Oregon Investment Council

December 3, 2014
9:00 AM

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

Dick Solomon
Chair

John Skjervem
Chief Investment Officer

Ted Wheeler
State Treasurer

OREGON INVESTMENT COUNCIL

2015 Schedule

Meetings Begin at 9:00 am

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

Wednesday, February 4, 2015

Wednesday, March 4, 2015

Wednesday, April 29, 2015

Wednesday, June 3, 2015

Wednesday, July29, 2015

Wednesday, September 16, 2015

Wednesday, October 28, 2015

Wednesday, December 9, 2015

OREGON INVESTMENT COUNCIL

Agenda

December 3, 2014
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 Minutes** November 5, 2014 Regular Meeting	**Dick Solomon** *OIC Chair*	**1**
	Committee Reports	**John Skjervem** *Chief Investment Officer*	
9:05-9:15	**2. Investment Beliefs & Statement of Investment Objectives and Policy Framework for OPERF Updates**	**John Skjervem**	**2**
	B. Information Items		
9:15-9:45	**3. CEM Benchmarking** *Annual Review of OPERF Costs*	**Mike Mueller** *Deputy CIO* **Bruce Hopkins** *Vice President, CEM*	**3**
9:45-10:05	**4. Common School Fund** *Annual Review*	**Mike Mueller** **Mary Abrams** *Director, Department of State Lands*	**4**
10:05-10:15	**-------------------- BREAK --------------------**		
10:15-10:50	**5. OPERF Alternative Portfolio** *Annual Review*	**Ben Mahon** *Investment Officer*	**5**
10:50-11:25	**6. OPERF Opportunity Portfolio** *Annual Review*	**John Hershey** *Director of Alternative Investments*	**6**

11:25-11:45	**7.**	**OPERF Q3 Performance Review**	**Jim Callahan** *Callan Associates, Inc.*	**7**
11:45-11:50	**8.**	**Asset Allocations & NAV Updates** a. Oregon Public Employees Retirement Fund b. SAIF Corporation c. Common School Fund d. HiEd Pooled Endowment Fund	**John Skjervem**	**8**
	9.	**Calendar — Future Agenda Items**		**9**
	10.	**Other Items**	**Council** **Staff** **Consultants**	

C. Public Comment Invited

15 Minutes

TAB 1 – REVIEW & APPROVAL OF MINUTES

December 03, 2014 Regular Meeting

OST Committee Reports – Verbal

JOHN D. SKJERVEM
CHIEF INVESTMENT OFFICER
INVESTMENT DIVISION

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OREGON INVESTMENT COUNCIL
NOVEMBER 5, 2014
MEETING MINUTES

Members Present:	Rukaiyah Adams, Paul Cleary, Katy Durant, Dick Solomon, Ted Wheeler
Member Participating by Phone:	Keith Larson
Staff Present:	Darren Bond, Austin Carmichael, Karl Cheng, Michael Cox, Garrett Cudahey, Debra Day, Scott Harra, John Hershey, Julie Jackson, Perrin Lim, Tom Lofton, Ben Mahon, Mike Mueller, Paola Nealon, Tom Rinehart, Priyanka Shukla, John Skjervem, Michael Viteri
Consultants Present:	David Fann and Tom Martin (TorreyCove); Allan Emkin, David Glickman, John Linder and Dillon Lorda (PCA); Jim Callahan, Uvan Tseng, and Janet Becker-Wold (Callan)
Legal Counsel Present:	Dee Carlson and Deena Bothello, Oregon Department of Justice

The November 5, 2014 OIC meeting was called to order at 9:00 am by Dick Solomon, Chair.

I. 9:02 am Review and Approval of Minutes

MOTION: Treasurer Wheeler moved approval of the September 24, 2014 meeting minutes. Ms. Durant seconded the motion, which then passed by a 5/0 vote.

COMMITTEE REPORTS

John Skjervem, CIO gave an update on the following committee actions taken since the September 24, 2014 OIC meeting:

Private Equity Committee – 2014:

October 27, 2014	Advent Latin America PE Fund VI, L.P.	up to $100 million
October 27, 2014	Black Diamond Capital Management IV, L.P.	$200 million
October 27, 2014	Francisco Partners IV, L.P.	up to $200 million -- OPERF up to $25 million -- CSF

Alternatives Portfolio Committee – 2014:

October 13, 2014	Sheridan Production Partners Fund III	$250 million

Opportunity Portfolio Committee – 2014:

NONE

<u>Real Estate Committee – 2014</u>:
NONE

II. **<u>9:03 am Oregon Short Term Fund –</u>** *<u>Annual Review</u>*

Garrett Cudahey, Investment Officer presented the annual review of the Oregon Short Term Fund (OSTF), which included submission of the OSTF annual audited financial statements. Mr. Cudahey also sought approval for revisions to Investment Policy 4.02.03, the OSTF Portfolio Rules, which would allow asset-backed securities (ABS) as OSTF-eligible.

MOTION: Ms. Adams moved approval of the staff recommendation. Ms. Durant seconded the motion, which then passed on a 5/0 vote.

