including documentation of proposed and actual resolution strategies, shall be coordinated with the OST investment compliance program and communicated with the Designated University.

### C. Portfolio Rules for the Public University Fund

1. Scope: These rules apply to the investment of funds from all eligible and approved PUF participants ~~in the Public University Fund (“PUF”)~~, and are established under the authority of, and shall not supersede, the requirements established under ORS Chapter 293 and HB 4018 of Oregon Laws 2014.

2. Objective: Provide adequate liquidity for PUF participants' cash flow requirements. Manage the portfolio to maximize total return over a long-term horizon within ~~the~~ stipulated~~desired~~ risk parameters.

3. Portfolio Allocation and Risk Profile: Allocation parameters listed in the table below are intended as~~to be~~ general guidelines, not hard limits subject to OST Compliance monitoring.

# Appendix A – Redlined Revisions

| ~~**Strategy Type**~~ | ~~**Name**~~ | ~~**Allocation**~~ | ~~**Objective**~~ | |
|---|---|---|---|---|
| ~~Liquidity~~ | | ~~**Short-Term**~~ | ~~The purpose of the short-term portfolio is to assure adequate cash for operations. Investment management efforts shall be conducted to maintain an allocation to the short-term portfolio equivalent to not less than approximately six (6) months of average monthly operating expenses. This short-term portfolio allocation may also be determined using the results of a cash flow analysis.~~ | ~~Principal preservation~~ |
| ~~Core~~ | | ~~Intermediate-Term~~ | ~~Investment management efforts shall be conducted to allocate to The intermediate-term portfolio any cash balances in excess of those necessary to meet the requirements for the short-term portfolio. Funds allocated to the intermediate-term portfolio should not exceed $300 million.~~ | ~~Exceed the Oregon Intermediate Term Pool benchmark's total return over a 3-year trailing period.~~ |
| | | ~~Long-Term~~ | ~~Investment management efforts shall be conducted to allocate to the long-term portfolio any cash balances in excess of those necessary to meet the requirements for the short-term portfolio. Funds allocated to the long-term portfolio should not exceed $120 million.~~ | ~~Exceed the benchmark's total return over a 5-year trailing period.~~ |

| Portfolio | Objective | Allocation |
| --- | --- | --- |
| **Liquidity** | Assure adequate cash for operations. | **Short-Term**<br>Funds invested in the Oregon Short Term Fund ~~(OSTF)~~. Target allocation of funds based upon aggregated university participant annual cash flow forecasts. Absent ~~of~~ cash flow forecasts, the target allocation will be based upon a minimum of six months' estimated operating expenses. |
| **Core** | Actively managed to achieve a diversified portfolio of investment grade bonds invested over longer ~~investment~~ horizons than permitted~~available~~ in ~~the~~ OSTF. Based on historical market performance, total returns generated over extended periods are~~it is~~ anticipated ~~that the total returns generated over extended periods will~~o be greater than returns realized in shorter-~~-~~maturity ~~vehicles~~strategies. | **Intermediate**<br>Investments with a maturity or weighted average life from three years and above. |

4. Permitted Holdings
   ~~Short-Term Portfolio:~~

   - Securities eligible for inclusion or included in the designated performance benchmark(s) unless explicitly restricted in this policy.
   - The Oregon Short-Term Fund ~~(~~(“OSTF~~);~~”) ~~and~~
   - ~~Any securities eligible for purchase in the OSTF~~. Underlying investments of the OSTF are excluded from restrictions in this policy. The OSTF is governed by the OIC and OST-adopted policies and guidelines as documented in OIC Policy INV 303.

- Securities eligible for purchase by the OSTF unless explicitly excluded by this policy.~~.~~

~~Intermediate-Term Portfolio:~~

- ~~Any holdings eligible for the Short-Term Portfolio;~~
- ~~The Oregon Intermediate-Term Pool (OITP); and~~

- ~~Any securities eligible for purchase in OITP which is governed by the OIC and OST-adopted policies and guidelines as documented in OIC Policy INV 404.~~

~~Long-Term Portfolio:~~

- ~~Any holdings eligible for the Intermediate-Term Portfolio;~~

- Obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities, including inflation-indexed obligations with stated maturities less than 15.25 years.~~;~~
- ~~Non-U.S. Government Securities and their Instrumentalities;~~
- Non-U.S. government securities and Instrumentalities with a minimum rating of one or more of Aa2/AA/AA by Moody's Investors Services, Standard & Poor's or Fitch, respectively, and with a stated maturity less than 15.25 years at the time of purchase.
- Municipal debt with a minimum rating of one or more of A3/A-/A- by Moody's Investors Services, Standard & Poor's or Fitch, respectively, and with a final maturity less than 15.25 years at the time of purchase.~~;~~
- Corporate indebtedness with minimum investment grade ratings by one or more of Moody's Investors Services, Standard & Poor's or Fitch, respectively, and with a stated maturity less than 15.25 years at the time of purchase.~~;~~
- Asset-backed securities rated AAA at the time of purchase.~~ with a weighted average life of less than 5.25 years;~~
- Commercial mortgage-backed securities (CMBS) rated AAA at the time of purchase.~~ with a weighted average life of less than 5.25 years; and~~
- U.S. agency residential mortgage-backed securities (MBS) and U.S. agency ~~residential mortgage-related securities~~commercial mortgage-backed obligations ("CMO")~~ with a weighted average life of less than 5.25 years~~.

5. Diversification

The portfolio should be adequately diversified consistent with the following parameters:

- No more than 3% of portfolio par value may be invested in a single security with the ~~notable~~ exception of obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities; and

- No more than 5% of portfolio par value may be invested in the securities of a single issuer with the ~~notable~~ exception of obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities.
- Maximum market value exposures shall be limited as follows:
  - U.S. Treasury Obligations 100%
  - U.S. Agency Obligations 50%
  - U.S. Corporate Indebtedness 50%
  - Municipal Indebtedness 30%
  - Asset-backed Securities (ABS) 20%
  - Mortgage-backed Securities (MBS) 40%
  - Commercial Mortgage-backed Securities (CMBS) 10%
  - Structured Securities (Combined ABS, MBS and CMBS) 50%

- Issuer ~~and~~, security, and sector~~-~~-level restrictions shall not apply to OSTF ~~or OITP~~ holdings.

6. Counterparties
   A list of all broker/dealer and custodian counterparties shall be provided ~~annually to the Designated University~~upon request.

7. Strategy
   - Maintain an average (measured by market value) credit rating in the Core allocation of A- or better~~at least A-, excluding OSTF and OITP holdings~~. If a security is rated by more than one rating agency, the lowest rating is used to determine the average rating.~~;~~
   - ~~In the Long-Term Portfolio,~~ Maintain an average modified duration level of +/- 1~~2~~0% of the custom ~~fixed income~~ benchmark ~~up to a maximum of 7.5 years; and~~.
   - ~~Structure maturities to provide reinvestment opportunities that are staggered. No more than 15% of the long-term portfolio should mature in a single, 3-month~~

~~time period. This stipulation is intended to be a general guideline, not a hard limit subject to OST Compliance monitoring.~~

8. Investment Restrictions
    - All investments will be in U.S. dollar denominated securities.~~;~~
    - All investments will be non-convertible to equity.~~;~~
    - Collateralized debt obligations (CDO), Collateralized Loan obligations (CLO) and Z-tranche investments are not permitted.~~;~~
    - Investments in Alt-A, sub-prime, limited documentation or other "sub-prime" residential mortgage pools are not permitted. There shall be no use of leverage in any investments (excluding use of securities in a securities lending program). Structured securities such as ABS, MBS and CMBS shall not be considered as using leverage.~~;~~
    - For newly issued securities with unassigned ratings, "expected ratings" may be used as a proxy for assigned ratings up to 30 business days after settlement date.~~; and~~
    - Investments in issuers identified by the Carbon Underground 200 published by the Fossil Free Indexes LLC ("FFI").
        - This restricted security list will be updated annually at calendar year-end and enforced for all new security purchases.
        - Exposures to issuers added to the Carbon Underground 200 subsequent to purchase may be held to maturity.
    - ~~Maximum market value exposures (excluding underlying holdings in OSTF and OITP) shall be limited as follows:~~

| | |
|---|---|
| ~~U.S. Treasury Obligations~~ | ~~100%~~ |
| ~~U.S. Agency Obligations~~ | ~~50%~~ |
| ~~U.S. Corporate Indebtedness~~ | ~~50%~~ |
| ~~Municipal Indebtedness~~ | ~~30%~~ |
| ~~Asset-backed Securities (ABS)~~ | ~~20%~~ |
| ~~Mortgage-backed Securities (MBS)~~ | ~~30%~~ |
| ~~Commercial Mortgage-backed Securities (CMBS)~~ | ~~10%~~ |
| ~~Structured Securities (Combined ABS, MBS and CMBS)~~ | ~~50%~~ |

9. Policy Compliance
    - OST Investment Staff will submit a written action plan to the Designated University regarding any investment downgraded by at least one rating agency to below investment grade within 10 days of the downgrade. The plan may indicate why the investment should continue to be held and/or outline an exit strategy~~; and~~.
    - OST Staff will consult with the Designated University, on a pre-trade basis, if an investment trade or trades will result in a cumulative net loss greater than 1% over 3 months prior to trade settlement date.

10. Performance Expectations/Reviews~~:~~
    - E~~Over a 5-year trailing period, the Long-Term portfolio~~xcluding the short-term allocation, the Core allocation is expected to ~~out~~perform in-line with the following custom benchmark:
        - 75% Bloomberg Barclays U.S. Aggregate 3-5 Year Index; and
        - 25% Bloomberg Barclays U.S. Aggregate 5-7 Year Index.~~;~~
    - OST will provide the Designated University with a monthly report of all non-passive compliance violations of this policy's guidelines.~~; and~~
    - Investment reviews between OST investment staff and the Designated University will occur quarterly and focus on the following elements:
        - Performance relative to objectives;
        - Adherence to this policy; and
        - Trading activity.

**Exceptions**
None.

**Failure to Comply**
Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# TAB 4 – Policy Updates

## OPERF and other OST-managed Accounts

# OIC Policy Updates
# September 14, 2016

**Purpose**
To update several OIC Policies to conform with Treasury's new PolicyStat application.

**Background**
This work is a continuation of the policy updates brought by staff beginning with the September 2015 meeting. As noted at that time:

> In April 2015, Kim Olson informed the OIC of a new online application, PolicyStat, acquired by Oregon State Treasury (OST) to facilitate the management of policies and procedures for the Oregon Investment Council (OIC) and the rest of OST. As the current OIC Policies and Procedures have been migrated to this new application, staff is now engaged in a staged project to reformat existing documents to fit the new rubric approved by Treasury management. Of particular significance is the segregation of Policy and Procedure sections, a recommendation made by Cortex Applied Research during a review completed in August 2012. As staff moves to implement these recommendations going forward, revised policies will come before the OIC for approval, while operating procedures will be approved by the Chief Investment Officer.

**Discussion**
The following is a brief summary of the attached Policies and updates thereto. Due to the quantity of revisions to INV 204, we are providing both the revised policy and the previous policy for purposes of a side-by-side comparison. The remaining policies are provided only in their revised form.

1. **INV 101: Duties of the OIC**
   **INV 102: Development of the Agenda for OIC Meetings**
   **INV 103: OIC and Staff Duties**

These policies were combined into a single policy – **INV 101: Oregon State Treasury Support for the Oregon Investment Council**. The original INV 101 language no longer exists in policy as it only quoted statute. The relevant statutes are now cited under the "Authority" section of the new policy. Language from the previous INV 102 is now located in item 1, and language from the previous INV 103 is located in items 2, 3, and 4 as well as the new policy statement summary.

**Change:** In previous INV 102 language (now under *1. Develop OIC Meeting Agendas*), the following changes reconcile the new policy with current practice:

**Deletion** of the phrase: "*Prior to each meeting, the State Treasurer, through the OST Investment Division staff, shall recommend to the Chair a suggested agenda. The Chair, in* *coordination with the State Treasurer, shall select those items that are to be placed on the agenda*."

**Change:** In 1(b), the actor is now the CIO and not the State Treasurer. We also inserted a time phrase, stating that the agenda and any pertinent documents or supporting materials will be distributed to Council members "*at least one week prior to any regularly-scheduled OIC meeting*."

**Change:** In 1(c), we inserted a time phrase, stating that Council members may request the placement of items on a forthcoming OIC meeting agenda, but must do so "*no less than three weeks in advance of the next regularly-scheduled OIC meeting*."

**1(a) Rules of Conduct of OIC Meetings:**

This policy has been reformatted and its language edited for improved clarity.

**Change**: In item *4. Meeting Notice and Agenda*, the previous policy said that the Chair shall provide notice of meetings. This task has been assigned to the CIO to align with current practice.

**Change**: In item *8. Voting*, the previous policy said "potential conflict of interest" when it should have said "actual conflict of interest." An OIC member should only excuse himself/herself from participating in discussion on a matter and voting on such matter in the event of an "actual conflict of interest." After declaring a "potential conflict of interest," an OIC member still should participate in the discussion on the matter in question and vote on such matter.

**Change**: In item *10. Record of Votes*, the previous policy said the CIO would tally member votes. This task has been assigned to the OIC's legal representative to align with current practice.

**2. INV 202: Investment Trading Authority**

This policy has been reformatted.

**Change:** In *4. Public Equity Investments*, the policy previously said "*Authority to hire or terminate external public equity investment managers resides with the OIC*." In order to comport with recent updates to INV 601 and INV 602, this section was changed to "*Authority to hire external public equity investment managers resides with the OIC, whereas external termination decisions and broad rebalancing authority is delegated to the CIO*."

**3. INV 204: Investment Performance Reports**

**<u>Changes</u>:** The Director of Investment Operations (DIO) completely revised and reformatted this policy. The original is attached for comparison purposes. In the original, reporting requirements were listed for each asset class. The revised version avoids the repetition inherent in the previous policy by summarizing the report types and information provided. The updated policy also references the Investment Division's newly created operations unit and the corresponding centralization of the division's reporting activities. David Randall, the DIO is now the primary contact for the division's reporting function.

Changes to this policy retain the spirit of the original, but are still too extensive to try and summarize in this memo. Accordingly, we have attached both the original and revised versions of this policy for comparison purposes.

**4. INV 205: Consideration of Investments**
**INV 206: Divestiture Initiatives**

These two documents were combined into a single policy – **INV 205: Consideration of Investments and Divestiture Initiatives.**

*Consideration of Investments* was previously maintained in the form of an "advisory letter" articulating the guidelines within which the OIC would consider existing and potential investments. Following a discussion of this historical advisory letter format with legal counsel, we believe the OIC is better served to instead reconstitute this advisory letter as an integrated policy document. Therefore, we have removed references to "advisory letter" and reformatted the letter's language into our now standard policy template.

The original INV 206 language remains the same. We have removed policy statements 1, 2 and 3 because they are redundant with statute quotations or INV 205 language. The result is a reduced total number of investment policies and elimination of an anomalous advisory letter.

**5. INV 207: Open Door Policy to Investment Proposals**
**INV 208: Negotiation and Execution of Contracts**
**INV 214: Equal Opportunity**

These short policies were consolidated into a single policy – **INV 207: Proposals, Solicitations, Contracts and Agreements**. The original INV 207 language was altered slightly for improved clarity.

**<u>Change</u>**: In INV 208, the previous policy said:

"*…the Office of the State Treasurer is authorized to negotiate, in concert with the Department of Justice, and execute, a contract on behalf of the Council, unless the Council* *directs otherwise. The Chief Investment Officer of the Office of the State Treasurer, or his designee, is authorized to execute contracts on behalf of the Council*."

This language has been changed to "…*OST investment staff are authorized to negotiate, in concert with Department of Justice personnel or internal legal staff with the Special Assistant Attorney General designation, the contract or agreement on behalf of the Council. Moreover, the OST Chief Investment Officer (CIO), or his or her designee, is authorized to execute contracts and agreements on behalf of the Council, unless the Council directs otherwise*."

The rationale for this change is twofold: first, removal of the term "Office of the State Treasurer." OST is officially the Oregon State Treasury. Second, to clarify the difference between what OST investment staff is authorized to do (i.e., negotiate), and what the CIO or his or her designee is authorized to do (i.e., execute).

**Change:** In INV 208, the previous policy said:

"…*State Treasurer, or the Treasurer's designee is authorized to negotiate and execute agreements*…;" this language has been changed to the "…*OST Chief Investment Officer, or his or her designee*…" for improved clarity.

**Change:** "*Gender identity*" was added as a term on the equal opportunity list (section III). Some language was also altered for improved clarity.

**6. INV 209: Rotating Internal Control and Operational Reviews**

This policy has been reformatted and its language edited for improved clarity.

**7. INV 211: Minimizing Losses**

This policy has been reformatted and its language edited for improved clarity.

**8. INV 212: Sudan and Iran Divestiture**

This policy has been reformatted and its language edited for improved clarity.

**9. INV 213: External Manager Watchlist**

This policy is being retired as its information content now resides in the revised versions of *INV 601: Public Equity Investments: Strategic Role of Public Equity Securities within OPERF* and *INV 602: Equity Investments: Selecting and Terminating Investment Manager Firms* previously approved by the Council at the April 20, 2016 OIC meeting.

**10. INV 216: Securities Lending**

This policy has been reformatted and its language edited for improved clarity.

**11. INV 607: Equity Investments: Manager Monitoring**

This policy came before the OIC at the April meeting and was tabled for further discussion due to the following proposed change:

**<u>Change</u>:** In item *2. On-site Visits*, **eliminated** sentence "*OIC members are encouraged to visit managers when convenient*." This change is recommended as this language is unique to public equity and represents, in staff's opinion, an obsolete drafting artifact. Moreover, legal counsel believes the elimination of this sentence does not in any way restrict OIC members' ability to visit managers, and instead protects members from any potential or perceived visitation obligation.

| | |
|---|---|
| **Current Status:** *Pending* | **PolicyStat ID:** *2661962* |

| | |
|---|---|
| **Origination:** | *04/2007* |
| **Last Approved:** | *04/2007* |
| **Last Revised:** | *04/2007* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.00.00* |

# INV 101: Oregon State Treasury Support for the Oregon Investment Council

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

The Oregon Investment Council ("OIC" or "Council") formulates broad policies for the investment and reinvestment of moneys in the investment funds and the acquisition, retention, management, and disposition of investments of the investment Funds (Fund or Funds). The voting members of the Council include the State Treasurer and four appointees of the Governor. The Public Employees Retirement System (PERS) Director is an ex officio, non-voting member of the Council. The OIC is responsible for approving and revising policies. The Chief Investment Officer, working with Investment Division staff, is responsible for approving and revising procedures, developing OIC meeting agendas, and drafting OIC resolutions. OST Investment Division staff provide administrative and research support to the Council, and are responsible for recording, transcribing, and distributing OIC meeting minutes.

### Authority

ORS 182.010-020, ORS 293.721-726, ORS 293.731

## POLICY PROVISIONS

### Policy Statements

1. Develop OIC Meeting Agendas
    a. The Chief Investment Officer (CIO), in coordination with the OIC Chair and State Treasurer, is responsible for constructing an agenda for each OIC meeting.

b. The CIO shall produce the agenda established in (a) and distribute it and any pertinent documents or supporting materials to Council members at least one week prior to any regularly-scheduled OIC meeting.

c. Any Council member may at any time request that the OIC Chair place one or more items on a forthcoming OIC meeting agenda. To provide staff with sufficient preparation time to comply with (b) above, such additional agenda item requests should be sent to the OIC Chair no less than three weeks in advance of the next regularly-scheduled OIC meeting.

2. Record, Transcribe and Distribute OIC Meeting Minutes
   a. A member of the Investment Division staff shall record and distribute OIC meeting minutes. Approved minutes, except those taken during executive session, shall be posted to the OST website along with a corresponding audio recording.
3. Draft OIC Resolutions
   a. The CIO or staff may draft policies or resolutions for OIC action upon request. All advisors to the Council, including but not limited to investment advisors, OST staff members and legal counsel, when practicable, shall submit to the Council for its consideration written recommendations, whenever OST staff and legal counsel determine Council action is required.

   b. From these written recommendations, OST staff shall have prepared for the Council's consideration appropriate forms of motion. Whenever practicable, OST staff shall review and advise the Council in writing whether proposed Council action concerning investments falls within or outside of existing investment policies, and, if within, shall identify the applicable policy or policies.
4. Staff and Research Support
   a. Should the OIC wish to investigate or research a matter related to current or potential investment activities, OST Investment Division staff shall provide support and assistance as required.

## Exceptions

None.

# PROCEDURES and FORMS

A. Rules of Conduct at Oregon Investment Council Meetings

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

Rules of Conduct at Oregon Investment Council Meetings

| | Committee | Approver | Date |
|---|---|---|---|
| | | John Skjervem: Chief Investment Officer | pending |

**OREGON INVESTMENT COUNCIL POLICY**

Meeting Conduct Rules

**Applicability of Rules**

1. These rules are applicable to convened meetings, regular and special, of the Oregon Investment Council ("OIC" or "Council").

2. In consultation and coordination with the Chief Investment Officer (the "CIO") of the Oregon State Treasury (OST), the OIC Chair will schedule approximately eight Council meetings during each calendar year. The OIC Chair may call additional, special or informal meetings as deemed necessary or advisable, and may hold these or regularly-scheduled meetings by telephone. OIC meetings held in Executive Session shall be conducted in accordance with ORS 192.660.

3. **Chair**: In consultation and coordination with the CIO, and in accordance with INV 101, the Chair is responsible for developing and setting all OIC meeting agendas. Additionally, the Chair shall preside over all OIC meetings, regular and special. The primary roles of the Chair are to a) ensure OIC meetings are as efficient and productive as possible and b) facilitate communication among OIC members, OST staff and other constituents, and stakeholders.

4. **Meeting Notice and Agenda**: The CIO shall provide notice of meetings in compliance with ORS 192.610-690, and such notice shall contain a copy of the meeting agenda setting forth, with reasonable clarity, the matters scheduled for OIC members' review and discussion.

5. **Quorum:** Three of the Council's five voting members shall constitute a quorum.

6. **Majority Vote**: An affirmative vote of three of the Council's five voting members is required for Council approval of recommendations and resolutions.

7. **Conflict of Interest**: As defined in ORS 244.120, rules promulgated by the Oregon Government Ethics Commission and other related Council policies, Council members shall announce any and all potential or actual conflicts of interest prior to taking action on an issue, recommendation, or resolution that is presented to the Council for its consideration or approval. Announced conflicts should be recorded as provided in Oregon Revised Statutes 244.130 (see also: INV 104 OIC Standards of Ethics). For purposes of this policy, "take action" means to vote, debate, recommend or discuss.

8. **Voting**: Except in the case of an actual conflict of interest, OIC members, when present, shall vote either aye or nay on any issue, recommendation, or resolution presented to the Council for its consideration or approval. If such an actual conflict of interest exists, the affected member shall make a declaration of the conflict and excuse him or herself from the corresponding Council vote or discussion.

9. **Record of Votes**: The OIC's legal representative shall tally member votes through an oral roll call process.

10. **Recess or Adjournment**: Given a quorum, either the Chair or a majority vote among the Council's voting members may recess or adjourn any Council meeting.

11. **<u>Council Elections</u>:** The Council shall elect a Chair and Vice Chair at the last regularly-scheduled Council meeting in each odd-numbered calendar year. The Chair and Vice Chair shall both serve two-year terms and may be reelected to consecutive terms provided that, per ORS 293.711, no member may serve as Chair for more than four years in any consecutive 12-year period.

    Between biennial elections, and with at least one week's notice, a majority of the Council's voting members may request a special election, held at the next regularly-scheduled Council meeting, to select officers for vacancies in an otherwise unexpired term.

    In the event that a Chair or Vice Chair resigns, is removed, or whose service on the Council ends, the Council, at its next regularly-scheduled meeting, shall elect a successor.

| | |
|---|---|
| **Origination:** | *10/2013* |
| **Last Approved:** | *10/2013* |
| **Last Revised:** | *10/2013* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.01.02* |

# INV 202: Investment Trading Authority

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

As delegated by the State Treasurer, investment officers in the Oregon State Treasury (OST) including but not limited to the Chief Investment Officer (CIO) have authority to purchase or sell securities and other investments within the asset class for which those investment officers have responsibility, except as may be otherwise noted in OST Policies and Procedures manuals. In exercising this delegated authority, OST investment officers and staff shall manage and invest funds as a prudent investor would so manage and invest under the circumstances then prevailing and in light of the purposes, terms, distribution requirements and laws governing each investment fund (ORS 293.726).

### Purpose and Goals

The goal of this policy is to outline the specific trading authority OST investment officers and senior analysts have to negotiate and execute trades in their assigned asset classes.

### Applicability

Classified represented, management service, unclassified executive service

### Authority

ORS 293.726

# POLICY PROVISIONS

## Policy Statements

Specific trading authority is outlined as follows:

1. **Short-Term Investments.** OST investment officers and senior analysts may negotiate and execute trades in connection with OST's internal short-term investment mandates under the general guidance and authority of the CIO, Director of Capital Markets, or a designated Senior Investment Officer. Authority to hire or terminate external short-term investment managers resides with the OIC. See Policy INV 402.

2. **Fixed Income Investments.** OST investment officers and senior analysts may negotiate and execute trades in connection with OST's internal fixed income investment mandates under the general guidance and authority of the CIO, Director of Capital Markets, or a designated Senior Investment Officer. Authority to hire or terminate external fixed income investment managers resides with the OIC. See Policy INV 403.

3. **Real Estate Investments.** See Policy INV 501.

4. **Public Equity Investments.** OST investment officers and senior analysts may negotiate and execute trades (including futures contracts) in connection with OST's internal equity investment mandates under the general guidance and authority of the CIO, Director of Capital Markets or a designated Senior Investment Officer. Authority to hire external public equity investment managers resides with the OIC, whereas external termination decisions and broad rebalancing authority is delegated to the CIO. See Policy INV 602.

5. **Private Equity Investments.** See Policy INV 701.

6. **Alternative Investments.** See Policy INV 702.

7. **Opportunity Portfolio Investments.** See Policy INV 703.

In managing funds, investment officers shall pursue "Best Execution" during the trading process, and seek to maximize a portfolio's value consistent with its stated investment objectives and any applicable constraints. As part of the Best Execution pursuit, OST investment officers will perform the following duties: (1) accurately determine portfolio trading requirements; (2) select appropriate trading techniques, venues and agents; (3) monitor and control liquidity, endeavoring to avoid excessive market impact; (4) protect beneficiaries' interests and investment managers' proprietary information; and (5) evaluate trading results and effectiveness on a continual basis.

"Soft Dollars" refers to an arrangement in which an investment manager (internal or external) obtains products or services, *other than the execution of securities transactions*, from or through a broker. In exchange, the broker receives a share of that investment manager's transaction business or "flow." Staff shall review external managers' soft dollar usage on a regular basis; moreover, any soft dollar services received by OST investment officers in connection with their internal portfolio management activities must be reported to the CIO prior to engaging in such soft dollar trading activities.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | John Skjervem: Chief Investment Officer | pending |

| | |
|---|---|
| **Origination:** | *09/2014* |
| **Last Approved:** | *09/2014* |
| **Last Revised:** | *09/2014* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.01.05* |

# INV 204: Investment Performance Reports

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

Oregon law requires the State Treasurer, acting as the State Investment Officer, among other duties, to retain and manage investments of the investment funds. Consistent with that mandate, this policy establishes a uniform process for reporting investment performance and activity.

### Purpose and Goals

The goal of this policy is to establish general parameters for reporting the performance and activity of investment funds managed by Oregon State Treasury (OST).

### Applicability

Classified represented, management service, unclassified executive service

### Authority

ORS 293.731; 293.736; 293.741; 293.761; 293.766; 293.771

# POLICY PROVISIONS

## Definitions

Terms not otherwise defined herein have the meanings ascribed to them in ORS 293.701, *et. seq.*

## Policy Statements

The State Treasurer is tasked with the management of the investment funds and has delegated portions of that task to the OST Chief Investment Officer (CIO) and certain other OST investment staff. As part of their duties, OST Investment Division staff ("Staff") are tasked with providing periodic reports on the investment funds to various parties, as detailed below.

The Director of Investment Operations (DIO) shall generally oversee preparation of each report and shall obtain any information necessary for a report from applicable custodians and third parties. However, certain reports may be overseen by other Staff, including the Director of Alternatives, the Director of Capital Markets and/or their designees.

### COUNCIL REPORTS

Staff shall provide the Council with periodic reports (each an "OIC Report") on the investment funds, including their performance and activity. Generally, each OIC Report will be delivered to the Council on a monthly basis unless otherwise requested by Council.

OIC Reports should include relevant performance information over applicable time periods for internally- and externally-managed investment funds relative to appropriate benchmarks. These reports should also include a summary of portfolio holdings, purchases and sales, gains and losses, and any other information Staff deems relevant, including information from custodians, consultants, and other third parties.

Staff shall also assist the Council in providing periodic reports to the Governor and Legislative Assembly on the investment funds' performance and activity. Such reports shall be provided on a bi-annual basis and at such other times as the Council considers in the public interest or as may be required by statute or rule.

### OST ANNUAL REPORT

Staff shall assist in the production of OST's annual report, providing necessary information on the investment funds, including their performance and activity, portfolio holdings, purchases and sales, as well as all gains and losses.

### THIRD PARTY REPORTS

Council and Staff may periodically employ consultants to provide advice or otherwise assist in the management of the investment funds. Staff shall provide information and assist such consultants as reasonably necessary in the preparation of reports for Council, OST, or other stakeholders relating to the investment funds.

### OTHER REPORTS

Staff shall provide information to OST internal and external auditors as may be requested to complete annual audits of any investment fund and/or any comprehensive annual financial report for OST or its divisions.

Staff shall provide OST's Finance Division with a monthly performance report for the Oregon Short Term Fund, and such other present or future investment funds as may be applicable, as well as a summary of holdings and a portfolio compliance report.

Staff shall assist OST and other OST staff in preparing reports related to the investment funds or the management thereof.

Staff shall assist OST in providing information periodically to the public concerning the investment funds via OST's website and other sources as requested by the State Treasurer and/or the Council.

### PUBLIC REPORTS

Investment fund holdings and performance data are highly sensitive information. Accordingly, Staff may provide such information on a one-quarter lagged basis when such information will be used in any external or public setting.

### REPORT CONTENT

OIC Reports should include relevant information for each applicable investment fund and/or asset class, including fixed income (internally- and externally-managed), public equity (internally- and externally-managed), real estate, private equity, alternatives, and opportunity portfolio investments. Reports should generally include some or all of the following: a summary of the investment fund/asset class holdings; performance information measured against an applicable benchmark; security purchases and sales (or fund, portfolio company, or real property held, as applicable); and gains and losses realized (or current appraisal or valuation, as applicable).

All other reports shall contain information deemed relevant and/or responsive as determined by Staff and using reasonable discretion.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

None.

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | John Skjervem: Chief Investment Officer | pending |

- Previous version - for comparison -

Current Status: *Active* PolicyStat ID: *1485071*

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|---|---|
| Origination: | 09/2014 |
| Last Approved: | 09/2014 |
| Last Revised: | 09/2014 |
| Next Review: | 09/2015 |
| Owner: | John Skjervem: Chief Investment Officer |
| Policy Area: | Investments |
| References: | OST Policy 4.01.05 |

# INV 204: Investment Performance Reports

## POLICY

Performance and investment fund activity shall be reported in a manner consistent with each asset class. The Office of the State Treasurer (OST) shall produce an Annual Report, including an investment funds section.

## PROCEDURES

1. **Short-Term Investments.** Each month, OST prepares a summary of Oregon Short-Term Fund (OSTF) holdings and a portfolio compliance report. This information, as well as the OSTF interest rate, is also posted to the OST's website. The OSTF custodian provides monthly performance calculations, while OST's Finance Division determines the interest credited to each OSTF investor. An annual financial report for the OSTF is prepared by OST and is audited by the Secretary of State's Audits Division.
2. **Fixed Income (Internally-managed).** The custodian provides monthly and quarterly performance information relative to predetermined benchmarks. Upon request, the custodian can provide a trade report to the Treasurer, the Deputy Treasurer and the Chief Investment Officer. The report includes summaries of security purchases and sales as well as all gains and losses realized in internally-managed fixed income accounts. The report can be accompanied, upon request, by a full listing of the fixed income securities held by OST in its internally-managed accounts.
3. **Fixed Income (Externally-managed).** The custodian prepares monthly and quarterly reports for each externally-managed account that include current market values and investment performance relative to OIC-assigned benchmarks. These reports are distributed to OIC members, the Treasurer, the Deputy Treasurer, the Chief Investment Officer and Investment Division staff. The OIC's consultant also provides, generally quarterly, a comprehensive review of all externally-managed fixed income accounts.
4. **Public Equity (Internally-managed).** The custodian provides monthly and quarterly performance information relative to predetermined benchmarks. Upon request, the custodian can deliver a trade report to the Treasurer, the Deputy Treasurer and the Chief Investment Officer. The report includes summaries of security purchases and sales as well as all gains and losses realized in internally-managed public equity accounts. The report can be accompanied, upon request, by a full listing of the public equity securities held by OST in its internally-managed accounts.
5. **Public Equity (Externally-managed).** The custodian prepares monthly and quarterly reports for each externally-managed account that include current market values and investment performance relative to

OIC-assigned benchmarks. These reports are distributed to OIC members, the Treasurer, the Deputy Treasurer, the Chief Investment Officer and Investment Division staff. The OIC's consultant also provides, generally quarterly, a comprehensive review of all externally-managed public equity accounts.

6. **Real Estate.** An independent firm hired by OST prepares comprehensive quarterly reports that include fund and specific property holdings, current appraisal values and benchmark-relative performance calculations. This report is distributed to OIC members and OST staff. In addition, OIC's real estate consultant and/or other real estate advisors provide similar reports to OIC members and OST staff.
7. **Private Equity.** On a continuing basis, private equity investments are reviewed and evaluated by the Director of Alternative Investments, the Private Equity Investment Officers and the Chief Investment Officer. In addition, the OIC's private equity consultant provides quarterly reports that include a list of fund and portfolio company holdings, current portfolio appraisal values and benchmark-relative performance calculations. At least annually, the OIC's private equity consultant provides a comprehensive private equity portfolio review that includes a pacing schedule, or projection of future private equity program cash flows.
8. **Alternative & Opportunity Portfolios.** On a quarterly basis, performance for the Alternatives and Opportunity portfolios is calculated by the OIC's consultant.

# SAMPLE FORMS, DOCUMENTS OR REPORTS (Attached)

None

# Attachments:

No Attachments

**Current Status:** *Pending* **PolicyStat ID:** *2669223*

| | |
|---|---|
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| **Last Revised:** | *09/2014* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.01.07* |

# INV 205: Consideration of Investments and Divestiture Initiatives

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

This policy articulates the guidelines within which the Oregon Investment Council ("OIC" or "Council") considers existing and potential investments. The statutory standards of prudence and productivity are the *only* standards that apply to the investment of the Oregon Public Employees Retirement Fund (OPERF) and all other Oregon public trust funds. The OIC recognizes its obligation to adhere to applicable law and that political, social and legal circumstances in various nations and regions of the world may impact the productivity and prudence of investments made in or connected with those nations and regions.

### Applicability

Classified represented, management service, unclassified executive service

### Authority

ORS 293.721, 292.726

The OIC can only consider investments that meet the productivity objectives of Oregon Revised Statutes (ORS) 293.721 and the prudence standards of ORS 293.726. Each proposed investment is separately evaluated based on its unique structure and potential in accordance with standard OIC and Oregon State Treasury ("OST") investment criteria. The standard stated in 293.721(1) "requires the exercise of reasonable care, skill and caution, and is to be applied to investments not in isolation but in the context of each investment fund's investment portfolio and as a part of an overall investment strategy, which should incorporate risk and return objectives reasonably suitable to the particular investment fund."

ORS 293.721 states, in part: "Moneys in the investment funds shall be invested and reinvested to achieve the investment objective of the investment funds, which is to make the moneys as productive as possible." Under ORS 293.726 (1) and (2), the OIC and its investment officer (the "Treasurer" or OST) also are required to invest with prudence, reasonable care, skill and caution. Under subsection (4), the OIC and OST must adhere to the fundamental fiduciary duties of loyalty and impartiality.

# POLICY PROVISIONS

## Policy Statements

I. **Consideration of Investments**

The Council's statutory duties, as defined in ORS 293.721, to formulate and review investment policies consistent with the productivity objectives set forth in ORS 293.721 and the prudence standards set forth in ORS 293.726, shall take precedence over any other consideration. The Council's implementation of these objectives and standards can be stated as follows:

A. Consideration of investments is limited to those which, when judged solely on the basis of economic value, enhance portfolio returns on a risk-adjusted basis;

B. Any benefit an investment may confer, other than meeting the statutory standards of prudence and productivity, is not and shall not be considered the responsibility or within the control of OST, the Council, or its agents;

C. For allocation purposes, proposed investments are categorized by asset class and subject to the Council's asset allocation guidelines, ranges, and targets;

D. Proposed investments shall be consistent with the Council's desired level of portfolio diversification as defined by the mix of asset types and allocations to different economic, industry, and geographic exposures;

E. Investments shall at all times conform to the laws, requirements, policies, and procedures governing the Council, OST, and OPERF;

F. Because investments are part of an actively managed portfolio, full due diligence is exercised. This due diligence, conducted by OST staff, designated private managers, consultants, and/or advisors, addresses, at a minimum, (1) legal sufficiency, (2) investment sufficiency, and (3) the identification of any potential conflicts of interest. Only those investment proposals that comply with the Council's prescribed proposal format shall be considered. The costs associated with all legal and financial review for each investment proposal shall be addressed pursuant to policy consistent with similar investment types. Where no such policies exist, these costs shall be borne entirely by the proposer. Furthermore, the proposer shall provide all information that the Council, OST staff and designated private managers, consultants and/or advisors deem necessary to perform appropriate levels of due diligence and evaluation. If the information is not provided within a specified, reasonable time frame, the Council, OST staff, or designated private managers, consultants, and/or advisors may discontinue their individual and collective due diligence and evaluation considerations. All investments that are approved by the Council shall be subject to a continuing obligation to disclose certain requested information;

G. Investments shall be valued at current market prices and will be subject to performance measurement at least annually;

H. The Council carefully considers investment structures such as partnerships and joint ventures when evaluating an initial investment and ongoing participation with a sponsoring entity. The Council will only consider those structures that appropriately align financial rewards and risk among all other partners/participants. OST staff or designated private managers, consultants and/or advisors shall consider and recommend to the Council structural features to mitigate investment risks, losses, and liabilities such as federal government credit insurance, personal guarantees, corporate guarantees, cross-corporate collateralization, and other such mechanisms. Furthermore, only those investment proposals that stipulate explicit exit strategies and define the means by which investment returns may be realized shall be considered;

I. Due to resource constraints, investment proposals that may impose unreasonable administrative burdens directly upon the Council, OST investment staff, or the State Treasurer shall not be considered;

J. All persons or firms managing, evaluating, or monitoring investments on behalf of the Council shall act in a fiduciary capacity when giving advice or information to the Council and OST staff;

K. The OIC recognizes that excellent investment opportunities may exist within Oregon and actively considers such in-state investments, but specific decisions regarding whether or not investments are made in Oregon-based companies are delegated to third-party managers selected by the OIC;

L. The Council recognizes that Oregon is an underserved market for venture capital investments and that such circumstances may, from time to time, result in attractive investment opportunities. Further, the Council recognizes that prudent investments may satisfy the exclusive benefit rule for pension plan participants, as well as provide the collateral benefit of encouraging economic development within the state. Accordingly, whenever diversification and quality standards permit, the Council will endeavor to hire local partners or will encourage leading national firms to open an Oregon office; and

M. The methodology that the Council applies to all its investments also applies and will be applied to investment opportunities within Oregon. Consequently, the risk, return, and liquidity characteristics of investments in Oregon must be determined to assure that such characteristics are consistent with (i.e., meet or exceed) the evaluation criteria, legal standards, and investment policies that govern all Council investment activity.

 

II. **Divestiture Initiatives**

While political, social, and legal circumstances material to prudent and productive investment activities should receive appropriate consideration in making and maintaining investments, such factors may not be given undue weight (i.e., weight disproportionate to their impact upon economic prudence and productivity) when implementing the OIC's and OST's investment responsibility to a) act with prudence to make the moneys under their care as productive as possible and b) adhere to their fundamental fiduciary duties of loyalty and impartiality.

The OIC and OST are subject to, and will comply with, applicable federal and state law.

A. The federal government of the United States of America (the "United States") has preeminent governmental power for those subject to its jurisdiction with respect to the conduct of foreign policy and interstate commerce. When the United States sanctions or restricts investment by subject entities in other nations, as when it regulates interstate commerce, the OIC requires all of its investment managers to comply with those regulations, as applicable. The OIC also expects companies in which it invests, that are subject to such regulations, to comply with those regulations.

B. The OIC requires its investment managers to consider all material risks and benefits when making an investment. Material risks or benefits may include those factors that arise from the political, social, or legal circumstances affecting regions or governments with or within which companies considered for investment conduct business.

C. OST will maintain a dialogue with the OIC's proxy voting agent(s) and investment managers to ascertain how ballot issues and investment decisions related to international investments and compliance with government regulations are addressed.

D. When not inconsistent with the policies described above, the OIC prefers that its managers avoid holdings in companies doing business with or in countries where such conduct is prohibited if performed by companies subject to the jurisdiction of the United States.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

None.

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | John Skjervem: Chief Investment Officer | pending |

**Current Status:** *Pending* **PolicyStat ID:** *2662215*

| | |
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| **Last Revised:** | *N/A* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | |

# INV 207: Proposals, Solicitations, Contracts, and Agreements

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

This policy establishes how Investment Officers will hear and consider proposals and solicitations, negotiate contracts or agreements, and promote equal opportunity.

### Applicability

Classified represented, management service, unclassified executive service

### Authority

ORS 293.721, ORS 293.726

## POLICY PROVISIONS

### Policy Statements

I. **Open Door Policy**
Investment Officers employed by Oregon State Treasury (OST) will hear and consider proposals and solicitations from any person or entity for various investment opportunities, provided such proposals and solicitations are submitted in good faith. OST has no obligation or requirement to pursue or accept any proposal or solicitation that any person or entity presents to it.

II. **Negotiation and Execution**

Whenever the Council approves a proposal or solicitation from an investment manager, advisor, consultant, or other external service provider without also approving an accompanying contract or agreement, OST investment staff are authorized to negotiate, in concert with Department of Justice personnel or internal legal staff with the Special Assistant Attorney General designation, the contract or agreement on behalf of the Council. Moreover, the OST Chief Investment Officer (CIO), or his or her designee, is authorized to execute contracts and agreements on behalf of the Council, unless the Council directs otherwise.

Whenever the Council approves a new proposal or solicitation that is within the scope of an existing contract or agreement with an investment manager, advisor, consultant, or other external service provider, the CIO, or his or her designee, is authorized to negotiate and execute any other documents required to effect the new proposal or solicitation, unless the Council directs otherwise.

III. **Equal Opportunity**

The Council offers equal opportunity in terms of contract and agreement awards. Specifically, the Council does not discriminate on the basis of age, race, color, sex, religious creed, national origin, marital status, sexual orientation, gender identity, or disability. Furthermore, firms doing business with or seeking business from the Council are encouraged to have and exhibit equal opportunity programs. If two or more firms seeking business from the Council otherwise appear equal in meeting the productivity objective of Oregon Revised Statute (ORS) 293.721 and the prudence standard of ORS 293.726, the Council will award a contract or agreement to the firm that operates and has results for an equal opportunity program if that firm is the only firm operating such a program with verifiable program results.

Firms offering a contract or agreement to the Council shall submit with their offer of contract or agreement a copy of any documents describing their equal opportunity program, their programs' results and a cover letter outlining their programs' history and scope of applicability.

The Council will require that all written contracts or agreements with it incorporate references that affirm compliance with applicable non-discrimination, affirmative action, and contract compliance laws.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

None.

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | John Skjervem: Chief Investment Officer | pending |

| | |
|---|---|
| **Origination:** | *07/2011* |
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| **Last Revised:** | *07/2011* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.01.12* |

# INV 209: Rotating Internal Control and Operational Reviews

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

This policy establishes the type and frequency of audits and reviews the OST Internal Audit Services Division will perform on the investment program.

### Purpose and Goals

The goal of this policy is to ensure the Oregon Investment Council (OIC) and Investment Division remain in compliance with statutory reporting requirements.

### Applicability

Classified represented, management service, unclassified executive service

### Authority

Oregon Revised Statute (ORS) 293.776 states "The Oregon Investment Council shall provide for an examination and audit of the investment funds investment program, and for submission to the council of a report based on the examination and audit, at least once every four years and at other times as the council may require. The examination and audit, and the report based thereon, shall include an evaluation of current investment funds investment policies and practices and of specific investments of the investment funds in relation to the objective set forth in ORS 293.721, the standard set forth in ORS 293.726 and other criteria as may be appropriate, and recommendations relating to the investment funds investment policies and practices and to specific investments of the investment funds as are considered necessary or desirable. The council shall make copies of the report or a summary thereof available for distribution to interested persons."

# POLICY PROVISIONS

## Policy Statements

I. **On An Annual Basis**
The Internal Audit Services division of the Oregon State Treasury (OST) will perform an audit of the internal control structure over one of the major asset classes (i.e., Public Equity, Fixed Income, Real Estate, Private Equity, Alternatives, Opportunity Portfolio, or Short-term Investments) for each year ending June 30. The audit shall be performed in accordance with professional auditor's standards approved by OST's Audit Committee.

II. **At Least Once Every Four Years**
The Internal Audit Services division will perform a comprehensive operational review of OST's investment management practices in a specific portfolio or asset class as compared and contrasted to the investment management practices used by institutional investors of similar size and objective.

This work and all corresponding reports shall comply with applicable professional standards and fulfill the requirements stated in ORS 293.776.

1. Internal Audit Services will co-source or outsource portions, or the entirety, of the work to qualified consultants through a request for proposal (RFP) process or other selection process according to OST purchasing policies. Consultant selection(s) and the scope of work will be approved by the OST Audit Committee.

2. Internal Audit Services shall deliver a written report on the results of the work performed to OST management, as well as any findings and/or recommendations for improvement.

3. On an annual basis, the Chief Audit Executive, or designee, shall inform the OIC of audit and review results, and shall provide a summary of OST management's response to all report findings and recommendations.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | John Skjervem: Chief Investment Officer | pending |

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| **Origination:** | *04/2012* |
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| **Last Revised:** | *04/2012* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.01.14* |

# INV 211: Minimizing Losses

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

The State Treasurer or a member of his or her staff may take whatever actions reasonably necessary to minimize losses to investments, consistent with the productivity standard of ORS 293.721 and the prudence standard of ORS 293.726. However, after such actions, the investment shall remain within established asset allocation parameters and existing investment guidelines, to the extent practicable. The State Treasurer shall report to the Oregon Investment Council ("OIC" or "Council") at its next regular meeting any restructuring of an investment that was previously approved by the Council. The State Treasurer shall also report any other action which takes the investment outside of asset allocation parameters and investment guidelines, unless legal counsel advises the State Treasurer and the chair of the Council, in writing, that reporting the action to the Council at that time could prejudice the legal interests of the State.

### Purpose and Goals

The goal of this policy is to establish parameters for OST personnel regarding processes and reporting requirements for material losses in investments.

### Applicability

Classified represented, management service, unclassified executive service

### Authority

ORS 293.721 - 293.824

ORS 293.751 provides the State Treasurer, as Investment Officer, a variety of methods to address investment losses with approval of the Council, and ORS 293.824 requires the State Treasurer to establish policies and procedures for pool expenses and losses, which would apply to the Oregon Short Term Fund (OSTF).

# POLICY PROVISIONS

## Policy Statements

Per its policy, the Oregon State Treasury (OST) will inform the Council and its stakeholders of material losses in investment funds that occur outside the normal course of business. OST will also establish and maintain processes for the realization of losses, maintain allowances for losses where appropriate, and will report on material or extraordinary losses, at least annually, to the Council.

1. **Realized Losses.** OST will write-down investment values and realize losses that occur, for example, due to bankruptcy or uninsured property loss. The timing and realization of such losses will follow applicable accounting standards. When determined by one of OST's Senior Investment Officers that the value of a particular investment cannot with reasonable effort be recovered, the Senior Investment Officer will notify Investment Accounting of the loss. Investment Accounting will work with the custodial bank to determine the extent of the loss and when it will be recorded on the custodian's records.

2. **Anticipated losses in pooled funds.** OST will maintain an allowance for specific investments and historically-based losses within pooled funds such as the OSTF.
    - **Specific Investments.** OST will accumulate and maintain an allowance for specific investments, if the value of those investment(s) appears permanently impaired due to default, counterparty failure, etc. If the actual loss is undeterminable, for example, until legal proceedings conclude, an allowance for the estimated loss will be accumulated. As noted above in 1, when the final loss is determinable, the Senior Investment Officer will notify Investment Accounting to record the loss.
    - **Historically-Based Losses.** OST will maintain an allowance within pooled portfolios based on historic default rates of similarly-rated investments. For the OSTF, the target size of the allowance will be based on the Standard & Poor's 5-year historic U.S. Corporate Average Cumulative Double-A default rate as of the end of the prior calendar year. OST will review and revise the OSTF allowance target and the aforementioned default rate annually on June 30.
    - **Periodic Review of Allowance.** The sufficiency of the allowance(s) will be assessed at the end of every month, and considered in setting the rate paid to pool participants, which will be determined collaboratively by the OST's Investment and Finance Divisions.
3. **Reporting to the OIC.** The State Treasurer or a member of his or her staff will report to the OIC at the next regular meeting any material, extraordinary loss or losses.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

None.

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | John Skjervem: Chief Investment Officer | pending |

**Current Status:** *Pending* **PolicyStat ID:** *2662430*

| | |
|---|---|
| **Origination:** | *10/2013* |
| **Last Approved:** | *10/2013* |
| **Last Revised:** | *10/2013* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.01.15* |

# INV 212: Sudan and Iran Divestiture

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

This policy establishes the State Treasurer's role in identifying and divesting from scrutinized companies in Sudan and Iran, and parameters for annual reporting requirements to the State Legislature. This policy, including the reporting requirement, will be implemented when, and if, the Legislature appropriates sufficient moneys to the State Treasurer available for implementation of this policy, not including OPERF assets or moneys described by ORS 293.718.

### Purpose and Goals

The goal of this policy is to comply with Oregon Revised Statutes 293.811 – 293.817.

### Applicability

Classified represented, management service, unclassified executive service

### Authority

ORS 238.660, 293.721, 293.726, 293.811-817

#### ORS 293.814 states, in part, that:

The Oregon Investment Council and the State Treasurer, in the State Treasurer's role as investment officer for the council, shall act reasonably and in a manner consistent with fiduciary standards, including the provisions of ORS 293.721 and 293.726, to try to ensure that managers who are engaged by the council or the State

Treasurer for the active management of investment funds consisting of the Public Employees Retirement Fund referred to in ORS 238.660, through the purchase and sale of publicly traded equities, are not investing in publicly traded equities of any scrutinized company.

[The purchase and sale of publicly traded equities] does not apply to investments indirectly made through index funds, fund of funds or privately placed investments.

### It also states, in part, that:

Consistent with fiduciary standards, including the provisions of ORS 293.721 and 293.726, the State Treasurer shall adopt a statement of policy that describes a process of engagement with managers who:

a. Are engaged [as part of their active management of Oregon Public Employee Retirement Fund "OPERF" assets] through the purchase and sale of publicly traded equities; and
b. Have invested such funds in scrutinized companies.

### And, it further states, in part, that:

[The above-described policy requires] the State Treasurer, to the extent practicable, to identify and send a written notice to the managers described. The notice shall encourage the managers, consistent with fiduciary standards, including the provisions of ORS 293.721 and 293.726, to:

a. Notify scrutinized companies with which the managers have made investments of the State Treasurer's policy [i.e., INV 212]; and
b. Not later than 90 days [from the date of] giving the notice, end investments in the scrutinized companies and avoid future investments in the scrutinized companies, as long as the managers may do so without monetary loss through reasonable, prudent and productive investments in companies generating returns that are comparable to the returns generated by the scrutinized companies.

# POLICY PROVISIONS

## Definitions

**Company** means any sole proprietorship, organization, firm, association, corporation, utility, partnership, venture, public franchise, franchisor, franchisee or its wholly owned subsidiary that exists for profit-making purposes or otherwise to secure economic advantage.

**Invest** means to commit funds or other assets to a company. **Invest** includes making a loan or other extension of credit to a company, or owning or controlling a share or interest in a company or a bond or other debt instrument issued by a company.

**Investment** means the commitment of funds or other assets to a company for an interest in the company. **Investment** includes the ownership or control of a share or interest in a company or of a bond or other debt instrument issued by a company.

**Iran** means the Islamic Republic of Iran.

**Scrutinized company** means any company that currently has an investment: 1) in the Republic of Sudan, from which federal law specifically allows public pension plans to divest; or 2) in the energy sector of Iran as described in section 202(c)(1) of the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 (P.L. 111-195), as further determined by the United States Department of State.

**Sudan** means the Republic of the Sudan and any territory under the administration, legal or illegal, of Sudan, including but not limited to the Darfur region.

# Policy Statements

## CONDITIONS PRECEDENT TO IMPLEMENTATION

This policy, including the reporting requirement below, will be implemented when, and if, the Legislative Assembly appropriates sufficient moneys to the State Treasurer available for implementation of this policy, not including OPERF assets or moneys described by ORS 293.718.

1. **Identification of Scrutinized Companies**
   The State Treasurer's staff may engage the services of a specialized research firm to identify scrutinized companies, in accordance with Oregon law, based on its professional judgment.

2. **If a research firm is retained:**
   A. The State Treasurer's staff will work with the retained research firm to review and verify a list of scrutinized companies;

   B. The State Treasurer's staff will provide external managers with the list of scrutinized companies and any updates to the list, as they are identified and verified by the research firm working with the State Treasurer's staff and remind them of the fiduciary parameters within which they may take divestment action in accordance with such notice;

   C. External managers shall advise scrutinized companies that they may comment in writing to the State Treasurer to dispute the identification of the company as a scrutinized company; and

   D. If the State Treasurer determines that a company is not a scrutinized company, the State Treasurer shall notify the relevant manager of the State Treasurer's determination.
3. The State Treasurer's staff will continue a dialogue with the OIC's proxy voting agent to ensure that ballot issues related to the disclosure of Sudan investments are properly addressed.

## REPORTING

On or before March 15 of each year, the State Treasurer shall make available on the State Treasurer's website a summary of actions taken during the previous year in accordance with ORS 293.811 to 293.817. The summary shall include a list of identified scrutinized companies.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

A. Presidential Executive Order No. 13067: "Blocking Sudanese Government Property and Prohibiting Transactions with Sudan," Signed by President Clinton, November 3, 1997.

B. Overview of U.S. Sudanese Sanctions Regulations, U.S. Department of the Treasury, Office of Foreign Assets Control.

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | John Skjervem: Chief Investment Officer | pending |

(*) Policy is being retired (*)

**Current Status:** *Active*　　**PolicyStat ID:** *1485072*

| | |
|---|---|
| **Origination:** | *01/2006* |
| **Last Approved:** | *04/2007* |
| **Last Revised:** | *04/2007* |
| **Next Review:** | *12/2015* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.01.16* |

# INV 213: External Manager Watchlist

## POLICY

The Oregon Investment Council acknowledges that circumstances with external managers such as, ownership and organizational changes, the departure of key persons, and prolonged relative under-performance, warrant a higher level of scrutiny, to ascertain whether the managers should continue to manage money on behalf of OPERF. External managers falling into this category shall be placed on an internal "Watchlist."

Staff is delegated responsibility for Watchlisting managers. Staff shall notify the Council of all Watchlist actions in a timely manner. The Council also reserves the right to place managers on, or remove them from, Watchlist status.

Watchlist is a not a required precursor to termination. Watchlist status is not a means to change the investment methodology of a manager. Watchlist status does not generally apply to private equity or real estate opportunity fund partnerships.

## PROCEDURES

1. **Change in Ownership, Key Personnel, or Operations**
   On an ongoing basis, staff will keep abreast of significant changes in external manager operations. Factors to be considered when placing a manager on Watchlist may include, but are not limited to:
   A. Sale of a controlling interest in the firm.
   B. Departure, or reassignment, of personnel critical to the decision making process for OPERF's portfolio.
   C. Addition of personnel critical in the decision making process for the OPERF portfolio.
   D. Organizational unrest brought about by external events, such as significant litigation.
   E. Reported SEC violations related to the management of the account.
2. **Manager Investment Performance**
   On a quarterly basis, staff will review the performance and characteristics of all external managers. Performance factors to be considered when placing a manager on Watchlist may include, but are not limited to:
   A. Rolling relative performance, for the three-, four-, and five-year periods, is below the assigned benchmark.
   B. Staff determines that a manager's performance has been below expectations for their style over a market cycle, or such shorter period as determined by staff.

C. Portfolio characteristics or the investment approach differ materially from those identified at the outset of the investment agreement, even if such changes result in positive excess performance.

D. Manager has significant growth, or loss, of assets under management, which staff finds to be detrimental to their investment process.
Staff may determine that it is not appropriate to place a manager on Watchlist when one of the events listed above occurs. Nevertheless, staff shall notify the Council of the event and the reason why Watchlist status is unnecessary.

3. **Managing the Watchlist**
Staff shall determine the duration of the Watchlist period. When a manager has been placed on Watchlist, staff shall notify the manager citing the reasons for the Watchlist status along with any actions expected of the manager.

On a quarterly basis, staff shall provide the Council with a written status update of each manager on Watchlist. Managers placed on Watchlist, for relative under-performance, shall be monitored to ensure they do not significantly change their investment processes and take excessive risk in an attempt to overcome a performance deficiency. Investment Division staff shall visit managers assigned Watchlist status at least annually.

Prior to the end of a Watchlist period, staff shall determine whether the Watchlist period should lapse, be extended, or if termination should be recommended to the Council.

# SAMPLE FORMS, DOCUMENTS, OR REPORTS (Attached)

None

## Attachments:

No Attachments

| | |
|---|---|
| **Origination:** | *04/2007* |
| **Last Approved:** | *04/2007* |
| **Last Revised:** | *04/2007* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *John Skjervem: Chief Investment Officer* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.01.20* |

# INV 216: Securities Lending

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

Investment funds under the purview of the Oregon Investment Council ("OIC" or "Council") may lend securities through a Lending Agent (the "Agent") selected by Oregon State Treasury (OST) investment staff and approved by the OIC.

### Applicability

Classified represented, management service, unclassified executive service

## POLICY PROVISIONS

### Policy Statements

1. Recognizing that securities lending activities may provide incremental return to investment fund portfolios:
   a. The Agent shall reinvest all cash collateral received consistent with risk and return attributes and reinvestment guidelines approved by the OST Chief Investment Officer (CIO);

   b. Acceptable collateral investments shall be documented with the Agent in advance of any lending activity;

c. Collateral reinvestment guidelines for the Oregon Short Term Fund shall be presented to and reviewed by the Oregon Short Term Fund Board prior to CIO approval;

d. Any changes to securities lending reinvestment guidelines shall be reported to the OIC at the next regularly-scheduled OIC meeting following the change(s);

2. OST staff shall ensure that securities loaned do not compromise investment fund managers' ability to liquidate fund portfolio positions when necessary; and

3. OST Investment Accounting staff shall ensure that securities lending income is properly credited to the individual investment fund accounts.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the OST Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | John Skjervem: Chief Investment Officer | pending |

**Current Status:** *Pending* **PolicyStat ID:** *2320675*

| | |
|---|---|
| **Origination:** | *02/2010* |
| **Last Approved:** | *02/2010* |
| **Last Revised:** | *02/2010* |
| **Next Review:** | *1 year after approval* |
| **Owner:** | *Michael Viteri* |
| **Policy Area:** | *Investments* |
| **References:** | *OST Policy 4.05.10* |

# INV 607: Equity Investments: Manager Monitoring

## OREGON INVESTMENT COUNCIL POLICY

## INTRODUCTION & OVERVIEW

### Summary Policy Statement

The Oregon Investment Council (OIC) retains external equity managers to invest the assets of various trust funds. Managers are hired for their specific expertise, expertise that should ultimately manifest in the investment performance results produced. The OIC recognizes that the retention of a manager exposes trust assets to a degree of risk for which adequate compensation in the form of excess returns should be required. This policy explicitly recognizes that manager monitoring is a continuous process that begins immediately upon a manager's initial retention.

### Purposes and Goals

The goal of this policy is to establish a framework for monitoring public equity mangers.

### Authority

ORS 293.736; ORS 293.741

## POLICY PROVISIONS

### Policy Statements

1. **General Oversight of Investment Management Firm Performance.** All performance calculations shall be provided by an independent third party (e.g., master custodian or consultant). Managers shall reconcile performance returns as calculated by the master custodian and/or consultant. Managers shall

also reconcile, at least monthly, portfolio positions and valuations with the master custodian.

2. **On-site Visits.** Investment Division staff members should visit each public equity manager on-site, at least every 12 months, unless the Senior Investment Officer, the Director of Capital Markets and/or the Chief Investment Officer concur, and document, that an on-site visit is not necessary, or that the period between visits should be extended. The site visit schedule may be amended based on various factors, including, but not limited to the following:
   a. personnel changes or changes in the manager's organizational structure;
   b. significant unexplained changes in performance; or
   c. negative publicity related to the manager.

3. Staff shall monitor the manager's performance results to ensure the manager is exhibiting risk and other portfolio characteristics consistent with its original or stipulated investment style or objective.

4. The manager shall operate under a set of investment guidelines contained in the Investment Management Agreement (IMA) which outline the latitude or discretion granted to the manager, permitted investments, relative risk levels, performance objective, and the time horizon over which performance shall be measured.

5. The manager is contractually apprised of the strategic role its portfolio is to fulfill, the performance objective it is expected to achieve and how and over what time period the manager will be monitored.

## Exceptions

None.

## Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

# PROCEDURES and FORMS

# ADMINISTRATION

## Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

## Attachments:

No Attachments

| Committee | Approver | Date |
|---|---|---|
| | Michael Viteri | 04/2016 |
| | Kim Olson: Policy Analyst | 04/2016 |
| | Perrin Lim | 04/2016 |
| OIC | John Skjervem: Chief Investment Officer | pending |

# TAB 5 – NCREIF-ODCE Primer

## OST Real Estate Program

NCREIF

# NCREIF Fund Index - Open-end Diversified Core Equity (NFI-ODCE)

***presented by***

**Blake Eagle, NCREIF Founder**

# NCREIF

## National Council of Real Estate Investment Fiduciaries

- Not For Profit Industry Association-Founded 1982
- Membership-303
  - Real Estate Investment Managers, Plan Sponsors
  - CPAs, Appraisers, Information Technology Companies
  - Academics, Consultants
- Mission
  - Collection, Validation, Calculation, Dissemination
  - Commercial Real Estate Performance Data
  - Standardized Measures of Real Estate Risk and Return
  - Promulgate Independent and Objective Research
- Data Products

| | | |
|---|---|---|
| • NCREIF Property Index(NPI) | 7,353 Properties | MV $ 505.3 B |
| • Open End Diversified Core Equity Fund (ODCE) | 36 Funds | MV $ 211.7 B |
| • All Open End Fund (OE) | 37 Funds | MV $ 194.5 B |
| • Closed End Fund Index (CEVA) | 55 Funds | MV $ 14.3 B |
| • Farmland Index | 696 Properties | MV $ 7.5 B |
| • Timberland Index | 457 Properties | MV $ 24.2 B |
| Database Total Property Count* | 23,605 Properties | MV $ 762.4 B |

*Includes non-NPI property qualifying properties and non-operating properties.

NCREIF

# Background - The NCREIF Property Index (NPI)

- Created in the early 1980s with historical data collected back to 1978
- It is a "PROPERTY" level index which measures the performance of properties in the NPI.
- It was developed to allow investors including plan sponsors to compare real estate with other asset classes (stocks and bonds).
- It evolved into a benchmark to evaluate the performance of investment managers.
- But it does not measure the performance of the FUNDS that invest in the properties.
- As the demand for benchmarks increased over time, NCREIF decided it needed to also create fund-level indices with ODCE being the first.

NCREIF

# What is the NFI-ODCE?

- Open-end Diversified Core Equity Index (benchmark)
- Overview as of March 31, 2016
  - 24 Active funds, 12 Legacy funds
  - Size $211.7 billion Gross Real Estate, $169.3 billion Net Assets
  - Leverage 22%
  - Cash Balances 2.5%
  - Diversification similar to NPI
- Governance
  - Inclusion Criteria (Index Policy)
  - Index Policy Committee
- Performance

NCREIF

| Manager Name | Fund Name | Inception Date | Data Begins |
|---|---|---|---|
| ***AEW Capital Management*** | ***AEW Core Property Trust**** | ***10/1/2007*** | ***03/31/2010*** |
| ***American Realty Advisors*** | ***American Core Realty Fund**** | ***11/21/2003*** | ***06/30/2004*** |
| ***ASB Capital Management, Inc.*** | ***ASB Allegiance Real Estate Fund**** | ***6/1/1984*** | ***06/30/2011*** |
| ***Bentall Kennedy (U.S) LP*** | ***Multi-Employer Property Trust**** | ***6/30/1982*** | ***12/31/1990*** |
| ***Blackrock Realty*** | ***Granite Fund**** | ***1/1/1981*** | ***09/30/1984*** |
| ***CBRE Global Investors, LLC*** | ***CBRE U.S. Core Partners, LP**** | ***5/15/2013*** | ***09/30/2013*** |
| Chemical Bank Real Estate Svcs. | Real Estate Equities Fund | 3/31/1978 | 03/31/1982 |
| CIGNA Realty Investors | Open End Real Estate Fund | 10/1/1981 | 06/30/1982 |
| ***Clarion Partners*** | ***Lion Properties Fund**** | ***4/1/2000*** | ***06/30/2000*** |
| ***Cornerstone Real Estate Advisers LLC*** | ***Cornerstone Patriot Fund**** | ***7/1/2004*** | ***09/30/2004*** |
| ***Deutsche Asset & Wealth Management*** | ***RREEF America REIT II**** | ***7/28/1998*** | ***06/30/1999*** |
| First Wisconsin Trust Co. | Employee Benefit Real Estate Fund | 12/31/1982 | 12/31/1987 |
| ***Guggenheim Real Estate LLC*** | ***GRE U.S. Property Fund L.P.**** | ***10/1/2012*** | ***03/31/2015*** |
| Heitman Capital Management | First Chicago Real Estate Fund | 9/1/1973 | 03/31/1978 |
| ***Heitman Capital Management*** | ***Heitman America Real Estate Trust, L.P.**** | ***1/4/2007*** | ***03/31/2010*** |
| Henderson Global Investors | U.S. Property Fund (Phoenix RESA) | 6/30/1981 | 06/30/1994 |
| ***INVESCO Real Estate*** | ***INVESCO Core Real Estate - USA, LLC**** | ***9/30/2004*** | ***12/31/2004*** |
| ***J.P. Morgan Chase Bank, N.A.*** | ***Commingled Pension Trust (Strategic Property) of JPMorgan Chase Bank, N.A.**** | ***1/1/1998*** | ***03/31/1998*** |
| J.P. Morgan Chase Bank, N.A. | Real Estate Fund | 3/1/1970 | 06/30/1995 |
| John Hancock Real Estate Investment Group | E.R.A. | 3/31/1977 | 03/31/1978 |
| ***L&B Realty Advisors, LLP*** | ***L&B Core Income Partners, L.P.**** | ***4/29/2011*** | ***06/30/2014*** |
| ***LaSalle Advisors*** | ***LaSalle US Property Fund**** | ***2/5/2010*** | ***09/30/2013*** |
| Massachusetts Mutual | SIA-R | 12/31/1981 | 03/31/1984 |
| ***MetLife Real Estate Investor*** | ***MetLife Core Property Fund**** | ***11/1/2013*** | ***03/31/2016*** |
| ***Morgan Stanley Real Estate Advisor, Inc*** | ***Prime Property Fund**** | ***8/1/1973*** | ***03/31/1978*** |
| Mutual of New York Real Estate Investment Mgmt | MONY - Pooled Account 7 | 9/30/1981 | 12/31/1981 |
| ***New York Life Investments*** | ***Madison Core Property Fund LLC**** | ***5/1/2001*** | ***06/30/2011*** |
| ***PNC Bank, national Association*** | ***AFL-CIO Bldg. Invsmt Trust**** | ***9/30/1988*** | ***12/31/1996*** |
| ***Principal Real Estate investors*** | ***Principal U.S. Property Account**** | ***3/1/1982*** | ***06/30/1982*** |
| ***Prudential Real Estate Investors*** | ***PRISA**** | ***7/1/1970*** | ***03/31/1978*** |
| ***Stockbridge Capital Group*** | ***Smart Market Fund**** | ***10/1/2011*** | ***03/31/2013*** |
| Suntrust Banks | Real Estate Investment Fund | 6/30/1981 | 12/31/1981 |
| The Travelers Corporation | Separate Account R | 3/1/1976 | 06/30/1978 |
| ***TIAA-CREF Asset Management*** | ***TIAA-CPF**** | ***8/2/2004*** | ***09/30/2005*** |
| Trust Company Of Texas | Southland Fund | 2/1/1981 | 09/30/1981 |
| ***UBS Realty Investors, L.L.C.*** | ***UBS Trumbull Property Fund**** | ***1/13/1978*** | ***12/31/1978*** |

*** Funds were included in the current quarter data**

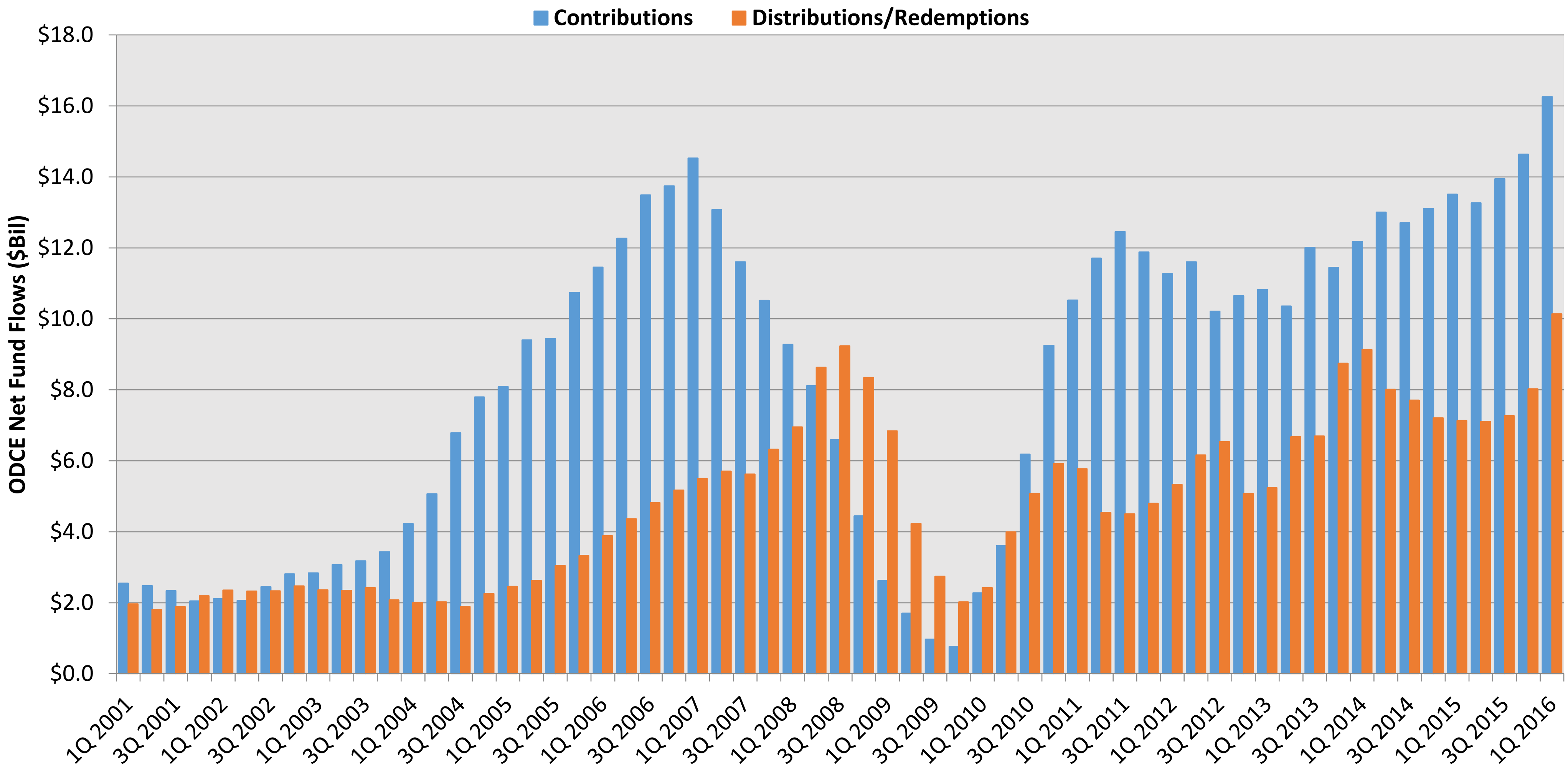
# ODCE Inclusion Criteria

- 80% market value in private equity operating real estate consisting of apartment, industrial, office and retail property types
- No more than 65% concentration in one property type or one region.
- No more than 40% leverage.
- At least 95% of market value in US markets.
- Compliant with the NCREIF/PREA Reporting Standards

NCREIF

# NFI-ODCE Fund Flows

*4Q Rolling Total as of March 31, 2016*




NCREIF

# How is NFI-ODCE different from NPI?

- ODCE reflects ownership interests
  - Properties
  - Joint ventures
  - Structured Financings
  - Leverage
  - Cash
- ODCE preliminary results released 15 days after quarter-end
- ODCE is investable and has well defined investment criteria
- ODCE properties have more frequent independent valuations
- ODCE is a benchmark for a core strategy
- Compare NPI vs. ODCE diversification and performance
  - Note similar diversification, income returns, high return correlation, impact of leverage

NCREIF

# ODCE

- 2,298 Properties that are in the NPI
- $211.7 billion gross real estate market value

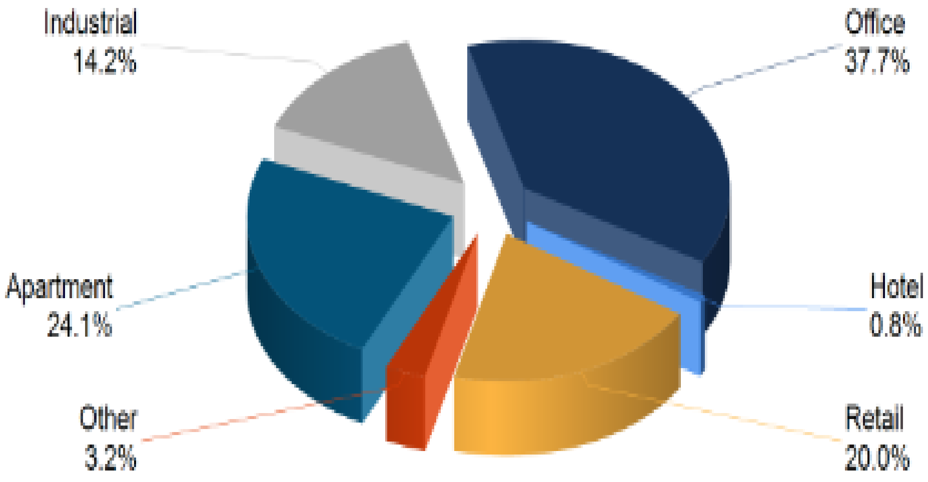
# NPI Compared to ODCE

- NPI is an asset class index
- ODCE is a portfolio manager benchmark

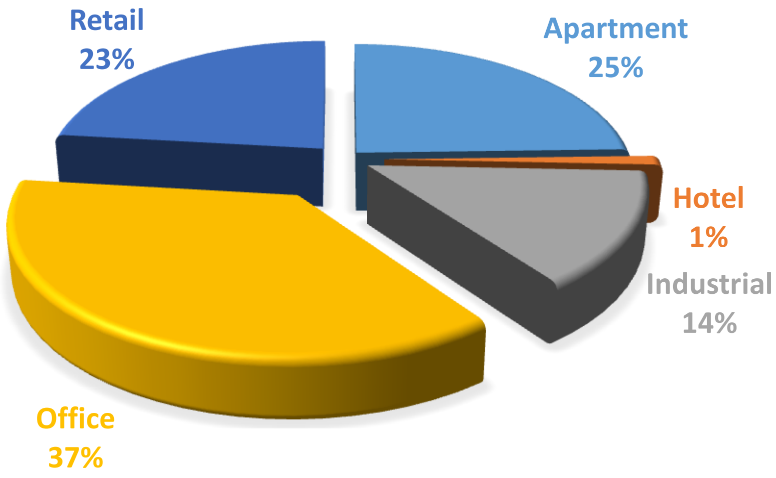
# Diversification – Property Type

June 30, 2016

## NFI-ODCE




## NCREIF PROPERTY INDEX

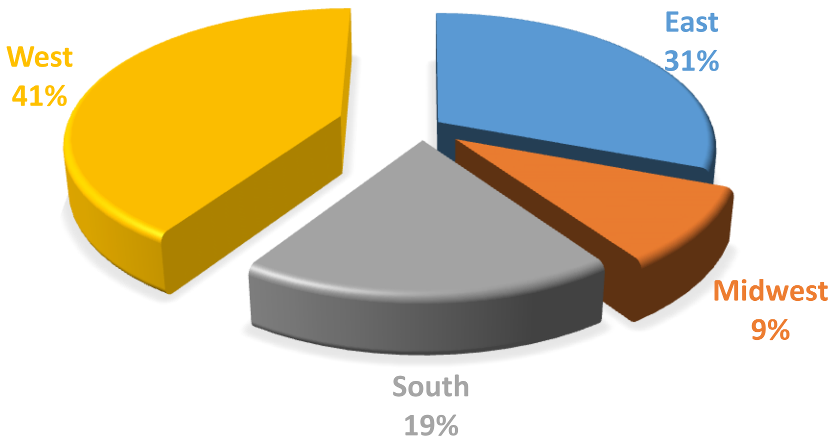



NCREIF

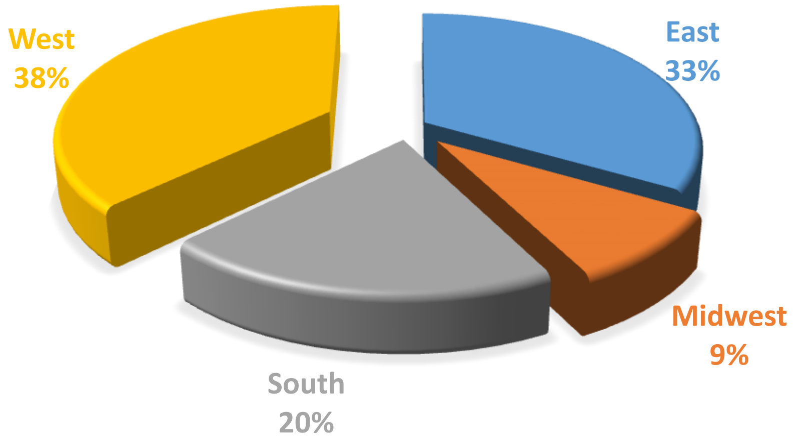
# Diversification – Region

**June 30, 2016**

## NFI-ODCE

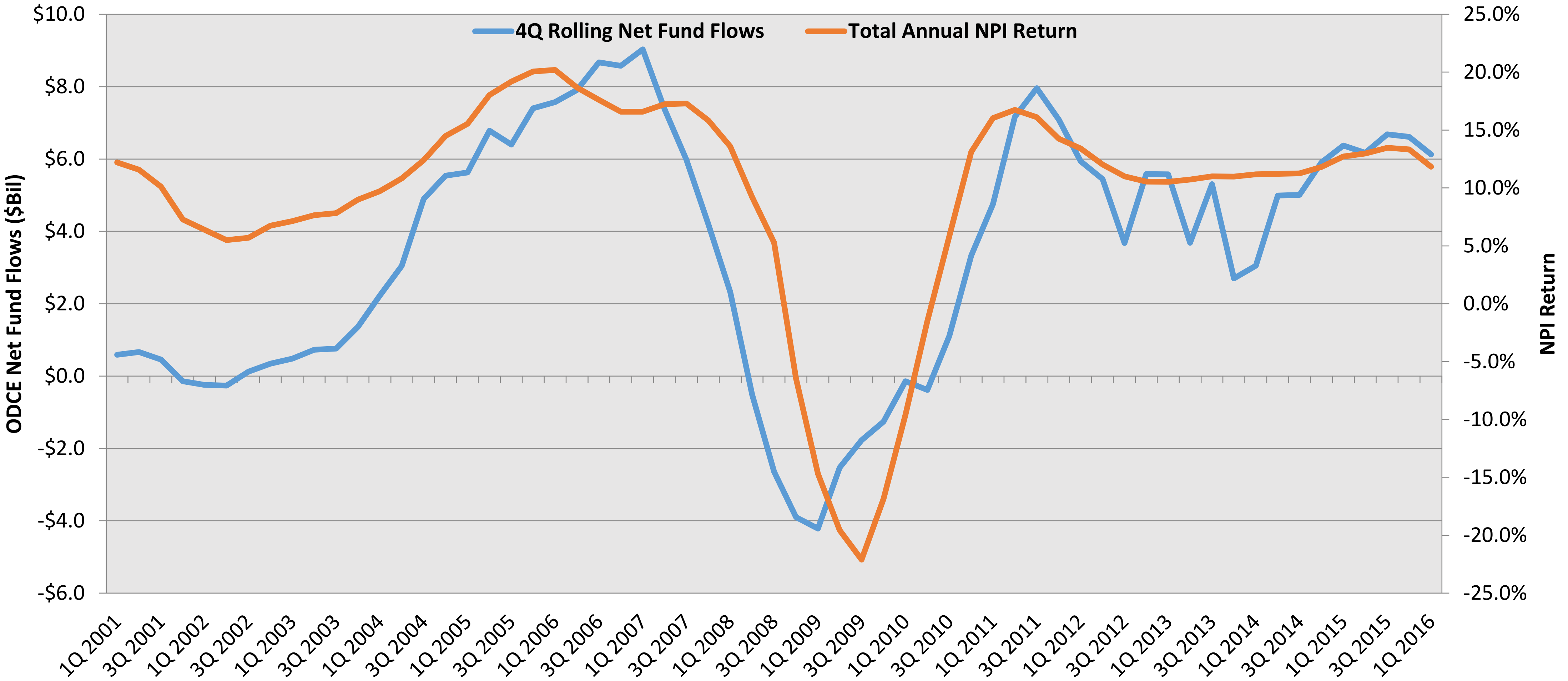



## NCREIF PROPERTY INDEX



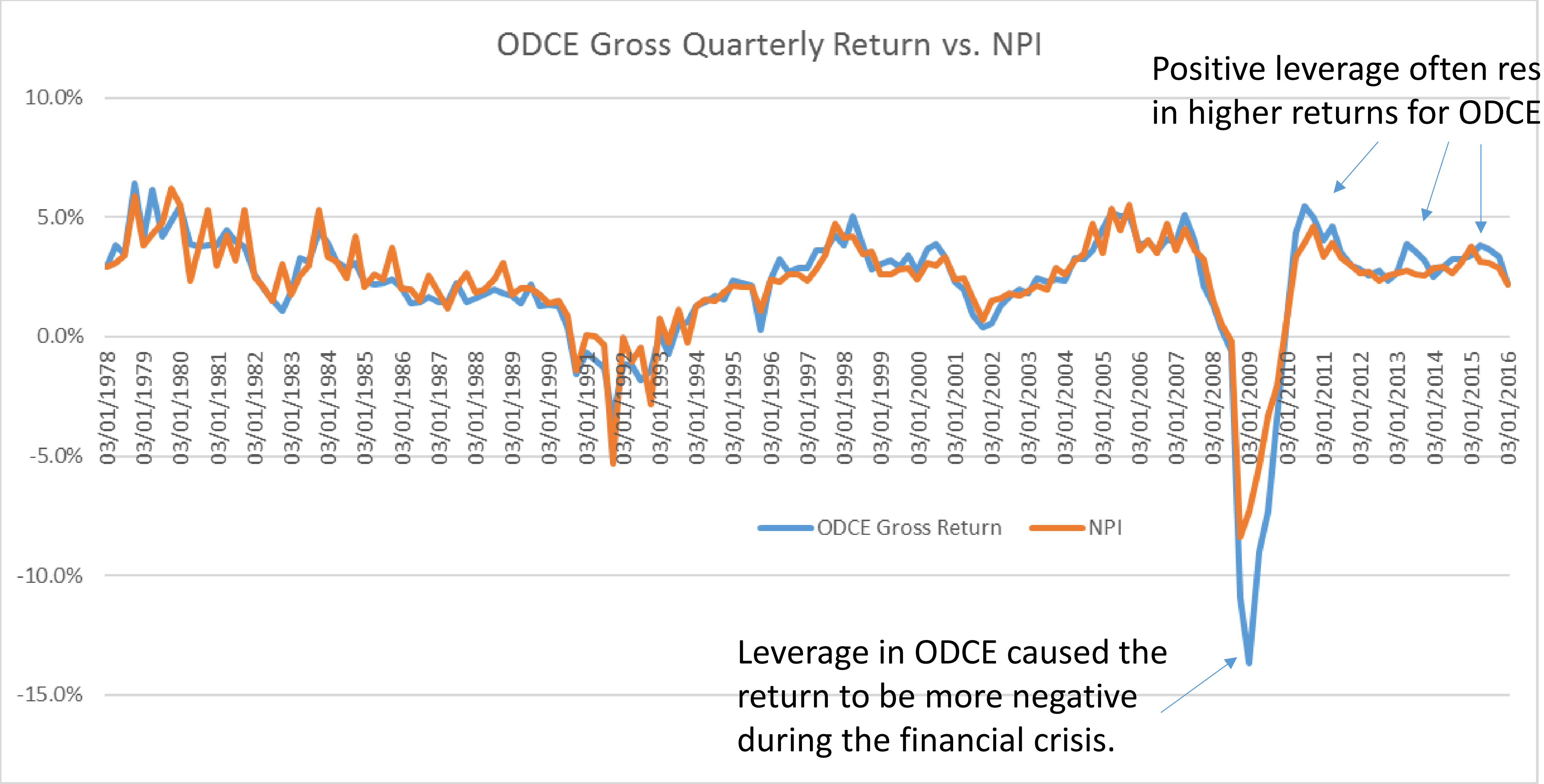
# NFI-ODCE Net Fund Flows vs. Total Annual NPI Return

*Data as of March 31, 2016*

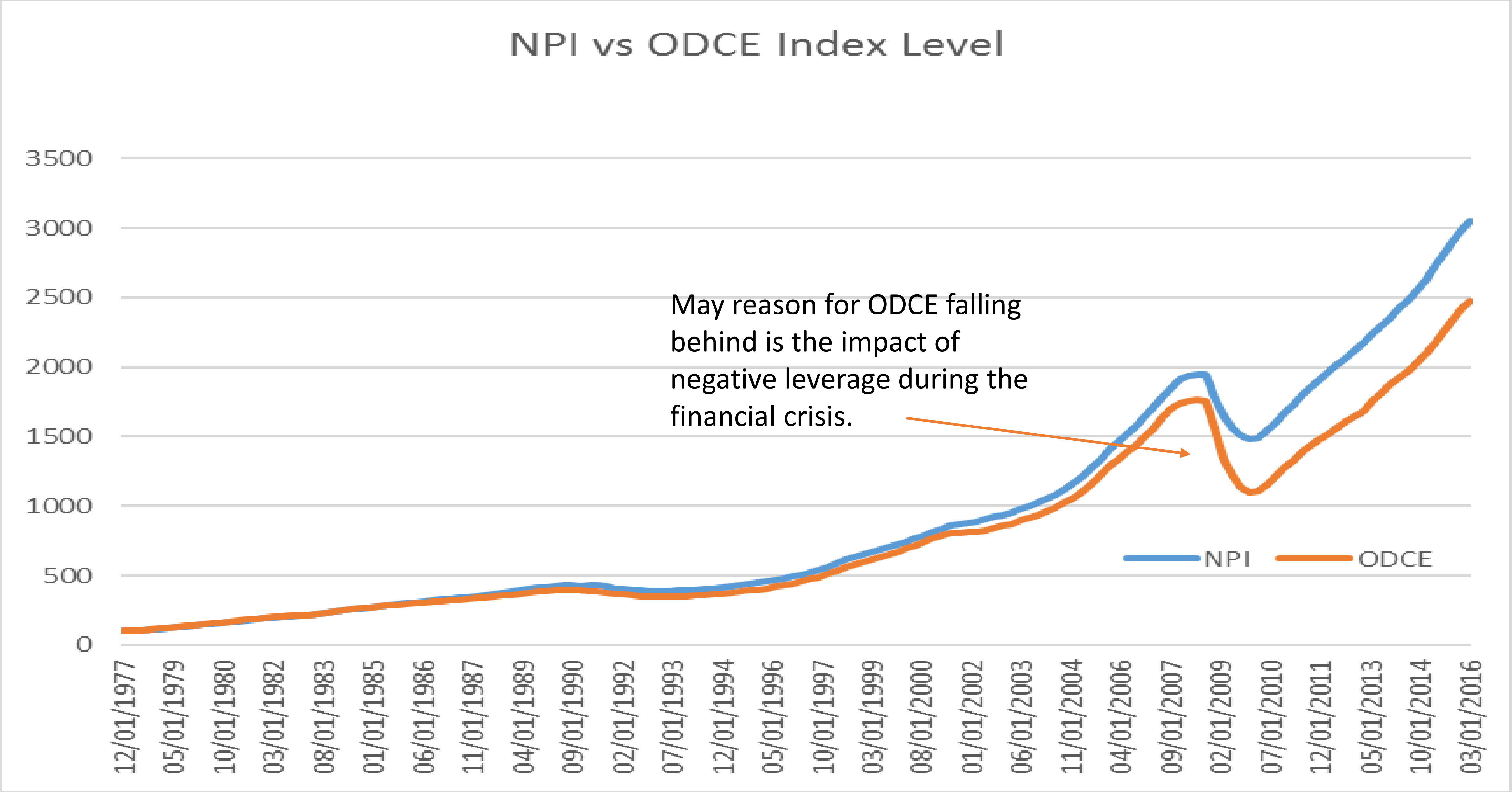



NCREIF

# ODCE and NPI Highly Correlated Over Time




NCREIF


NPI vs ODCE Index Level
3500
3000
2500
2000
1500
1000
500
0
May reason for ODCE falling behind is the impact of negative leverage during the financial crisis.
NPI
ODCE
12/01/1977
05/01/1979
10/01/1980
03/01/1982
08/01/1983
01/01/1985
06/01/1986
11/01/1987
04/01/1989
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# NCREIF

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**NFI-ODCE**
**NCREIF Fund Index Open End Diversified Core Equity**

Released:
April 29, 2016



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# TAB 6 – PERS Presentation and Joint Board Discussion

## OPERF/Individual Account Program

# DECEMBER 31, 2015 ACTUARIAL VALUATION

## OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

### July 29, 2016 PERS Board Meeting

Presented by:
Matt Larrabee, FSA, EA
Scott Preppernau, FSA, EA

*Revised July 27, 2016*



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# Introduction

- Today we will review summary valuation results for the Tier 1/Tier 2 & OPSRP retirement programs and the Retiree Health Insurance Account (RHIA) and Retiree Health Insurance Premium Account (RHIPA) programs
  – Formal, detailed results will be presented in our forthcoming December 31, 2015 System-Wide Actuarial Valuation Report, which will be issued in late September or early October
- This valuation will be the basis for adoption of 2017-2019 employer contribution rates at the September 30, 2016 Board meeting
  – Employers' rates will be in the September meeting's materials
- Shortly after that meeting, we will provide PERS staff with detailed reports for each employer
- PERS will deliver those reports to employers