III. **<u>9:20 am Oregon Savings Growth Plan –</u>** *<u>457 Plan Investment Options</u>*

Karl Cheng, Investment Officer recommended creating an Environmental Social Governance (ESG) option within the Oregon Savings Growth Plan using the TIAA-CREF Social Choice Equity Fund.

The Oregon Savings Growth Plan (the “Plan” or “OSGP”) is the State of Oregon’s 457 deferred compensation plan. OSGP is a voluntary supplemental retirement plan that provides eligible state and local government employees the opportunity to defer a portion of their current salary on a pre-tax or after-tax (Roth) basis. These deferrals are invested in various investment options until participants draw funds at retirement. The Plan offers an array of specific equity and fixed income investment options, a suite of target-date retirement funds (which in aggregate are considered one investment option) and a self-directed brokerage option. The plan has approximately 25,000 participants and assets totaling over $1.63 billion as of June 30, 2014.

With support and assistance from the Oregon State Treasury investment division, the OIC is responsible for oversight of the Plan’s investment program. Oversight of the Plan’s administrative operation is the responsibility of the Oregon Public Employees Retirement System Board with support from the OSGP manager. Additional oversight is provided by a seven-member Deferred Compensation Advisory Committee established under ORS 243.505.

MOTION: Treasurer Wheeler moved approval of the staff recommendation. Ms. Adams seconded the motion, which then passed on a 5/0 vote.

IV. **<u>9:30 am OIC Investment Beliefs</u>**

John Skjervem, OST Chief Investment Officer and Allan Emkin with PCA provided an update on the Investment Beliefs project and presented proposed changes to the OIC’s existing set of Investment Beliefs. The proposed changes were discussed, and further revisions were requested for consideration at the December OIC meeting.

V. **<u>10:00 am 2015 OIC Meeting Calendar</u>**

The proposed 2015 OIC meeting calendar was presented as follows:

Meetings Begin at 9:00 am

PERS Headquarters Building
11410 S.W. 68th Parkway
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Wednesday, March 4, 2015

Wednesday, April 29, 2015

Wednesday, June 3, 2015

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Wednesday, September 16, 2015

Wednesday, October 28, 2015

Wednesday, December 9, 2015

MOTION: Ms. Adams moved approval of the proposed 2015 meeting dates. Treasurer Wheeler seconded the motion, which then passed on a 5/0 vote.

VI. 10:15 am SAIF Annual Review

Mike Mueller, OST Deputy Chief Investment Officer introduced John Gilkey and Gina Manley with SAIF Corporation who then gave an update on SAIF, its operating condition and financial profile. The OST-managed SAIF investment portfolio has performed well over the past decade, and as of September 30, 2014, approached an all-time high market value of $4.7 billion. Over the most recent five-year period, SAIF's investment portfolio generated an average annual return of 6.7 percent, exceeding its corresponding 6.1 percent policy benchmark return. Over the trailing 10-year period, and on an average, annual basis, the fund has returned 5.9 percent versus its 5.5 percent policy benchmark return.

VII. 10:30 am OPERF Public Equity Review

Michael Viteri, Senior Investment Officer and Jim Callahan with Callan Associates presented the annual OPERF public equity review. In OPERF's domestic equity portfolio, consistent excess returns from traditional, discretionary active management have been difficult to achieve. In this highly efficient segment of the market, staff proposed complementing the portfolio's existing and long-standing overweight to small cap stocks with a systematic, low cost bias or "tilt" toward value stocks. Historically, size (i.e., small cap) and value factors have generated statistically significant excess returns; moreover, exposure to these two factors – rather than stock picking prowess – often explains much or all of active managers' "alpha" over time. Accordingly, staff believes that strategies engineered to effect low cost factor tilts have, net of fees, a higher probability of long-term outperformance than traditional strategies based on discretionary active management methodologies.

To facilitate restructuring OPERF's domestic equity portfolio consistent with the rationale described above, Staff also recommended changes to OIC Policy 04.05.01 – Strategic Role of Public Equity Securities within OPERF. These changes include removing the portfolio's active/passive target, reducing its strategic small cap overweight target from 100% to 70% and introducing a strategic target (and accompanying range) for a new, value factor tilt.

MOTION: Treasurer Wheeler moved approval of the staff recommendation. Ms. Durant seconded the motion, which then passed on a 5/0 vote.

VIII. 11:20 am Asset Allocation & NAV Updates

Mr. Skjervem reviewed asset allocations and NAV's across OST-managed accounts for the period ended September 30, 2014.

IX. <u>11:22 am Calendar-Future Agenda Items</u>

Mr. Skjervem presented a revised schedule of future OIC meetings and associated agenda topics.

X. <u>11:22 am Other Items</u>

On behalf of current and past OIC members, Chairman Solomon expressed appreciation for the many contributions and long service of Paul Cleary, who is retiring from his Executive Director role at PERS on November 30, 2014. Mr. Cleary then introduced his successor, Steve Rodeman, and extended his own thanks to fellow OIC members and OST staff for their collective efforts on behalf of PERS and its many thousand individual beneficiaries.