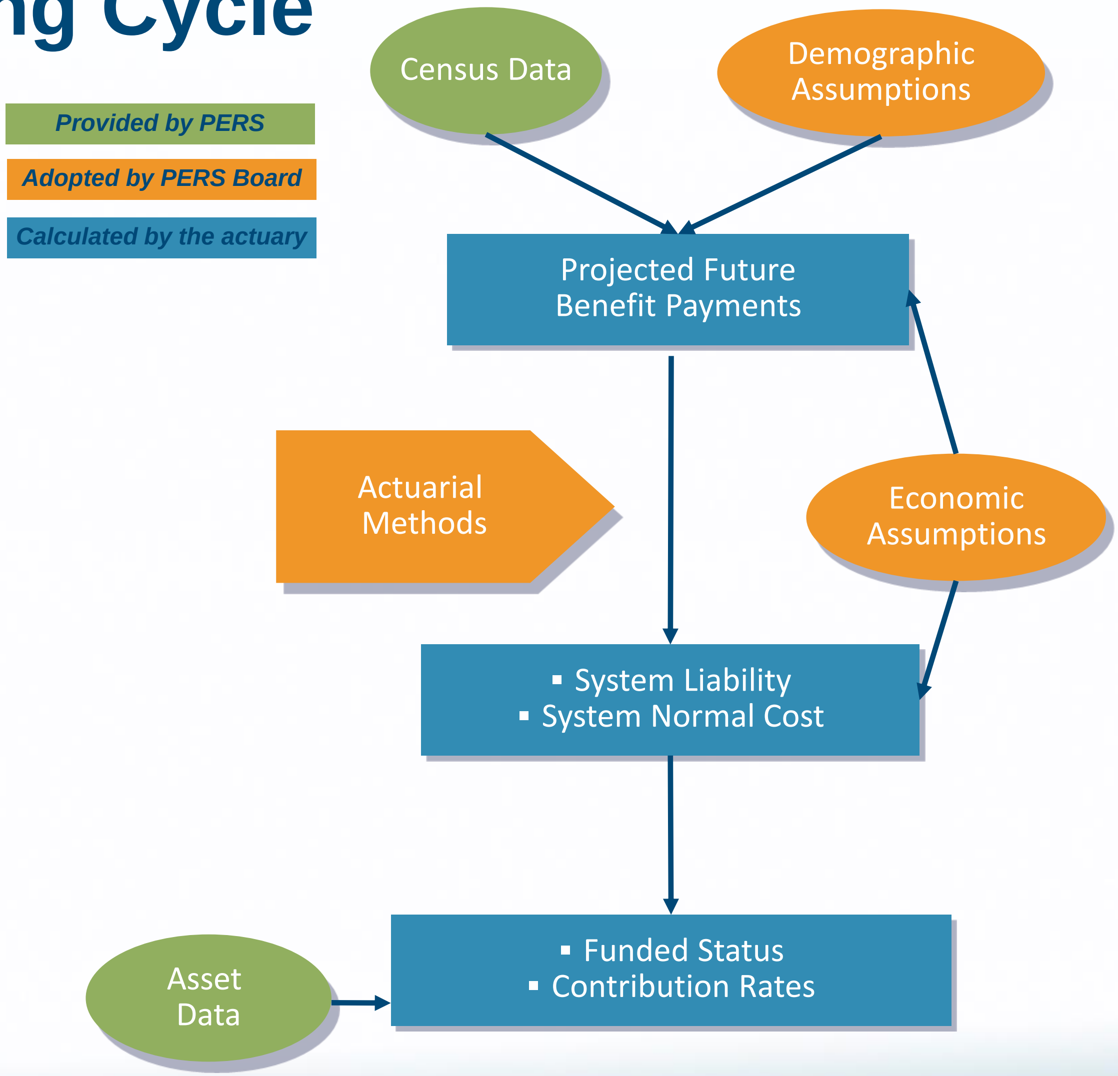
# Valuation Process and Timeline

- Actuarial valuations are conducted annually
  - Alternate between “rate-setting” and “advisory” valuations
  - The 12/31/2015 valuation is rate-setting
- The Board adopts employer contribution rates developed in rate-setting valuations, and those rates go into effect 18 months subsequent to the valuation date

| Valuation Date | Employer Contribution Rates |
|---|---|
| 12/31/2013 → | July 2015 – June 2017 |
| 12/31/2015 → | July 2017 – June 2019 |

# Two-Year Rate-Setting Cycle

- **July 2015:** *Assumptions and methods* endorsed by Board in consultation with the actuary
- **September 2015:** System-wide 12/31/14 "advisory" actuarial *valuation results* reported
- **November 2015:** "Advisory" 2017-2019 employer-specific *contribution rates* distributed
- **July 2016: System-wide 12/31/15 "rate-setting" actuarial *valuation results***
- **September 2016:** Adoption of employer-specific 2017-2019 *contribution rates*





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# Guiding Principles

- In setting rates, the PERS Board has identified the following guiding principles:
  - Transparent
  - Predictable and stable rates
  - Protect funded status
  - Equitable across generations
  - Actuarially sound
  - GASB compliant
- Tension exists between some of the goals (e.g. stability of rates and protecting funded status)
  - Balancing the competing priorities is important to the policy decisions surrounding the rate-setting cycle

# Changes Since the Last Rate-Setting Valuation

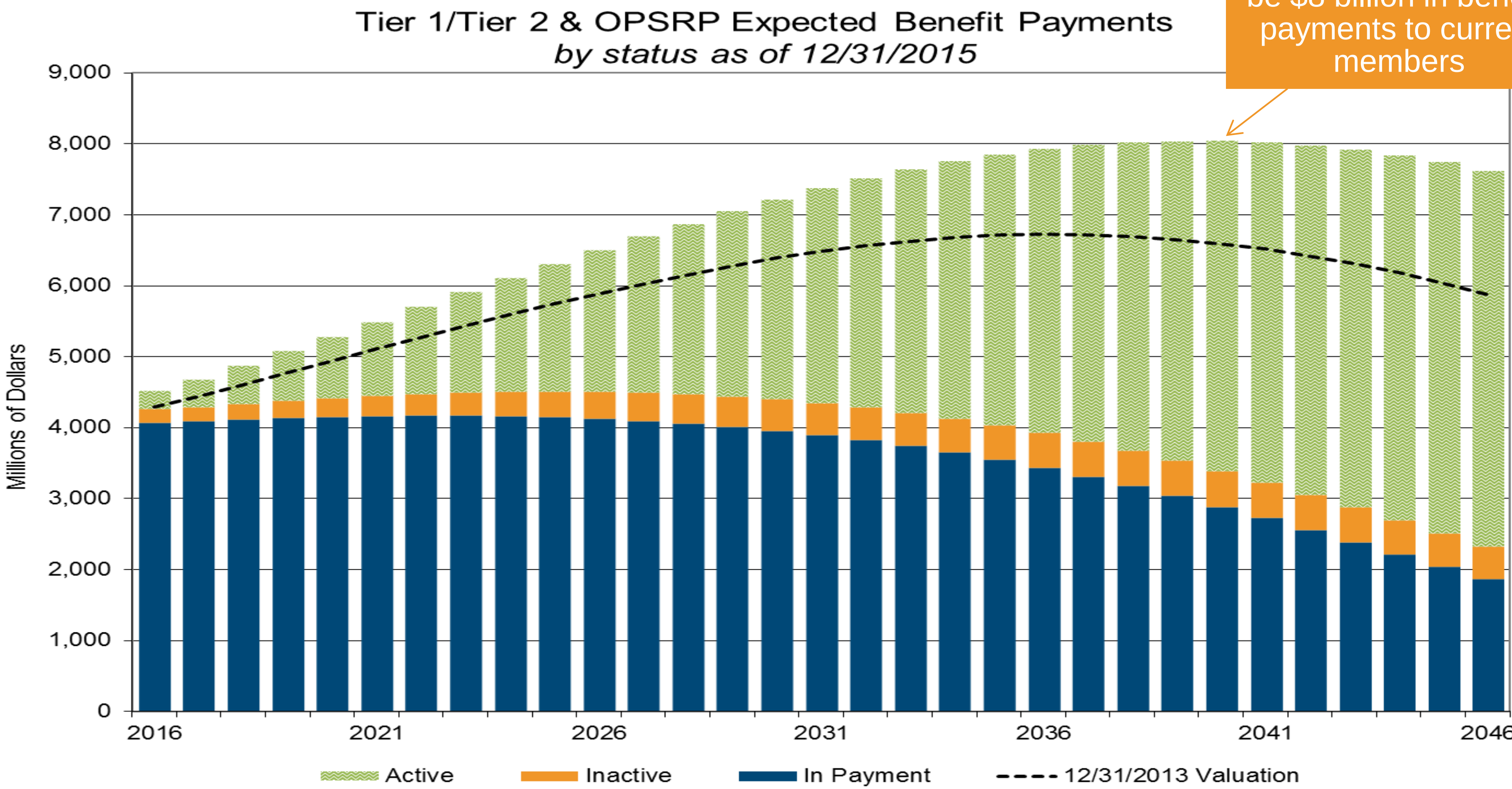
- The 12/31/2013 rate-setting actuarial valuation developed 2015-2017 contribution rates
  - That rate-setting valuation reflected legislative changes (SB 822 & 861) lowering projected benefits
- Since the 12/31/2013 rate-setting valuation:
  - *Moro* decision overturned a significant portion of the legislative changes
  - PERS Board adopted new assumptions and methods from the 2014 Experience Study, including lowering investment return assumption to 7.50% and increasing assumed retiree life expectancy
  - Cumulative 2014 and 2015 asset returns were less than assumed, generating approximately a $2.8 billion actuarial investment loss over the biennium, with $2.6 billion of that loss occurring in 2015

# Changes Since the Last Advisory Valuation

- The 12/31/2014 advisory actuarial valuation developed advisory 2017-2019 rates and reflected:
  – *Moro* decision - $5.1 billion increase in Unfunded Actuarial Liability (UAL)
  – Updated investment return and mortality assumptions from the 2014 Experience Study - $3.5 billion increase in UAL
  – The $0.2 billion actuarial investment loss during 2014
- The 12/31/2015 rate-setting valuation develops final 2017-2019 rates and reflects the 2015 actuarial investment loss of $2.6 billion
  – Long-term rate projections presented in November 2015 used actual investment results through October 2015 and thus illustrated most of the 2015 actuarial investment loss

# Projected Benefit Payments

By 2040, projected to be $8 billion in benefit payments to current members




The dotted line depicts the projected payments from the 12/31/2013 rate-setting valuation, which did not reflect the *Moro* decision

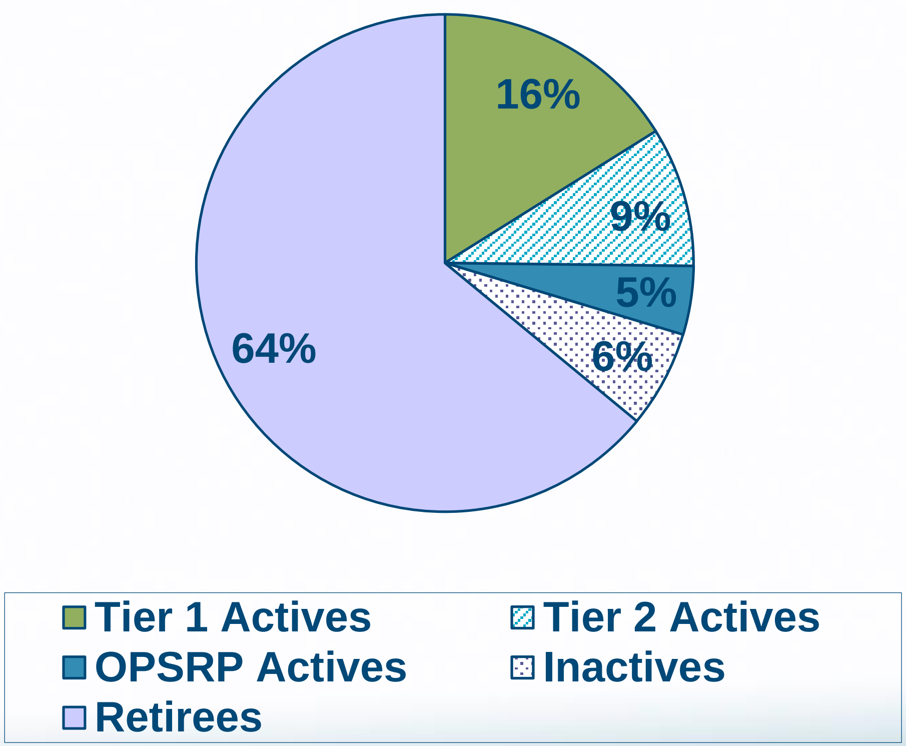
# Funded Status & Unfunded Actuarial Liability (UAL)

| System-total Pension Funded Status ($ billions) | | | |
|---|---|---|---|
| *Reflects:* | **12/31/2013** | **12/31/2014** | **12/31/2015** |
| *Moro decision?* | *No* | *Yes* | *Yes* |
| *2014 Experience Study assumptions?* | *No* | *Yes* | *Yes* |
| Actuarial liability | $62.6 | $73.5 | $76.2 |
| Assets (excluding side accounts) | $54.1 | $55.5 | $54.4 |
| UAL (excluding side accounts) | $8.5 | $18.0 | $21.8 |
| Funded status (excluding side accounts) | 86% | 76% | 71% |
| | | | |
| Side account assets | $5.9 | $5.9 | $5.6 |
| UAL (including side accounts) | $2.6 | $12.1 | $16.2 |
| Funded status (including side accounts) | 96% | 84% | 79% |

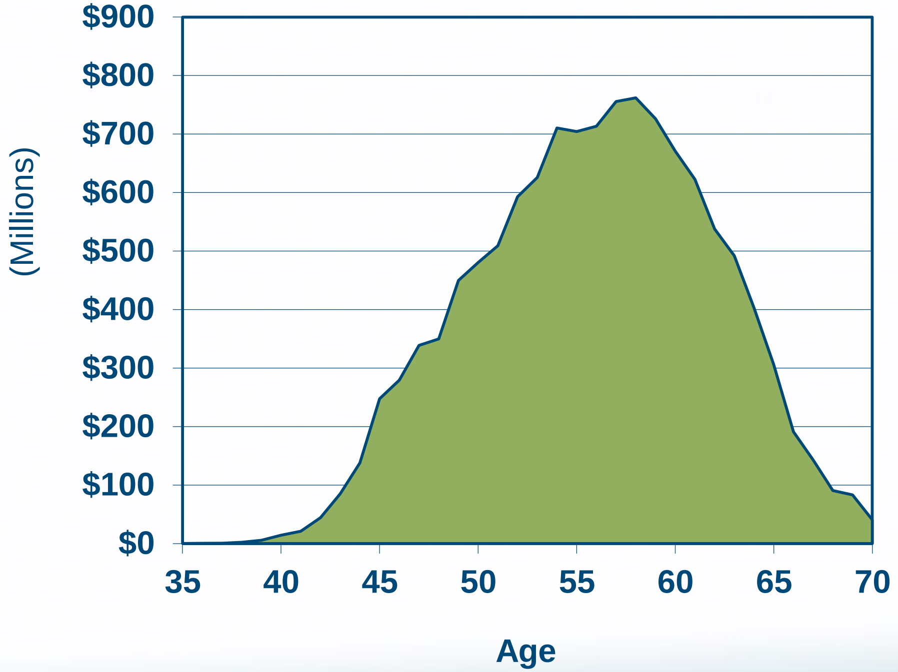
# Division of Actuarial Liability by Category

## 12/31/2015 Tier 1/Tier 2 and OPSRP Actuarial Liability

### Actuarial Liability by Member Category




### Age Distribution of Tier 1 Actives Liability



# Sources of 2015 UAL Increase

| ($ billions) | UAL Increase |
|---|---|
| Expected UAL increase/(decrease) during 2015 | $0.9 |
| 2015 actual investment performance below assumption | $2.6 |
| Actual demographic experience different than assumed | $0.3 |
| Total | $3.8 |

- The *expected UAL increase/(decrease)* is the change, based on 12/31/2014 valuation results, projected to occur during 2015 due to the effects of temporary negative amortization
- The 2015 actuarial investment loss reflects actual OPERF returns of approximately 2% compared to the assumed 7.50% return
- The largest source of liability variation during 2015 was that observed retiree mortality was different than assumed
- The above increase is in addition to the $9.5 billion UAL increase during 2014, which was driven by *Moro* and assumption changes

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# Tier 1/Tier 2 Rate Pool Funded Status and UAL

- Funded status differs for the two large Tier 1/Tier 2 rate pools

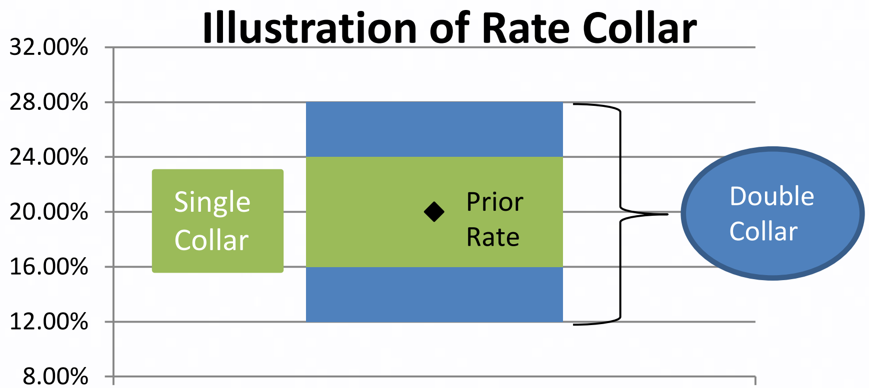
| ($ billions) | SLGRP | School Districts |
|---|---|---|
| Actuarial liability | $38.4 | $27.7 |
| Assets (excluding side accounts) | $27.7 | $19.7 |
| UAL (excluding side accounts) | $10.7 | $8.0 |
| Funded status (excluding side accounts) | 72% | 71% |
| Projected 2016 payroll | $5.6 | $3.1 |
| Ratio of UAL to payroll | 192% | 261% |
| | | |
| Side account assets | $2.5 | $3.0 |
| UAL (including side accounts) | $8.2 | $5.0 |
| Funded status (including side accounts) | 79% | 82% |

# Overview of Rate Calculation Structure


- The *__uncollared rate__* is the theoretical contribution rate to reach 100% funded status over a specified amortization period if:
  - Contributions at that rate started on the actuarial valuation date, and
  - Actual future experience mirrors the actuarial valuation's assumptions
- The rate collar sets a biennium's *__base rate__*, limiting the base rate change when there is a large change in the uncollared rate
- Employers pay the *__net rate__*, which can differ from the base rate due to adjustments that fall into two major categories
  - Side account rate offsets for employers with side accounts
  - SLGRP charges/offsets (e.g., Transition Liability/Surplus)

# Current Rate Collar Design

- The maximum change typically permitted by the collar is:
  - 20% of the rate currently in effect (3% of payroll minimum collar width)
- If funded status is 60% or lower, the width of the collar doubles
  - 40% of rate currently in effect (6% of payroll minimum collar width)
- If the funded status is between 60% and 70%, the collar size is pro-rated between the initial collar and double collar level




- Collars are calculated at a rate pool level and limit the biennium to biennium increase in the UAL Rate for a given rate pool

# Comments on 2017 – 2019 Rates

- No single employer pays the system-wide average rate
  - School district base rates are above the average
  - Most SLGRP employers' base rates are below the average
- Employers in a rate pool do not pay the pool average rate
  - Actual rates reflect employer-specific side account rate offsets and/or any SLGRP charges/offsets
  - SLGRP normal cost rates are specific to an employer's composition of member tier and job classification
- Rates shown do not include the effects of:
  - Individual Account Plan (IAP) contributions
  - Rates for the RHIA & RHIPA retiree healthcare programs
  - Debt service payments on pension obligation bonds

# Uncollared Pension Rates – School Districts

## Excludes Retiree Health Care, IAP Contributions, Rate Collar, Side Accounts

| | 12/31/2013 2015 - 2017 Final | | | 12/31/2015 2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] |
| Normal Cost | 11.94% | 7.33% | 10.14% | 13.28% | 8.02% | 10.73% |
| Tier 1/Tier 2 UAL | 9.25% | 9.25% | 9.25% | 19.63% | 19.63% | 19.63% |
| OPSRP UAL | 0.61% | 0.61% | 0.61% | 1.27% | 1.27% | 1.27% |
| **Uncollared Rate** | **21.80%** | **17.19%** | **20.00%** | **34.18%** | **28.92%** | **31.63%** |
| **Increase** | | | | **12.38%** | **11.73%** | **11.63%** |

***The pool-average collared base and net rates for 2017-2019 are shown on subsequent slides***

[1] *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date.*

# Collared Pension Base Rates – School Districts

## Excludes Retiree Health Care & IAP Contributions, Side Account Offsets

| | 12/31/2013 2015 - 2017 Final | | | 12/31/2015 2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] |
| **Uncollared Rate** | **21.80%** | **17.19%** | **20.00%** | **34.18%** | **28.92%** | **31.63%** |
| Collar Limitation | (0.00%) | (0.00%) | (0.00%) | (7.48%) | (7.48%) | (7.48%) |
| **Collared Base Rate** | **21.80%** | **17.19%** | **20.00%** | **26.70%** | **21.44%** | **24.15%** |
| **Increase** | | | | **4.90%** | **4.25%** | **4.15%** |

***The increases to collared base rates are similar to those shown in the 12/31/2014 advisory valuation***

1 *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date*





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# Collared Pension Net Rates – School Districts

## Excludes Retiree Health Care & IAP Contributions

| | 12/31/2013[1] 2015 - 2017 Final | | | 12/31/2015[1] 2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[2] | Tier 1 / Tier 2 | OPSRP | Weighted Average[2] |
| **Collared Base Rate** | **21.80%** | **17.19%** | **20.00%** | **26.70%** | **21.44%** | **24.15%** |
| Side Account (Offset) | (10.62%) | (10.62%) | (10.62%) | (10.26%) | (10.26%) | (10.26%) |
| **Collared Net Rate** | **11.18%** | **6.57%** | **9.38%** | **16.44%** | **11.18%** | **13.89%** |
| **Increase** | | | | **5.26%** | **4.61%** | **4.51%** |

***Rates vary by employer, as only some employers have side accounts***

***Net rate increases are greater than those shown in the 12/31/2014 advisory valuation due mostly to 2015 actuarial investment losses on side accounts***

1 *For this exhibit, adjustments are assumed not to be limited due to an individual employer reaching a 0.00% contribution rate.*
2 *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date*

# School Districts Rate Summary

## Weighted Average Rates (Tier 1/Tier 2 and OPSRP)

| | 2015 - 2017 | 2017 - 2019 | Change |
|---|---|---|---|
| Uncollared Base Rate | 20.00% | 31.63% | 11.63% |
| Collared Base Rate | 20.00% | 24.15% | 4.15% |
| Collared Net Rate | 9.38% | 13.89% | 4.51% |

- ***The collared base rate for School Districts is 7.48% of payroll below the uncollared base rate***
- ***Net rates increased more than base rates due mostly to employer side accounts, which leverage the contribution rate effects of actual biennial investment performance different than assumed***

# Uncollared Pension Rates – SLGRP Average

## Excludes Retiree Health Care, IAP Contributions, Rate Collar, Side Accounts

| | 12/31/2013<br>2015 - 2017 Final | | | 12/31/2015<br>2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] |
| Normal Cost | 13.66% | 7.79% | 11.13% | 15.78% | 8.56% | 12.03% |
| Tier 1/Tier 2 UAL | 5.71% | 5.71% | 5.71% | 14.45% | 14.45% | 14.45% |
| OPSRP UAL | 0.61% | 0.61% | 0.61% | 1.27% | 1.27% | 1.27% |
| **Uncollared Rate** | **19.98%** | **14.11%** | **17.45%** | **31.50%** | **24.28%** | **27.75%** |
| **Increase** | | | | **11.52%** | **10.17%** | **10.30%** |

***The pool-average collared base and net rates for 2017-2019 are shown on subsequent slides***

***Employer-specific rates vary widely from the SLGRP average***

1 *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date.*

# Collared Pension Base Rates – SLGRP Average

## Excludes Retiree Health Care & IAP Contributions, Side Account Offsets

| | 12/31/2013 2015 - 2017 Final | | | 12/31/2015 2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] |
| **Uncollared Rate** | **19.98%** | **14.11%** | **17.45%** | **31.50%** | **24.28%** | **27.75%** |
| Collar Limitation | (1.14%) | (1.14%) | (1.14%) | (8.35%) | (8.35%) | (8.35%) |
| **Collared Base Rate** | **18.84%** | **12.97%** | **16.31%** | **23.15%** | **15.93%** | **19.40%** |
| **Increase** | | | | **4.31%** | **2.96%** | **3.09%** |

***The increases to collared base rates are similar to those shown in the 12/31/2014 advisory valuation***

***Employer-specific base rates can vary widely from SLGRP average rates***

1 *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date*

# Collared Pension Net Rates – SLGRP Average

## Excludes Retiree Health Care & IAP Contributions

| | 12/31/2013[1] 2015 - 2017 Final | | | 12/31/2015[1] 2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[2] | Tier 1 / Tier 2 | OPSRP | Weighted Average[2] |
| **Collared Base Rate** | **18.84%** | **12.97%** | **16.31%** | **23.15%** | **15.93%** | **19.40%** |
| Side Account (Offset) | (4.99%) | (4.99%) | (4.99%) | (4.70%) | (4.70%) | (4.70%) |
| SLGRP Charge/(Offset) | (0.80%) | (0.80%) | (0.80%) | (0.82%) | (0.82%) | (0.82%) |
| **Collared Net Rate** | **13.05%** | **7.18%** | **10.52%** | **17.63%** | **10.41%** | **13.88%** |
| **Increase** | | | | **4.58%** | **3.23%** | **3.36%** |

***Rates vary by employer, as only some employers have side accounts and the SLGRP charge/(offset) varies by employer***

***Net rate increases are greater than those shown in the 12/31/2014 advisory valuation due mostly to 2015 actuarial investment losses on side accounts***

1 *For this exhibit, adjustments are assumed not to be limited due to an individual employer reaching a 0.00% contribution rate.*

2 *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date*

# SLGRP Rate Summary

## Weighted Average Rates (Tier 1/Tier 2 and OPSRP)

| | 2015 - 2017 | 2017 - 2019 | Change |
|---|---|---|---|
| Uncollared Base Rate | 17.45% | 27.75% | 10.30% |
| Collared Base Rate | 16.31% | 19.40% | 3.09% |
| Collared Net Rate | 10.52% | 13.88% | 3.36% |

- *The SLGRP's collared base rate is 8.35% of payroll below the uncollared base rate*
- *Net rates increased more than base rates due mostly to employer side accounts, which leverage the rate effects of actual biennial investment performance different than assumed*

# System-Wide Rate Summary

## Weighted Average Rates (Tier 1/Tier 2 and OPSRP)

| | 2015 - 2017 | 2017 - 2019 | Change |
|---|---|---|---|
| Uncollared Base Rate | 18.18% | 29.08% | 10.90% |
| Collared Base Rate | 17.46% | 20.85% | 3.39% |
| Collared Net Rate | 10.61% | 14.23% | 3.62% |

- *System-wide rates are the payroll-weighted average of rates for School Districts, SLGRP, and independent employers*
- *Net rates increased more than base rates due mostly to employer side accounts, which leverage the rate effects of actual biennial investment performance different than assumed*

# Projected 2017-2019 Contributions

| ($ millions) | Projected 2015-17 Payroll* | (A) Projected 2015-17 Contribution | Projected 2017-19 Payroll* | (B) Projected 2017-19 Contribution | (B - A) Projected Contribution Increase |
|---|---|---|---|---|---|
| State Agencies | $5,620 | **$575** | $6,020 | **$835** | **$260** |
| School Districts | $6,120 | **$575** | $6,560 | **$910** | **$335** |
| All Others | $7,350 | **$875** | $7,880 | **$1,165** | **$290** |
| Total | $19,090 | **$2,025** | $20,460 | **$2,910** | **$885** |

* Assumes payroll grows at 3.50% annually based on 12/31/2015 active member census, reflecting proportional payroll composition (Tier 1/Tier 2 vs. OPSRP) as of 12/31/2015

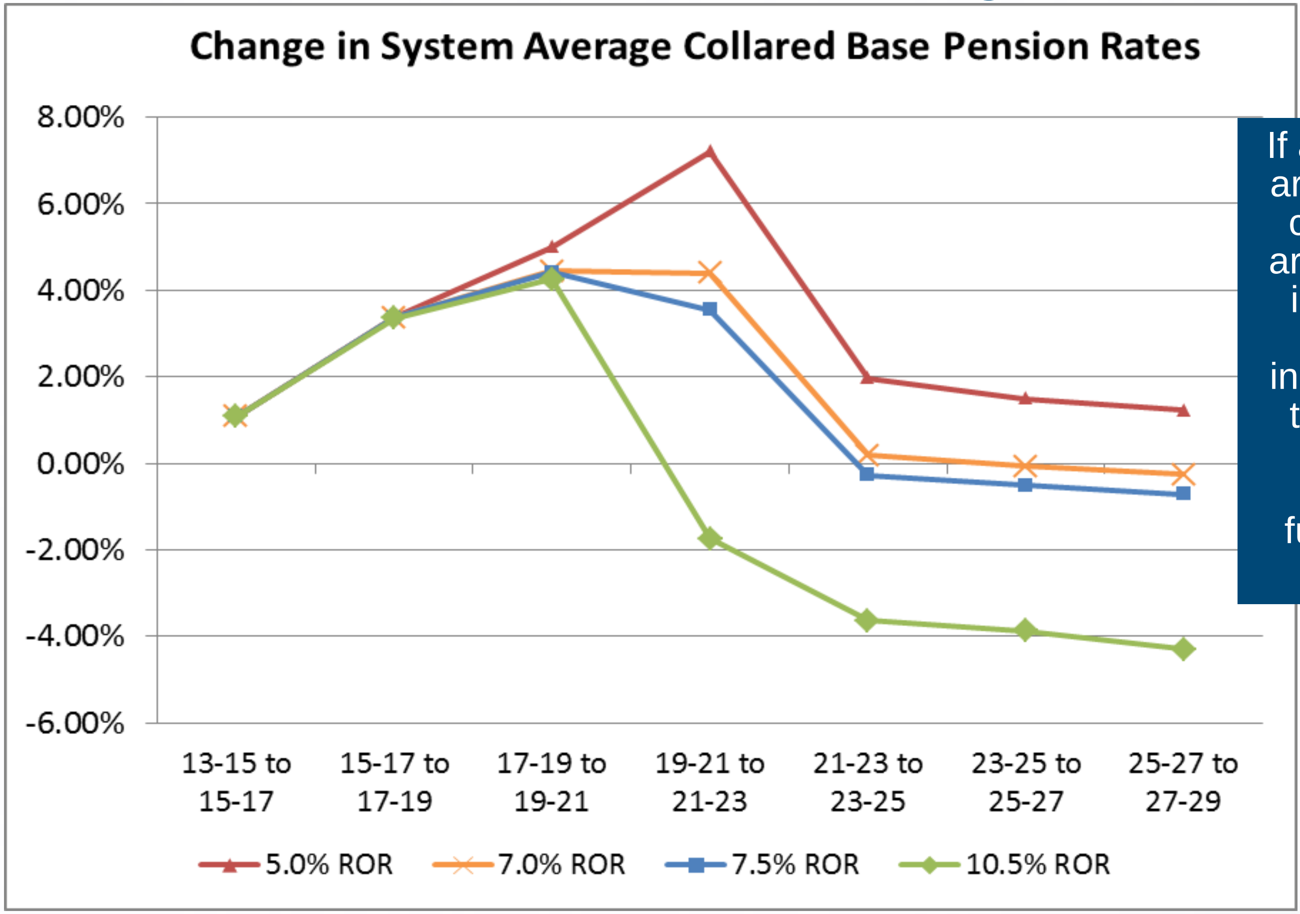
- Collared net rates are used to project 2017-2019 contributions
- The advisory valuation had a projected contribution increase of $800 million
  - The change from that estimate was caused primarily by 2015 investment underperformance and the leveraged effects that side accounts had on net rates

# Contribution Increases:

## November 2015 Financial Modeling

From Nov. 2015 PERS Board materials:

- Based on published returns through October 2015
- Does not reflect $0.3 billion in 2015 demographic experience losses




If actual investment returns are near assumption, base contribution increases of around 4% of payroll occur in each of the next three biennia, with those increases being necessary to position the system to return to 100% funded status over 20 years if future experience follows assumptions

Shows biennium to biennium changes under steady return projections





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# 12/31/2015 Retiree Health Care Valuation

- Two separate health care benefit subsidies are valued:
  - RHIA provides a $60 per month subsidy toward healthcare premiums for Medicare-eligible Tier 1/Tier 2 retirees
  - RHIPA provides Tier 1/Tier 2 state employees who retire prior to age 65 with an alternative to PEBB coverage until they reach Medicare eligibility
- OPSRP retirees are not eligible for either subsidy
- RHIA and RHIPA benefits historically have been less well funded than Tier 1/Tier 2 & OPSRP benefits
  - To help address that, in July 2009 the Board shortened the shortfall amortization period to ten years to improve funded status over less time
  - Rates reflecting the shorter amortization were first effective July 2011

# 12/31/2015 Retiree Health Care Valuation

- RHIA and RHIPA liabilities combined are less than 1% of the pension liability
- In recent experience studies, we recommended restructuring the RHIPA participation assumption for future state government retirements
  – Assume higher participation rates for retirees eligible for the largest employer-paid subsidies
  – Rates reflecting new structure first went into effect in July 2015
- RHIPA warrants continued monitoring, as funded status is very low and subsidy payments are sensitive to actual participation levels

# 12/31/2015 Retiree Health Care Valuation

## UAL and Advisory Contribution Rates

| ($ millions) | RHIA | | RHIPA* | |
|---|---|---|---|---|
| | 12/31/2014 | 12/31/2015 | 12/31/2014 | 12/31/2015 |
| Actuarial Liability | $468 | $466 | $71 | $68 |
| Assets | $396 | $419 | $ 7 | $11 |
| UAL | $72 | $46 | $64 | $57 |
| **Funded Status** | **85%** | **90%** | **10%** | **16%** |
| **Normal Cost Rate** | **0.07%** | **0.07%** | **0.11%** | **0.11%** |
| **UAL Rate** | **0.43%** | **0.43%** | **0.39%** | **0.38%** |
| **Total Rate** | **0.50%** | **0.50%** | **0.50%** | **0.49%** |

**State Agencies, OUS, and State Judiciary are the only employers who pay RHIPA rates*

***RHIPA assets at year-end 2015 were only about 240% of 2015 RHIPA benefit payments***





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# Wrap Up / Next Steps

- Valuation next steps
  - Present employer-specific rates for adoption at September 30, 2016 meeting
  - Issue System-Wide December 31, 2015 Actuarial Valuation Report
  - Prepare employer-specific rate-setting valuation reports
    - PERS distributes to employers

# Appendix

# Certification

This presentation summarizes key preliminary results of an actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015, for the Plan Year ending December 31, 2015. The results are preliminary in nature and may not be relied upon to, for example, prepare the System's Consolidated Annual Financial Report (CAFR). The reliance document will be the forthcoming formal December 31, 2015 System-Wide Actuarial Valuation Report.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The PERS Board has the final decision regarding the appropriateness of the assumptions.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the plan provisions described in the appendix of this report. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

# Certification

Milliman’s work is prepared solely for the internal business use of the Oregon Public Employees Retirement System. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman’s work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman’s consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

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(b) The System may provide a copy of Milliman’s work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman’s advice is not intended to be a substitute for qualified legal or accounting counsel. The actuaries are independent of the plan sponsors. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

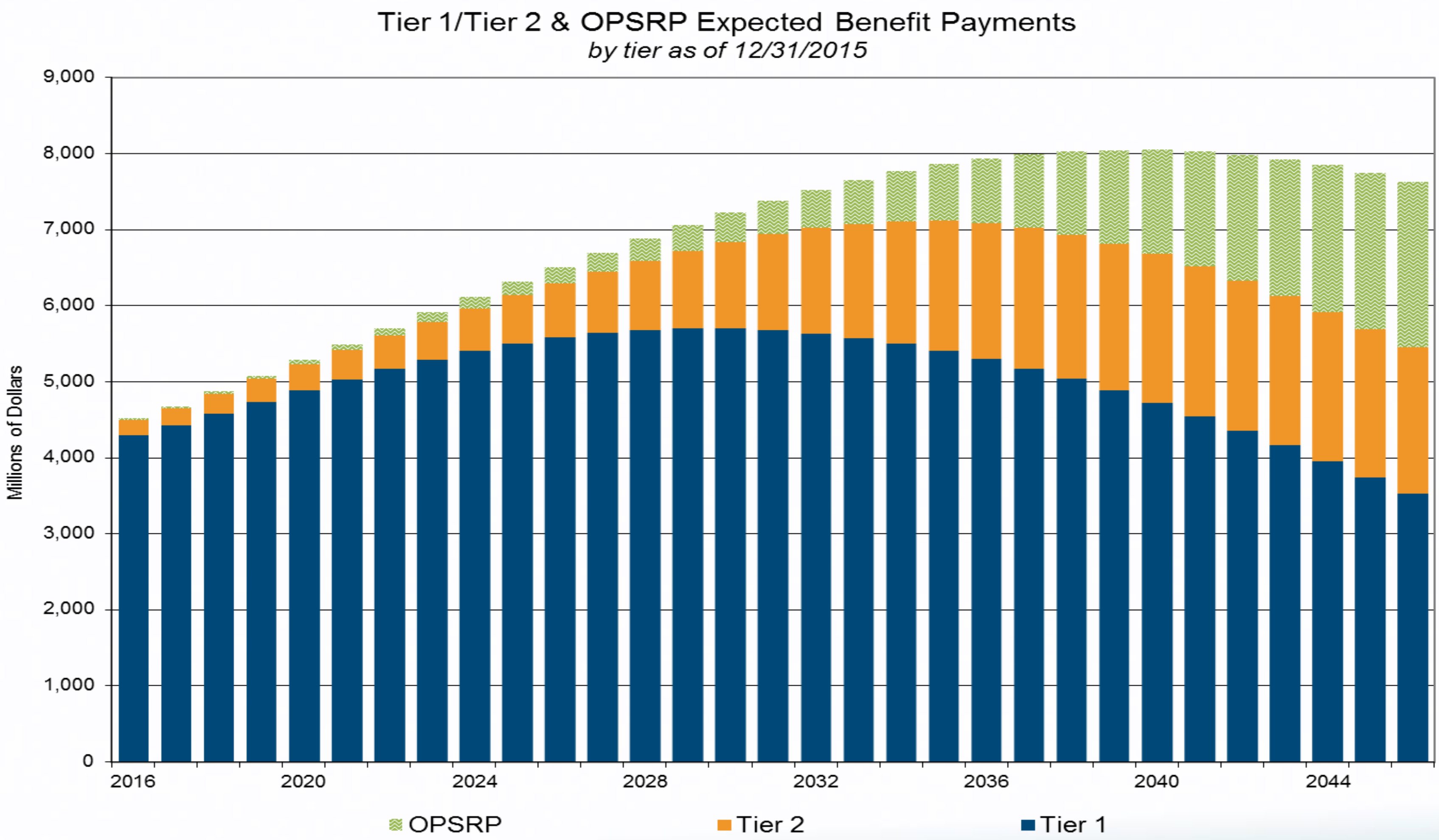
# Data Exhibits

| | 2015 | | | | 2014 |
|---|---|---|---|---|---|
| | Tier 1 | Tier 2 | OPSRP | Total | Total |
| **Active Members** | | | | | |
| Count | 30,295 | 40,126 | 97,756 | 168,177 | 164,859 |
| Average Age | 55.5 | 50.2 | 42.41 | 46.6 | 46.9 |
| Average Service | 24.1 | 15.0 | 5.7 | 11.2 | 11.4 |
| Average prior year Covered Salary | $ 73,426 | $ 64,481 | $ 46,494 | $ 55,637 | $ 54,323 |
| **Inactive Members[1]** | | | | | |
| Count | 15,199 | 15,589 | 12,061 | 42,849 | 42,563 |
| Average Age | 58.3 | 52.4 | 46.5 | 52.8 | 52.8 |
| Average Monthly Benefit | $ 2,013 | $ 693 | $ 346 | $ 1,064 | $ 1,138 |
| **Retired Members and Beneficiaries[1]** | | | | | |
| Count | 122,117 | 11,888 | 2,293 | 136,298 | 131,505 |
| Average Age | 71.8 | 66.5 | 66.1 | 71.3 | 71.1 |
| Average Monthly Benefit[2] | $ 2,652 | $ 975 | $ 405 | $ 2,468 | $ 2,411 |
| **Total Members** | **167,611** | **67,603** | **112,110** | **347,324** | **338,927** |

[1] *Inactive and Retiree counts are shown by lives within each rate pool. In other words, a member is counted once per purposes of this exhibit, regardless of their service history for different rate pools. This contrasts with the method used to count inactive participants in some of the later exhibits.*

[2] *The average monthly benefit reflects an estimated adjustment for the effect of the Supreme Court decision in Moro v. State of Oregon for records that were not already adjusted in the data provided.*

# Projected Benefit Payments



# Funded Status and UAL

| Pension Funded Status ($ billions) at 12/31/2015 | | | |
|---|---|---|---|
| | Tier 1/Tier 2 | OPSRP | Combined |
| Actuarial liability | $72.5 | $3.7 | $76.2 |
| Assets (excluding side accounts) | $52.0 | $2.4 | $54.4 |
| UAL (excluding side accounts) | $20.5 | $1.3 | $21.8 |
| Funded status (excluding side accounts) | 72% | 64% | 71% |
| | | | |
| Side account assets | | | $5.6 |
| UAL (including side accounts) | | | $16.2 |
| Funded status (including side accounts) | | | 79% |

# Uncollared Pension Rates – System-Wide

## Excludes Retiree Health Care, IAP Contributions, Rate Collar, Side Accounts

| | 12/31/2013 2015 - 2017 Final | | | 12/31/2015 2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] |
| Normal Cost | 13.18% | 7.79% | 10.94% | 15.07% | 8.56% | 11.79% |
| Tier 1/Tier 2 UAL | 6.63% | 6.63% | 6.63% | 16.02% | 16.02% | 16.02% |
| OPSRP UAL | 0.61% | 0.61% | 0.61% | 1.27% | 1.27% | 1.27% |
| **Uncollared Rate** | **20.42%** | **15.03%** | **18.18%** | **32.36%** | **25.85%** | **29.08%** |
| **Increase** | | | | **11.94%** | **10.82%** | **10.90%** |

[1] *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date.*

# Collared Pension Base Rates – System-Wide

## Excludes Retiree Health Care & IAP Contributions, Side Account Offsets

| | 12/31/2013 2015 - 2017 Final | | | 12/31/2015 2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] | Tier 1 / Tier 2 | OPSRP | Weighted Average[1] |
| **Uncollared Rate** | **20.42%** | **15.03%** | **18.18%** | **32.36%** | **25.85%** | **29.08%** |
| Collar Limitation | (0.72%) | (0.72%) | (0.72%) | (8.23%) | (8.23%) | (8.23%) |
| **Collared Base Rate** | **19.70%** | **14.31%** | **17.46%** | **24.13%** | **17.62%** | **20.85%** |
| **Increase** | | | | **4.43%** | **3.31%** | **3.39%** |

***Increases that will be effective July 2017 are limited by the collar***

[1] *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date.*

# Collared Pension Net Rates – System-Wide

## Excludes Retiree Health Care & IAP Contributions

| | 12/31/2013[1] 2015 - 2017 Final | | | 12/31/2015[1] 2017 - 2019 Final | | |
|---|---|---|---|---|---|---|
| | Payroll | | | Payroll | | |
| | Tier 1 / Tier 2 | OPSRP | Weighted Average[2] | Tier 1 / Tier 2 | OPSRP | Weighted Average[2] |
| **Collared Base Rate** | **19.70%** | **14.31%** | **17.46%** | **24.13%** | **17.62%** | **20.85%** |
| Side Account (Offset) | (6.38%) | (6.38%) | (6.38%) | (6.14%) | (6.14%) | (6.14%) |
| SLGRP Charge/(Offset) | (0.47%) | (0.47%) | (0.47%) | (0.48%) | (0.48%) | (0.48%) |
| **Collared Net Rate** | **12.85%** | **7.46%** | **10.61%** | **17.51%** | **11.00%** | **14.23%** |
| **Increase** | | | | **4.66%** | **3.54%** | **3.62%** |

***Rates vary by employer, as only some employers have side accounts***

***Changes in side account offsets are not collared***

1 *For this exhibit, adjustments are assumed not to be limited due to an individual employer reaching a 0.00% contribution rate.*
2 *Weighting based on the pool's payroll levels (Tier 1/Tier 2, OPSRP) as of the valuation date*

# Actuarial Basis

## Data

We have based our calculation of the liabilities on the data supplied by the Oregon Public Employees Retirement System and summarized in the data exhibits on the preceding slides.

Assets as of December 31, 2015, were based on values provided by Oregon PERS reflecting the Board's earnings crediting decisions for 2015.

## Methods / Policies

*Actuarial Cost Method*: Entry Age Normal, adopted effective December 31, 2012.

*UAL Amortization:* The UAL for OPSRP, and Retiree Health Care as of December 31, 2007 are amortized as a level percentage of combined valuation payroll over a closed period 20 year period for OPSRP and a closed 10 year period for Retiree Health Care. For the Tier 1/Tier 2 UAL, the amortization period was reset at 20 years as of December 31, 2013. Gains and losses between subsequent odd-year valuations are amortized as a level percentage of combined valuation payroll over the amortization period (20 years for Tier/Tier 1, 16 years for OPSRP, 10 years for Retiree Health Care) from the odd-year valuation in which they are first recognized.

# Actuarial Basis

## Methods / Policies (cont'd)

*Contribution rate stabilization method:* Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) are confined to a collar based on the prior contribution rate (prior to application of side accounts, pre-SLGRP liabilities, and 6 percent Independent Employer minimum). The new contribution rate will generally not increase or decrease from the prior contribution rate by more than the greater of 3 percentage points or 20 percent of the prior contribution rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funded percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

*Expenses:* Tier 1/Tier 2 administration expenses are assumed to be equal to $33.0M, while OPSRP administration expenses are assumed to be equal to $5.5M. The assumed expenses are added to the respective normal costs.

*Actuarial Value of Assets:* Equal to Market Value of Assets excluding Contingency and Tier 1 Rate Guarantee Reserves. The Tier 1 Rate Guarantee Reserve is not excluded from assets if it is negative (i.e. in deficit status).

## Assumptions

Assumptions for valuation calculations are as described in the 2014 Experience Study for Oregon PERS and presented to the PERS Board in July 2015.

## Provisions

Provisions valued are as detailed in the 2014 Valuation Report.

# Blended COLA

## *Moro* Decision

The Oregon Supreme Court decision in *Moro v. State of Oregon* stated that the reduced COLA amounts provided by Senate Bills 822 and 861 (both passed in 2013) only apply to benefits earned after the effective date of the legislation. According to the Court, PERS members who earned benefits before and after the effective date "will be entitled to receive during retirement a blended COLA rate that reflects the different COLA provisions applicable to benefits earned at different times."

For purposes of the results in this presentation, a member's blended COLA was based on creditable service earned before and after October 2013. This approach is consistent with OAR 459-005-0510 adopted by the PERS Board in September 2015.

The example below illustrates this blended COLA approach for a member with 30 years of service at retirement, 20 of which were earned prior to the effective date of the SB 861 COLA.

| Annual Benefit COLA Applies to: | COLA prior to SB 822 & 861 | SB 861 COLA | Blended COLA |
|---|---|---|---|
| <$60,000 | 2.00% | 1.25% | (20/30) x 2.00%<br>+(10/30) x 1.25%<br>= 1.75% |
| >$60,000 | 2.00% | 0.15% | (20/30) x 2.00%<br>+(10/30) x 0.15%<br>= 1.38% |

# PERS Individual Account Program (IAP)

## Overview and Target Date Fund (TDF) Discussion

September 14, 2016

# Individual Account Program (IAP)

- The IAP was created by the Oregon Legislature in August 2003 as part of a package of PERS reforms. All member contributions from Tier One, Tier Two and OPSRP members became IAP deposits starting in January 2004.
- The IAP is the member-funded portion of a retiree's benefit – members must contribute 6% of their salary and the account is credited annually with earnings or losses. At retirement, the IAP account balance is distributed (or rolled over) as directed by the member.
- Since the program started in 2004, IAP assets have been invested in the Oregon Public Employees Retirement Fund (OPERF).
- ORS 238A.050(3) directs the OIC to invest IAP assets in OPERF, but also specifically recognizes that the Council may invest IAP assets differently than other assets under its purview.

# Oregon Public Employees Retirement Fund

- OPERF's asset allocation, as determined by the OIC, is designed to maximize expected long-term investment returns for PERS and its beneficiaries.
- OPERF assets are divided into six programs: Tier One/Tier Two Regular Pension Accounts; Tier One/Tier Two Variable Pension Accounts; OPSRP Pension Accounts; Retiree Health Insurance Account (RHIA); Retiree Health Insurance Premium Account (RHIPA); and IAP.
- OPERF's asset allocation, when applied to the IAP, may not align with the needs or expectations of individual members, particularly as they near retirement age.
- As IAP account balances represent an increasingly significant portion of members' retirement savings, a different investment model may be appropriate for members at or approaching retirement age.

# IAP Asset Growth Since Inception

- IAP assets as a % of total OPERF value as of June 30 each year:

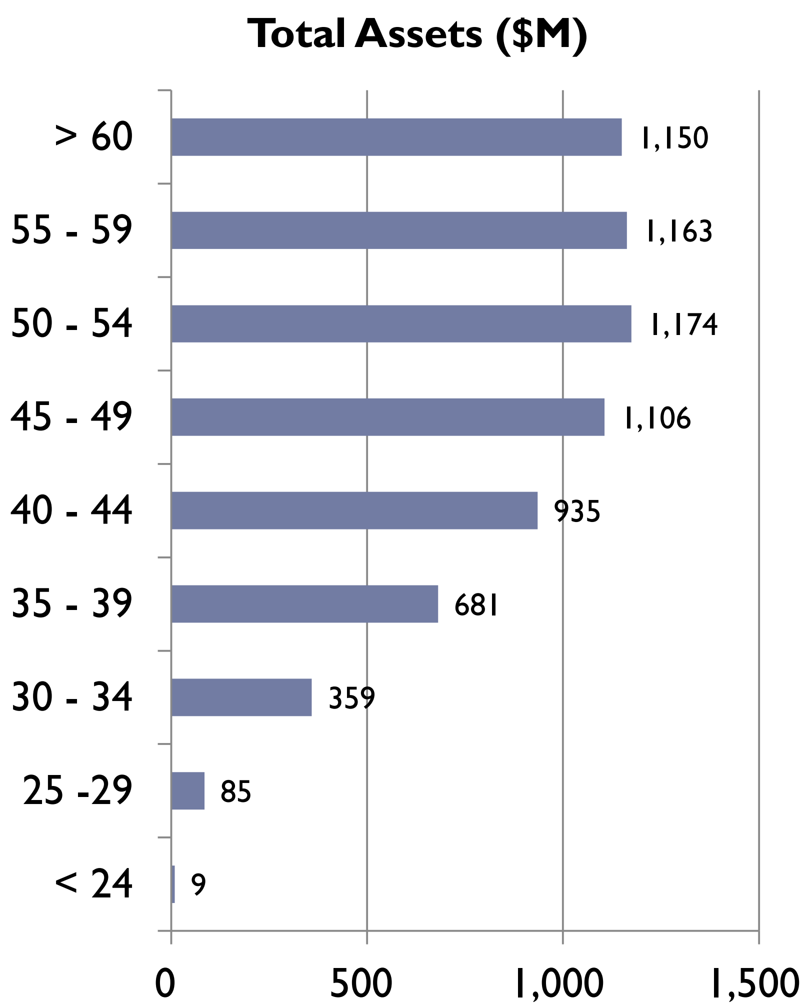
| Year | IAP Value | Total OPERF Value | % of OPERF |
|---|---:|---:|---|
| 2004 | $64,485,055.21 | $45,165,365,365.53 | 0.14% |
| 2005 | $559,850,902.98 | $49,513,382,198.84 | 1.13% |
| 2006 | $1,117,833,842.18 | $55,739,542,255.70 | 2.01% |
| 2007 | $1,824,604,886.66 | $64,960,354,884.00 | 2.81% |
| 2008 | $2,169,205,887.19 | $60,609,220,826.52 | 3.58% |
| 2009 | $2,052,812,151.77 | $45,301,913,564.48 | 4.53% |
| 2010 | $2,873,906,060.14 | $50,929,236,510.68 | 5.64% |
| 2011 | $3,938,476,327.25 | $59,630,731,368.56 | 6.60% |
| 2012 | $4,358,913,118.66 | $58,191,913,247.79 | 7.49% |
| 2013 | $5,258,935,030.69 | $63,591,838,684.00 | 8.27% |
| 2014 | $6,414,597,182.33 | $71,784,719,603.17 | 8.94% |
| 2015 | $6,922,368,094.28 | $71,892,205,791.62 | 9.63% |

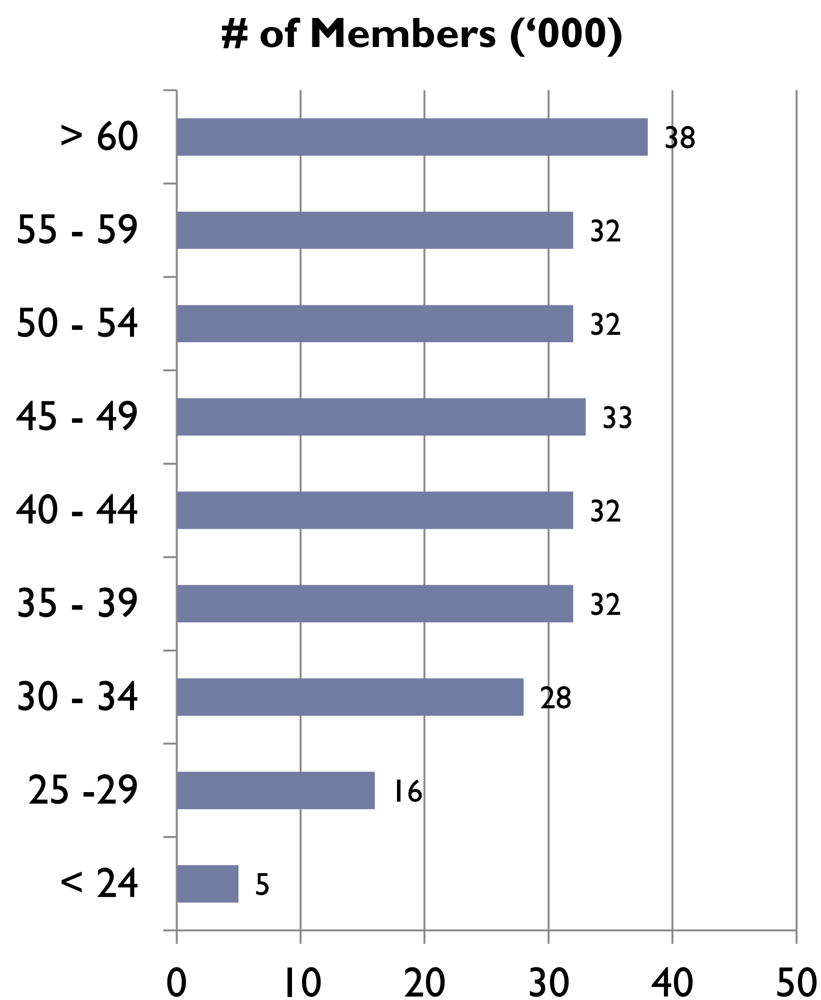
# IAP Asset Distribution

- Distribution of IAP assets by age cohorts (as of December 31, 2015). Members at or near retirement eligibility (by age) represent the majority of IAP assets.

| Age Group | # Members | Avg. Balance | Total Assets |
|---|---|---|---|
| <24 | 4,794 | $1,631.95 | $7,823,548.22 |
| 25-29 | 16,282 | $5,208.85 | $84,810,545.74 |
| 30-34 | 27,904 | $12,861.65 | $358,891,568.02 |
| 35-39 | 31,587 | $21,567.01 | $681,237,211.92 |
| 40-44 | 31,934 | $29,264.57 | $934,534,802.06 |
| 45-49 | 32,828 | $33,692.05 | $1,106,042,649.81 |
| 50-54 | 32,479 | $36,143.02 | $1,173,889,203.71 |
| 55-59 | 31,786 | $36,579.92 | $1,162,729,358.23 |
| 60> | 37,543 | $30,644.16 | $1,150,473,884.03 |
| **Total** | **247,137** | **$26,950.37** | **$6,660,434,786.74** |

# IAP Asset & Member Distribution by Age



# Consideration of IAP Investment Model

**Policy Question:** Should IAP accounts be invested using an asset allocation model better aligned with members' risk and volatility tolerances, particularly as they age and approach retirement eligibility?

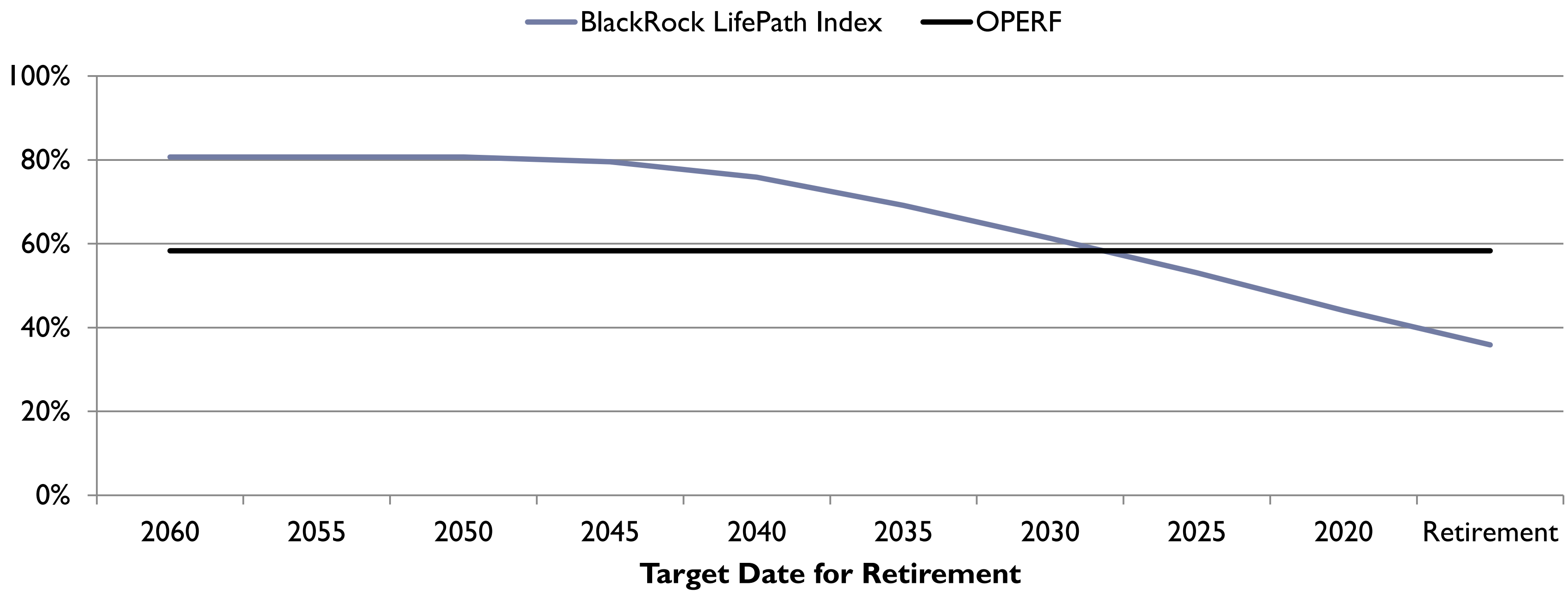
Given the large number of members at or near retirement eligibility and their commensurately large, relative share of IAP assets, Treasury and PERS are exploring the migration of IAP account balances to a "Target Date Fund" (TDF) methodology. This TDF approach would deliver multiple asset allocation models in order to better align members' return expectations and risk tolerances with their age and retirement eligibility status. Factors considered in this evaluation include the following:

- Eliminate or reduce risk of negative impact to OPERF and its assumed rate;
- OIC retention of investment decision authority as directed by statute;
- Growing age and member diversity of PERS population;
- Final, low risk "retirement" tranche to facilitate members' post-retirement IAP balance distributions or roll-overs to self-directed investment vehicles.
- Launching new TDF methodology (for earnings credit decisions) in January 2018 in order to accommodate largest retirement-eligible age and asset cohorts.

# Challenges with Current IAP Investment Model

- IAP funds are currently invested in OPERF which reflects a specific risk exposure *that is independent of* (i.e., does not change relative to) a member's age or retirement horizon.
- Currently, IAP account holders bear full exposure to OPERF's risk and return profile.
- Currently estimated at 15-20% of final salary at retirement, IAP is likely to represent a significant portion of OPSRP members' total retirement benefit.
- Given OPERF's capital appreciation orientation, bear market episodes that result in significant losses for members' IAP accounts could have an outsized impact on those members' retirement decisions.
- Members may not be sufficiently educated on IAP investment risks and/or how to mitigate those risks with comprehensive retirement planning.

# IAP Equity Allocation Compared to a Target-Date Fund Suite




- Allocations as of June 2016. OPERF Equity Allocation comprises Public Equity, Private Equity and the overlay program's synthetic equity exposure.
- A Target Date Fund has a predetermined asset allocation that adjusts over time., and the specific target date (e.g., 2040) is the year an investor in that fund is expected to retire.
- Oregon Savings Growth Plan (OSGP) offers BlackRock LifePath Index suite of TDFs as an investment option.

# IAP Review Effort to Date

- Treasury and PERS staff began discussions in late 2015 regarding IAP investment methodology.
- Staff has gravitated towards converting IAP investments to a custom TDF structure for several reasons:
  - A custom TDF suite using existing OPERF investments would likely reduce adverse turnover impacts. Alternatively, converting IAP to an off-the-shelf TDF suite would require as much as $7B in OPERF turnover;
  - TDF glide path design could be tailored to IAP account holder demographics;
  - The asset allocation models used in the TDF suite would match members' age and risk tolerance profiles. For example, younger members' IAP accounts would have higher equity allocations while older members' IAP accounts would have lower equity allocations; and
  - A custom TDF structure could separate glide path design (e.g., age-based asset allocation models) from asset management, allowing the OIC to retain investment authority per statute.

# IAP Review Next Steps

- Treasury and PERS staff continue to study and evaluate the following issues for OIC and/or PERS Board consideration:
  - Glide path manager selection and glide path design (OST);
  - Custom TDF structure including appropriate asset classes and age cohort tranching (OST/PERS);
  - Potential new accounting and custody arrangements (OST);
  - Administrative repercussions including rule adoption (PERS);
  - Communication with IAP account holders (PERS); and
  - Communication with the Legislature and other stakeholders (PERS/OST).
  - Updates for and decisions by both boards will occur on a periodic basis.

# TAB 7 – Operational Review

# OPERF

# Oregon State Treasury
# Internal Audit Services

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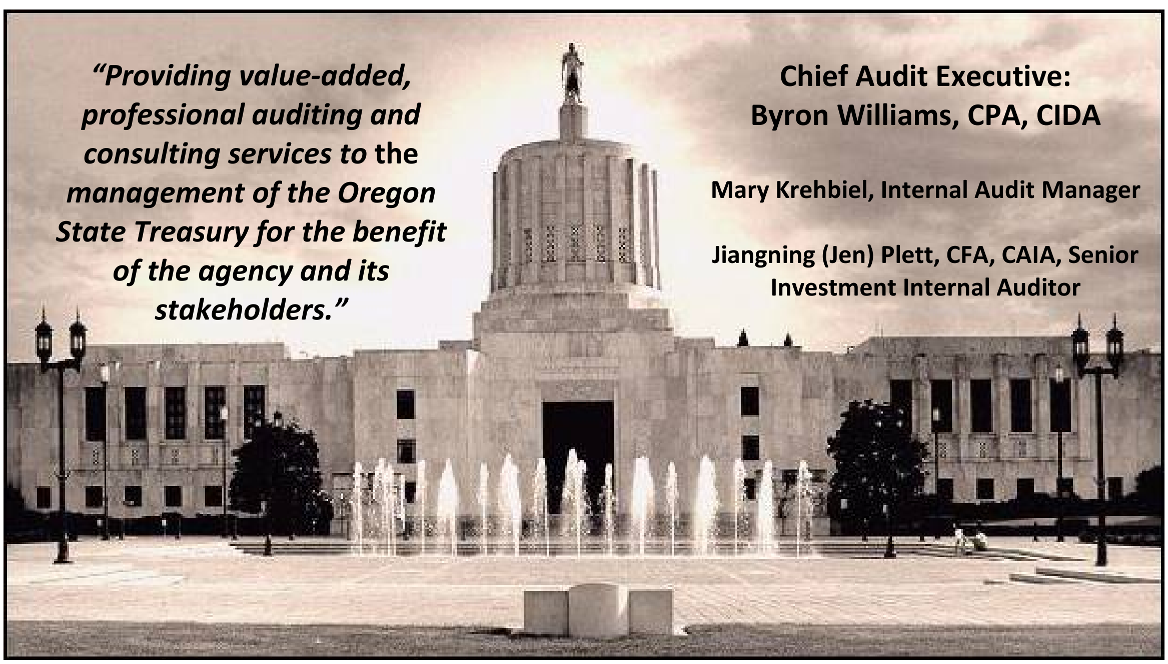
# Oregon Investment Council
# Investment Funds
# Operational Review

**Issued 9/14/2016**



## Contents

# Executive Summary

## Audit Results

The Oregon Investment Council (OIC) and Oregon State Treasury (Treasury) oversee the investment of state funds – a major responsibility covering nearly $90 billion in public funds. This audit, conducted by Treasury Internal Audit Services in response to state law, addresses two key aspects of the current governance and management practices of the OIC and Treasury in connection with the state's investment program.

- Are the practices **prudent** – that is, do they comply with state requirements and with accepted fiduciary standards?
- Do the practices **promote effectiveness** – that is, do they compare favorably to accepted industry guidance and best practices?

With regard to the first question, based on audit work performed, our opinion is that the OIC and Treasury have managed the investment program prudently. In all respects, current practices complied with the requirements of state law; moreover, current practices also compared favorably with most aspects of a set of nationally accepted fiduciary standards, though opportunities for improvement exist (e.g., better policy clarification, enhanced manager oversight and formalized continuing education and ethics training). In fact, several such items remain open since our last review four years ago.

With regard to the second question, we found that in many respects current practices also compare favorably to industry guidance and best practices for effectiveness. We commend the OIC and Treasury staff for pursuing leadership status in the public pension fund arena. While current practices matched many industry best practices, we did identify opportunities for improvement in the practice areas studied. Specifically:

- OIC Oversight of Alternative Investments – Opportunities exist for the OIC to clarify and document expectations and to consider a review of asset class benchmarks.
- Treasury Staff Investment Due Diligence – Opportunities exist for Treasury staff to better formalize documentation, evaluate the scope and standardization of due diligence efforts, and improve employee development efforts.

The goal of our recommendations is to keep oversight of the state's investment program strong – and where possible, improve oversight – especially during the significant membership changes the OIC faces in the near future.

The "Summary of Opportunities for Improvement" in Appendix A provides an overview of each opportunity for improvement, our corresponding recommendation, and our estimate of the relative degrees of risk associated with inaction.

Internal Audit Services would like to thank the OIC members and Treasury staff for their participation in this effort. Their assistance and support during our audit was highly beneficial and greatly appreciated.

# Management Response

To address the findings noted within this report and the associated management letter, the Deputy State Treasurer has provided the following management response:

"In general, management agrees with the recommendations. We will work with the Council to evaluate individual recommendations and determine appropriate action, recognizing that many of the recommendations require staffing and resources that are currently not available to Treasury."

# Investment Funds Operation Review Report

## Background and Audit Approach

### Who Oversees State Investments, and What Monies are Involved?

Oversight of state investments is conducted by the following entities:

- **The Oregon Investment Council (OIC).** State statute (ORS 293.706) established the OIC to serve as an independent oversight body for state investments managed by the Oregon State Treasury (Treasury). The OIC ensures that state funds are invested and reinvested as productively as possible, subject to fiduciary standards of prudence. The OIC is a six-member board made up of four gubernatorial appointees and the State Treasurer as voting members. The Executive Director of the Public Employee Retirement System holds the sixth position, in an ex-officio and non-voting capacity. Each gubernatorial appointee serves a four-year term with a two-term limit. The chair and vice chair are elected by the Council biennially. No one individual may be the chairperson for more than four years in any twelve-year period.

- **The Oregon State Treasury (Treasury).** The State Treasurer is the financial leader of the State and sets goals and strategies to help the State and individual Oregonians better manage and invest money. Treasury's Investment Division manages funds on behalf of Oregonians to achieve returns for current and future public retirees, Oregon schoolchildren, worker's compensation claims and various other purposes.

Together, the OIC and Treasury oversee, administer and manage the investment of nearly $90 billion in state funds. This total is comprised of the following primary funds:

- **The Oregon Public Employee Retirement Fund (OPERF).** At roughly $68 billion, this fund is by far the state's largest, and is invested in a globally diversified portfolio of common stocks, fixed income instruments, private equity, real estate and other alternative asset investments. Compared with peer funds, OPERF has a heavy allocation to alternative asset investment strategies, and its funded status was approximately 79 percent as of December 31, 2015.

- **The Oregon Short Term Fund (OSTF).** The OSTF is a $14 billion short-term investment pool used by state agencies and over 1,000 local governments. By pooling moneys from across the state and prudently managing the fund, Treasury is able to provide OSTF investors a stable value investment vehicle with returns that often exceed other short-term deposit or investment options.

- **Other Funds Under OIC Oversight.** Additional funds under OIC oversight include the $4 billion State Accident Insurance Fund, the $1 billion Common School Fund, and over $1 billion in various other state agency investment mandates.

## Why We Performed this Audit

Oregon Revised Statute 293.776 requires the OIC to commission an audit of the investment program at least once every four years. To fulfill this requirement, the OIC directs Treasury's Internal Audit Services team to perform an operational review of the structure and activities of both the Council and Treasury investment division relative to similarly sized and configured institutional investment peers. This work and the report thereon fulfill the requirements stated in ORS 293.776.

In compliance with this requirement, we have completed an audit of the operations of the OIC/Treasury investment program for the fiscal year ended June 30, 2016. This audit was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing*. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The results of this audit, including auditor observations and recommendations, have been included in this audit report.

## Audit Objective, Scope, and Methodology

This audit had the following two specific objectives:

> 1) Determine if the policies and activities of those charged with governance of the investment funds have managed the funds to make them as productive as possible in a prudent manner; and
>
> 2) Compare current practices related to alternative investment due diligence against peer and best practices.

The audit covered the period from July 1, 2012 through June 30, 2016. The work informing this report consisted primarily of a review of OPERF-related investments and policies. When we use the phrase "the Fund" in this report, we are referring to OPERF unless specifically stated otherwise. All investment funds were subject to other audits during this period, and we reviewed those audits' findings of as part of our work.

To address the first objective, auditors used the framework "Prudent Practices for Investment Stewards", written by fi360, a fiduciary education group, with technical review by the American Institute of Certified Public Accountants (AICPA). This framework contains twenty-two practices substantiated by legislation, case law, and/or regulatory opinions. The specific sources include federal law (the Employee Retirement Income Security Act, or ERISA), and three model laws promulgated by the Uniform Law Commission: the Uniform Prudent Investors Act (UPIA); the Uniform Prudent Management of Institutional Funds Act (UPMIFA); and the Uniform Management of Public Employee Retirement Systems Act (UMPERSA). While only UPIA is legally binding on the OIC and Treasury's investment operations, the other three acts do provide a useful yardstick for evaluating the management and governance of the OIC/Treasury investment program. A summary of investment practices recommended by these sources has been included in Appendix B, titled "The Periodic Table of Global Fiduciary Practices."

## Overview of Significant Changes Since 2012

The last Operational Review report covered the period December 31, 2008, through June 30, 2012. Since that time, the OIC/Treasury investment program has undergone significant changes. One key risk area highlighted in the previous report was the need to improve and formalize OIC processes, especially in light of multiple OIC members' expected departure. This membership turnover has now begun. When we presented the previous report in January of 2013, the OIC's six members had 39 years of combined Council tenure. Since then, four members have rotated off the Council, reducing its combined tenure to 25 years. The remaining two members, of those original six, are expected to be replaced within the next six months, leaving a combined Council tenure of only 7 years. While each council member meets the statutory experience requirement to serve, the lack of formal process documentation and education and training requirements increases the Council's reliance on "tribal knowledge" transfers. These transfers may or may not be successful, and important institutional knowledge could easily be lost without formalized policy and process documentation, initial and continuing education requirements, and a robust board governance manual.

At the time of the last report, Treasury had 14 investment officers, 5 front office analysts and support staff, and 6 middle and back office positions covering investment accounting and compliance. Treasury now has 16 investment officers, 8 front office analysts and support staff, and 13 middle and back office positions covering investment accounting and compliance. While the number of investment officers did not significantly increase, front office support staff is 60% higher and the combined middle and back-office staff has doubled. These staffing increases have enabled the following significant changes: 1) creation of a bona fide compliance and legal team headed by a Chief Compliance Officer who acts as General Counsel for Treasury on investment issues; and 2) appointment of a new Director of Investment Operations with dedicated data management and operating risk staff. While these staff increases are a good start towards improving the investment program's infrastructure, additional staff is still needed to fortify those functions as they mature. As part of the 2017-2019 budget process, Treasury management is requesting an additional 28 FTE including investments officers in each asset class, as well as more risk, compliance and operational staff.

An analysis of Treasury's internal management activities by Wilshire Associates 2013 identified trading and portfolio management technology as the program's primary weakness and risk. In their report, Wilshire said technology limitations prohibited staff from effectively conducting stress tests, attribution analysis, risk reporting, pre-trade compliance, and other necessary activities. Since then, Treasury implemented BlackRock's Aladdin platform which now serves as the investment program's technology backbone. With Aladdin, Treasury has marshalled all internally- and externally-managed assets onto a single investment platform so that all staff have access to the same information in real time. With Aladdin, staff's investment technology is now best in class, and the platform has enabled significant improvements staff's ability to analyze, manage, and monitor both the overall investment program as well as its thousands of individual constituents. In addition to implementing Aladdin, Treasury retained BlackRock's Trade Support Services (TSS) and Risk Management Services (RMS) units. The TSS unit provides middle office support for internally managed assets, which, along with increased internal staffing, has shifted middle office responsibilities away from investment officers. In turn, this shift lowers operating risks by creating a clear segregation of duties and improves the division's productivity through better skill/task alignment. The RMS unit provides an outsourced Chief Risk Officer capability for the OIC as well as risk analysis support to the Chief Investment Officer. This service, along with the increased transparency provided by Aladdin, has enabled total plan risk analyses and evaluations, a key element of prudent fiduciary management.

# Objective 1: Evaluation of Practices for Ensuring Prudent Investment Management

Oregon Revised Statute 293.726 requires that the OIC manage investment funds as a prudent investor. In Oregon, the Uniform Prudent Investor Act (UPIA), a model law developed by the National Conference of Commissioners on Uniform Laws, is codified in ORS 130.750 through 130.775. This language contains Oregon's basic requirements for managing funds prudently. However, the requirements in UPIA are not as robust as the legal requirements and case law currently governing private-sector pension plan management. To expand our set of evaluation criteria, and as mentioned in this report's introduction, we supplemented our use of UPIA with guidance from fi360's "Prudent Practices for Investment Stewards." While not all of the criteria contained therein are legally binding on OIC and Treasury investment operations, they do provide a more robust evaluation framework organized into four steps: organize; formalize; implement; and monitor. Our analysis followed these four steps and focused on the OIC's policies and practices in relation to its specific oversight of OPERF.

We discuss each practice separately below, under the step to which it applies. Overall, we found that existing policies and procedures are sufficient to fully comply with, or conform to, most of these practices, but we also noted areas for improvement.

# The Periodic Table of Global Fiduciary Practices

## 1 ORGANIZE

**Practice SA-1.1**
Investments are managed in accordance with applicable laws, trust documents, and written IPS.

**Practice SA-1.2**
The Roles and responsibilities of all involved parties are defined, documented, and acknowledged.

**Practice SA-1.3**
Fiduciaries and parties in interest are not involved in self-dealing.

**Practice SA-1.4**
Service agreements and contracts are in writing, and do not contain provisions that conflict with fiduciary standards of care.

**Practice SA-1.5**
Assets are within the jurisdiction of courts, and are protected from theft and embezzlement.

## 2 FORMALIZE

**Practice SA-2.1**
An investment time horizon has been identified.

**Practice SA-2.2**
A risk level has been identified.

**Practice SA-2.3**
An expected, modeled return to meet investment objectives has been identified.

**Practice SA-2.4**
Selected asset classes are consistent with the identified risk, return, and time horizon.

**Practice SA-2.5**
Selected asset classes are consistent with implementation and monitoring constraints.

**Practice SA-2.6**
There is an IPS which contains the detail to define, implement, and manage a specific investment strategy.

**Practice SA-2.7**
The IPS defines appropriately structured, socially responsible investment (SRI) strategies (where applicable).

## 3 IMPLEMENT

**Practice SA-3.1**
The investment strategy is implemented in compliance with required level of prudence.

**Practice SA-3.2**
Applicable "safe harbor" provisions are followed (when elected).

**Practice SA-3.3**
Investment vehicles are appropriate for the portfolio size.

**Practice SA-3.4**
A due diligence process is followed in selecting service providers, including the custodian.

## 4 MONITOR

**Practice SA-4.1**
Periodic reports compare investment performance against appropriate index, peer group, and IPS objectives.

**Practice SA-4.2**
Periodic reviews are made of qualitative and/or organizational changes of investment decision-makers.

**Practice SA-4.3**
Control procedures are in place to periodically review policies for best execution, "soft dollars," and proxy voting.

**Practice SA-4.4**
Fees for investment management are consistent with agreements and with all applicable laws.

**Practice SA-4.5**
"Finder's Fees" or other forms of compensation that may have been paid for asset placement are appropriately applied, utilized, and documented.

**Practice SA-4.6**
There is a process to periodically review the organization's effectiveness in meeting its fiduciary responsibilities.

- Better rating than Last Report
no arrow - Same rating as Last Report
- Worse rating than Last Report

- Fully Conforms
- Opportunity for Improvement
- Non Conformance

## Step 1 – Organize

*1.1 Investments are managed in accordance with all applicable laws, trust documents, and written investment policy statements (IPS).*

**Our finding: fully conforms**. We reviewed the applicable laws, trust documents, and IPS and found no instances of non-compliance with the requirements established in these documents.

*1.2 The roles and responsibilities of all involved parties (fiduciaries and non-fiduciaries) are defined, documented, and acknowledged.*

**Our finding: roles and responsibilities can be clarified, and documentation can be improved.** The OIC has ultimate responsibility for the investment funds. Consistent with the prudent person standard, the OIC has determined that it is reasonable to delegate a significant portion of the responsibility for carrying out the day-to-day operations to a number of Treasury staff, external advisors, investment managers, and the custodian bank. Many of the roles and responsibilities are contained within the OIC Statement of Fund Governance. This document outlines the responsibilities retained by the Council, those delegated to Treasury staff, and those delegated to investment professionals. We compared this document to peer funds and found that, for the most part, peer documents contained the same elements. However, we noted two improvement opportunities for the OIC in this area.

First, the OIC has retained authority to approve all major contracts, but has not specifically delegated approval authority for other contracts or clarified the difference between major and non-major contracts. Second, for documented roles, no formal, written acknowledgement exists by and among all parties that clearly delineates their respective responsibilities. Requiring written acknowledgement ensures that all parties are clear regarding their specific duties as well as the specific duties assigned to and expected of others. A documented, detailed analysis of roles and responsibilities helps ensure that each party is fulfilling its duties. If one party begins operating in an area for which another is responsible, the effectiveness of both is compromised. Adding additional detail to the current roles and responsibilities framework will help ensure all necessary functions are performed, and having all parties review this document annually will help reduce any potential misunderstandings and responsibility gaps.

Recommendation: The OIC should clarify the delegation of authority for contracting decisions between the OIC and Treasury.

Recommendation: The OIC should establish a formal process to document the acknowledgement of duties and responsibilities by all involved parties on an annual basis.

*1.3 Fiduciaries and parties in interest are not involved in self-dealing.*

**Our finding: opportunities exist to strengthen the ethics program.** UPIA, the model law codified in Oregon law, requires that fiduciaries invest and manage trust assets in the sole interest of beneficiaries. The act states that trustees have a duty to abstain from self-dealing. State law also provides additional requirements and guidance, and ethics policies are in place for both the OIC and Treasury staff. Overall, we found these policies relatively comprehensive, with the OIC policy having 15 of 19 applicable elements and the Treasury staff policy containing 17 of 18 applicable elements. We identified no instances in which OIC members or Treasury staff did not comply with their a) internal ethics policies, b) required quarterly filings with the Attorney General or c) annual filings with the Oregon Government Ethics Commission. However, we did note that annual training regarding the ethics program is not required for either OIC members or Treasury staff. Likewise, no annual written or verbal policy acknowledgement or compliance attestation is required.

Recommendation: As part of an overarching OIC education program, members should consider attending annual training on applicable ethics laws and policies.

Recommendation: The OIC should establish a formal process to document its members' acknowledgement of and compliance with the Council's ethics policy on an annual basis.

*1.4 Service agreements and contracts are in writing, and do not contain provisions that conflict with fiduciary standards of care.*

**Our finding: delegation of contracting authority can be clarified.** Our review of a sample of contracts showed that the OIC materially complies with this requirement. We noted that legal counsel from the Department of Justice had reviewed all investments managers' contracts, Treasury management signed the contracts after approval by the OIC, and Treasury staff reviewed all invoices to ensure that amounts paid to managers agreed with the stipulated contract amounts. Oregon Revised Statute 293.741 gives the OIC authority to contract for services and pay for those services out of the gross interest of the investment funds. The delegation of authority related to investment consultants and investment managers is clear in policy. For other contracts, authority delegation was less clear and not as formalized.

Recommendation: The OIC should clarify in policy the delegation of contracting authority and any associated limits and requirements.

*1.5 Assets are within the jurisdiction of appropriate courts, and are protected from theft and embezzlement.*

**Our finding: fully conforms.** The OIC has established State Street Corporation (SST) as the custodian for the funds. SST is a U.S. company and operates within the jurisdiction of U.S. courts. Moreover, Treasury legal counsel reviews all investment contracts for legal sufficiency.

## Step 2 – Formalize

*2.1. An investment time horizon has been identified.*

**Our finding: opportunity to better document liquidity requirements and time horizons for select participants**. Understanding the sources, timing, distribution, and uses of cash flows helps to ensure that the OIC has established a time horizon appropriate to match fund investments with liquidity and cash flow requirements. During the asset/liability study, consultants perform an analysis comparing the timing of cash flows in and out of the Fund. This study provides the OIC with valuable information regarding OPERF's projected, long-run cash flow obligations. Consistent with the long-term nature of pension liabilities, the OIC has set a long-term time horizon for fund investments; however, formal documentation does not exist for shorter-term cash flows that affect the Fund. Our discussions with investment staff demonstrated that they are aware of the Fund's typical cash flow requirements and have plans for providing cash when needed. Nonetheless, formal liquidity requirements have not been established, and doing so would help ensure that disruptive trading and associated transactions costs are minimized.

While the aforementioned asset/liability study is sufficient for the Fund, participants in the Individual Account Plan (IAP) are not able to adjust their IAP investment horizon relative to their individual age and circumstances. Since IAP ownership is individual (and not collective like OPERF), participants nearing retirement likely have a different risk profile and investment horizon from those participants just entering state employment. By expanding the scope of OIC oversight to include a detailed analysis of IAP participants' various age and investment horizon profiles, the OIC can ensure that the IAP better meets participants' investment objectives and corresponding risk tolerance preferences.

Recommendation: The OIC should formalize liquidity requirements for each fund it oversees.

Recommendation: The OIC, based on advice from Treasury staff and consultants, should consider changes to the IAP to ensure that suitable investment options exist which reflect participants' different investment horizons and risk tolerance preferences.

*2.2 A risk level has been identified.*

**Our finding: fully conforms**. Oregon Revised Statute 293.726 requires that the investment strategy incorporate risk and return objectives reasonably suited for each investment fund. Consistent with best practices, the OIC has incorporated a risk framework into the Investment Policy Statement. This framework has two parts: (1) the investment risk management system used by the OIC to manage the risks to each investment fund at the portfolio level; and (2) the investment risk management system used by Treasury staff to manage the risks to each investment at the operational level. Our evaluation focused on the first part of the framework. The level of review necessary for an evaluation of staff's investment risk management system is beyond the scope of this review as the level of detail needed by the investment staff is considerably greater than the level needed by the OIC.

For the most part, the OIC's risk management framework appears sound. The risk management framework used by the OIC should be sufficiently granular to manage relevant portfolio risks, but not so complex that the Council need operate at the level of investment staff. In evaluating the OIC's risk management framework for prudence, we looked at two components. The first component was the documentation of requirements. For the OIC, these requirements are contained in the investment policy statement. We reviewed this document and found it contained the standard risks managed by fiduciaries. The second component was how the Council monitored compliance with the established policies. The OIC receives a quarterly performance report that contains the elements outlined in the policy statement. This allows the Council to ensure that the risk levels are appropriate. At each meeting, the Council also receives reports on asset allocation as well as manager performance relative to assigned benchmarks.

*2.3 An expected, modeled return to meet investment objectives has been identified.*

**Our finding: fully conforms**. The OIC sets asset allocation targets that when combined with consultants' capital market forecasts, are expected to produce a reasonable probability that OPERF will realize its long-term, assumed rate of return. Currently, the expected return over the next two to three market cycles is 7.6%. The model generating this return expectation currently indicates that the Fund has a 50% chance of meeting its assumed rate of return, 7.75% at the time of our audit, but since reduced to 7.5%.

*2.4 Selected asset classes are consistent with the risk, return, and time horizon.*

**Our finding: asset allocation study requirements can be better documented**. Based on the time horizon, risk tolerance, and assumed rate of return for the Fund, the OIC has worked with its general investment consultant, Callan Associates, to develop an asset allocation and expected return model. The OIC reviews OPERF's asset allocation as part of an asset/liability study conducted every three to five years. On an annual basis, staff reviews the Fund's asset allocation with Callan and presents any proposed modifications during a regular policy update presentation. However, the amount of information required and the delineation of responsibility for preparing and documenting this work are not currently contained in policy. Doing so would help ensure that asset allocation practices are consistent across time and that all parties understand their individual and collective responsibilities.

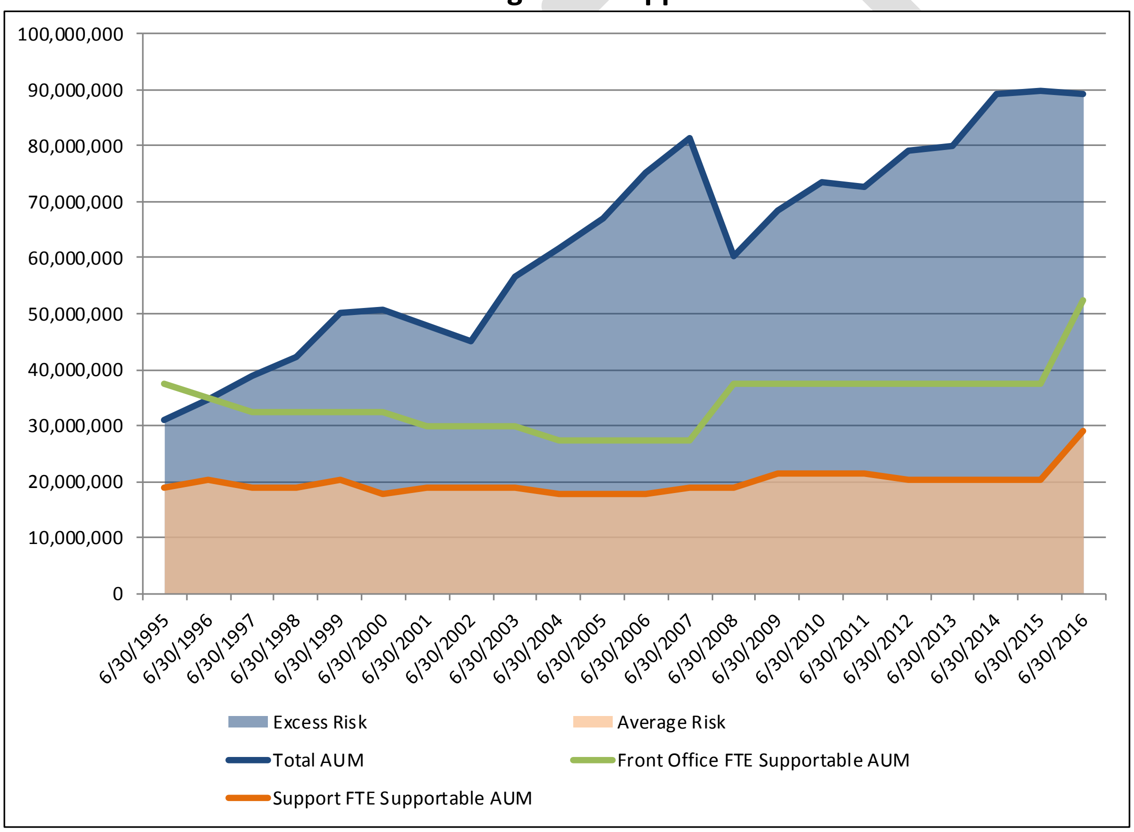
> Recommendation: The OIC should work with Treasury staff and consultants to document requirements for the preparation, presentation and modification of asset allocation studies and recommendations.

*2.5 Selected asset classes are consistent with implementation and monitoring constraints.*

**Our finding**: **additional staffing can improve efficiency and reduce operational risks**. In reviewing implementation and monitoring constraints, auditors evaluated two topics: (1) the staff assigned to implement and monitor investment decisions; and (2) the processes used to implement and monitor those decisions. With regard to the first topic, Treasury has done a good job of attracting qualified staff who possess the knowledge and skill required to execute investment strategy as determined by the OIC. However, as the Fund's size and complexity has grown, staffing levels have not kept pace. This imbalance has caused an increasing reliance on external service providers and consultants.

Staffing constraints also limit the level and type of internal management mandates as well as the timely implementation of this report's recommendations. With regard to the second topic, processes currently in place to execute and monitor investment decisions are generally sound. Each year we review a portion of the investment program and its processes. These reviews have not identified any significant deficiencies in staff's decision execution processes, but constrained staffing levels limit staff's ability to adequately monitor OPERF's myriad investments given its substantial recent growth in both size and complexity. We have previously provided all suggestions from these reviews to management and the OIC.

**Authorized Staffing Level Supportable Assets**




Recommendation: The OIC and Treasury management should seek budget approval from the legislature for additional staff to enable the continued and effective management of the investment program as well as for further implementation of industry best practices and cost saving measures.

*2.6 There is an Investment Policy Statement which contains the detail to define, implement, and manage a specific investment strategy.*

**Our finding: fully conforms***.* A number of investment policies supplement the Investment Policy Statement (IPS) for OPERF. Taken together, these policies contain the elements necessary to effectively define, implement, and manage OPERF investment strategy. IPS creation and oversight is the most critical function an investment fiduciary performs, as the IPS articulates to all parties the philosophy and structure guiding the fiduciary's oversight activities. The IPS should have sufficient detail to allow a third party to implement the fiduciary's investment strategy and understand its supporting rationale. An investment procedure or operations manual should accompany the IPS to ensure proper and timely strategy implementation.

*2.7 The IPS defines appropriately structured, socially responsible investment (SRI) strategies (where applicable).*

**Our finding: not applicable**. The trust documents have not outlined specific targets for socially responsible investments. State law has restricted investments in Sudan. Accordingly, staff does not specifically search for social investing opportunities, and investments in Sudan are restricted. Current OIC policy limits the consideration of investments to a judgment on the expected risk-adjusted returns, seeking to obviate politically-motivated investment initiatives. The Council has done a good job of maintaining its required duty of loyalty to invest in the sole interest of beneficiaries. However, the fund could be subject to political pressures.

The Uniform Prudent Investor Act clarifies that social investing (for example, accepting below-market returns in exchange for other, perceived social benefits) is inconsistent with the fiduciary duty of loyalty. However, an analysis of collateral benefits that an equally-returning investment may offer is permissible. ERISA opinion Letter No. 98-04A provides guidance on reviewing these collateral benefits. Social factors can place pressure on either approving or rejecting an investment proposal. Due to the sensitive legal issues, clear policies on the topic and documentation of individual investments will assist in supporting the prudence of any decision made by the Council if a legal challenge should arise. Similar issues exist around economically-targeted investing.

## Step 3 – Implement

*3.1 The investment strategy is implemented in compliance with the required level of prudence.*

**Our finding: fully conforms**. Treasury has adopted an open-door policy regarding potential investment opportunities. Investment officers receive new investment ideas from these meetings, from their own research, and from recommendations made by consultants. Each asset class has its own due diligence process. Multiple processes are needed due to the vastly different types of investments across the various asset classes. We reviewed the initial due diligence processes and found them to be generally sufficient. The investment officers meet with managers proposing a potential investment, perform a site visit to assess the managers' operations, and utilize one of the

OIC's consultants to perform additional due diligence work as required for the specific investment type.

*3.2 Applicable safe harbor provisions are followed.*

**Our finding: not applicable**. The OPERF is not an ERISA plan; therefore, ERISA safe harbor provisions are not applicable.

*3.3 Investment vehicles are appropriate for the portfolio size.*

**Our finding: fully conforms**. Based on the asset allocation established by the OIC, the Senior Investment Officer (SIO) for each asset class develops a unique implementation plan. Staff selects specific strategies (e.g., passive versus active management) and implementation structures (e.g., separate or commingled account). Staff also selects specific managers, although the OIC retains final approval over manager and mandate selection. Investments in private equity, real estate, and the alternatives and opportunity portfolios often comprise illiquid asset investments, and are approved by the OIC based on *ex ante* risk and return projections.

*3.4 A due diligence process is followed in selecting service providers, including the custodian.*

**Our finding: fully conforms**. The process for selecting the custodian and other service providers is required to follow statutory purchasing requirements. As these are often large multi-year contracts, a request for proposal (RFP) is issued to determine potential vendors. In the most recent custody search, Treasury retained a consulting firm to assist staff in preparing the RFP and reviewing all subsequent submissions. Using this process, the State Treasurer selects a custodian. Assets held by the custodian are held in trust, and all services provided by the custodian are regularly reviewed for accuracy and cost-effectiveness.

## Step 4 – Monitor

*4.1 Periodic reports compare investment performance against appropriate index, peer group, and IPS objectives.*

**Our finding: Fully conforms**. The OIC has established benchmarks for each OPERF asset class. Based on these asset class benchmarks and an individual manager's stated strategy or style, each manager is assigned a specific benchmark. The OIC receives monthly reports prepared by the custodian showing realized returns for the Fund, its component asset classes and each manager relative to assigned benchmarks. For each Council meeting, staff prepares a report showing the Fund's current allocation to each asset class with corresponding targets and allowable ranges. If an asset class allocation violates its range boundaries, the OIC will determine what actions, if any, are necessary. On a quarterly basis, the OIC's general consultant, Callan Associates, reviews Fund performance with the Council. On an annual basis, the SIO for each asset class reviews asset class strategy and performance with the Council. Watchlist procedures have been established for managers using public market strategies, and all activity related to the watchlist is reported to the OIC on a quarterly basis through the CIO.

*4.2 Periodic reviews are made of qualitative and/or organizational changes of investment decision-makers.*

**Our finding**: **ongoing due diligence can be improved**. Once a manager has satisfied due diligence requirements and is engaged by the Council following a staff recommendation, investment officers perform regular, post-investment due diligence visits consistent with each asset class's unique manager monitoring schedule. These on-site reviews are supplemented with on-going calls with each manager to discuss performance and other qualitative and quantitative factors. For a portion of the audit period, personnel from the investment division's compliance team also performed on-site visits of public equity and fixed income managers to assess those managers' middle and back office operations.

While these procedures are sound, we identified several opportunities for improvement. First, the due diligence work that had previously been conducted by the compliance team has been suspended due to staff vacancies. Second, due diligence on investment consultants and the custodian is not as formalized as it is for investment managers. Investment officers meet with the OIC's consultants regularly, but a formal monitoring system has not been established. Similarly, staff meet with custodial personnel on at least an annual basis, but formal custodian site visits by staff occur only on an ad-hoc basis. Third, although the custodian shares with Treasury a report on its independently audited internal control review, a process does not exist to evaluate this report and determine if any actions are necessary in response to the report's findings.

> Recommendation: The OIC should instruct Treasury staff to establish an ongoing operational due diligence program that covers all asset classes and reviews managers' middle and back office support functions.
>
> Recommendation: The OIC should establish a formal review process for work performed by its investment consultants.
>
> Recommendation: The OIC should instruct staff to establish a formal review process for work performed by the custodian, including a process to review the internal control reports from the custodian's independent auditors.

*4.3 Control procedures are in place to periodically review policies for best execution, "Soft Dollars", and proxy voting.*

**Our finding: fully conforms**. The OIC has established policies regarding best execution and soft dollar activity. (Soft dollar practices are those in which an investment manager receives research or other services that aid the investment process in exchange for sending trades to one or more specific brokerage firms.) Reviewing best execution entails analyzing security transactions (i.e., buys and sells) within a portfolio to determine whether or not these transactions costs have been minimized. In the public equity portfolio, the SIO engages a third party to perform a best execution study of all public equity trades periodically. For proxy voting, the OIC has retained a firm to coordinate proxy voting activities and provide the Council with a proxy voting policy. Generally, this firm provides vote recommendations that, absent any objections from staff or managers, it executes on the OIC's behalf.

*4.4 Fees for investment management are consistent with agreements and with all applicable laws.*

**Our finding**: **opportunity exists to improve transparency**. The OPERF annual financial statements document the investment management fees paid by the Fund. Prior to paying a management fee, Treasury staff or consultants review the fee to ensure that it complies with the underlying investment management agreement.

In January of 2016, the Institute of Limited Partners (ILPA) released its suggested guidance for a "Fee Reporting Template." The template provides a standardized reporting format with additional detail regarding fees, expenses, and incentive allocation. Additional formal disclosures from managers will help to ensure the consistent recording and increased understanding of all management fees and expenses.

Recommendation: The OIC should formally encourage General Partners (GPs) investing in private equity and other alternative asset classes to adopt the Institutional Limited Partners Association fee transparency template.

*4.5 "Finder's Fees" or other forms of compensation that may have been paid for asset placement are appropriately applied, utilized, and documented.*

**Our finding: fully conforms**. Treasury staff review and record fees paid to third parties. These amounts are disclosed in the Fund's annual financial statements. The OIC also requires that staff prepare, present and post to the Treasury website an annual report documenting all instances in which staff had contact with a placement agent in connection with an approved investment recommendation.

*4.6 There is a process to periodically review the organization's effectiveness in meeting its fiduciary responsibilities.*

**Our finding: opportunity to improve OIC self-assessment**. The OIC currently has three primary ways of evaluating its overall effectiveness. The first is its annual policy review, which includes a review of its investment policy statements. Staff conduct this review every April and propose policy changes to the Council. Staff also bring policy changes as needed throughout the calendar year, but neither the annual review nor the as-needed consideration of policy changes is formalized. The second method of self-assessment is the retention of consultants to review specific topics on an ongoing or ad-hoc basis. Examples include CEM's annual absolute and relative cost analysis and the governance review recently completed by Funston Advisory Services. The third means of self-assessment is OIC's work with the Internal Audit Services unit. The OIC has established an annual, internal audit requirement for the investment program as well as a more comprehensive and detailed review of fiduciary performance every four years.

While these three self-assessment methods help evaluate the Council's effectiveness vis a vis its fiduciary duties, the OIC delegates this work and does not perform its own assessment of Council performance. Instituting a periodic self-assessment would establish a process by which OIC members could formally evaluate their effectiveness relative to their fiduciary objectives and obligations.

Recommendation: The OIC should adopt and conduct an annual self-assessment to evaluate its own performance and effectiveness.

# Objective 2: Evaluation of Practices for Promoting Effective Operations

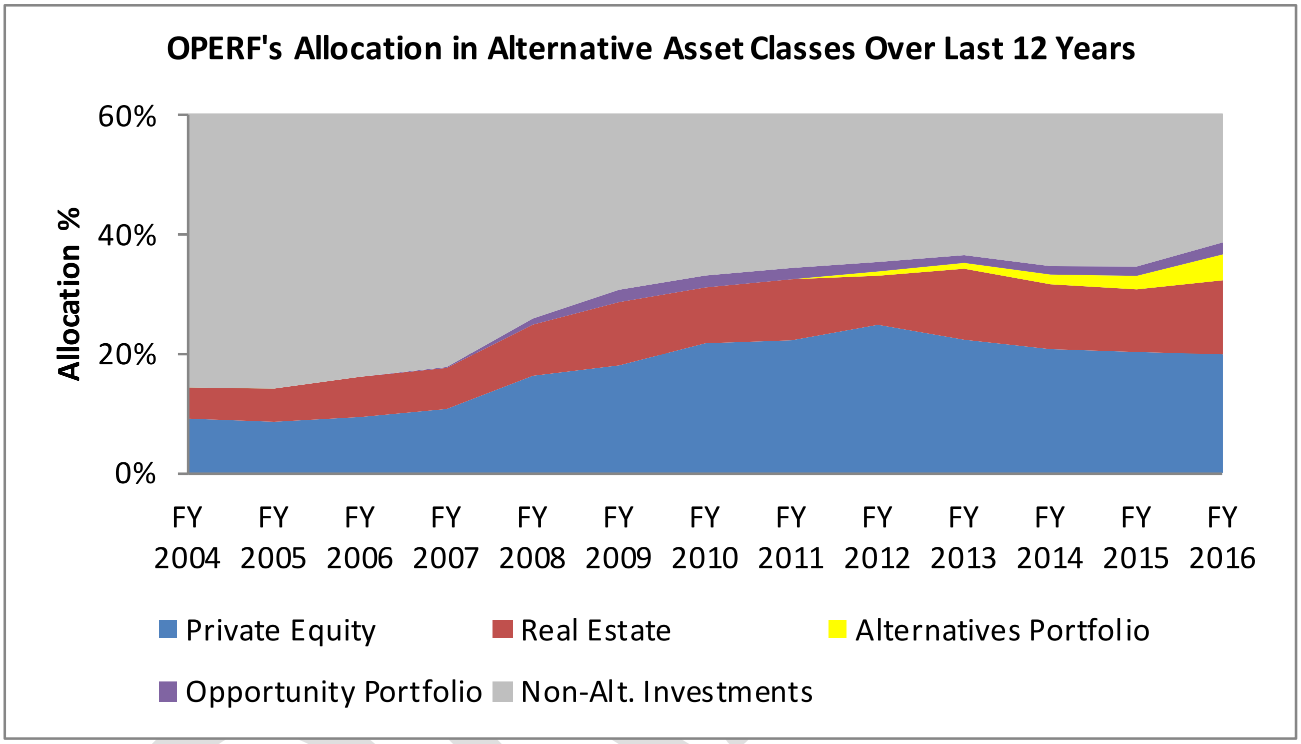
The first objective of our audit—determining if the funds are prudently managed—establishes the degree to which the OIC and Treasury staff are meeting their respective legal requirement baselines. Our second objective goes beyond those baselines to ensure that the investment program not only meets minimum legal requirements and prudence standards, but achieves maximum effectiveness as well.

Evaluating the investment program's current effectiveness involves comparing Oregon's existing processes with peers and industry standards to identify the degree to which best practices are embraced and followed. The OIC operates from a unique position within the investment world. Many of the standards we looked at come from the private pension landscape. Yet the OIC does not operate in the legal framework that exists for private pension plans, nor does it have direct responsibility for the Fund's liabilities as do other public and private governance boards. We recognize that exact comparisons will prove elusive, but do consider these other operating environments instructive in terms of our current OPERF assessments and improvement recommendations.

Overall, we commend the OIC and Treasury staff for seeking a leadership position in public pension fund management. While many current practices matched or exceeded industry standards, we did identify some improvement opportunities in the areas studied. These opportunities are presented in the discussion below and in Appendix A.

## Oregon's Alternative Investment History

The OIC has more than three decades of experience in alternative asset class investments. The Alternative Investment Program (AIP) started making investments in private equity in 1981, real estate investments in the late 1980s, opportunity portfolio investments in 2006 and alternatives portfolio investments in 2011. As of June 30, 2016, OPERF had approximately $68 billion of assets under management, including $26 billion invested in the AIP. The chart below shows that in the last 12 years, OPERF's AIP allocation has more than doubled from 14 percent in 2004 to 38 percent in 2016.



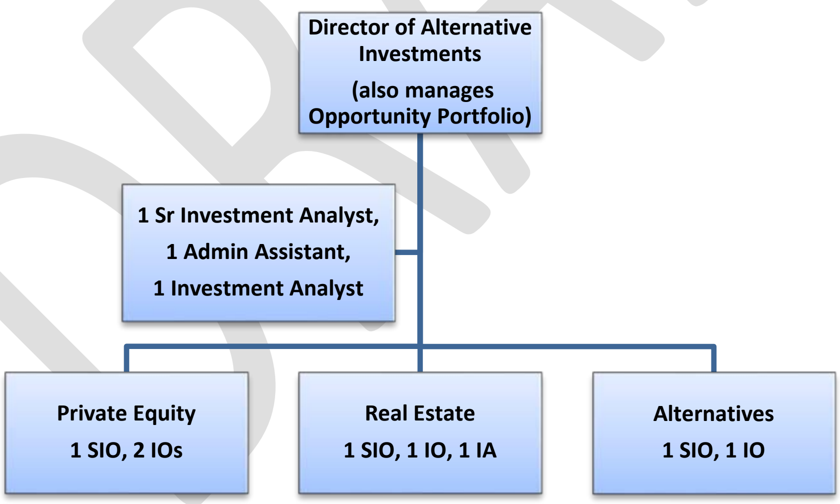

Over time, the Fund has become more diversified and complex: its percentage mix between traditional and alternative investments has evolved from a 85/15 split in 2004 to a roughly 60/40 today (i.e., approximately 60 percent in public equity and fixed income securities and 40 percent in private equity, real estate, alternatives, and opportunity investments).

**OPERF Alternative Investment Program**
**As of 6/30 Last 12 FY Ending Market Value in $Billion**

| | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Private Equity | $4.10 | $4.24 | $5.22 | $6.89 | $9.88 | $8.18 | $11.07 | $13.27 | $14.40 | $14.10 | $14.72 | $14.37 | $13.71 |
| Real Estate | $2.36 | $2.76 | $3.77 | $4.43 | $5.21 | $4.82 | $4.77 | $6.11 | $4.77 | $7.52 | $7.72 | $7.45 | $8.57 |
| Alternatives Portfolio | - | - | - | - | - | - | - | - | $0.42 | $0.62 | $1.16 | $1.61 | $3.00 |
| Opportunity Portfolio | - | - | - | $0.10 | $0.62 | $0.94 | $1.02 | $1.13 | $0.92 | $0.82 | $1.00 | $1.11 | $1.39 |
| Total Alt. Program | $6.47 | $7.00 | $8.99 | $11.42 | $15.71 | $13.94 | $16.86 | $20.51 | $20.51 | $23.06 | $24.60 | $24.54 | $26.68 |
| Total PERS | $45.11 | $49.48 | $55.74 | $64.28 | $60.61 | $45.32 | $50.86 | $59.59 | $57.90 | $63.05 | $70.84 | $70.79 | $68.89 |

*Source: custodian bank*

Subsequent to our 2013 review, and as part of the overall changes to the investment program, the AIP received additional positions including creation of a Director position that reports to the CIO and oversees the entire AIP. At present, the AIP's investment team consists of the Director of Alternative Investments, three Senior Investment Officers, four Investment Officers, a Senior Investment Analyst, an Investment Analyst, and an Administrative Assistant. In total, 12 staff members out of 24 front office professionals are dedicated to managing OPERF's AIP portfolios. In addition, TorreyCove Capital Partners (TorreyCove) is retained as the OIC's consultant and advises on the AIP's private equity, alternatives, and opportunity portfolios. Pension Consulting Alliance (PCA) serves as the OIC's real estate consultant, while Callan assists with certain alternatives portfolio strategies.






## Practices Related to OIC Oversight of Alternative Investments

### *Clarify and Document Expectations*

Defining roles is critical to the success of the program as role definition informs the overall collaboration of the OIC, its consultants and Treasury investment staff. Role definition also guides the adequacy of due diligence, and helps mitigate parties' unintended duplication of efforts and/or justify such duplication as a desired and important parallel process. Without role definition and clarity, staff members and consultants may not maximize the collective but ultimately limited resources available to the OIC. By clearly defining staff and consultant roles, the OIC can advance AIP objectives by defining each party's role and how each party's success will be determined and measured. Key elements to consider when defining roles and responsibilities include overall program objectives, strategy, operating and financial goals, and investment and capital allocation priorities.

Define Due Diligence Roles and Responsibilities

Through discussions with Treasury staff and OIC consultants as well as our review of current consulting contracts, we note that all parties' roles and responsibilities appear broadly defined. For example, consultant contracts provide Treasury staff with broad flexibility in terms of staff requests and expectations. While this flexibility is supportive of ad hoc procedures and work flow, it may also create inefficiencies and duplication of effort for both staff and consultants. Roles and responsibilities do not appear to be consistently defined, applied, or exercised by investment officers and consultants across individual investment opportunities and underwritings. At the asset class level, investment officers appear to have conflicting views on staff and consultant responsibilities. This dissonance may result in inconsistent due diligence efforts, creating unnecessary work or an unintended duplication of effort.

Based on our review, a significant amount of work is performed by staff and consultants in support of a GP investment proposal. By working with staff to establish and document the breadth and depth of expected due diligence, the OIC can rely that when it receives a GP's investment proposal, all requisite due diligence has been performed.

A strategic review of consultant relationships and objectives would serve the AIP well and result in better interest alignment and more efficient resource utilization. For example, if the objective is to manage a parallel due diligence process, Treasury should define baseline due diligence requirements. In a parallel process, these requirements would be similar or identical for staff and consultants. Upon completion of the parallel process, independent conclusions would be reached and subsequently compared. Currently, the process appears lacking both clarity and parallel structure.

> Recommendation: In coordination with the process to establish the allocation of resources, the OIC in consultation with staff and its consultants should establish the minimum and preferred levels of due diligence work required.
>
> Recommendation: The OIC should formalize the roles and responsibilities of all parties with respect to the due diligence process, and should work with staff and consultants to determine a preferred due diligence baseline and optimal resource allocation model.

### *Benchmarks*

Benchmarking provides one measure of an institution's current performance by compiling and comparing performance data, financial results, and other metrics. One challenging benchmark issue is properly defining the peer group against which measurements and comparisons are made. For example, Fund size, portfolio maturity and sector prohibitions may or may not be relevant benchmark criteria if an AIP objective is to capture non-correlated return streams with a view to moderating overall Fund volatility.

Comparing results to other institutions with similar objectives, portfolios and risk tolerances, can produce informative peer-relative performance assessments that illuminate areas of program strength and comparative advantage as well as highlight areas and opportunities for improvement. However, identifying a homogenous peer group remains difficult. For example, two large public pension plans may have similarly-sized alternative investment programs, but not be suitable and comparable peers due to differing investment mandates and program objectives.

Leading practices suggest performing an annual evaluation of benchmarks to confirm continued relevance and program alignment. For example, during the audit period, the real estate benchmark was revised. From our observations, it appears existing real estate benchmarks, as well as those for the other AIP sub-class categories, do not consistently match stated investment objectives. Consequently, use of these benchmarks may not promote or incentivize the desired program changes. Establishing benchmarks that are measurable and compatible to overall program objectives is paramount and should be revisited annually by Treasury and its staff. Many public pensions pursuing a traditional approach to benchmarking seem to lose sight of the fact that attempts to achieve benchmark outperformance may instead drive riskier investment behavior. Of course, benchmark changes will preclude previous year-over-year and certain peer group comparisons.

OPERF is currently facing challenges similar to that of other public pension plans undergoing key leadership, cultural, and strategy changes. Some of these changes are fundamental in nature and appear to have resulted from viewing pension performance in a more holistic manner with a focus on overall plan performance, asset allocation, and non-correlated return diversification. With respect to some of the AIP sub-class categories, in particular real estate, we observed that historically there may have been a significant focus on asset class performance without necessarily considering certain longer-term portfolio and Fund objectives.

This type of strategic thinking with respect to portfolio construction and overall Fund strategy is considered a leading practice, but it requires a realignment of incentives to encourage investment professionals to act in a manner that is not only focused on individual asset class returns but also on overall Fund volatility, diversification benefits and reinvestment risks.

> Recommendation: The OIC should work with staff and consultants to establish the types, objectives, and review frequency for benchmarks used to inform investment and Fund management decision making.

## Practices Related to Treasury Staff Due Diligence of Alternative Investments

### *Improve and Formalize Documentation*

Documentation provides a written account of activities as they happen, stands as written proof that something was done or said, provides the requisite support for a decision (besides verbal assurances), and supports planned or unplanned succession planning. For Treasury, documentation for due diligence performed not only provides an audit trail that allows for repeatability, but more importantly, supports investment decision making. Through our review and the explanations we have received, we understand Treasury staff performs extensive due diligence both with the assistance of consultants and independent thereof.

Establish Documentation Requirements for Investment Decisions

At this time, formal documentation procedures have not been implemented to encourage, increase, or require documentation to the level required to support the portion of the investment process managed by Treasury. The rationale for each investment recommendation was not always clearly documented, there were differences in approach across asset classes, and due diligence did not appear to be easily replicable. There currently is no standardized structure or minimum requirement for documenting the due diligence completed. We found the available documentation supporting an investment decision inconsistent and non-structured across the different asset classes and investment officers. In June of 2016, AIP members started using a standardized checklist to capture key documents in the due diligence process.

> Recommendation: Based on guidance from the OIC, Treasury staff should consistently determine and document its rationale for each investment recommendation. The requirements of this process should also allow for a necessary level of variance among the various alternative investment types.

Implement Due Diligence Questionnaire Review Form

A preliminary assessment form, documenting staff's review of the consultant's due diligence questionnaire, would provide a useful summary of initial findings, issues and necessary next steps. For example, this form would document staff's initial reaction to the GP's questionnaire responses and note areas for follow-up. Some of the recent investments we examined did include a review document, but this step was not consistently implemented.

The proposed preliminary assessment form (PAF) provides evidence demonstrating that staff have met the prudent investor rule with careful attention and reflection during the initial due diligence phases. The PAF would not only be helpful for auditors and third parties (e.g., consultants and advisors), but it would also become a useful internal reference document (e.g., for future re-ups). We recommend the PAF be completed and filed after receiving the completed due diligence questionnaire regardless of whether or not staff pursues further diligence in support of an investment recommendation. If used properly, the PAF could help focus and expedite the due diligence process and bolster the prudence of staff's underwriting efforts.

> Recommendation: Treasury staff should create a preliminary assessment form for all funds subject to initial due diligence efforts.

Implement Consultant Review Form

When working in this leveraged model with a third party, evaluation, review, and re-performance of the consultant's work may serve as a valuable tool for measuring and validating the effectiveness, accuracy, and completeness of work performed. Currently, Treasury staff reviews, evaluates, and re-performs certain steps completed by consultants, although this evaluation and re-performance remains primarily undocumented. In the event an investment is subject to *ex post* scrutiny, Treasury staff would most likely need to defer to the consultant given this lack of documentation for internal due diligence and consultant oversight.

> Recommendation: As part of its own due diligence process, Treasury staff should develop a standardized process for documenting its review of work performed by the consultant, including documenting what was reviewed, any areas of concern with the GP, and any necessary follow-up actions prior to making a final investment recommendation.

### *Review the Scope of Initial Due Diligence Review*

Establish Operational Due Diligence Review Practices

Requesting information about a GP's middle and back office operations is a standard practice and should be contained in the due diligence questionnaire. Our understanding is that Treasury staff and consultants are not consistently including these types of inquiries in their due diligence questionnaires or requesting or receiving middle and back office operations information from GPs. Responding to operational inquiries has traditionally been viewed as a back office activity for GPs and not considered in scope for investment due diligence. We recommend such operational inquiries be included in staff's and consultants' due diligence processes and any findings or concerns followed-up on. If staff does not inquire or review GPs' back office operations, Treasury could be exposed to otherwise preventable risks and potential losses. We understand operational inquiries do occur, but have not seen documented evidence thereof. We also note that regulators (and the SEC in particular) are increasing their scrutiny of private equity, efforts that will likely focus more attention on middle and back office operations.

> Recommendation: Treasury staff should expand due diligence practices to encompass all aspects of funds considered for investment. Risks associated with middle and back office operations should not be underestimated.

Perform Background Checks on High Risk Entities and Individuals

A standard step in today's investment environment particularly in the alternative assets space is the utilization of background checks to ensure that investors are aware of any legal or headline risks. We noted that the legal team is conducting legal research, and consultants are performing online searches, but currently there is no formal background check process. Background checks can be implemented using a risk-based approach. For example, emerging managers or new investment managers could potentially be riskier as opposed to household names with longer standing relationships and higher public profiles. Background checks are becoming a necessary step to meet the prudent investor rule under a variety of circumstances.

> Recommendation: Treasury staff should consider implementing a risk-based background check process for investments under consideration. If the decision is made that a background check is not required, the supporting rationale should be documented so that Treasury can demonstrate

a prudent decision was reached with the best knowledge at the time.

Increase Staffing and Consultant Support

Current staffing levels for the AIP are below peer benchmarks for both assets under management (AUM) per staff and the number of GP relationships per staff. In our analysis, the current staffing level is short nine FTE across the investment officer and investment analyst ranks. In addition, many of this report's previous recommendations (specifically, a more robust pre-investment due diligence program) will require additional personnel. Without these resources, the recommended due diligence steps become very difficult to conduct in conjunction with the underwriting and portfolio management activities for which existing staff is currently responsible. Staffing metrics such as AUM or number of GP relationships per individual investment officer should be reasonable to ensure that a) adequate oversight of existing investments is performed and b) all new investments receive a full and thorough review. Meeting these objectives will require additional AIP staff.

> Recommendation: Internal audit analysis suggests that additional resources are necessary to meet due diligence needs. AIP management has indicated that it will request approximately eight additional FTE for the 2017-19 biennium to address the resourcing needs.. Should the legislature not approve this request, Treasury staff will need to work with the OIC to determine and plan for an alternative approach.

### *Improve Employee Development Program*

Develop Employee Onboarding Procedures

Alternative investments in today's environment are a key allocation in almost all large pension plans. The need to hire skilled investment professionals in this space and continue developing AIP team members' skills is a crucial component of attracting and retaining talent and ensuring that investment management efforts remain consistent with the prudent person rule. The long-term career trajectory of investment professionals starts with how they are on-boarded into the investment program. As part of the onboarding process, requirements and guidelines should be established with respect to a minimum number of continuing professional development hours. Specifically, a training plan should be developed between employee and supervisor to ensure areas of weakness are addressed and fluency with current industry trends is maintained.

> Recommendation: Treasury investment staff should work with HR to develop a new employee orientation and onboarding process that provides the baseline information regarding the State of Oregon, Treasury, the AIP, and specific job assignments and responsibilities. This process will also enable identification of any areas of weakness on which early training efforts should focus.

Create a formal Employee Training Program

The Alternative investments realm, while broad and covering a variety of asset classes, does have the common thread of a continuing education need running through it. All well-founded training programs should offer both general training as part of career development and specific training related to individuals' expertise requirements. A well-structured training program should be developed to meet the continuing education needs of AIP investment professionals. This training should incorporate internal, as well as external sources, including system and non-system consultants and investment managers.

> Recommendation: Treasury investment staff should work with HR to create an employee-training program with suitable courses tailored to each employee's specific needs. As part of the performance management process, this program would ensure staff are and remain current with respect to the specific skills and experience that enable them to operate as prudent investors.

<u>Create a Management Development Program</u>
To ensure the organizational resiliency of the AIP, a strong staff development and succession planning process should be implemented. A program emphasizing both these elements will improve investment management consistency and continuity during periods of staff turnover. Training staff for increasing levels of responsibility fortifies the organization's institutional knowledge base and incentivizes individuals to stay and advance their careers with Treasury.

> Recommendation: Treasury staff should establish a management development program that enables the requisite level of organizational resiliency for continued AIP effectiveness.

# Current Status of Prior Report Recommendations

The last Operational Review was performed in 2012 and presented to the OIC in January 2013. That report contained 48 improvement recommendations. Varying levels of progress have been accomplished relative to the 2012 recommendations, and each 2012 recommendation was evaluated as part of the 2016 Operational Review. Recommendations from 2012 that remain outstanding are identified below in the Objective 1 section. While the Objective 1 focus area is virtually identical in the 2012 and 2016 reports, the Objective 2 focus area is completely different between the two reporting periods.

| | | High | Medium-High | Medium | Low-Medium | Total |
|---|---|---|---|---|---|---|
| | | Progress Made/ Total Recommendations | | | | |
| **2013 Objective 1 – *Evaluation of Practices for Ensuring Prudent Investment Management*** | | | | | | |
| | Organize | 0/0 | 0/2 | 0/3 | 0/1 | 0/6 |
| | Formalize | 1/2 | 0/0 | 1/4 | 1/1 | 3/7 |
| | Implement | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 |
| | Monitor | 0/1 | 2/2 | 0/2 | 0/1 | 2/6 |
| | *Objective 1 Subtotal* | 1/3 | 2/4 | 1/9 | 1/3 | 5/19 |
| **2013 Objective 2 – *Evaluation of Practices for Promoting Effective Operations*** | | | | | | |
| | Council Structure and Authority | 0/2 | 0/1 | 0/1 | 0/0 | 0/4 |
| | Investment Policies | 0/1 | 1/3 | 1/7 | 0/1 | 2/12 |
| | Investment Risk Management | 1/1 | 0/1 | 0/2 | 0/0 | 1/4 |
| | Investment Operations Management | 3/5 | 0/2 | 1/2 | 0/0 | 3/9 |
| | *Objective 2 Subtotal* | 4/9 | 1/7 | 2/12 | 0/1 | 7/29 |
| **Report Total** | | **5/12** | **3/11** | **3/21** | **1/4** | **12/48** |

In the 2012 report, nine high-risk recommendations were issued as part of Objective 2. Of those nine, two were resolved and progress was made on two others.

## High Risk Recommendations

The 2012 high-risk recommendations that were resolved include the creation of an investment risk management function, and the segregation of key front, middle and back office tasks. These recommendation resolutions were achieved through the implementation of the Aladdin platform, engagement of additional Blackrock Solutions middle office and risk management resources and addition of several new, dedicated Treasury staff positions in operations and compliance roles.

The 2012 Operation Review also recommended that the OIC pursue a new and more autonomous governance structure to ensure its ability to adequately resource the investment function and hence better fulfill the Council's fiduciary responsibilities. In response to this recommendation, Treasury and the OIC championed three legislative attempts to establish the investment program as a distinct and more autonomous operating entity, separate from Treasury. Since each of these attempts proved unsuccessful, the OIC still lacks a reliable means of managing investment division resources and remains dependent on the legislature's biennial budget and approval process.

Among those recommendations under its control, the OIC did not adopt a new education policy as recommended in the 2012 report; moreover, risks related to insufficient board education have increased since the 2012 report. As was noted earlier, the 39 year combined tenure of Council members in January 2013 is expected to fall to 7 years in January 2017. This institutional knowledge loss underscores the urgency for an effective initial and continuing education program. This program should also comprise annual ethics filings and fiduciary training as was previously recommended.

Two recommendations were made in 2012 regarding prohibited transactions, one focused on the OIC and the other on Treasury. Despite these recommendations, the OIC did not adopt a prohibited transactions policy, while Treasury has not yet updated its prohibited transactions policy to fully comply with current Rule 10b-5 requirements. We again recommended that the OIC and Treasury work with legal counsel to develop and adopt appropriate prohibited transactions policies.

Creation of a dedicated Enterprise Risk Management function was the remaining high-risk recommendation from 2012 not acted upon. Finally, one noteworthy medium-high recommendation from 2012 (and on which Treasury staff have recently begun work) was creation of an essential skills matrix to help inform the Governor's future Council member selection efforts.

# Appendix A – Summary of Opportunities for Improvement

| Observation | Recommendation | Risk Ranking[1] | Full Report Page # |
|---|---|---|---|
| Step 1 -Organize | | | |
| Ambiguities exist in elements of the delegation of contracting authority. | The OIC should clarify the delegation of authority for contracting decisions between the OIC and Treasury. | Medium | 11 |
| For the roles that are documented, there is no formal written acknowledgement by all parties of their duties and responsibilities. | The OIC should establish a formal process to document the acknowledgement of duties and responsibilities by all involved parties on an annual basis. | Medium High | 11 |
| Annual training regarding the ethics program is not required. | As part of the overarching OIC education program, members should consider attending annual training on applicable ethics laws and policies. | Medium High | 12 |
| Annual written or verbal acknowledgement of the ethics policy and attestation of compliance with the policy is not required. | The OIC should establish a formal process to document its members' acknowledgement of and compliance with the Council's ethics policy on an annual basis. | Medium | 12 |
| The delegation of authority for investment consultant and management contracts is clearly defined, but the delegation for other contracts is not formalized. | The OIC should clarify in policy the delegation of contracting authority and any associated limits and requirements. | Medium | 12 |
| Step 2 - Formalize | | | |
| Formal liquidity requirements have not been established to minimize disruptive trading and associated transaction costs. | The OIC should formalize liquidity requirements for each fund it oversees. | Medium | 13 |

[1] We evaluated the potential likelihood and impact of each observation to determine the level of risk implicitly accepted if no action is taken.

| Observation | Recommendation | Risk Ranking[1] | Full Report Page # |
|---|---|---|---|
| The focus of the asset allocation plan has been on the defined benefit plan, and has not included an analysis and consideration of Individual Account Plan (IAP) participants' varying time horizons. | The OIC, based on advice from Treasury staff and consultants, should consider changes to the IAP to ensure that suitable investment options exist which reflect participants' different time horizons and risk tolerance preferences. | Medium High | 13 |
| Staff reviews OPERF asset allocation annually with the OIC's general consultant and present any proposed modifications during a regular policy update presentation. However, the amount of information required, and the deliniation of responsibility for preparing and documenting this work are not currently contained in policy. | The OIC should work with Treasury staff and consultants to document requirements for the preparation, presentation and modification of asset allocation studies and recommendations. | High | 14 |
| Staffing constraints limit the level and type of internal management mandates as well as the timely implementation of this report's recommendations. | The OIC and Treasury management should seek budget approval from the legislature for additional staff to enable the continued and effective management of the investment program as well as for further implementation of industry best practices and cost saving measures. | High | 15 |
| Step 4 -Monitor | | | |
| The Due Diligence work that had previously been conducted by the compliance team has been suspended due to staff vacancies. | The OIC should instruct Treasury staff to establish an ongoing operational due diligence program that covers all asset classes and reviews managers' middle and back office support functions. | High | 18 |
| A formal system to monitor investment consultants has not been established. | The OIC should establish a formal review process for work performed by its investment consultants. | Medium | 18 |
| A process does not exist to review the custodian's internal control report and determine if any actions are necessary in response to the report's findings. | The OIC should instruct staff to establish a formal review process for work performed by the custodian, including a process to review the internal control reports from the custodian's independent auditors. | Medium | 18 |

| Observation | Recommendation | Risk Ranking[1] | Full Report Page # |
|---|---|---|---|
| In January 2016, the Institute of Limited Partners (ILPA) released its suggested guidance regarding fee reporting by General Partners (GPs). | The OIC should formally encourage General Partners (GPs) investing in private equity and other alternative asset classes to adopt the Institutional Limited Partners Association fee transparency template. | Medium | 19 |
| The OIC has established requirements for an annual review of the Treasury-staffed investment program, but the Council does not perform a self-evaluation of its own performance and effectiveness. | The OIC should adopt and conduct an annual self-assessment to evaluate its own performance and effectiveness. | Medium | 20 |
| Practices Related to OIC Oversight of the Alternative Investment Program (AIP) | | | |
| By working with staff to establish and document the breadth and depth of expected due diligence, the OIC can rely that when it receives a GPs investment proposal, all requisite due diligence work has been performed. | In coordination with the process to establish the allocation of resources, the OIC in consultation with staff and its consultants should establish the minimum and preferred levels of due diligence work required. | Medium High | 24 |
| A strategic review of consultant relationships and objectives would serve AIP well and result in better interest alignment and more efficient resource utilization. | The OIC should formalize the roles and responsibilities of all parties with respect to the due diligence process, and should work with staff and consultants to determine a preferred due diligence baseline and optimal resource allocation model. | Medium | 24 |
| An annual evaluation should be considered to confirm that AIP benchmarks maintain their relevance and continue to incentivize the desired direction of the program. | The OIC should work with staff and consultants to establish the types, objectives, and review frequency for benchmarks used to inform investment and Fund management decision making. | Medium | 25 |
| Practices Related to OST Staff and AIP Due Diligence | | | |

| Observation | Recommendation | Risk Ranking[1] | Full Report Page # |
|---|---|---|---|
| At this time, formal documentation procedures have not been implemented to encourage, increase, or require documentation to support the portion of the investment process managed by Treasury. | Based on guidance from the OIC, Treasury staff should consistently determine and document its rationale for each investment recommendation. The requirements of this process should also allow for a necessary level of variance among the various alternative investment types. | Medium High | 26 |
| A Preliminary Assessment Form (PAF), documenting staff's review of the due diligence questionnaire, would provide a useful summary of staff's initial findings, issues, and conclusions. | Treasury staff should create a preliminary assessment form for all funds subject to initial due diligence efforts. | Medium | 26 |
| Treasury staff currently reviews, evaluates, and re-performs certain steps completed by consultants, but this work is largely undocumented. | As part of its own due diligence process, Treasury staff should develop a standardized process for documenting its review of work performed by the consultant, including documenting what was reviewed, any areas of concern with the GP, and any necessary follow-up actions prior to making a final investment recommendation. | Medium | 27 |
| Requesting information about a GP's middle- and back-office operations is a standard practice and should be contained in the due diligence questionnaire, yet our understanding is that Treasury staff and consultants are not consistently including these types of inquiries in their due diligence questionnaires or requesting or receiving this information. | Treasury staff should expand due diligence practices to encompass all aspects of funds considered for investment. Risks associated with middle and back office operations should not be underestimated. | Medium High | 27 |

| **Observation** | **Recommendation** | **Risk Ranking**[1] | **Full Report Page #** |
|---|---|---|---|
| A standard step in today's investment environment particularly in the alternative assets space is the utilization of background checks to ensure that investors are aware of any legal or headline risks. We noted that the legal team is conducting legal research, and consultants are performing online searches, but currently there is no formal background check process. | Treasury staff should consider implementing a risk-based background check process for investments under consideration. If the decision is made that a background check is not required, the supporting rationale should be documented so that Treasury can demonstrate a prudent decision was reached with the best knowledge at the time. | Medium | 27 |
| Current staffing levels for the AIP are below peer benchmarks for both assets under management and the number of GP relationships per staff. In our analysis, the current staffing level is short nine FTE across the investment officer and investment analyst ranks. | Internal audit analysis suggests that additional resources are necessary to meet due diligence needs. AIP management has indicated that it will request approximately eight additional FTE for the 2017-19 biennium to address the resourcing needs. Should the legislature not approve this request, Treasury staff will need to work with the OIC to determine and plan for an alternative approach. | Medium High | 28 |
| The long-term career trajectory of investment processionals starts with how they are on boarded into the investment program. As part of the onboarding process, requirements and guidelines should be established with respect to a minimum number of continuing professional development hours. | Treasury investment staff should work with HR to develop a new employee orientation and onboarding process that provides the baseline information regarding the State of Oregon, Treasury, the AIP, and specific job assignments and responsibilities. This process will also enable identification of any areas of weakness on which early training efforts should focus. | Medium | 28 |

| Observation | Recommendation | Risk Ranking[1] | Full Report Page # |
|---|---|---|---|
| The Alternative investments realm, while broad and covering a variety of asset classes, does have the common thread of a continuing education need running through it. All well-founded training programs should offer both general training as part of career development and specific training related to individuals' expertise requirements. | Treasury investment staff should work with HR to create an employee-training program with suitable courses tailored to each employee's specific needs. As part of the performance management process, this program would ensure staff are and remain current with respect to the specific skills and experience that enable them to operate as prudent investors. | Medium High | 29 |
| To ensure the organizational resiliency of the AIP, a strong staff development and succession planning process should be implemented. | Treasury staff should establish a management development program that enables the requisite level of organizational resiliency for continued AIP's effectiveness. | Medium | 29 |

# The Periodic Table of Global Fiduciary Practices

↑ - Better rating than Last Report
no arrow - Same rating as Last Report
↓ - Worse rating than Last Report

- Fully Conforms
- Opportunity for Improvement
- Non Conformance

## 1 ORGANIZE

**Practice SA-1.1**
Investments are managed in accordance with applicable laws, trust documents, and written IPS.

**Practice SA-1.2**
The Roles and responsibilities of all involved parties are defined, documented, and acknowledged.

**Practice SA-1.3**
Fiduciaries and parties in interest are not involved in self-dealing.

**Practice SA-1.4**
Service agreements and contracts are in writing, and do not contain provisions that conflict with fiduciary standards of care.

**Practice SA-1.5**
Assets are within the jurisdiction of courts, and are protected from theft and embezzlement.

## 2 FORMALIZE

**Practice SA-2.1**
An investment time horizon has been identified.

**Practice SA-2.2 ↑**
A risk level has been identified.

**Practice SA-2.3**
An expected, modeled return to meet investment objectives has been identified.

**Practice SA-2.4**
Selected asset classes are consistent with the identified risk, return, and time horizon.

**Practice SA-2.5**
Selected asset classes are consistent with implementation and monitoring constraints.

**Practice SA-2.6 ↑**
There is an IPS which contains the detail to define, implement, and manage a specific investment strategy.

**Practice SA-2.7**
The IPS defines appropriately structured, socially responsible investment (SRI) strategies (where applicable).

## 3 IMPLEMENT

**Practice SA-3.1**
The investment strategy is implemented in compliance with required level of prudence.

**Practice SA-3.2**
Applicable "safe harbor" provisions are followed (when elected).

**Practice SA-3.3**
Investment vehicles are appropriate for the portfolio size.

**Practice SA-3.4**
A due diligence process is followed in selecting service providers, including the custodian.

## 4 MONITOR

**Practice SA-4.1**
Periodic reports compare investment performance against appropriate index, peer group, and IPS objectives.

**Practice SA-4.2**
Periodic reviews are made of qualitative and/or organizational changes of investment decision-makers.

**Practice SA-4.3 ↑**
Control procedures are in place to periodically review policies for best execution, "soft dollars," and proxy voting.

**Practice SA-4.4 ↓**
Fees for investment management are consistent with agreements and with all applicable laws.

**Practice SA-4.5**
"Finder's Fees" or other forms of compensation that may have been paid for asset placement are appropriately applied, utilized, and documented.

**Practice SA-4.6**
There is a process to periodically review the organization's effectiveness in meeting its fiduciary responsibilities.

fi360 global fiduciary insights

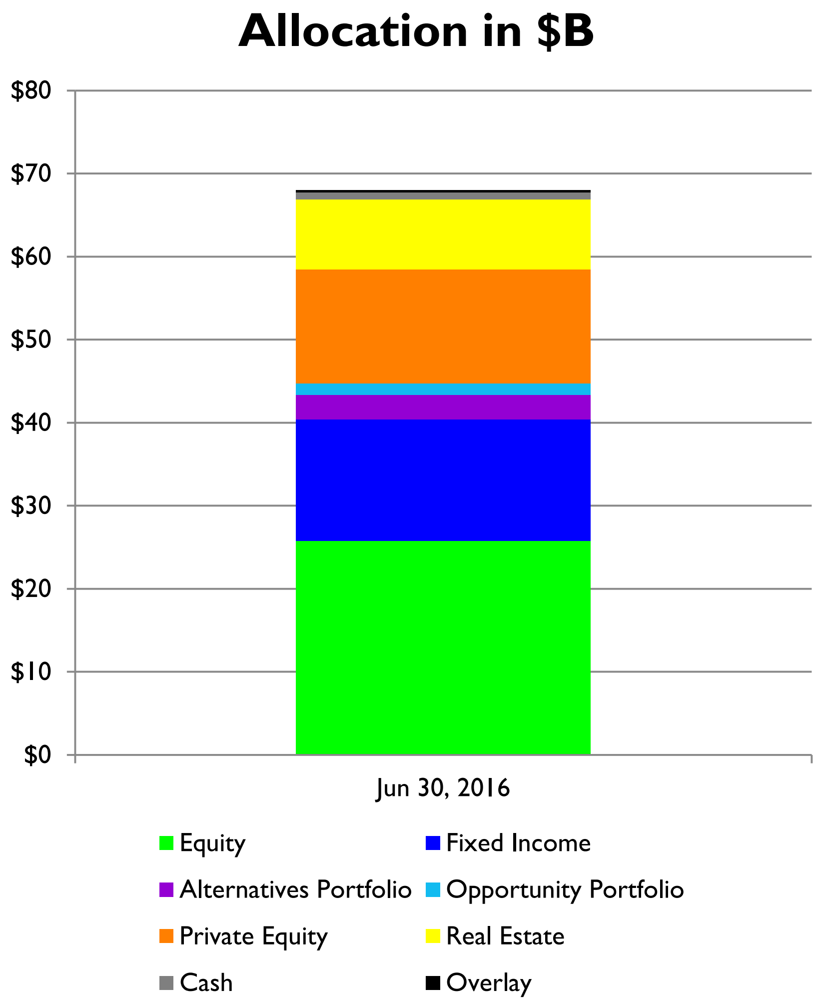
CEFEX CENTRE FOR FIDUCIARY EXCELLENCE

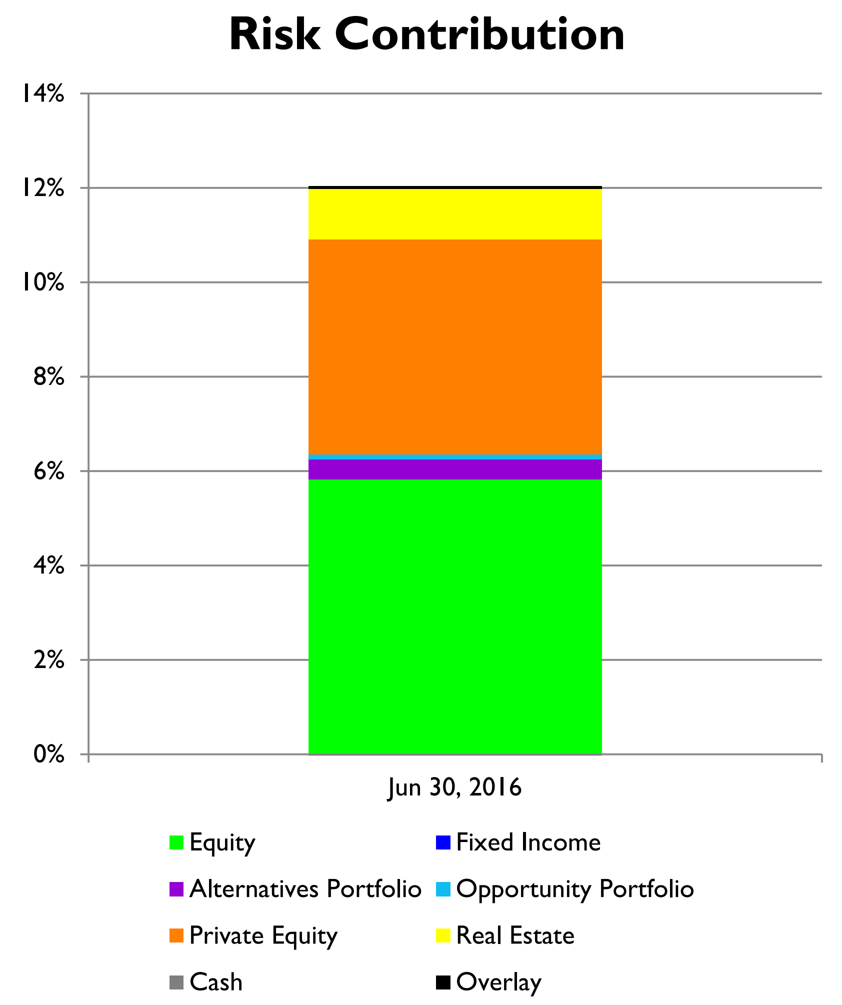
# TAB 8 - Performance & Risk Report
# OPERF, Q2 2016

# 2016 Q2 OPERF Risk Dashboard

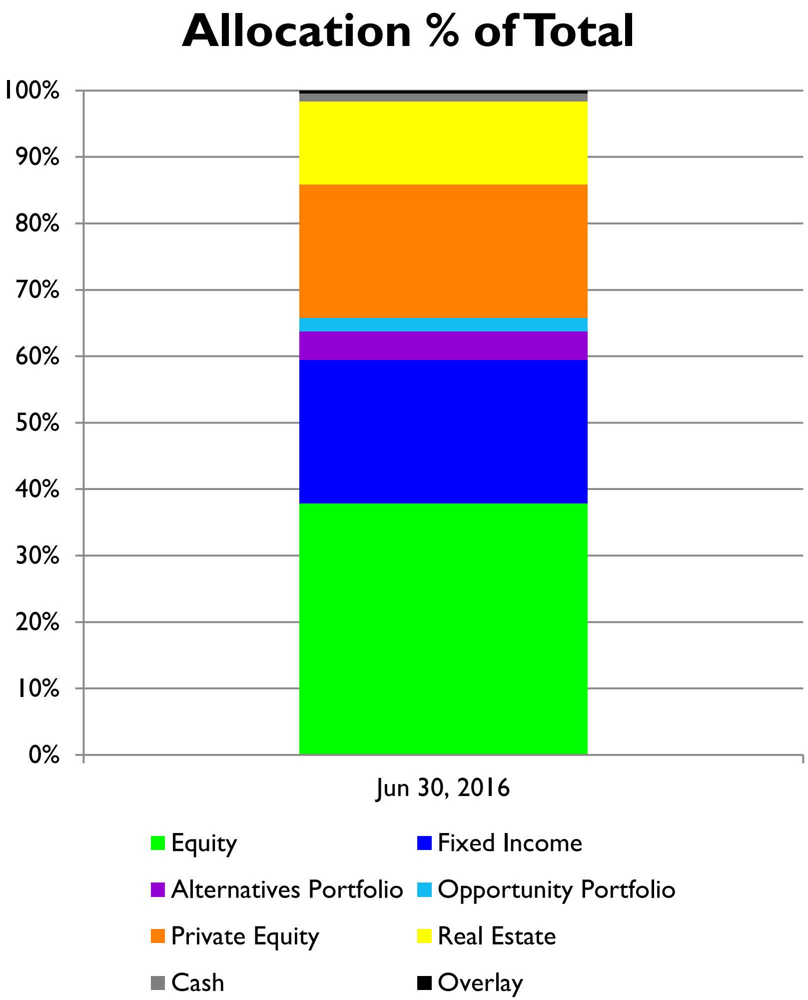
September 14, 2016

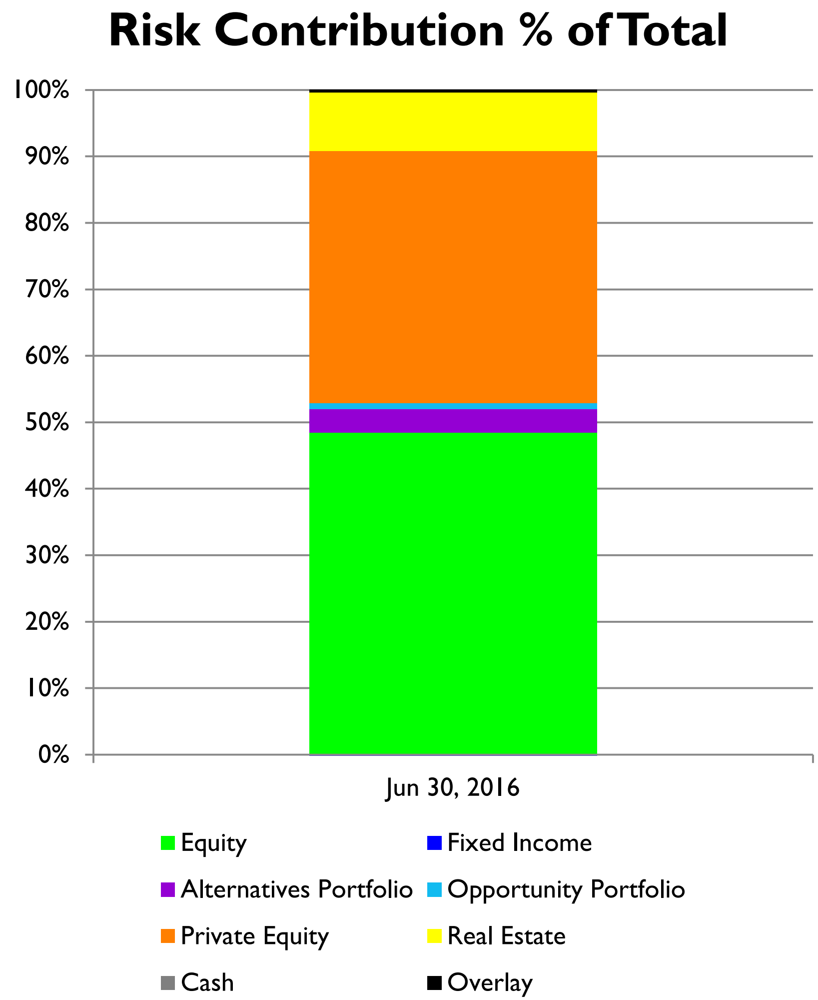
# Capital Allocation & Risk Contribution by Asset Class



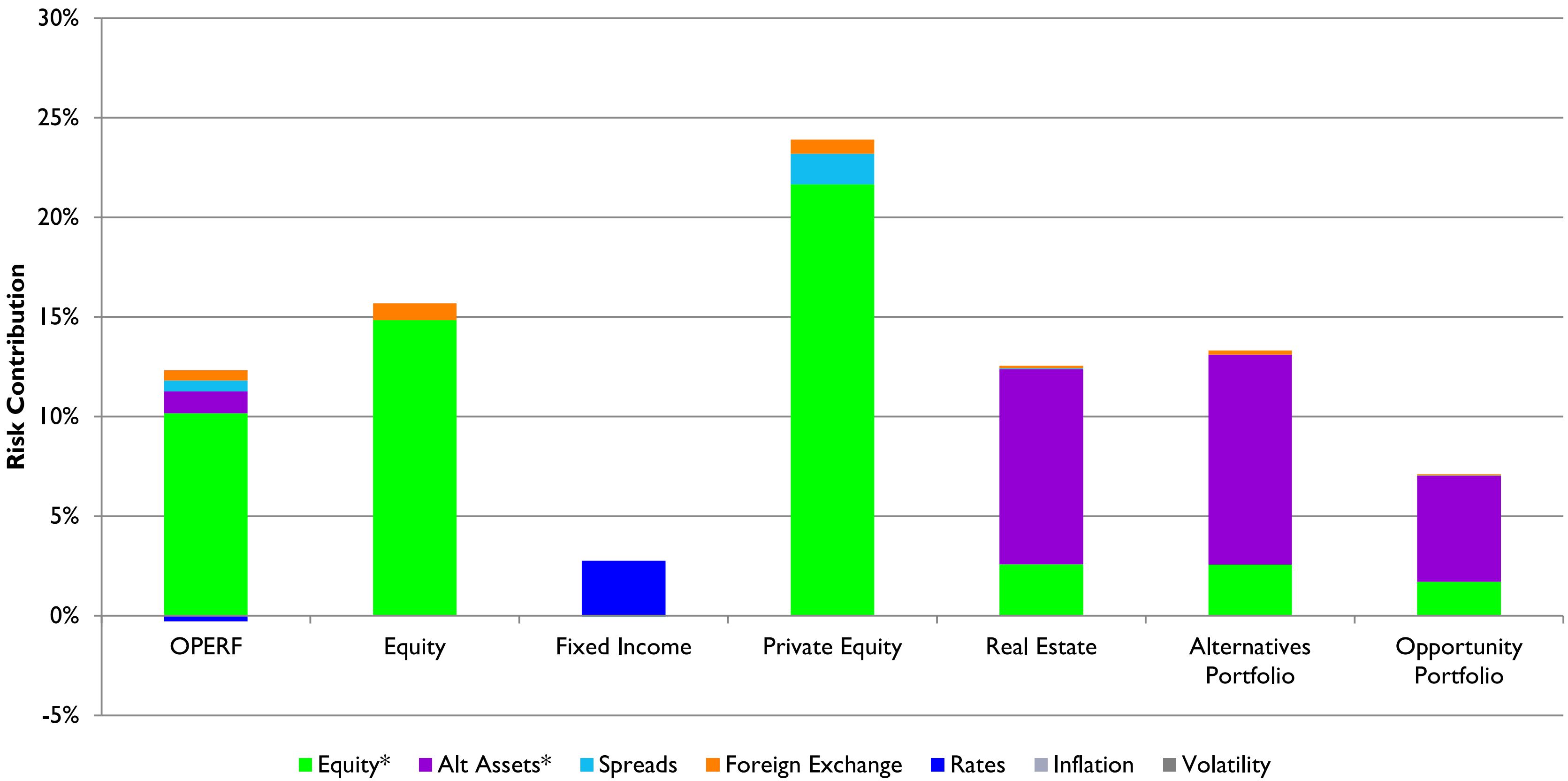



# Scaled Capital Allocation & Risk Contribution by Asset Class



# Risk Contribution by Factor Group



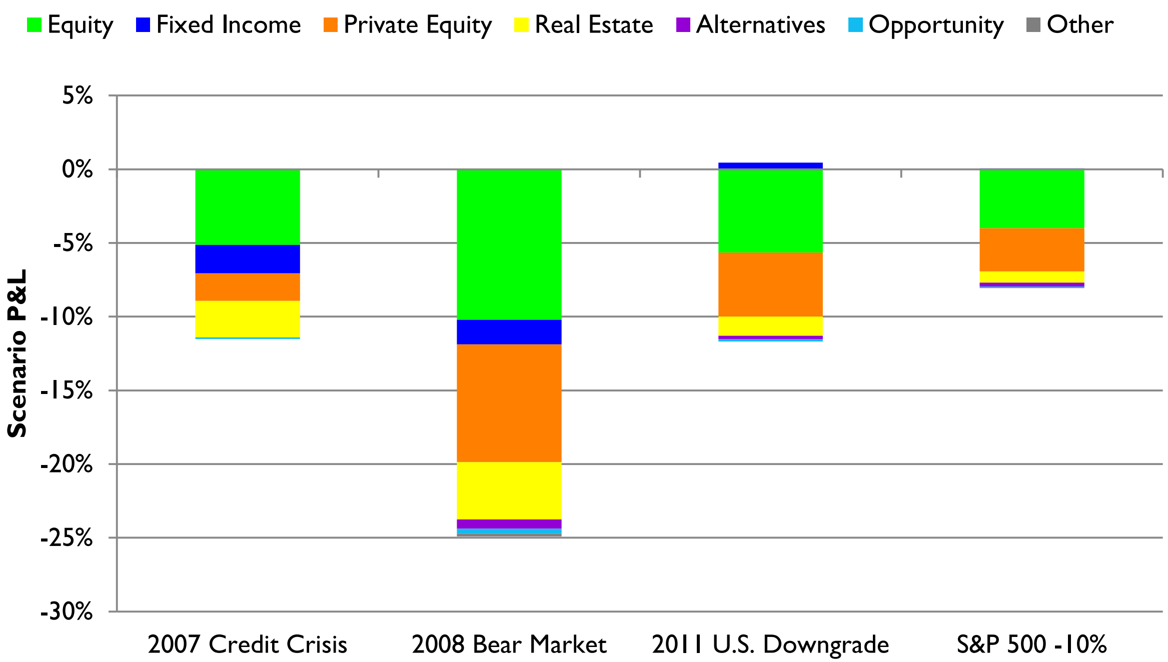

*Aladdin's Alternative risk factor group includes Private Equity, Real Estate, and Hedge Fund risk factors; however, Private Equity risk factors are highly correlated to Public Equity risk factors. In the above chart, Equity includes both Public & Private Equity while Alt Assets includes all other Alternative risk factors.

# Correlation Matrix by Asset Class

| Jun 30, 2016 | Equity | Fixed Income | Alternatives Portfolio | Opportunity Portfolio | Private Equity | Real Estate | OPERF |
|---|---|---|---|---|---|---|---|
| Equity | 1.00 | -0.11 | 0.68 | 0.71 | 0.88 | 0.63 | **0.97** |
| Fixed Income | | 1.00 | 0.06 | 0.06 | -0.15 | 0.15 | **-0.04** |
| Alternatives Portfolio | | | 1.00 | 0.68 | 0.68 | 0.44 | **0.73** |
| Opportunity Portfolio | | | | 1.00 | 0.70 | 0.40 | **0.74** |
| Private Equity | | | | | 1.00 | 0.53 | **0.95** |
| Real Estate | | | | | | 1.00 | **0.69** |
| **OPERF** | | | | | | | **1.00** |

- Ex-Ante, holdings-based correlations between asset classes as estimated by Aladdin.

# Scenario Analysis with Performance Contributions by Asset Class




| | 2007 Credit Crisis | 2008 Bear Market | 2011 U.S. Downgrade | S&P 500 -10% |
|---|---|---|---|---|
| Equity | -5.1% | -10.2% | -5.7% | -4.0% |
| Fixed Income | -1.9% | -1.7% | 0.5% | 0.1% |
| Private Equity | -1.9% | -8.0% | -4.3% | -2.9% |
| Real Estate | -2.5% | -3.9% | -1.3% | -0.8% |
| Alternatives | 0.0% | -0.6% | -0.2% | -0.3% |
| Opportunity | -0.1% | -0.3% | -0.2% | -0.1% |
| Other | 0.0% | -0.2% | 0.0% | -0.1% |
| **Total** | **-11.5%** | **-24.9%** | **-11.2%** | **-8.0%** |

**Scenario Definitions**

**2007 Credit Crisis**: June 29, 2007 to July 1, 2008. Credit & liquidity crisis stemming from a severe slowdown in the housing market causing significant spread widening and increased implied volatility.

**2008 Market Crash**: September 12, 2008 to November 3, 2008. Credit and liquidity crisis and equity market crash set off by Lehman Brothers bankruptcy. Significant spread widening caused by massive deleveraging.

**2011 US Downgrade**: July 21, 2011 to September 20, 2011. The period starts with a 50% chance of a U.S. downgrade by S&P and ends with the announcement of "Operation Twist" by the Fed. U.S. stock market incurred losses while U.S. bonds rallied on flight-to-safety flows.

# Liquidity Report

| | Liquidity ($M) | | | | | |
|---|---|---|---|---|---|---|
| **Asset Class** | **1 Week** | **1 Month** | **1 Quarter** | **∞** | **Uncalled Commitment** | **Next 12 Months** |
| Cash & Overlay | 1,264 | | | | | |
| Public Equity | 23,421 | *1,535* | *969* | | | |
| Fixed Income | 10,775 | *3,630* | | | | |
| Private Equity | | | | 13,711 | -9,520 | |
| Real Estate | *2,083* | | | 6,490 | -2,522 | |
| Alternatives | *200* | | | 2,803 | -2,600 | |
| Opportunity | | | | 1,391 | -669 | |
| Pension Benefits | | | | | | -3,000 |
| **Total** | 37,744 | 5,165 | 969 | 24,395 | -15,311 | -3,000 |

*Public Equity - 1 Month = AQR 130/30, Arrowstreet 130/30, & Callan US Micro Cap Value portfolios*

*Public Equity - 1 Quarter = Lazard Closed-End Fund & Wells Cap Mgmt Closed-End Fund portfolios*

*Fixed Income - 1 Month = Below Investment Grade*

*Real Estate - 1 Week = REIT composite*

*Alternatives - 1 Week = SailingStone*

- Chart periods approximate the time required to liquidate different OPERF allocations.

# Top 10 Exposures by Investment Firm

| Rank | Asset Manager | Mkt Val ($mm) | MV Weight | Asset Class(es) |
|---|---|---|---|---|
| 1 | Internally-Managed | 5,784 | 8.5% | Cash, Public Equity |
| 2 | BlackRock | 4,286 | 6.3% | Fixed Income, Public Equity |
| 3 | Dimensional Fund Advisors | 4,195 | 6.2% | Public Equity |
| 4 | KKR | 4,141 | 6.1% | Fixed Income, Private Equity |
| 5 | AB (f/k/a AllianceBernstein) | 3,460 | 5.1% | Fixed Income, Public Equity |
| 6 | Wellington | 3,080 | 4.5% | Fixed Income, Public Equity |
| 7 | Western Asset Management | 2,703 | 4.0% | Fixed Income |
| 8 | AQR | 2,215 | 3.2% | Alternatives, Public Equity |
| 9 | Oak Hill Advisors | 1,652 | 2.4% | Fixed Income, Private Equity |
| 10 | Arrowstreet Capital | 1,602 | 2.3% | Public Equity |

Callan
FORTY YEARS

September 14, 2016

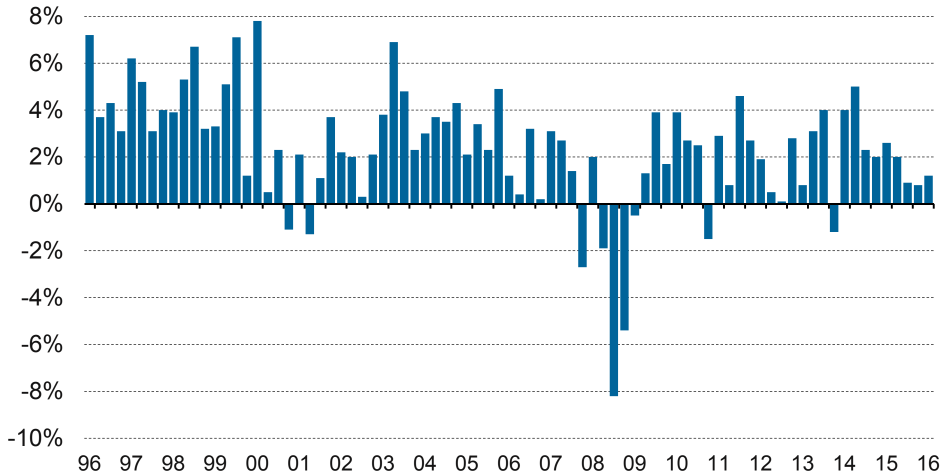
# Oregon Investment Council

## Second Quarter 2016
## Performance Review

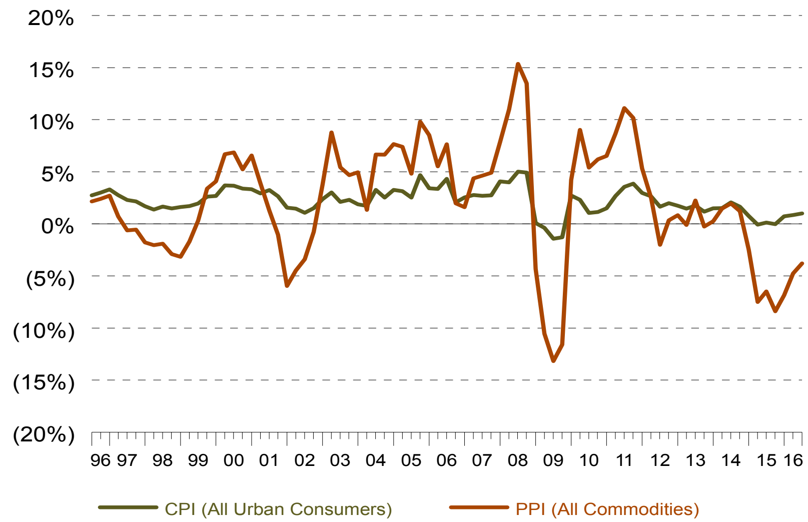
# Economic Commentary

## Second Quarter 2016

**Quarterly Real GDP Growth (20 Years)**




**Inflation Year-Over-Year**




Source: Bureau of Economic Analysis, Bureau of Labor Statistics

- The US economy appeared to be carrying on, as indicators pointed toward the strongest growth in consumption in a decade. Unfortunately, the first estimate of second quarter GDP growth was disappointing at just 1.2%, despite consensus expectations for a rate of 2% or higher. The revision to the first quarter result was also disappointing, pulled down from 1.1% to just 0.8%.

- The job market faltered during the second quarter and was likely a primary factor in derailing what looked to be a certain Fed rate hike in June. April job gains slowed to 144,000 after averaging close to 200,000 during the first quarter, and then plummeted to just 11,000 in May, before recovering to 287,000 in June. The unemployment rate remains below 5%, although it bounced up from 4.7% to 4.9%, as more people re-joined the workforce.

- Inflation remains tame. For the trailing 12 months ended June, headline CPI was +1.0%, and Core CPI (excluding food and energy) registered at +2.2%, even with higher energy prices.

# Market Summary – Second Quarter 2016

| Index | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years | Last 15 Years |
|---|---|---|---|---|---|---|
| **U.S. Equity:** | | | | | | |
| Russell:3000 Index | 2.63 | 2.14 | 11.13 | 11.60 | 7.40 | 6.09 |
| S&P:500 | 2.46 | 3.99 | 11.66 | 12.10 | 7.42 | 5.75 |
| Russell:1000 Index | 2.54 | 2.93 | 11.48 | 11.88 | 7.51 | 6.02 |
| Russell:1000 Growth | 0.61 | 3.02 | 13.07 | 12.35 | 8.78 | 5.50 |
| Russell:1000 Value | 4.58 | 2.86 | 9.87 | 11.35 | 6.13 | 6.38 |
| Russell:Midcap Index | 3.18 | 0.56 | 10.80 | 10.90 | 8.07 | 8.68 |
| Russell:Midcap Growth | 1.56 | (2.14) | 10.52 | 9.98 | 8.12 | 6.99 |
| Russell:Midcap Value | 4.77 | 3.25 | 11.00 | 11.70 | 7.79 | 9.50 |
| Russell:2000 Index | 3.79 | (6.73) | 7.09 | 8.35 | 6.20 | 6.96 |
| Russell:2000 Growth | 3.24 | (10.75) | 7.74 | 8.51 | 7.14 | 5.91 |
| Russell:2000 Value | 4.31 | (2.58) | 6.36 | 8.15 | 5.15 | 7.73 |
| **U.S. Fixed Income:** | | | | | | |
| Barclays:Aggregate Index | 2.21 | 6.00 | 4.06 | 3.76 | 5.13 | 5.08 |
| Barclays:Gov/Credit Bond | 2.67 | 6.70 | 4.20 | 4.11 | 5.22 | 5.19 |
| Barclays:Gov/Credit Long | 6.55 | 15.72 | 9.33 | 9.18 | 8.42 | 7.88 |
| Barclays:Gov/Credit 1-3 | 0.67 | 1.59 | 1.22 | 1.10 | 2.80 | 3.03 |
| Barclays:Credit | 3.48 | 7.55 | 5.26 | 5.20 | 6.11 | 5.96 |
| Barclays:Mortgage Idx | 1.11 | 4.34 | 3.76 | 3.01 | 4.96 | 4.86 |
| Barclays:High Yld Corp | 5.52 | 1.62 | 4.18 | 5.84 | 7.56 | 7.93 |
| Barclays:US Universal Idx | 2.53 | 5.82 | 4.19 | 4.01 | 5.30 | 5.33 |
| **Real Estate:** | | | | | | |
| NCREIF:Total Index | 2.03 | 10.64 | 11.61 | 11.51 | 7.40 | 8.91 |
| FTSE:NAREIT Composite Idx | 7.54 | 22.72 | 12.84 | 12.02 | 6.75 | 10.66 |
| **Global Equity:** | | | | | | |
| MSCI:ACWI Gross | 1.19 | (3.17) | 6.60 | 5.95 | 4.82 | 5.51 |
| MSCI:ACWI IMI | 1.06 | (3.87) | 6.13 | 5.43 | 4.48 | 5.48 |
| **Non-U.S. Equity:** | | | | | | |
| MSCI:EAFE | (1.46) | (10.16) | 2.06 | 1.68 | 1.58 | 4.32 |
| MSCI:EAFE LC | (0.74) | (10.19) | 5.78 | 6.21 | 2.09 | 2.64 |
| MSCI:ACWIxUS Gross | (0.40) | (9.80) | 1.62 | 0.56 | 2.33 | 5.41 |
| MSCI:ACWI ex US LC | (0.10) | (9.20) | 5.40 | 4.98 | 2.76 | 3.64 |
| MSCI:ACWI ex US Small Cap | (0.87) | (5.46) | 4.93 | 2.28 | 4.08 | 8.71 |
| MSCI:EM Gross | 0.80 | (11.71) | (1.21) | (3.44) | 3.88 | 9.46 |
| **Other:** | | | | | | |
| 3 Month T-Bill | 0.07 | 0.19 | 0.09 | 0.09 | 1.04 | 1.44 |
| US DOL:CPI All Urban Cons | 1.22 | 1.01 | 1.06 | 1.32 | 1.74 | 2.04 |

- The quarter started out was relatively uneventfully until June 23rd when British voters narrowly approved a referendum to leave the EU. Most British and European citizens, as well government leaders throughout the globe, were certain that the UK would remain in the EU only to be gobsmacked by news of “Brexit” passing. The S&P 500 suffered its worst start to a year ever, falling over 10% through February 11th only to rally 12% and close the quarter up 1.3%.
- As a result of the vote, global bond yields fell to record lows, the British pound fell to a 31-year low versus the dollar with an intra-day swing of more than 10%, and global equity markets plunged but then quickly gained back much of what they lost over a period of a week.
- Global bond yields in other developed markets also hit record lows and the German 10-year bund closed the quarter at -0.13%. In Switzerland, the entire stock of government debt now trades at negative yields, and negative yielding government debt surged to nearly $12 trillion in the wake of the referendum. Euro zone countries continued to grapple with 10% unemployment. While Japan posted a relatively good 1st quarter GDP number (+1.9%), it faces growing challenges from a strengthening yen and its 2% inflation goal remains elusive.
- The US economy continued to plod along with a Fed hike in June looking possible until an unexpectedly weak labor report for May was released. Non-farm payrolls increased by only 38,000 in May, the lowest increase since 2010 and well below estimates for 155,000. However, other data appeared more promising.
- First-quarter GDP was revised to +1.1% with stronger exports and business investment offsetting a decline in consumer spending. Ism readings exceeded expectations and rose to a 16-month high suggesting that manufacturing may have bottomed. And housing also remained positive with both new home sales and pending home sales recovering from sluggish growth in previous months.

# Market Summary

## Second Quarter 2016

| Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|
| ML:High Yield CP Idx 5.8% | NFI-ODCE Val Gross 11.8% | NFI-ODCE Val Gross 13.0% | NFI-ODCE Val Gross 12.7% | S&P:500 7.4% |
| Russell:2000 Index 3.8% | Barclays:Aggregate Index 6.0% | S&P:500 11.7% | S&P:500 12.1% | Russell:3000 Index 7.4% |
| Russell:3000 Index 2.6% | S&P:500 4.0% | Russell:3000 Index 11.1% | Russell:3000 Index 11.6% | ML:High Yield CP Idx 7.4% |
| S&P:500 2.5% | Russell:3000 Index 2.1% | Russell:2000 Index 7.1% | Russell:2000 Index 8.4% | Russell:2000 Index 6.2% |
| Barclays:Aggregate Index 2.2% | ML:High Yield CP Idx 1.7% | ML:High Yield CP Idx 4.2% | ML:High Yield CP Idx 5.7% | NFI-ODCE Val Gross 6.2% |
| NFI-ODCE Val Gross 2.1% | 3 Month T-Bill 0.2% | Barclays:Aggregate Index 4.1% | Barclays:Aggregate Index 3.8% | Barclays:Aggregate Index 5.1% |
| MSCI:EM Gross 0.8% | Russell:2000 Index (6.7%) | MSCI:ACWI ex US 1.2% | MSCI:ACWI ex US 0.1% | MSCI:EM Gross 3.9% |
| 3 Month T-Bill 0.1% | MSCI:ACWI ex US (10.2%) | 3 Month T-Bill 0.1% | 3 Month T-Bill 0.1% | MSCI:ACWI ex US 1.9% |
| MSCI:ACWI ex US (0.6%) | MSCI:EM Gross (11.7%) | MSCI:EM Gross (1.2%) | MSCI:EM Gross (3.4%) | 3 Month T-Bill 1.0% |

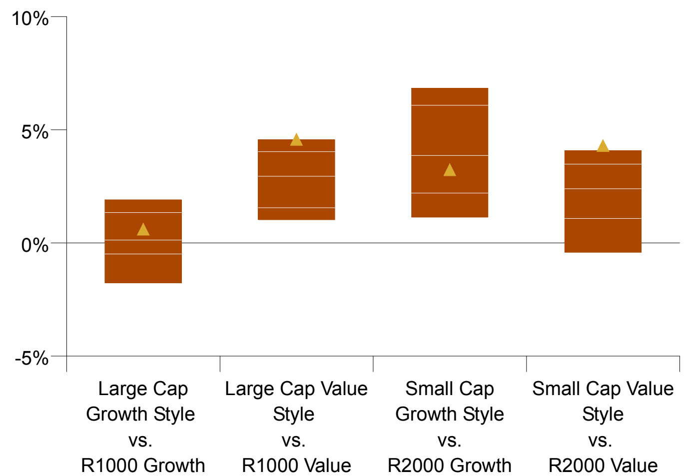
# US Equity

## Second Quarter 2016

- The second quarter was reasonably uneventful until June 23, when British voters narrowly approved the "Brexit" referendum and investor complacency was replaced with shock. While markets stabilized to some degree in ensuing days, much uncertainty remains around this outcome, and we can expect continued volatility as the process unfolds over the foreseeable future.

- US equity index performance was positive for the quarter, but masked significant volatility. The S&P 500 staged a strong recovery in the wake of the sharp Brexit-related decline in late June, and closed up 2.5% for the quarter. Value exceeded Growth across market capitalizations with the largest difference seen in large caps as the Russell 1000 Value outperformed its growth counterpart by 4.0%.

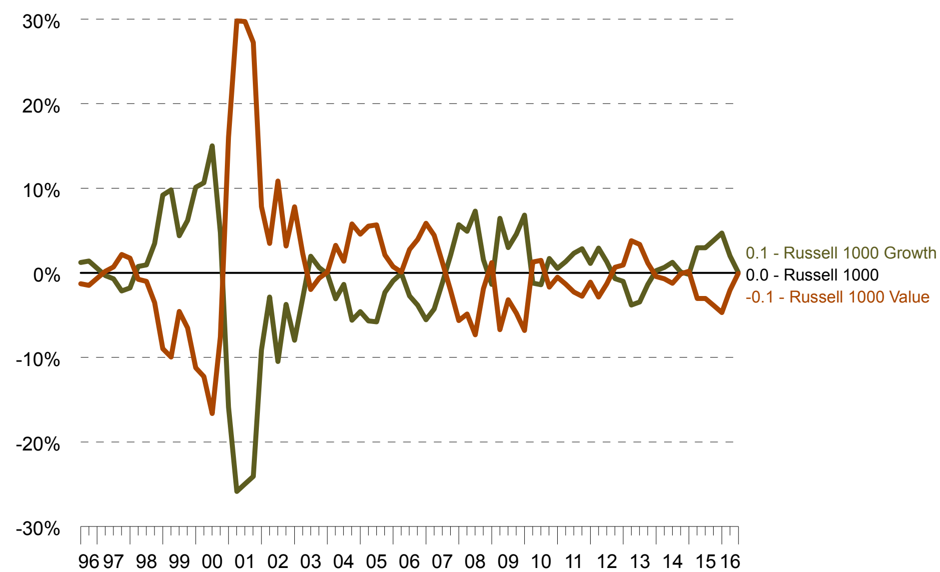
### Callan Style Group Quarterly Returns




| | Large Cap Growth Style vs. R1000 Growth | Large Cap Value Style vs. R1000 Value | Small Cap Growth Style vs. R2000 Growth | Small Cap Value Style vs. R2000 Value |
|---|---|---|---|---|
| 10th Percentile | 1.91 | 4.57 | 6.84 | 4.08 |
| 25th Percentile | 1.35 | 4.04 | 6.08 | 3.48 |
| Median | 0.14 | 2.95 | 3.87 | 2.40 |
| 75th Percentile | -0.48 | 1.56 | 2.21 | 1.09 |
| 90th Percentile | -1.76 | 1.02 | 1.14 | -0.41 |
| Benchmark ▲ | 0.61 | 4.58 | 3.24 | 4.31 |

Source: Callan, Russell Investment Group

### Rolling One-Year Relative Returns (versus Russell:1000 Index)

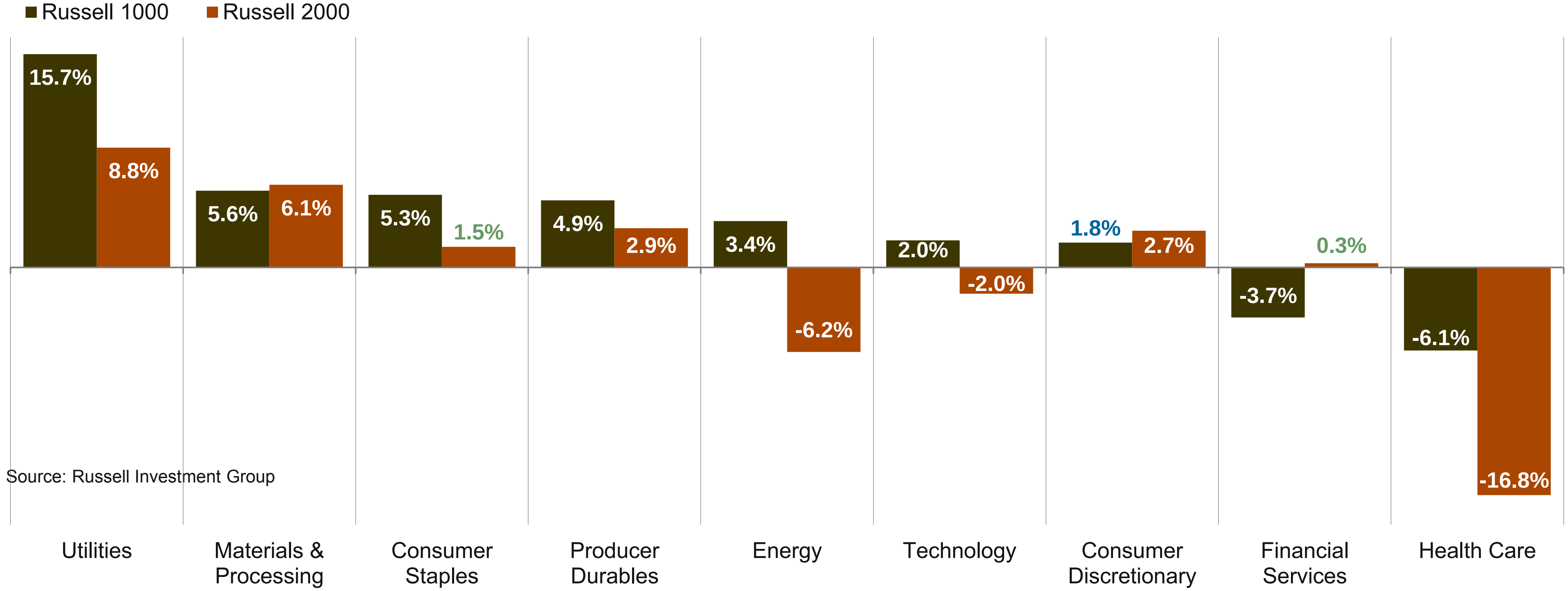



Source: Russell Investment Group

# US Equity

## Second Quarter 2016

### Economic Sector Returns



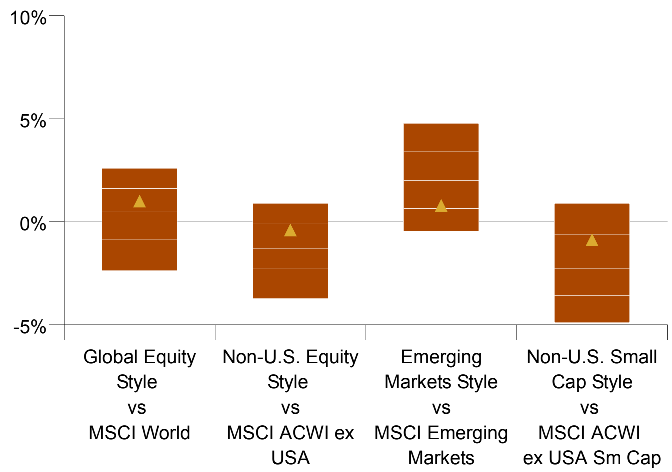

- With economic uncertainty and lower interest rates in the foreseeable future, defensive and higher yielding areas of the market did well: Utilities, Telecommunications, Health Care, and Consumer Staples. Factors like low beta and high dividend yield were in favor and boosted the performance of these sectors.
- Financials lagged, mostly due to a tough June—both the Brexit crisis and absent interest rate hike were the culprits. Health Care and Technology, large sectors in the growth benchmark, were dragged down by the pharmaceuticals/ biotechnology and hardware and equipment industries, respectively.

# Non-US Equity

## Second Quarter 2016

- Despite the Brexit vote, the MSCI ACWI ex USA (-0.4%) ended the quarter only slightly negative buoyed by dovish central bank policies as well as a strong rebound in commodity prices.
- The MSCI Emerging Markets Index (+0.8%) bested its developed counterparts in the MSCI World ex USA (-1.1%).
- As Brexit dominated the headlines, European equity markets fell sharply only to rally in the final few days and the MSCI Europe Index finished the quarter down -2.7%.

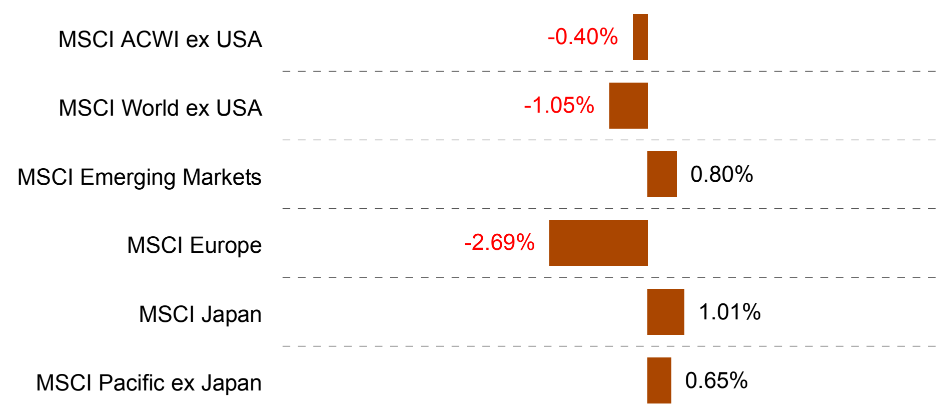
**Callan Style Group Quarterly Returns**




| | Global Equity Style vs MSCI World | Non-U.S. Equity Style vs MSCI ACWI ex USA | Emerging Markets Style vs MSCI Emerging Markets | Non-U.S. Small Cap Style vs MSCI ACWI ex USA Sm Cap |
|---|---|---|---|---|
| 10th Percentile | 2.60 | 0.90 | 4.78 | 0.90 |
| 25th Percentile | 1.62 | -0.11 | 3.40 | -0.60 |
| Median | 0.48 | -1.31 | 2.00 | -2.28 |
| 75th Percentile | -0.84 | -2.29 | 0.65 | -3.59 |
| 90th Percentile | -2.37 | -3.72 | -0.45 | -4.90 |
| Benchmark ▲ | 1.01 | -0.40 | 0.80 | -0.87 |

Sources: Callan, MSCI

**Regional Quarterly Performance (U.S. Dollar)**

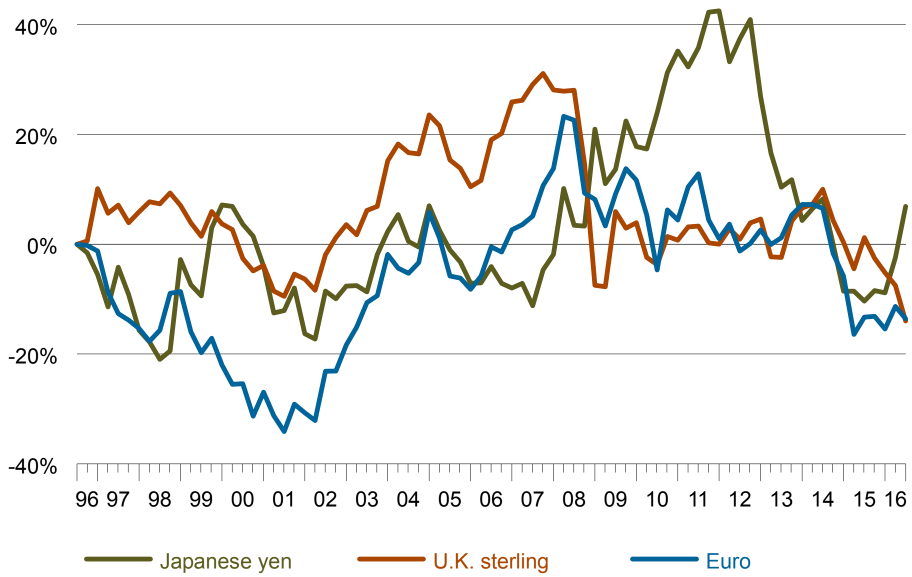



Source: MSCI

# Currency and Yield Curve

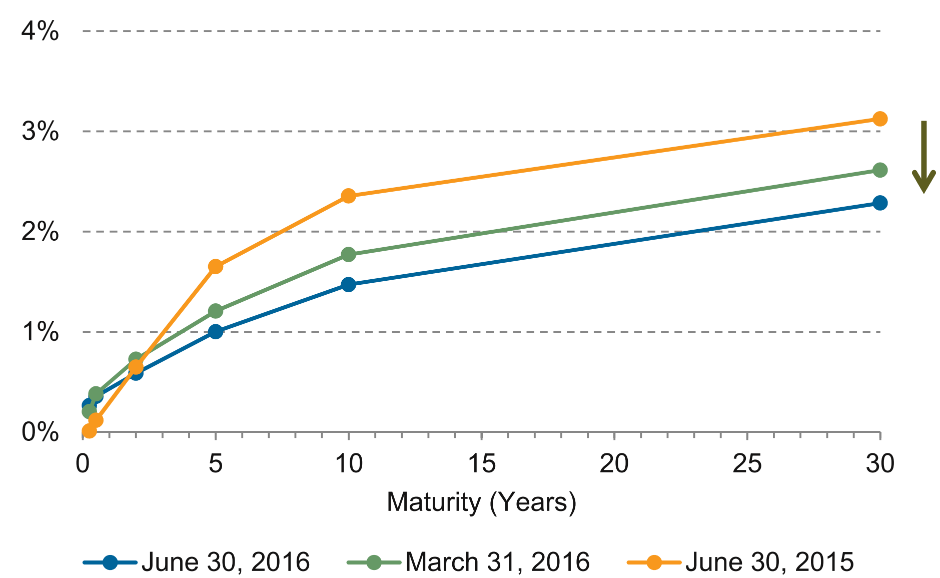
## Second Quarter 2016

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




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

**U.S. Treasury Yield Curves**




Source: Bloomberg

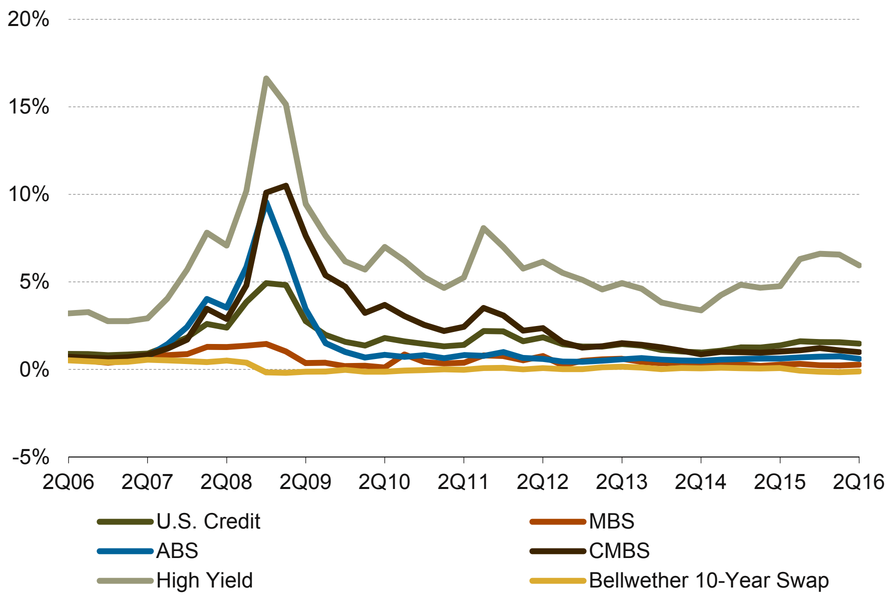
- The U.S. Dollar gained ground relative to the sterling and euro weakened against the yen during the quarter. The yen has been bolstered by its re-emergence as a haven currency with an uncertain Europe and also by the dollar's recent weakness after the Federal Reserve pared back expectations of U.S. interest rate increases.
- U.S. Treasuries rallied in a flight to quality during the second quarter as US economic data and trepidation surrounding the UK's Brexit dominated activity. The negative yield environment around the globe further contributed to downward pressure on US yields. Yields declined across the maturity spectrum with the 10-year yield closing the quarter at 1.5%, its lowest level in nearly three years.
- .

# Fixed Income

## Second Quarter 2016

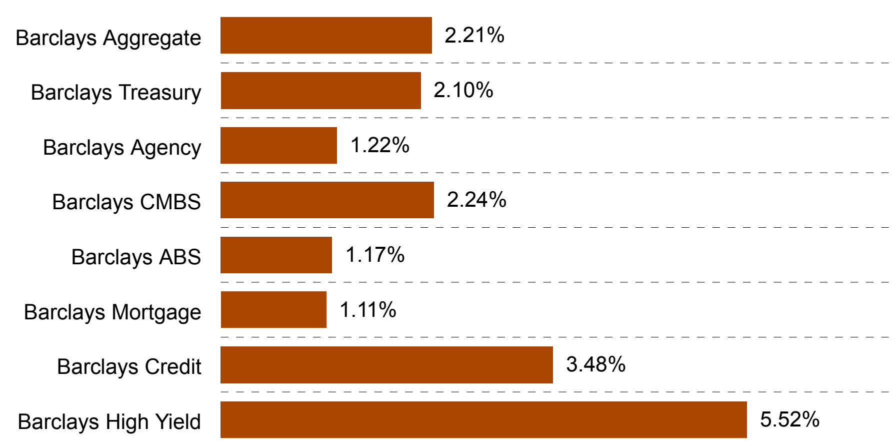
- The Barclays US Aggregate Index increased 2.2% as all sectors rallied and produced positive returns.
- Corporate credit performed well across the quality spectrum, gaining 3.5%. High yield bonds continued to rebound, rallying 5.5% in the second quarter. New issuance amounted to $84 billion, returning to more normal levels and more than doubling the amount in the prior quarter.

**Effective Yield Over Treasuries**




Source: Barclays

**Absolute Returns for Quarter ended June 30, 2016**




Source: Barclays

# OPERF Total Regular Account

## Performance Summary for the Second Quarter 2016

**Total Fund:**

In the second quarter of 2016, the Total Regular Account gained1.46% (+1.39% net of fees), versus a return of 1.66% for the Policy Target, and ranked in 42nd percentile of the $10B+ public fund peer group.  For the 12 months ended June 30, 2016, the Account gained 1.44% (+1.17% net of fees) versus 1.63% for the Policy Target, and ranked in the top quartile of Callan's $10B+ public fund peer group.

**Asset Classes:**

- **U.S. Equity:** The U.S. Equity Portfolio gained 2.13% (+2.10% net of fees) for the quarter, trailing the 2.63% gain in the Russell 3000 Index. This return ranked the Portfolio in the 77th percentile of Callan's Public Fund: $10B+ Domestic Equity (gross) peer group.  On a trailing one year basis, the Portfolio lost 0.15% (-0.28% net of fees) versus a gain of 2.14% for the benchmark and ranked in the 82nd percentile of the peer group. 10 year results are solid on an absolutely basis but just trail the benchmark and rank in the third quartile of the peer group.

- **International Equity:** The International Equity Portfolio added 0.15% (+0.06% net of fees) for the quarter, protecting against the 0.68% decline in the MSCI ACWI ex-U.S. IMI Index, and ranked in the top quartile of Callan's Public Fund: $10B+ International Equity (gross) peer group.  For the trailing year, the Portfolio retraced 7.78% (-8.14% net of fees), losing less than the 9.61% pullback in the benchmark, and ranked in top third of the peer group.  10 year results remain well ahead of the benchmark and rank in the top quartile of the peer group.

- **Fixed Income:** The Fixed Income Portfolio earned 2.55% (+2.50% net of fees) for the quarter, slightly beating the 2.41% gain in the Custom Benchmark. This return ranked the Portfolio in the 68th percentile of Callan's Public Funds $10+B US Fixed income (Gross) peer group.  This is the first full quarter with the new government bond sub-portfolio.  For the trailing year, the Portfolio rose 3.86% (+3.63% net of fees), just beating the 3.67% gain in the benchmark on a gross of fees basis, and ranked in the 85th percentile of the peer group.  10 year results continue to rank favorably versus both the benchmark and peer group.

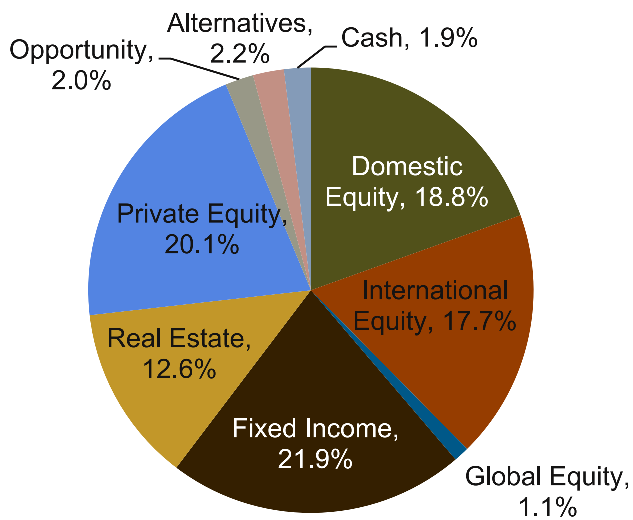
- **Private Equity:** The Private Equity Portfolio's returns remain solid on an absolute basis for periods one year and longer; however, relative returns for periods longer than one year are now challenged versus the benchmark.

- **Real Estate:** The Real Estate Portfolio continues to show solid absolute results over the last decade though returns on a 1, 3, 5, and 10 year basis trail the benchmark as of this quarter.

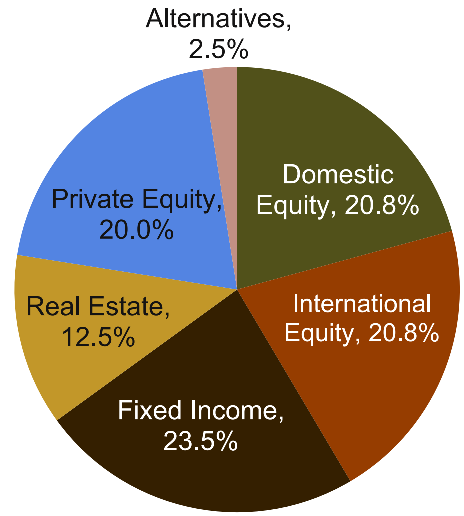
# OPERF Total Regular Account

## Asset Allocation as of June 30, 2016

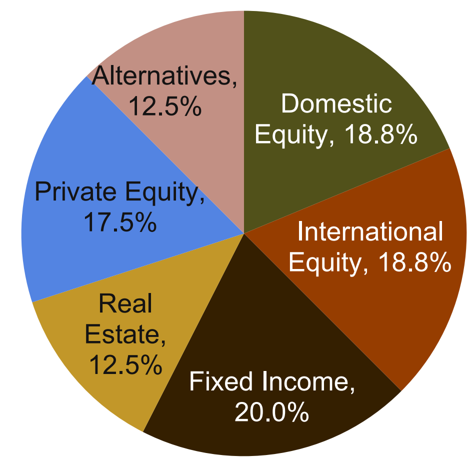
### Actual Allocation




### Interim Policy Target




### Strategic Policy Target*




| Asset Class | $000s Actual | Weight Actual | Target | Percent Difference | $000s Difference |
|---|---|---|---|---|---|
| Domestic Equity | 13,069,214 | 19.1% | 20.2% | (1.1%) | (759,750) |
| International Equity | 12,091,365 | 17.7% | 20.2% | (2.5%) | (1,737,599) |
| Global Equity | 781,901 | 1.1% | 1.0% | 0.1% | 98,989 |
| Fixed Income | 14,405,201 | 21.1% | 23.5% | (2.4%) | (1,643,226) |
| Real Estate | 8,573,645 | 12.6% | 12.5% | 0.1% | 37,248 |
| Private Equity | 13,711,217 | 20.1% | 20.0% | 0.1% | 52,981 |
| Opportunity | 1,390,829 | 2.0% | 1.2% | 0.8% | 537,189 |
| Alternative | 3,003,394 | 4.4% | 1.2% | 3.1% | 2,149,754 |
| Cash | 1,264,413 | 1.9% | 0.0% | 1.9% | 1,264,413 |
| Total | 68,291,180 | 100.0% | 100.0% | | |

*Targets established in June 2015

# OPERF Total Regular Account

## Net Performance by Asset Class as June 30, 2016

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **Total Public Equity** | **1.02%** | **(4.41%)** | **6.50%** | **6.00%** | **4.60%** |
| MSCI ACWI IMI Net | 1.06% | (3.87%) | 6.13% | 5.43% | 4.48% |
| **Domestic Equity** | **2.10%** | **(0.28%)** | **9.95%** | **10.54%** | **6.90%** |
| Russell 3000 Index | 2.63% | 2.14% | 11.13% | 11.60% | 7.40% |
| **International Equity** | **0.06%** | **(8.14%)** | **3.13%** | **2.03%** | **3.49%** |
| MSCI ACWI ex-US IMI Index | (0.68%) | (9.61%) | 1.65% | 0.39% | 2.31% |
| **Total Fixed Income** | **2.50%** | **3.63%** | **3.52%** | **4.32%** | **5.97%** |
| Custom FI Benchmark | 2.41% | 3.67% | 3.15% | 3.79% | 5.06% |
| CAI Pub Fund: 10+ US FI | 2.97% | 5.71% | 4.31% | 4.13% | 5.59% |
| **Total Real Estate** | **1.40%** | **10.45%** | **11.72%** | **11.64%** | **6.14%** |
| Total Real Estate ex REITs | 1.34% | 10.18% | 12.38% | 12.24% | 6.01% |
| NCREIF Property Index Qtr Lag | 2.21% | 11.84% | 11.91% | 11.93% | 7.61% |
| Public Plan - Real Estate | 2.98% | 11.51% | 11.82% | 11.32% | 5.51% |
| **Total Private Equity** | **0.46%** | **4.52%** | **10.78%** | **10.33%** | **9.87%** |
| Russell 3000 + 300 BPS Qtr Lag | 1.72% | 2.65% | 14.45% | 14.32% | 10.50% |
| **Total Alternative** | **1.05%** | **(0.79%)** | **0.67%** | **1.17%** | **-** |
| CPI + 4% | 2.21% | 5.04% | 5.10% | 5.37% | - |
| **Opportunity Portfolio** | **5.60%** | **0.36%** | **5.86%** | **6.84%** | **-** |
| Russell 3000 Index | 2.63% | 2.14% | 11.13% | 11.60% | 7.40% |
| CPI + 5% | 2.52% | 5.65% | 5.77% | 6.13% | 6.72% |
| **Total Regular Account** | **1.39%** | **1.17%** | **7.16%** | **7.09%** | **6.03%** |
| Total Regular Account ex-Overlay | 1.33% | 1.04% | 7.09% | 6.99% | 6.03% |
| OPERF Policy Benchmark* | 1.66% | 1.63% | 7.99% | 7.75% | 6.44% |

*Policy Benchmark = 41.5% MSCI ACWI-net, 23.5% Custom FI Benchmark, 20.0% Russell 3000 + 300 BPS Qtr Lag, 12.5% NCREIF Property Index Qtr Lag, 2.5% CPI + 400 bps

# OPERF Total Regular Account

## Gross Performance and Peer Group Rankings as of June 30, 2016*


| | Last Year | Last 3 Years | Last 5 Years | Last 7 Years | Last 10 Years |
|---|---|---|---|---|---|
| 10th Percentile | 2.03 | 7.49 | 7.68 | 10.95 | 6.70 |
| 25th Percentile | 1.32 | 7.33 | 7.28 | 10.29 | 6.03 |
| Median | 0.78 | 7.02 | 6.88 | 9.82 | 5.83 |
| 75th Percentile | (0.49) | 6.16 | 6.28 | 9.09 | 5.57 |
| 90th Percentile | (2.65) | 5.37 | 5.44 | 8.10 | 5.27 |
| **Total Regular Account** ● | 1.44 | 7.42 | 7.36 | 10.81 | 6.30 |
| Policy Target ▲ | 1.63 | 7.99 | 7.75 | 10.57 | 6.44 |

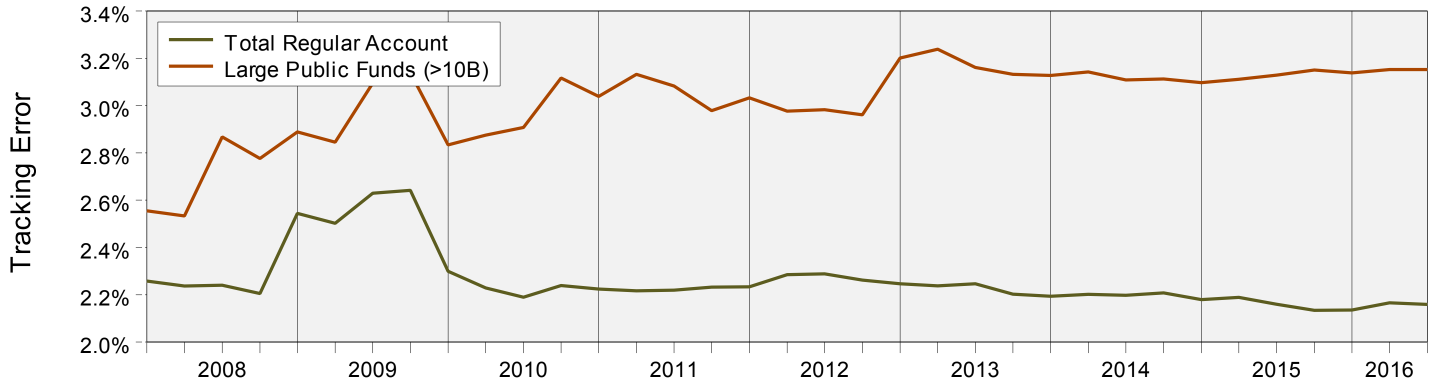
*Versus Callan's Very Large Public Funds (> $10 billion) Peer Group

Policy target= 41.5% MSCI ACWI-net, 23.5% Custom FI Benchmark, 20.0% Russell 3000 + 300 BPS Qtr Lag, 12.5% NCREIF Property Index Qtr Lag, 2.5% CPI + 400 bps

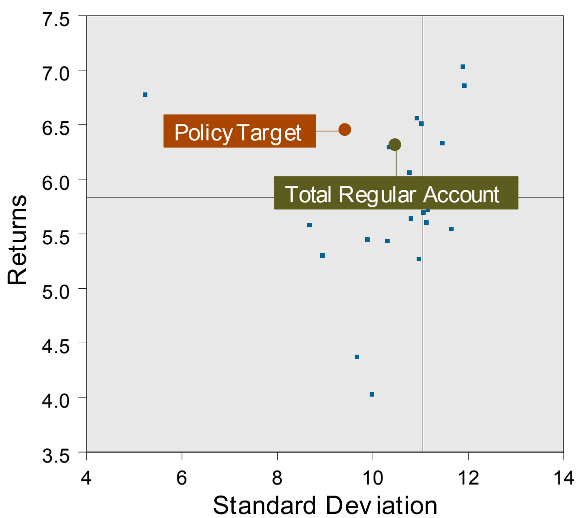
# OPERF Total Regular Account

## Risk Analysis vs. Very Large Public Funds (>10 billion)
## Ten Years ended June 30, 2016

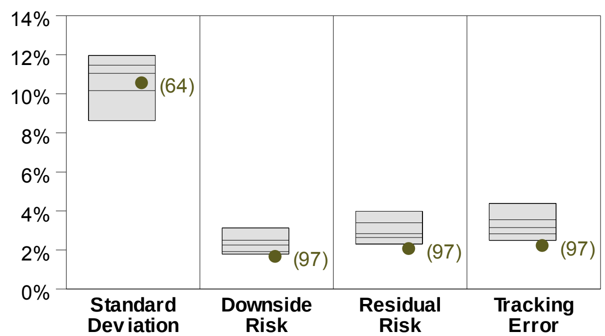
**Rolling 40 Quarter Tracking Error vs Policy Target**




**Risk Analysis vs Very Large Public Funds (>10B) (Gross)**
**Ten Years Ended June 30, 2016**




**Risk Statistics Rankings vs Policy Target**
**Rankings Against Very Large Public Funds (>10B) (Gross)**
**Ten Years Ended June 30, 2016**

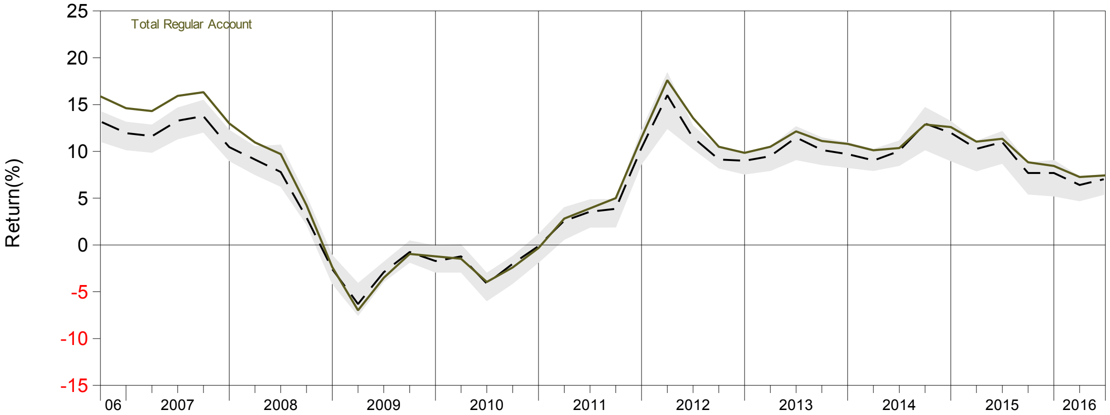



| | Standard Deviation | Downside Risk | Residual Risk | Tracking Error |
|---|---|---|---|---|
| 10th Percentile | 11.97 | 3.13 | 3.98 | 4.39 |
| 25th Percentile | 11.46 | 2.50 | 3.40 | 3.55 |
| Median | 11.05 | 2.25 | 2.84 | 3.15 |
| 75th Percentile | 10.16 | 1.92 | 2.64 | 2.83 |
| 90th Percentile | 8.63 | 1.78 | 2.31 | 2.50 |
| **Total Regular Account** ● | 10.49 | 1.60 | 2.00 | 2.16 |

# OPERF Total Regular Account

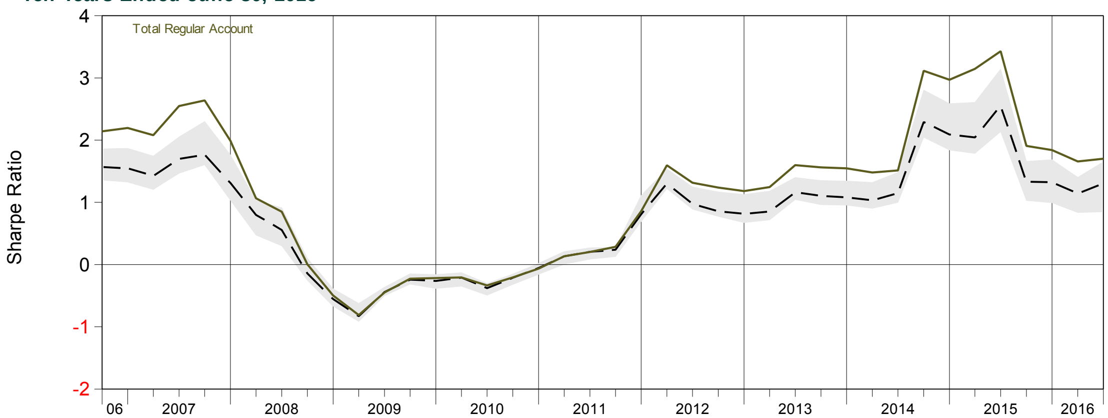
## Historical Consistency Analysis vs. Very Large Public Funds (>10 billion)

**Rolling Three Year Return(%) Relative to Policy Target**
**Ten Years Ended June 30, 2016**




| Rolling Three Year Period Analysis | Median | Portfolio |
|---|---|---|
| Average Annual Return(%) | 6.83% | 7.78% |
| % Positive Periods | 78% | 78% |
| Average Ranking | 50 | 26 |

**Rolling Three Year Sharpe Ratio Relative to Policy Target**
**Ten Years Ended June 30, 2016**




| Rolling Three Year Period Analysis | Median | Portfolio |
|---|---|---|
| Average Annual Sharpe Ratio | 0.83% | 1.20% |
| % Positive Periods | 75% | 78% |
| Average Ranking | 50 | 17 |

# OPERF Public Equity

## Asset Distribution as of June 30, 2016

| | | Market Values | % of Total Fund |
|---|---|---|---|
| **Total Public Equity** | $ | 25,942,480,718 | 37.66% |
| **Domestic Equity** | $ | 13,069,214,442 | 18.97% |
| Large Cap Growth | $ | 898,777,719 | 1.30% |
| Large Cap Value | $ | 1,837,504,195 | 2.67% |
| Small Cap Growth | $ | 119,181,712 | 0.17% |
| Small Cap Value | $ | 764,622,062 | 1.11% |
| Market Oriented (Core) | $ | 9,433,667,035 | 13.69% |
| Other | $ | 15,461,719 | 0.02% |
| **International Equity** | $ | 12,091,365,409 | 17.55% |
| International Market Oriented (Core) | $ | 6,040,879,365 | 8.77% |
| International Value | $ | 1,642,848,373 | 2.38% |
| International Growth | $ | 1,391,800,562 | 2.02% |
| International Small Cap | $ | 1,301,120,218 | 1.89% |
| Emerging Markets | $ | 1,714,716,891 | 2.49% |
| **Global Equity** | $ | 781,900,867 | 1.14% |

# OPERF Public Equity

## Style Exposure

### Style Exposure Matrix
### Holdings as of June 30, 2016

| | Value | Core | Growth | Total |
|---|---|---|---|---|
| Large | 20.7% (286)<br>22.4% (281) | 21.4% (272)<br>24.8% (272) | 19.7% (320)<br>23.1% (315) | **61.8% (878)**<br>**70.3% (868)** |
| Mid | 6.6% (407)<br>5.3% (484) | 9.2% (575)<br>6.9% (605) | 8.4% (534)<br>6.9% (648) | **24.2% (1516)**<br>**19.1% (1737)** |
| Small | 3.5% (823)<br>2.8% (1078) | 4.0% (1004)<br>3.3% (1252) | 3.0% (598)<br>2.9% (1146) | **10.5% (2425)**<br>**8.9% (3476)** |
| Micro | 1.2% (1396)<br>0.6% (983) | 1.6% (2529)<br>0.6% (911) | 0.8% (517)<br>0.4% (712) | **3.5% (4442)**<br>**1.7% (2606)** |
| **Total** | **31.9% (2912)**<br>**31.0% (2826)** | **36.2% (4380)**<br>**35.7% (3040)** | **31.9% (1969)**<br>**33.3% (2821)** | **100.0% (9261)**<br>**100.0% (8687)** |

### Style Exposure Matrix
### Holdings as of June 30, 2016

| | Value | Core | Growth | Total |
|---|---|---|---|---|
| Europe/ Mid East | 6.5% (465)<br>6.4% (481) | 4.9% (482)<br>5.3% (476) | 9.0% (344)<br>8.6% (487) | **20.4% (1291)**<br>**20.4% (1444)** |
| N. America | 18.9% (850)<br>16.6% (769) | 23.8% (1075)<br>23.2% (1133) | 14.4% (629)<br>16.5% (908) | **57.0% (2554)**<br>**56.3% (2810)** |
| Pacific | 3.0% (829)<br>4.3% (618) | 3.7% (613)<br>3.9% (582) | 4.5% (371)<br>4.3% (528) | **11.1% (1813)**<br>**12.5% (1728)** |
| Emerging/ FM | 3.6% (768)<br>3.7% (958) | 3.8% (2210)<br>3.2% (849) | 4.0% (625)<br>3.9% (898) | **11.4% (3603)**<br>**10.9% (2705)** |
| **Total** | **31.9% (2912)**<br>**31.0% (2826)** | **36.2% (4380)**<br>**35.7% (3040)** | **31.9% (1969)**<br>**33.3% (2821)** | **100.0% (9261)**<br>**100.0% (8687)** |

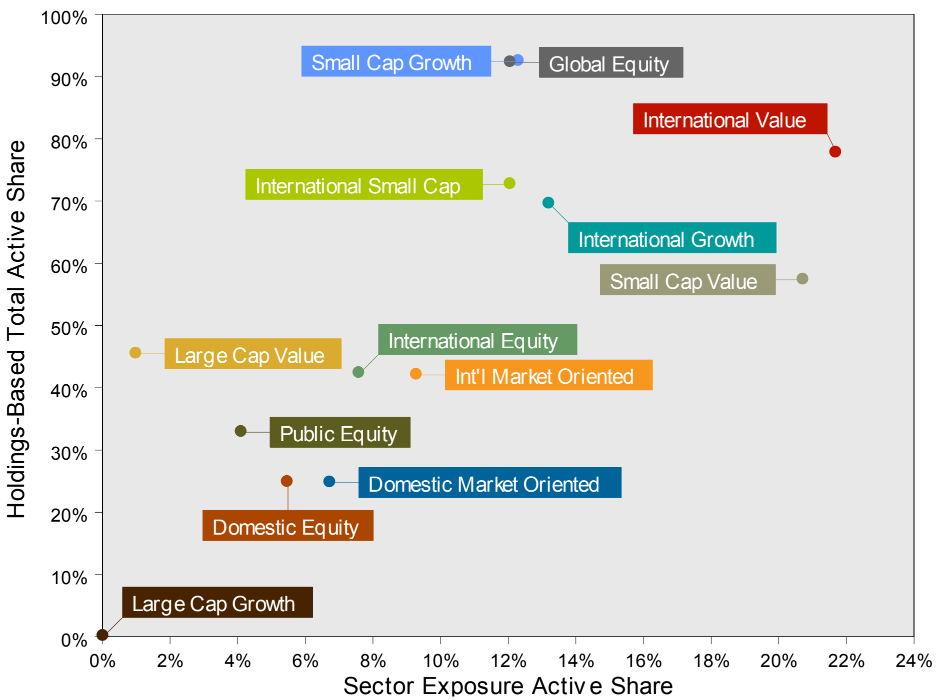
- **Public Equity**
- **MSCI ACWI IMI**

Percentages may not sum to 100% due to rounding

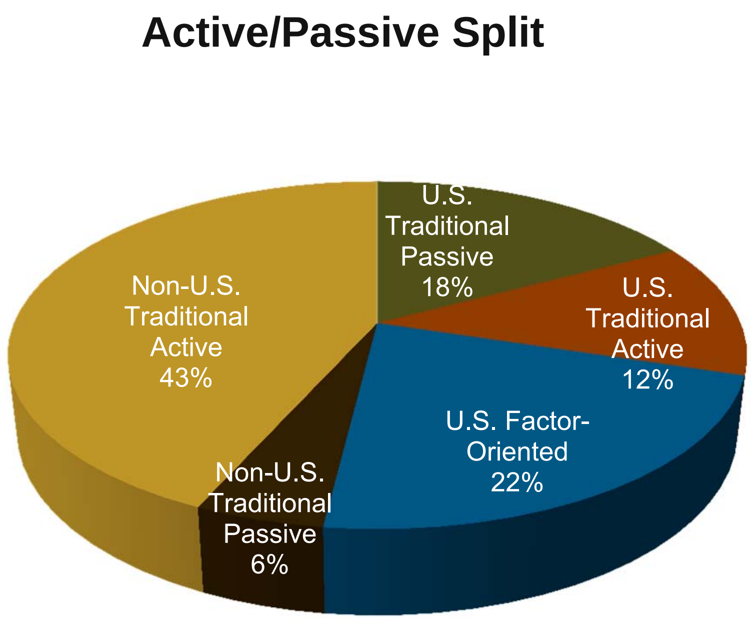
# OPERF Public Equity

## Public Market Allocation as of June 30, 2016

**Active Share Analysis**
**Ended June 30, 2016**



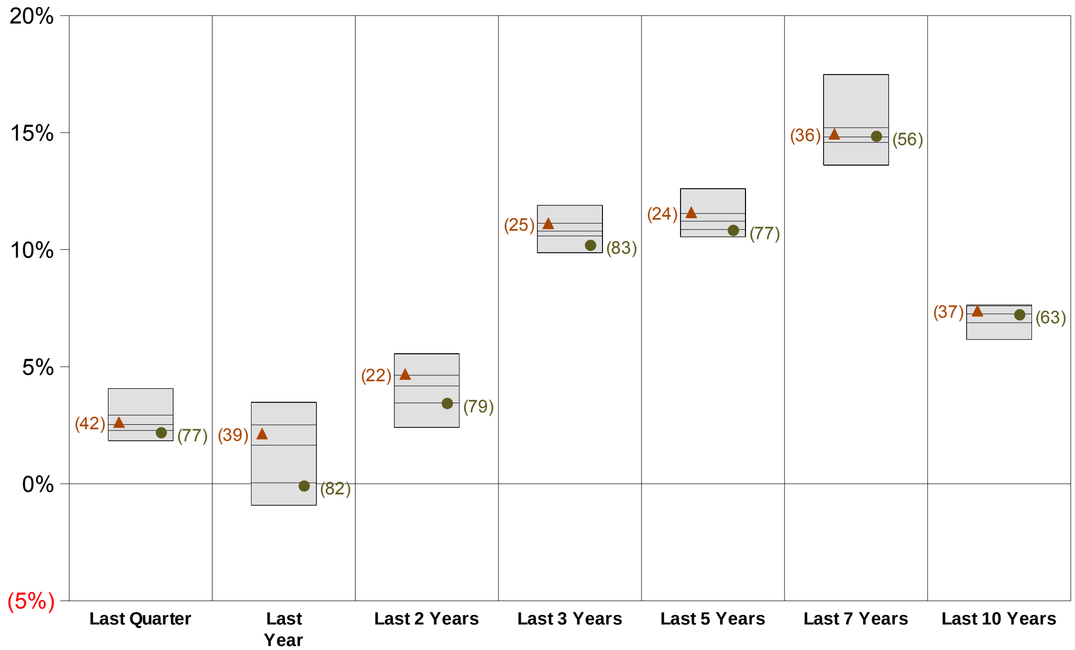

| | Weight % | Index | Total Act Share | Non-Idx Act Share | Sector Act Share | Number Securities |
|---|---|---|---|---|---|---|
| Public Equity | 100.00% | MSCI ACWI IMI | 32.85% | 2.52% | 4.12% | 9738 |



# OPERF U.S. Equity

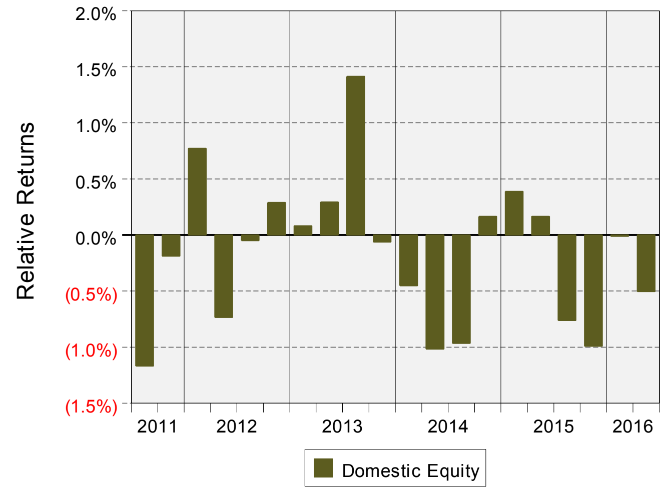
## Performance Analysis as of June 30, 2016

### Performance vs Lg Public >10 B DE (Gross)




| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | Last 7 Years | Last 10 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 4.06 | 3.48 | 5.56 | 11.90 | 12.61 | 17.48 | 7.64 |
| 25th Percentile | 2.93 | 2.52 | 4.63 | 11.13 | 11.54 | 15.21 | 7.60 |
| Median | 2.53 | 1.65 | 4.18 | 10.79 | 11.22 | 14.81 | 7.25 |
| 75th Percentile | 2.28 | 0.03 | 3.46 | 10.59 | 10.86 | 14.58 | 6.88 |
| 90th Percentile | 1.83 | (0.92) | 2.40 | 9.87 | 10.54 | 13.61 | 6.16 |
| **Domestic Equity** ● | 2.13 | (0.15) | 3.37 | 10.13 | 10.77 | 14.78 | 7.16 |
| Russell 3000 Index ▲ | 2.63 | 2.14 | 4.68 | 11.13 | 11.60 | 14.95 | 7.40 |

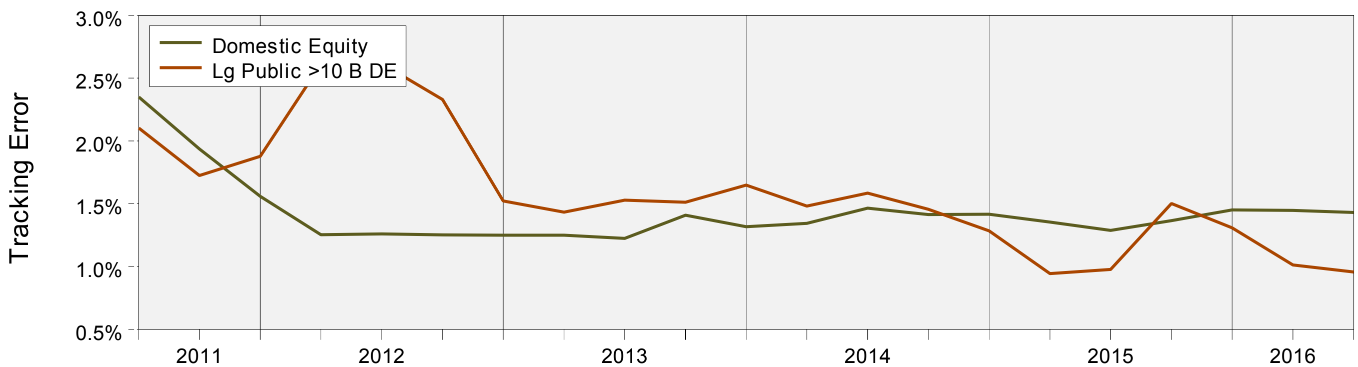
### Relative Return vs Russell 3000 Index



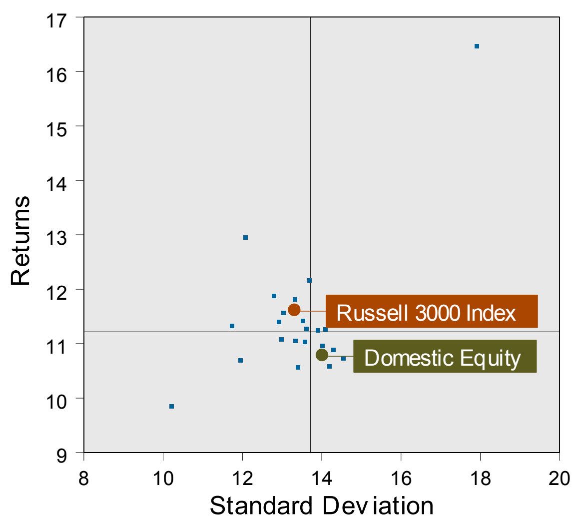
# OPERF U.S. Equity

## Risk Analysis as of June 30, 2016

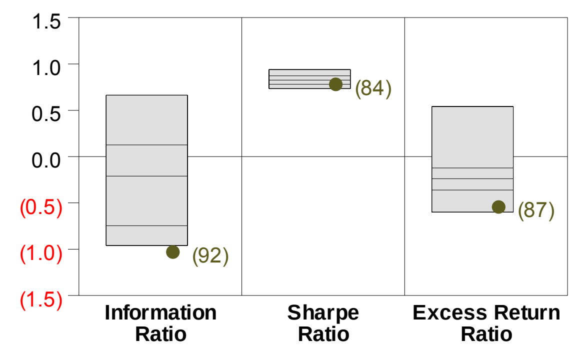
**Rolling 12 Quarter Tracking Error vs Russell 3000 Index**




**Risk Analysis vs CAI Public Funds: $10B+ Domestic Equity (Gross)**
**Five Years Ended June 30, 2016**




**Risk Adjusted Return Measures vs Russell 3000 Index**
**Rankings Against CAI Public Funds: $10B+ Domestic Equity (Gross)**
**Five Years Ended June 30, 2016**

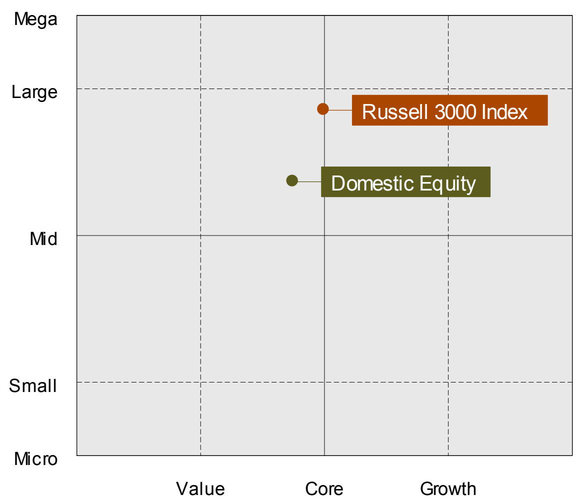



| | Information Ratio | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 0.66 | 0.94 | 0.54 |
| 25th Percentile | 0.13 | 0.87 | (0.12) |
| Median | (0.21) | 0.82 | (0.24) |
| 75th Percentile | (0.75) | 0.78 | (0.36) |
| 90th Percentile | (0.96) | 0.73 | (0.60) |
| **Domestic Equity** ● | (1.05) | 0.76 | (0.56) |

# OPERF U.S. Equity

## Characteristics as of June 30, 2016

**Style Map vs Holdings as of June 30, 2016**

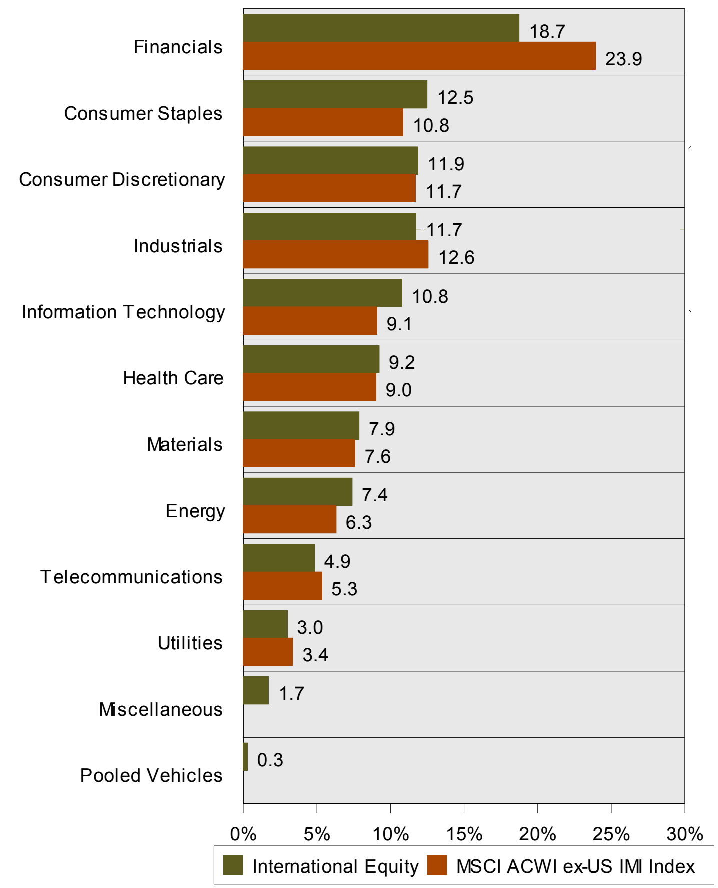



**Style Exposure Matrix Holdings as of June 30, 2016**

| | Value | Core | Growth | Total |
|---|---|---|---|---|
| Large | 21.9% (98)<br>22.4% (97) | 25.8% (115)<br>31.7% (114) | 14.4% (102)<br>21.0% (98) | 62.1% (315)<br>75.1% (309) |
| Mid | 8.1% (189)<br>5.4% (188) | 9.2% (244)<br>6.5% (240) | 7.1% (194)<br>5.3% (190) | 24.5% (627)<br>17.2% (618) |
| Small | 3.4% (287)<br>1.9% (328) | 4.5% (359)<br>2.7% (493) | 3.0% (205)<br>2.3% (417) | 10.8% (851)<br>6.9% (1238) |
| Micro | 0.9% (249)<br>0.3% (268) | 1.2% (222)<br>0.3% (359) | 0.5% (80)<br>0.2% (183) | 2.5% (551)<br>0.8% (810) |
| Total | 34.3% (823)<br>30.0% (881) | 40.7% (940)<br>41.2% (1206) | 25.0% (581)<br>28.8% (888) | 100.0% (2344)<br>100.0% (2975) |

- OPERF US Equity
- Russell 3000

**Sector Allocation June 30, 2016**

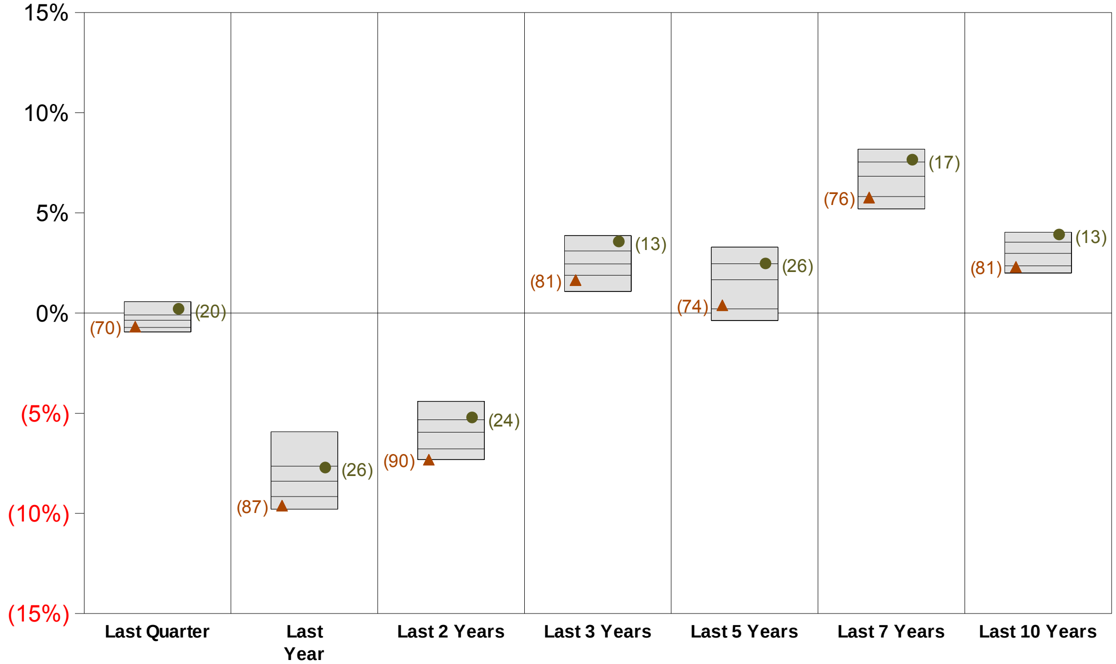



| | Wtd. Median Mkt Cap | Price/Earn. | Price/Book | Forecasted Earn. Growth | Div yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| Domestic Equity | 28.18 | 16.08 | 2.29 | 11.02 | 2.00 | -0.18 |
| Russell 3000 Index | 53.51 | 17.5 | 2.58 | 12.02 | 2.05 | -0.02 |

# OPERF Non-US Equity

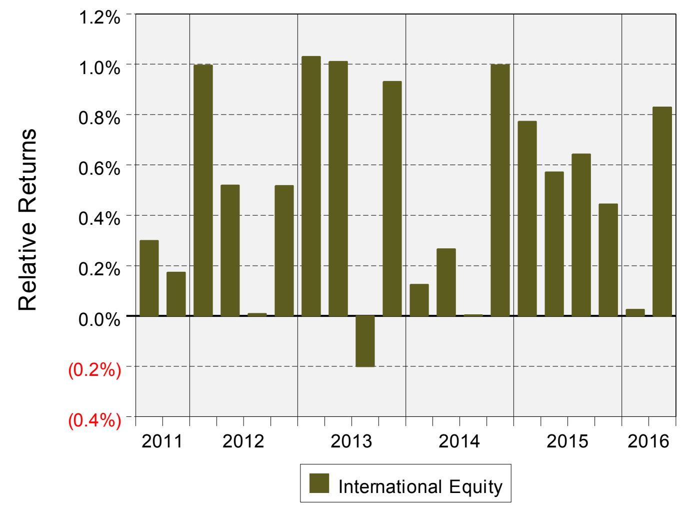
## Performance Analysis as of June 30, 2016

### Performance vs Lg Public >10 B IE (Gross)




| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | Last 7 Years | Last 10 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 0.57 | (5.93) | (4.41) | 3.87 | 3.29 | 8.18 | 4.03 |
| 25th Percentile | (0.09) | (7.64) | (5.32) | 3.10 | 2.47 | 7.54 | 3.54 |
| Median | (0.36) | (8.39) | (5.95) | 2.45 | 1.66 | 6.83 | 2.99 |
| 75th Percentile | (0.72) | (9.17) | (6.77) | 1.89 | 0.21 | 5.81 | 2.36 |
| 90th Percentile | (0.94) | (9.79) | (7.32) | 1.08 | (0.37) | 5.20 | 2.00 |
| **International Equity** ● | 0.15 | (7.78) | (5.28) | 3.51 | 2.41 | 7.59 | 3.86 |
| MSCI ACWI ex-US IMI Index* ▲ | (0.68) | (9.61) | (7.32) | 1.65 | 0.39 | 5.77 | 2.31 |

### Relative Returns vs MSCI ACWI ex-US IMI Index*

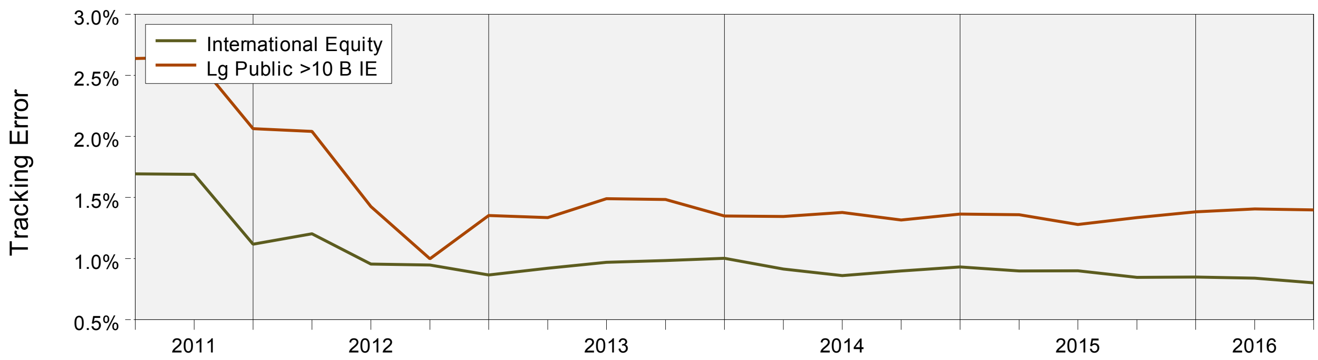



*The benchmark for the International Equity portfolio was the MSCI ACWI ex US Gross Index through May 31, 2008, and the MSCI ACWI ex US IMI Net Index thereafter. Index returns above are linked.

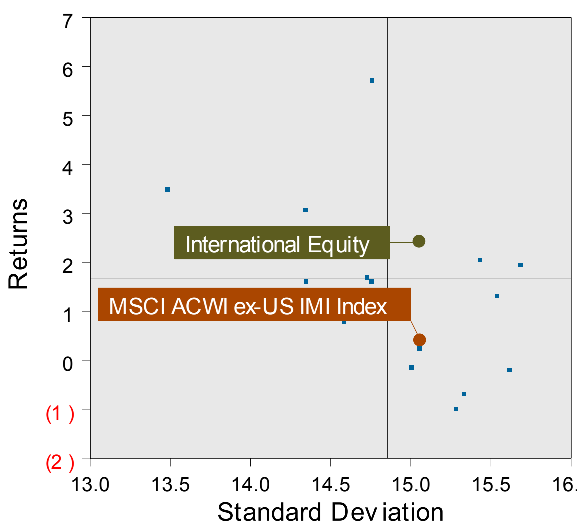
# OPERF Non-US Equity

## Risk Analysis as of June 30, 2016

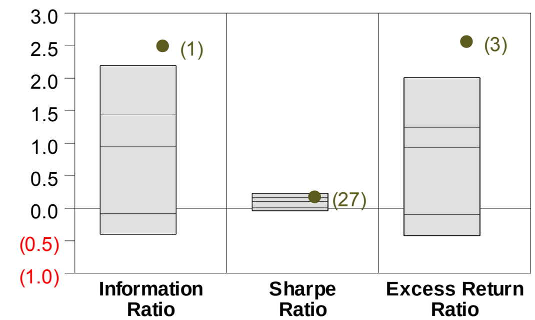
**Rolling 12 Quarter Tracking Error vs MSCI ACWI ex-US IMI Index***




**Risk Analysis vs CAI Public Funds: $10B+ Intl Equity (Gross)**
**Five Years Ended June 30, 2016**




**Risk Adjusted Return Measures vs MSCI ACWI ex-US IMI Index***
**Rankings Against CAI Public Funds: $10B+ Intl Equity (Gross)**
**Five Years Ended June 30, 2016**



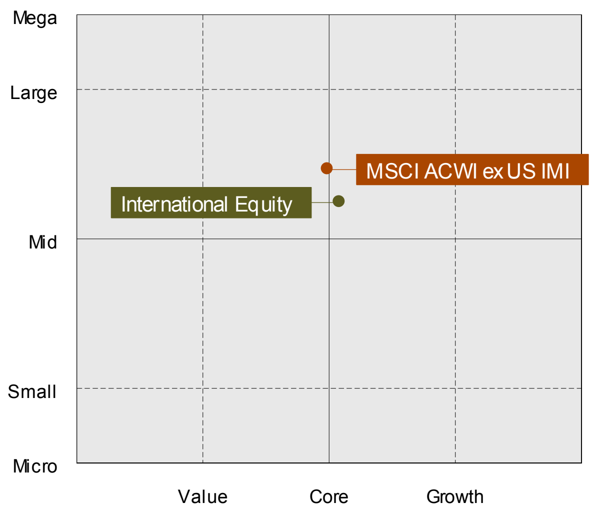

| | Information Ratio | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 2.19 | 0.23 | 2.01 |
| 25th Percentile | 1.44 | 0.16 | 1.25 |
| Median | 0.95 | 0.11 | 0.93 |
| 75th Percentile | (0.08) | 0.01 | (0.09) |
| 90th Percentile | (0.40) | (0.04) | (0.42) |
| **International Equity** ● | 2.47 | 0.15 | 2.54 |

*The benchmark for the International Equity portfolio was the MSCI ACWI ex US Gross Index through May 31, 2008, and the MSCI ACWI ex US IMI Net Index thereafter. Index returns above are linked.

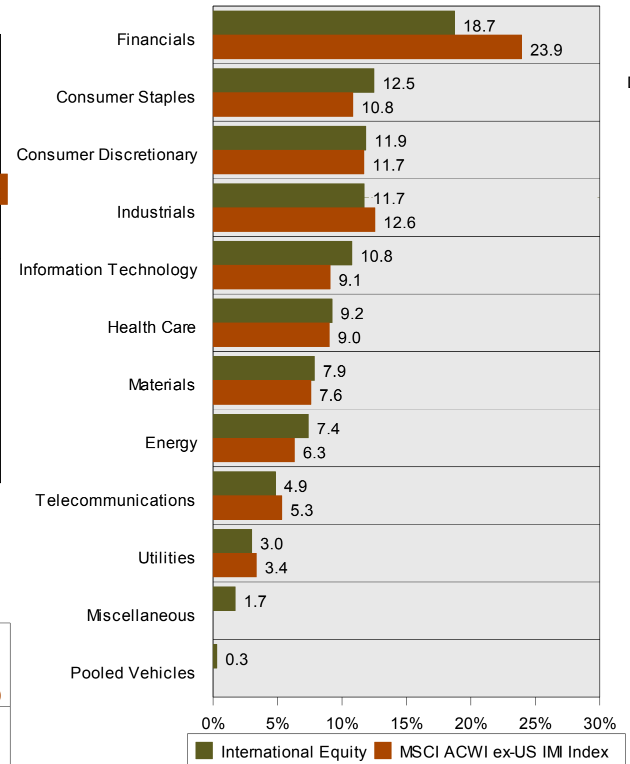
# OPERF Non-US Equity

## Characteristics as of June 30, 2016

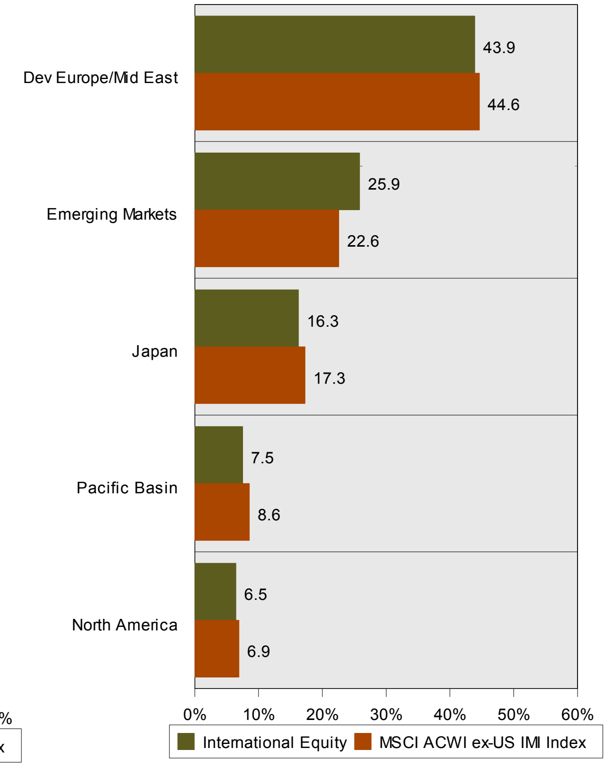
**Style Map vs Large Public Funds (>10B)**
**Holdings as of June 30, 2016**




**Sector Allocation**
**June 30, 2016**




**Regional Allocation**
**June 30, 2016**




**Style Exposure Matrix**
**Holdings as of June 30, 2016**

| | Value | Core | Growth | Total |
|---|---|---|---|---|
| Large | 16.0% (157)<br>19.7% (155) | 15.3% (141)<br>16.9% (137) | 23.9% (189)<br>23.5% (181) | 55.2% (487)<br>60.1% (473) |
| Mid | 6.3% (218)<br>6.0% (277) | 9.1% (307)<br>8.0% (346) | 12.4% (361)<br>10.3% (458) | 27.8% (886)<br>24.3% (1081) |
| Small | 4.3% (516)<br>4.0% (714) | 4.6% (666)<br>4.6% (815) | 4.0% (409)<br>3.9% (764) | 12.8% (1591)<br>12.4% (2293) |
| Micro | 1.3% (1149)<br>1.2% (879) | 1.9% (2362)<br>1.2% (833) | 1.0% (460)<br>0.8% (638) | 4.2% (3971)<br>3.2% (2350) |
| Total | 27.9% (2040)<br>30.9% (2025) | 30.9% (3476)<br>30.6% (2131) | 41.2% (1419)<br>38.5% (2041) | 100.0% (6935)<br>100.0% (6197) |

● International Equity
● MSCI ACWI ex-U.S. IMI

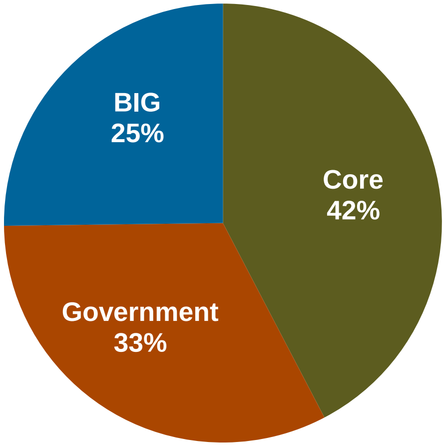
| | Wtd. Median Mkt Cap | Price/Earn. | Price/Book | Forecasted Earn. Growth | Div yield | MSCI Combined Z-Score |
|---|---|---|---|---|---|---|
| International Equity | 15.35 | 14.02 | 1.50 | 10.65 | 2.83 | 0.06 |
| MSCI ACWI ex-US IMI | 19.56 | 13.84 | 1.46 | 9.92 | 3.14 | -0.02 |

# OPERF Total Fixed Income

## Allocations as of June 30, 2016

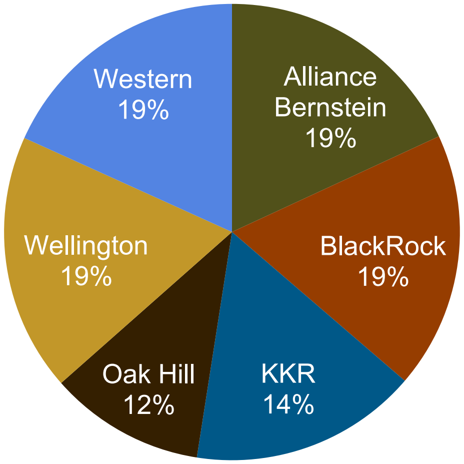
### Allocation by Strategy

| Managers | Assets ($M) | % Allocation | % Target |
|---|---|---|---|
| Core | $ 6,097,815 | 42.3% | 46.0% |
| Government | $ 4,676,988 | 32.5% | 37.0% |
| BIG | $ 3,630,395 | 25.2% | 17.0% |
| **Total** | **$ 14,405,198** | **100.0%** | **100.0%** |




### Allocation by Manager

| Managers | Core | Government | BIG | Assets ($M) | % Allocation |
|---|---|---|---|---|---|
| AllianceBernstein | $ 1,520,098,252 | $ 1,158,365,329 | - | $ 2,678,463,581 | 18.6% |
| BlackRock | $ 1,521,756,147 | $ 1,167,504,254 | - | $ 2,689,260,401 | 18.7% |
| Wellington | $ 1,517,057,825 | $ 1,187,277,365 | - | $ 2,704,335,190 | 18.8% |
| Western Asset Mgmt | $ 1,538,903,258 | $ 1,163,840,902 | - | $ 2,702,744,160 | 18.8% |
| KKR Asset Mgmt | - | - | $ 1,978,481,035 | $ 1,978,481,035 | 13.7% |
| Oak Hill | - | - | $ 1,651,913,865 | $ 1,651,913,865 | 11.5% |
| **Total** | **$ 6,097,815,482** | **$ 4,676,987,850** | **$ 3,630,394,900** | **$ 14,405,198,232** | **100.0%** |

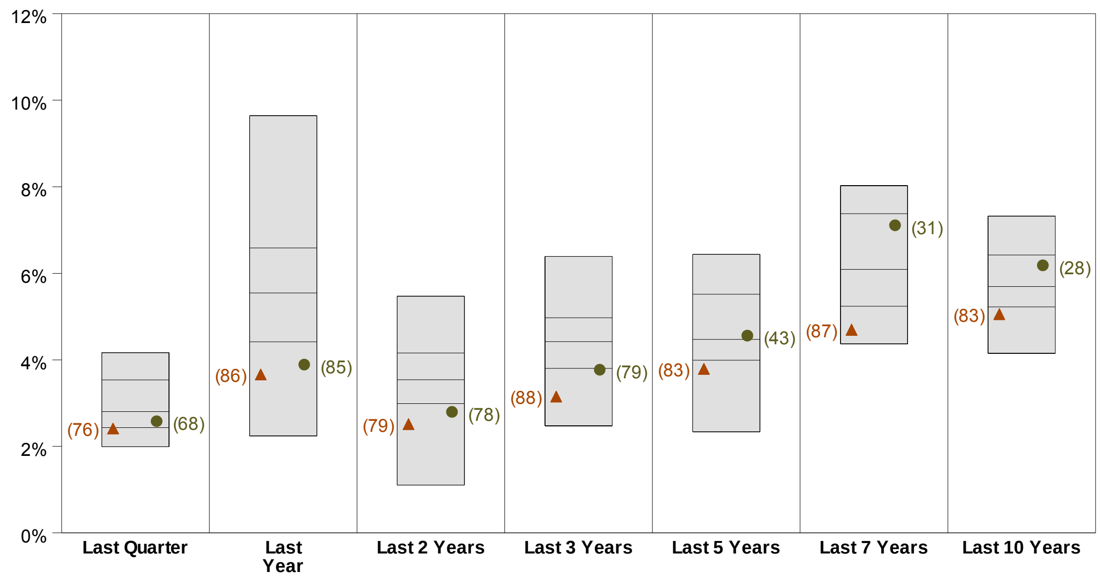



Percentages may not sum to 100% due to rounding

# OPERF Total Fixed Income

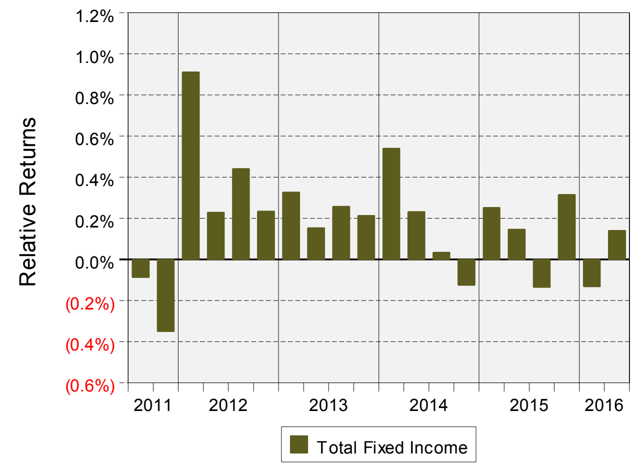
## Performance Analysis as of June 30, 2016

### Performance vs Public Fund 10+ B US FI (Gross)




| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | Last 7 Years | Last 10 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 4.16 | 9.64 | 5.47 | 6.39 | 6.44 | 8.03 | 7.32 |
| 25th Percentile | 3.54 | 6.59 | 4.16 | 4.97 | 5.52 | 7.38 | 6.43 |
| Median | 2.81 | 5.55 | 3.54 | 4.42 | 4.47 | 6.09 | 5.69 |
| 75th Percentile | 2.44 | 4.42 | 2.99 | 3.80 | 3.99 | 5.24 | 5.23 |
| 90th Percentile | 1.99 | 2.24 | 1.11 | 2.47 | 2.34 | 4.37 | 4.15 |
| **Total Fixed Income** ● | 2.55 | 3.86 | 2.77 | 3.75 | 4.53 | 7.08 | 6.16 |
| OPERF Custom FI Benchmark* ▲ | 2.41 | 3.67 | 2.51 | 3.15 | 3.79 | 4.70 | 5.06 |

### Relative Returns vs OPERF Custom FI Benchmark*

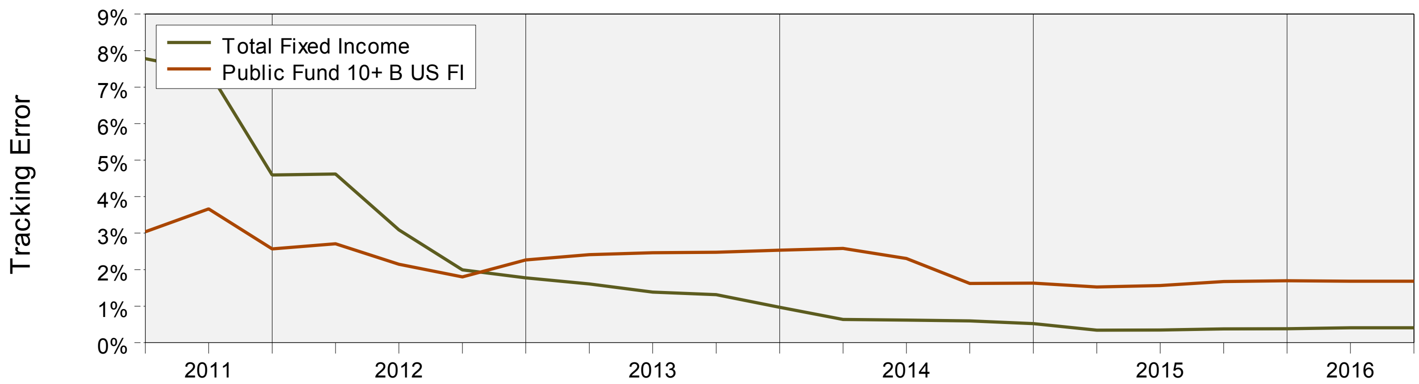



*Prior to February 28, 2011, index is Oregon Custom FI 90/10 Benchmark (90% BC US Universal Index and 10% SSBI Non-US World Gov't Bond Hedged Index). From March 1, 2011 to December 31, 2013, index is Oregon Custom FI Benchmark (60% BC US Universal Index, 20% S&P/LSTA Leveraged Loan Index, 10% JMP EMBI Global Index, and 10% BofA ML High Yield Master II Index). From January 1, 2014 to Current, index is Oregon Custom FI Benchmark (40% Barclays Capital U.S. Aggregate Bond, 40% Barclays Capital U.S. 1-3 Govt/Credit Bond Index, 15% S&P/LSTA Leveraged Loan Index, and 5% BofA ML High Yield Master II Index). From March 1, 2016 to Present, index is 46% Barclays Aggregate Bond, 37% Barclays Treasury, 4% BofAML High Yield Master II, and 13% S&P/LSTA.*

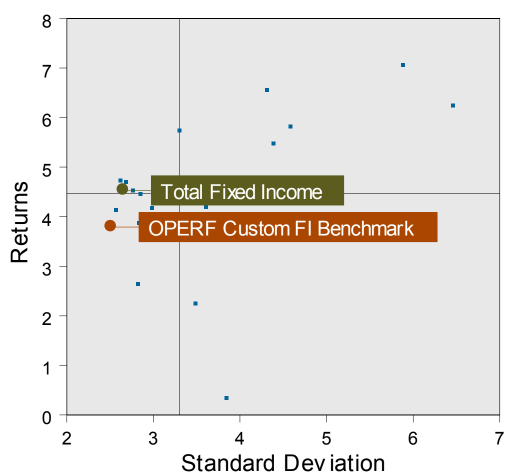
# OPERF Total Fixed Income

## Risk Analysis as of June 30, 2016

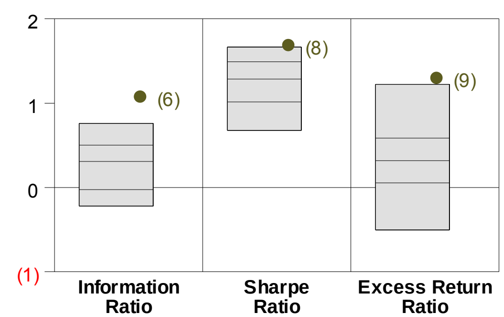
### Rolling 12 Quarter Tracking Error vs OPERF Custom FI Benchmark*




### Risk Analysis vs Public Funds $10B+ US FI (Gross)
Ten Years Ended June 30, 2016




### Risk Statistics Rankings vs Policy Target
Rankings Against Public Funds $10B+ US FI (Gross)
Five Years Ended June 30, 2016



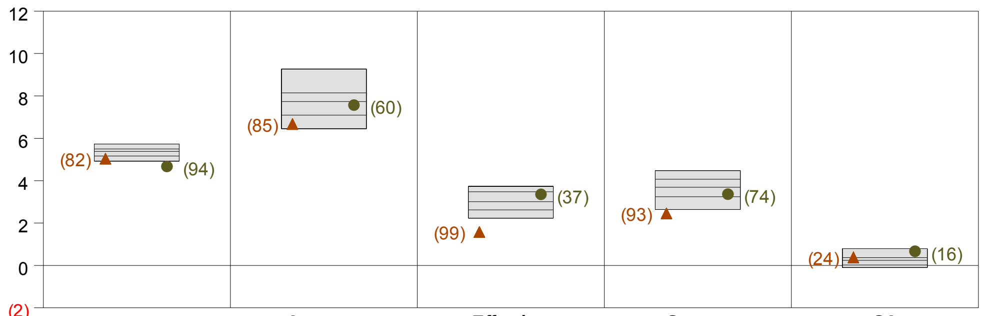

| | Information Ratio | Sharpe Ratio | Excess Return Ratio |
|---|---|---|---|
| 10th Percentile | 0.76 | 1.67 | 1.22 |
| 25th Percentile | 0.50 | 1.49 | 0.59 |
| Median | 0.31 | 1.29 | 0.32 |
| 75th Percentile | (0.03) | 1.01 | 0.05 |
| 90th Percentile | (0.22) | 0.68 | (0.51) |
| **Total Fixed Income** ● | 1.06 | 1.67 | 1.28 |

**Oregon's custom benchmark was changed on March 1, 2016 and now represents 46% Barclays Aggregate Bond, 37% Barclays Treasury, 4% BofAML High Yield Master II, and 13% S&P/LSTA.*

# OPERF Total Fixed Income

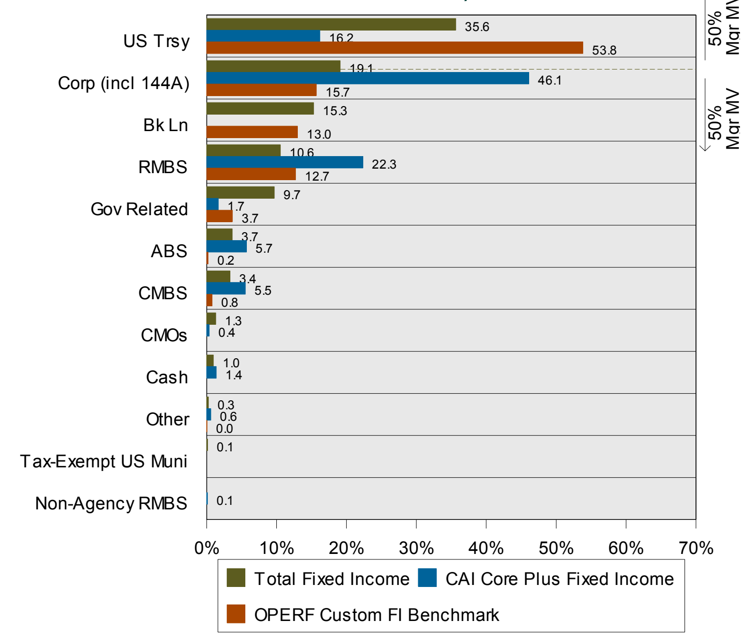
## Characteristics as of June 30, 2016

**Fixed Income Portfolio Characteristics**
**Rankings Against CAI Core Plus Fixed Income**
**as of June 30, 2016**




| | Duration | Average Life | Effective Yield | Coupon Rate | OA Convexity |
|---|---|---|---|---|---|
| 10th Percentile | 5.73 | 9.28 | 3.74 | 4.47 | 0.79 |
| 25th Percentile | 5.50 | 8.14 | 3.47 | 4.07 | 0.37 |
| Median | 5.38 | 7.73 | 3.01 | 3.69 | 0.25 |
| 75th Percentile | 5.16 | 7.09 | 2.62 | 3.25 | 0.02 |
| 90th Percentile | 4.92 | 6.45 | 2.23 | 2.64 | (0.09) |
| **Total Fixed Income** ● | 4.60 | 7.51 | 3.29 | 3.30 | 0.60 |
| OPERF Custom FI Benchmark ▲ | 5.04 | 6.68 | 1.58 | 2.46 | 0.39 |

**Sector Allocation**
**June 30, 2016**




| | Quality Ratings |
|---|---|
| Total Fixed Income | A |
| OPERF Total FI Bench | A+ |

*Oregon's custom benchmark was changed on March 1, 2016 and now represents 46% Barclays Aggregate Bond, 37% Barclays Treasury, 4% BofAML High Yield Master II, and 13% S&P/LSTA.*

# TAB 9 – Asset Allocations & NAV Updates

## Asset Allocations at July 31, 2016

| OPERF | Policy | Target[1] | Regular Account: $ Thousands | Pre-Overlay | Overlay | Net Position | Actual | Variable Fund: $ Thousands | Total Fund: $ Thousands |
|---|---|---|---|---|---|---|---|---|---|
| Public Equity | 32.5-42.5% | 37.5% | 26,094,217 | 37.6% | 1,199,025 | 27,293,242 | 39.3% | 615,684 | 27,908,925 |
| Private Equity | 13.5-21.5% | 17.5% | 13,630,565 | 19.6% | | 13,630,565 | 19.6% | | 13,630,565 |
| **Total Equity** | **50.0-60.0%** | **55.0%** | **39,724,782** | **57.2%** | **1,199,025** | **40,923,807** | **58.9%** | | **41,539,491** |
| Opportunity Portfolio | 0-3% | 0.0% | 1,428,465 | 2.1% | | 1,428,465 | 2.1% | | 1,428,465 |
| **Fixed Income** | **15-25%** | **20.0%** | **14,535,865** | **20.9%** | **685,301** | **15,221,165** | **21.9%** | | **15,221,165** |
| **Real Estate** | **9.5-15.5%** | **12.5%** | **8,720,984** | **12.6%** | **(24,200)** | **8,696,784** | 12.5% | | **8,696,784** |
| **Alternative Investments** | **0-12.5%** | **12.5%** | **3,208,433** | **4.6%** | | **3,208,433** | 4.6% | | **3,208,433** |
| **Cash[2]** | **0-3%** | **0.0%** | **1,865,183** | **2.7%** | **(1,860,125)** | **5,058** | 0.0% | 2,402 | **7,460** |
| **TOTAL OPERF** | | **100%** | **$ 69,483,712** | **100.0%** | **$ -** | **$ 69,483,712** | **100.0%** | **$ 618,085** | **$ 70,101,797** |

[1]Targets established in June 2015. Interim policy benchmark consists of: 40% MSCI ACWI IMI Net, 22.5% Custom FI Benchmark, 20% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF ODCE (1 quarter lagged), & 5% CPI+400bps.

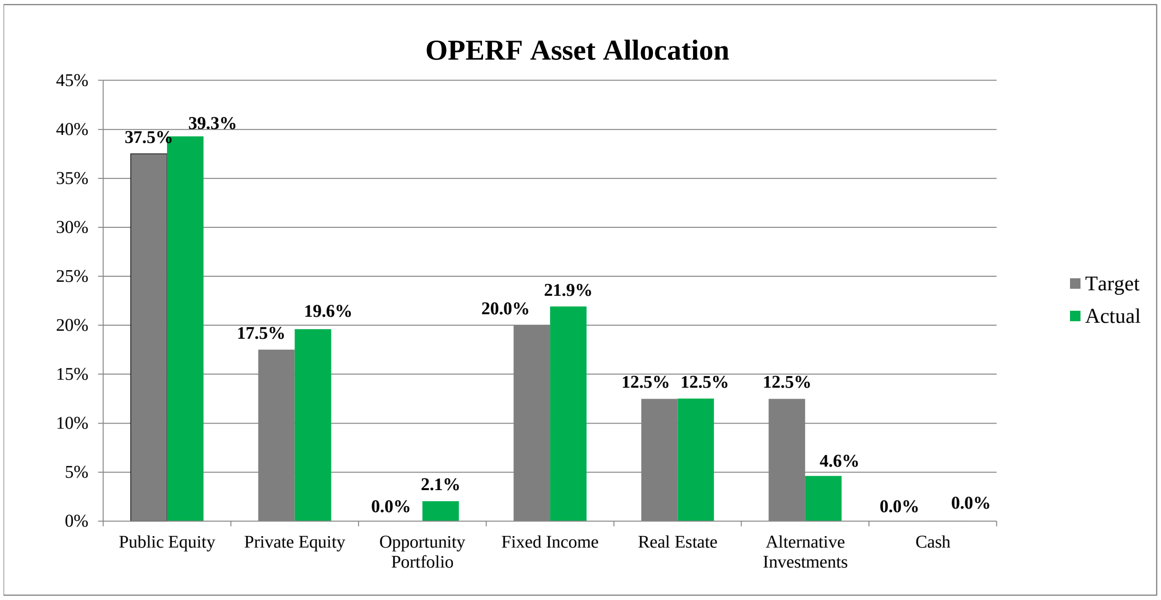
[2]Includes cash held in the policy implementation overlay program.

| SAIF | Policy | Target | $ Thousands | Actual |
|---|---|---|---|---|
| **Total Equity** | **7-13%** | **10.0%** | **462,426** | **9.5%** |
| **Fixed Income** | **80-90%** | **85.0%** | **4,351,686** | **89.0%** |
| **Real Estate** | **0-7%** | **5.0%** | **0** | **0.0%** |
| **Cash** | **0-3%** | **0%** | **76,904** | **1.6%** |
| **TOTAL SAIF** | | | **$ 4,891,016** | **100.0%** |

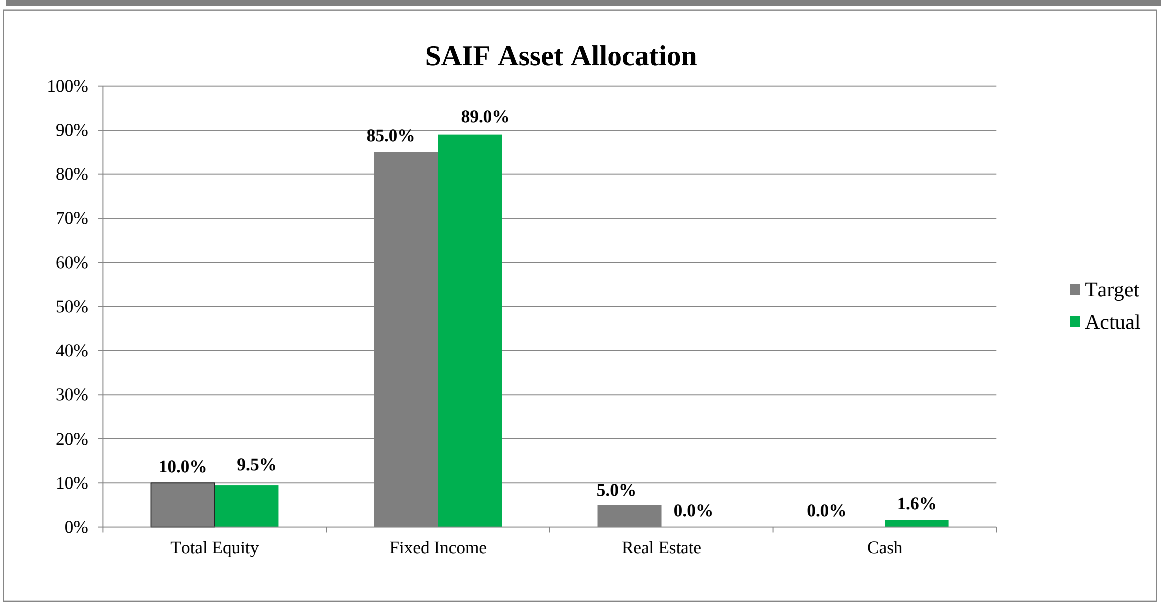
| CSF | Policy | Target | $ Thousands | Actual |
|---|---|---|---|---|
| Domestic Equities | 25-35% | 30% | 432,166 | 29.8% |
| International Equities | 25-35% | 30% | 403,633 | 27.9% |
| Private Equity | 0-12% | 10% | 155,936 | 10.8% |
| **Total Equity** | **65-75%** | **70%** | **991,735** | **68.5%** |
| **Fixed Income** | **25-35%** | **30%** | **445,501** | **30.8%** |
| **Cash** | **0-3%** | **0%** | **11,538** | **0.8%** |
| **TOTAL CSF** | | | **$ 1,448,774** | **100.0%** |

| SOUE | Policy | Target[3] | $ Thousands | Actual |
|---|---|---|---|---|
| Global Equities | 65-75% | 70% | 1,574 | 71.2% |
| **Growth Assets** | **65-75%** | **70%** | **1,574** | **71.2%** |
| Fixed Income | 25-35% | 30% | 634 | 28.7% |
| Cash | 0-3% | 0% | 4 | 0.2% |
| **Diversifying Assets** | **25-35%** | **30%** | **637** | **28.8%** |
| **TOTAL SOUE** | | | **$ 2,211** | **100.0%** |

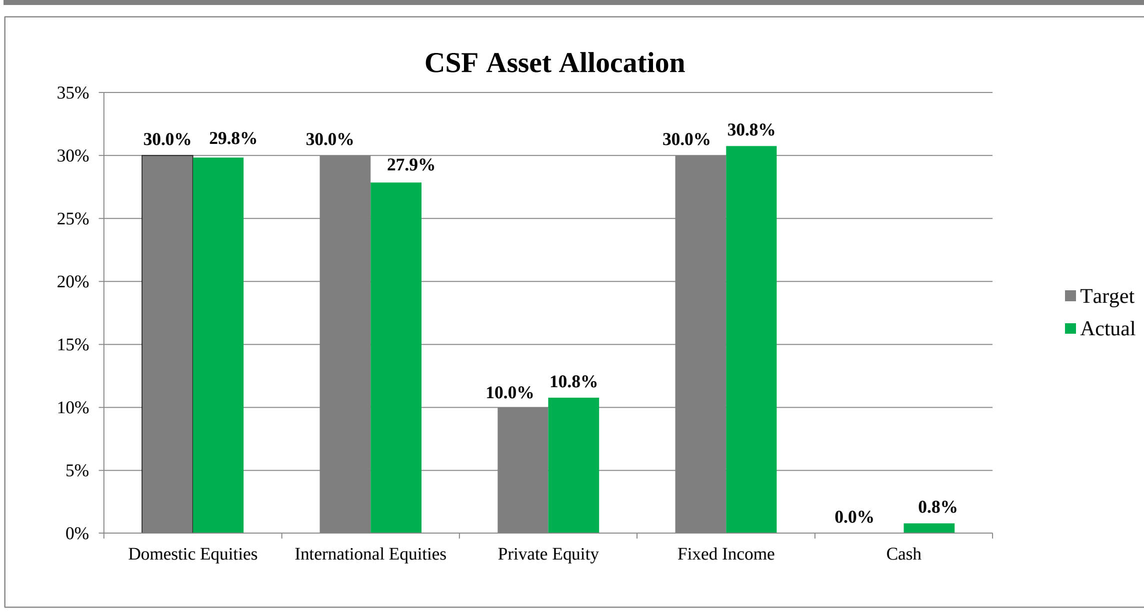
[3]Revised asset allocation adopted by OIC, March 2015.



OPERF Asset Allocation
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
37.5%
39.3%
17.5%
19.6%
0.0%
2.1%
20.0%
21.9%
12.5%
12.5%
12.5%
4.6%
0.0%
0.0%
Public Equity
Private Equity
Opportunity Portfolio
Fixed Income
Real Estate
Alternative Investments
Cash
Target
Actual

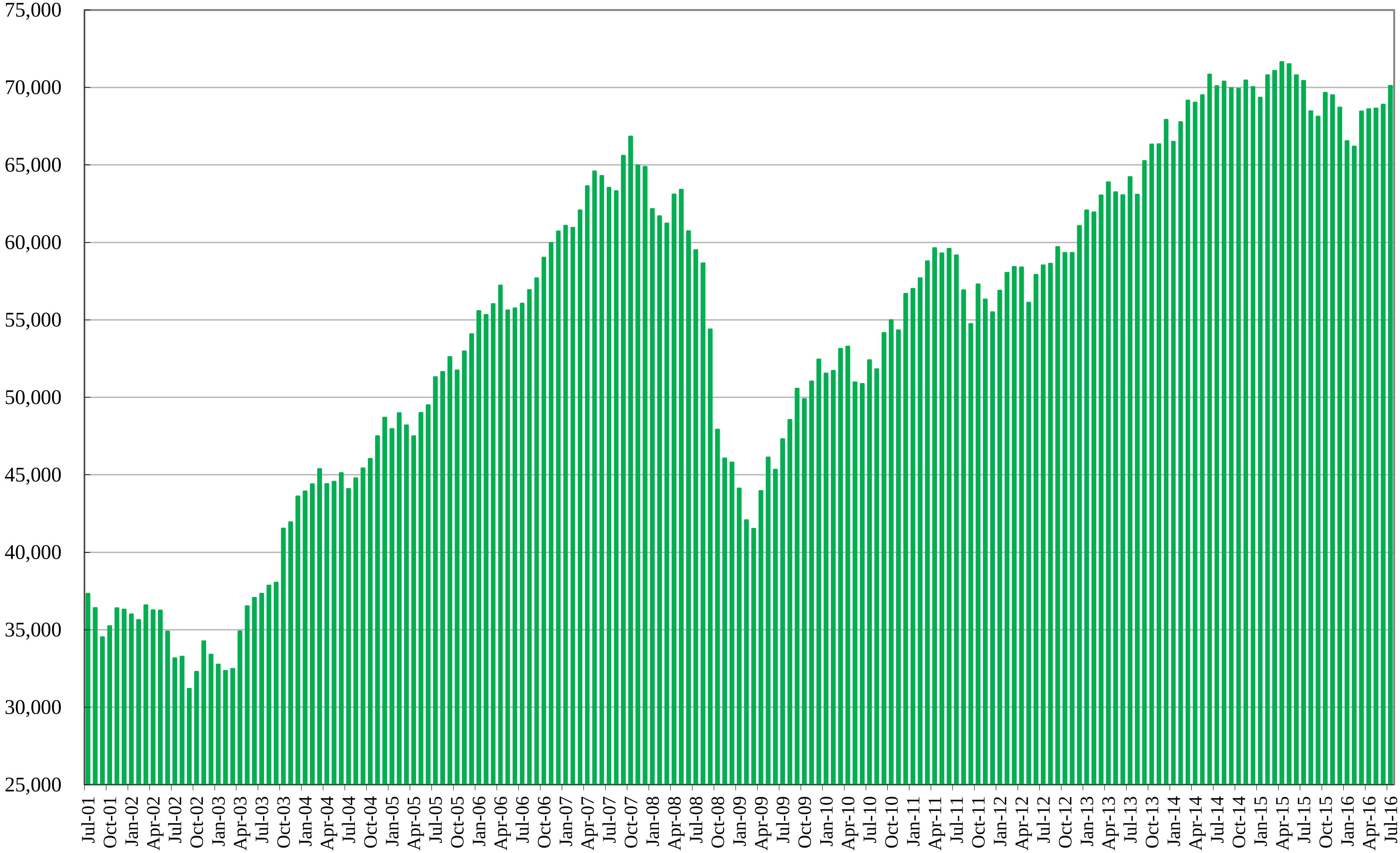



SAIF Asset Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
10.0%
9.5%
85.0%
89.0%
5.0%
0.0%
0.0%
1.6%
Total Equity
Fixed Income
Real Estate
Cash
Target
Actual

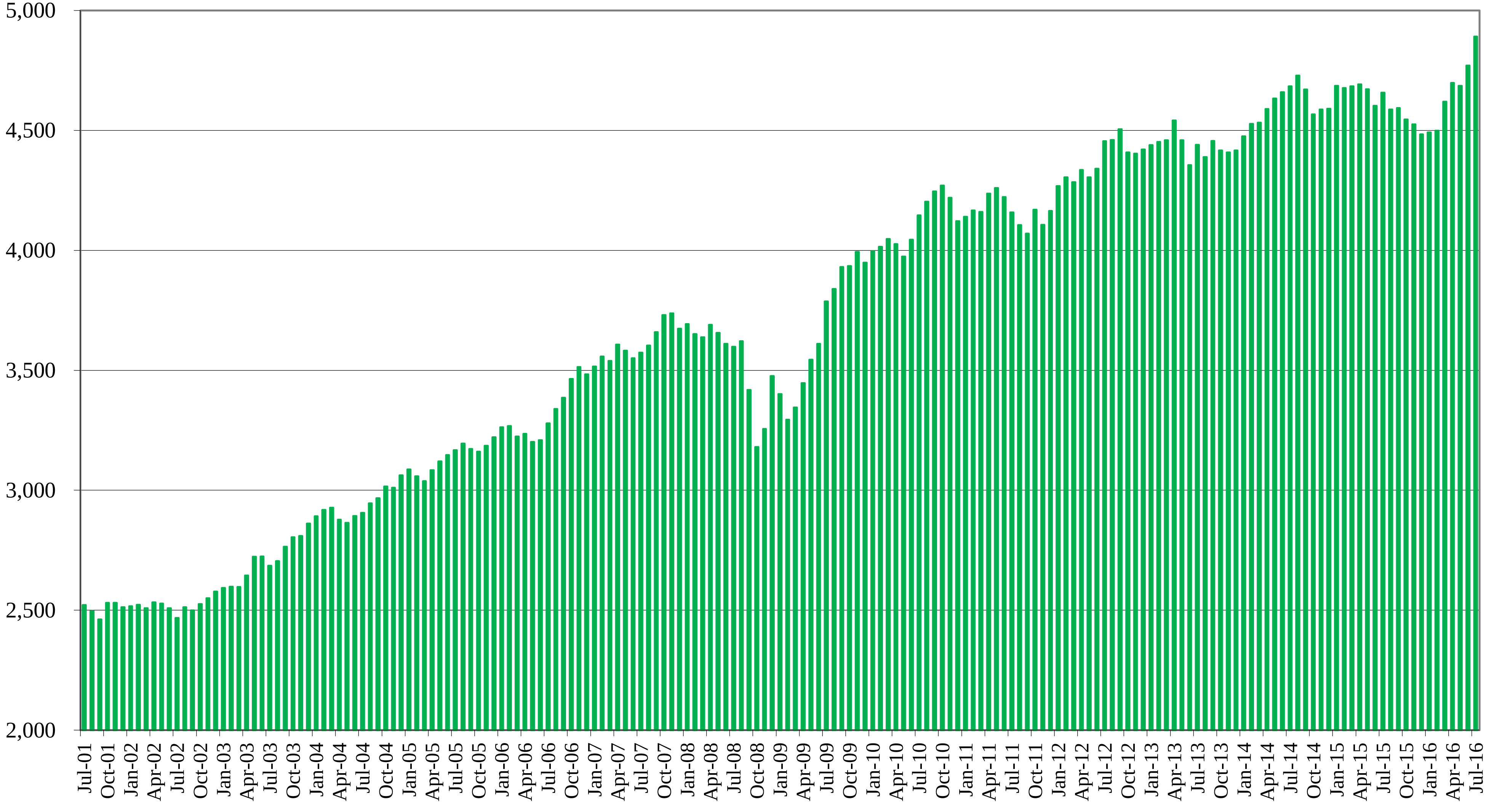



CSF Asset Allocation
35%
30%
25%
20%
15%
10%
5%
0%
30.0%
29.8%
30.0%
27.9%
10.0%
10.8%
30.0%
30.8%
0.0%
0.8%
Domestic Equities
International Equities
Private Equity
Fixed Income
Cash
Target
Actual

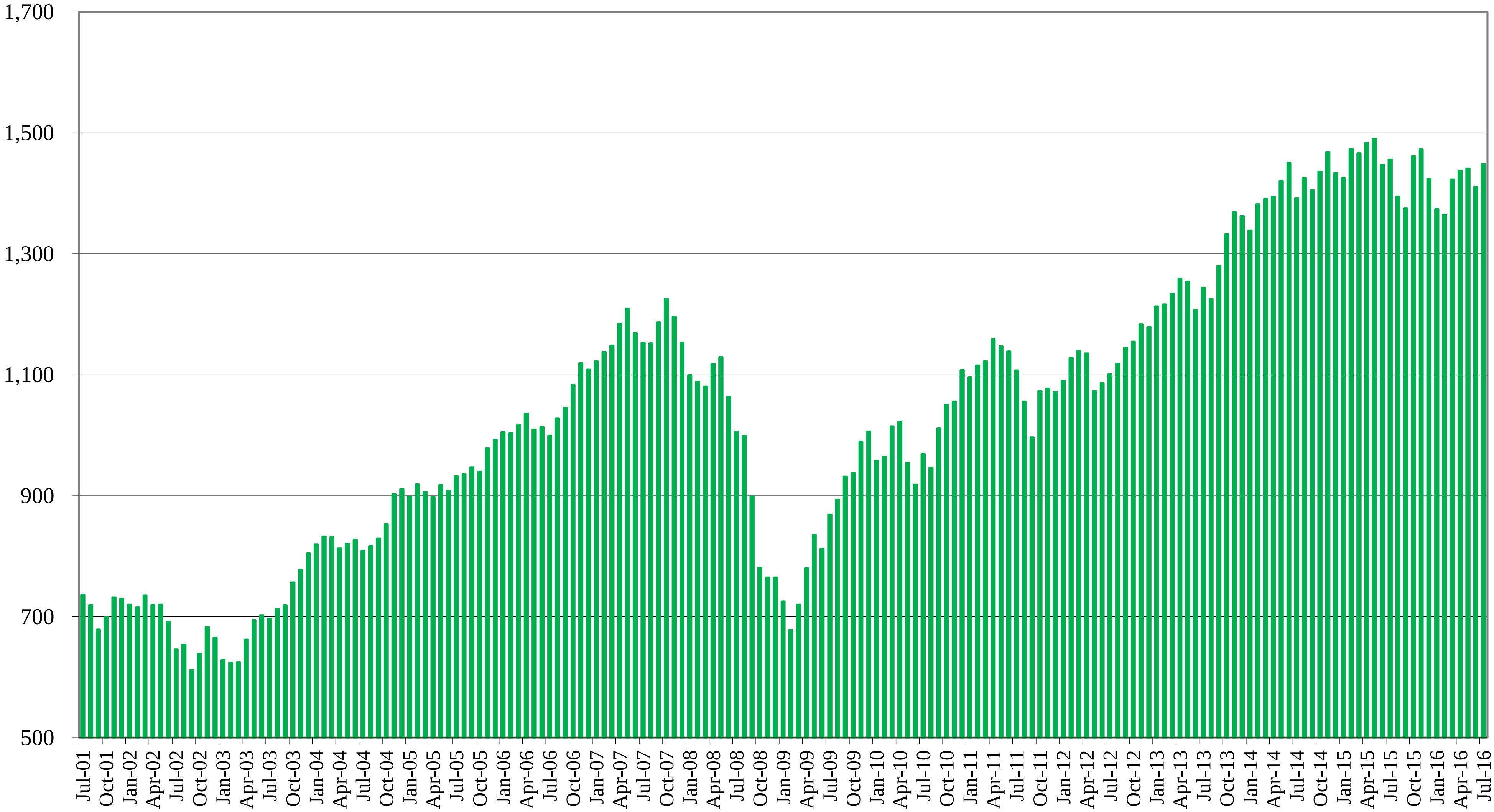
## OPERF NAV
## 15 years ending July 2016
## ($ in Millions)



**SAIF NAV**
**15 years ending July 2016**
**($ in Millions)**



# CSF NAV
## 15 years ending July 2016
## ($ in Millions)



# TAB 10 – Forward Calendar

# 2016/17 OIC Forward Calendar and Planned Agenda Topics

| | |
|---|---|
| **October 26:** | OPERF Private Equity Manager Recommendation<br>OPERF Alternatives Manager Recommendation<br>OIC General Consultant(s) Recommendation<br>Public Equity Program Review<br>OPERF Public Equity Managers Recommendation<br>CEM Benchmarking Report |
| **December 7:** | OPERF Real Estate Manager Recommendation<br>OPERF Alternatives Manager Recommendation<br>OPERF Q3 2016 Performance & Risk Report<br>OSTF Review<br>Fixed Income Program Review<br>OPERF Currency Project Introduction<br>IAP Update and Discussion |
| **February 1, 2017:** | Private Equity Manager Recommendation<br>Private Equity Program Review<br>Real Estate Program Review<br>Placement Agent Report<br>2018 OIC Calendar Approval<br>IAP Recommendation |
| **March 15, 2017:** | OPERF Opportunity Portfolio Review<br>SAIF Annual Review<br>Q4 2016 OPERF Performance & Risk Report<br>OPERF Overlay Review<br>Securities Lending Update<br>OPERF Currency Project Recommendation |
| **April 26, 2017:** | OPERF Alternatives Portfolio Review<br>OPERF Asset Allocation & Capital Market Assumptions Update<br>CSF Annual Review<br>OIC Policy Updates |
| **June 7, 2017:** | OITP Review<br>Q1 2017 OPERF Performance & Risk Report |
| **August 9, 2017:** | Corporate Governance Update |