<u>11:35 am Public Comments</u>

Rob Sisk with SEIU thanked the OIC for its approval of the TIAA-CREF Social Choice Equity Fund as a new option within the State's 457 voluntary investment program.

Mr. Solomon adjourned the meeting at 11:37 am.

Respectfully submitted,

Julie Jackson

Julie Jackson
Executive Support Specialist

TAB 2 – INVESTMENT BELIEFS & STATEMENT OF INVESTMENT OBJECTIVES AND POLICY FRAMEWORK FOR OPERF UPDATES

Oregon Investment Council

Statement

of

Investment and Management Beliefs

Adopted: October 30, 2013

Revised: December 3, 2014

Contents

Preamble

This Statement of Investment and Management Beliefs enumerates fundamental investment and management principles that guide the Oregon Investment Council ("Council" or "OIC) in performing its fiduciary and statutory obligations which include establishing policies for the investment and management of "investment funds" as defined in Oregon Revised Statue 293.701(2). The Oregon State Treasurer, largely through the Investment Division of the Office of the State Treasurer ("Treasurer" or "OST"), provides staff support for the Council and, as the Council's statutorily designated "investment officer" (together with such other persons determined qualified by the Council to conduct investment and management functions on its behalf), invests and manages in accordance with Council policy those moneys made available by the Council for such purposes. The Treasurer may also adopt additional policies governing its investment and management functions. The OIC and OST recognize that their respective authority to establish and implement such policies is grounded in and bounded by fiduciary and statutory foundations to their authority which charge them with exercising a duty of exclusive loyalty to fund beneficiaries by ensuring that related moneys are invested as efficiently and productively as possible while adhering to applicable standards of prudent judgment and care. Accordingly, the following statements and accompanying OIC policies are intended to be in harmony with and promote the fulfillment of such obligations.

1.) THE OIC SETS POLICY AND IS ULTIMATELY RESPONSIBLE FOR THE INVESTMENT PROGRAM

A. The OIC is a policy-setting council that largely delegates investment management activities to the OST and qualified external fiduciaries.

- The OIC sets strategic policy and tasks both OST staff and external managers with policy implementation.

B. The OIC has authority to set and monitor portfolio risk. Both short-term and long-term risks are critical.

- The OIC must weigh the short-term risk of principal loss against the long-term risk of failing to meet return expectations.

C. To exploit market inefficiencies, the OIC must be contrarian, innovative and opportunistic in its investment approach.

- The OIC must prepare for and accept periods of extreme price/valuation volatility and/or related market dislocations and endeavor to act expeditiously during such periods if and when deemed advantageous.

D. Internal incentive structures should be carefully evaluated to ensure proper alignment with specific investment objectives.

- Evaluation criteria should be based (in large part) on decisions over which staff members have clear authority and control.
- Total portfolio results (in addition to individual asset class returns) should be considered, and the evaluation period should be consistent with an appropriate investment horizon or market cycle.

E. Adequate resources are required to successfully compete in global capital markets.

- Staffing levels and operating budgets should be determined by capability requirements using benchmark assessments comprised of other well respected organizations of similar size and portfolio complexity.
- The benefits of OIC member and OST staff continuity should also be recognized.

2.) ASSET ALLOCATION DRIVES RISK AND RETURN

A. Asset allocation is the OIC's primary policy tool for managing the investment program's long-term risk/return profile.

- Decisions regarding strategic asset allocation will have the largest impact on the investment program's realized return and risk and hence should be made judiciously and receive special emphasis and attention.
- The timing and magnitude of projected employer contributions and future benefit payments have significant cash flow implications and thus should receive explicit consideration during the OIC's asset allocation decision-making process.

B. Portfolio construction, including diversification and correlation considerations, is essential to maximizing risk-adjusted returns.

- Empirical rigor, coupled with sound judgment, is required in the portfolio construction process to effect true diversification, while discipline is required to maintain diversification through and across successive market cycles.
- Risk is multi-faceted and may include, but is not limited to, the following types of specific risks: principal loss; opportunity cost; concentration risk; leverage and illiquidity risk; volatility and valuation risk; interest rate and inflation risk; and environmental, social and governance (ESG) risks.

3.) THE EQUITY RISK PREMIUM WILL BE REWARDED

A. Over the long-term, equity-oriented investments provide reliable return premiums relative to risk-free investments.

- Although returns for risk taking are not always monotonic or consistently rewarded over time, bearing equity risk does command a positive expected return premium provided such risk is reasonably priced.

4.) PRIVATE MARKET INVESTMENTS CAN ADD SIGNIFICANT VALUE AND REPRESENT A CORE OIC/OST COMPETENCY

A. The OIC can capitalize on its status as a true, long-term investor by making meaningful allocations to illiquid, private market investments.

- Inefficiencies exist in private markets that provide skilled managers with excess return opportunities relative to public market analogues.
- Private markets may also offer an “illiquidity premium” that can be exploited by patient, long-term investors.

B. Dispersion in private market investment returns is wide; accordingly, top-quartile manager selection and vintage year diversification are paramount.

- Private market investment success is predicated on identifying skilled managers, and developing long-term investment relationships with those mangers that enable their skill to manifest in the form of excess returns.
- Proper investment pacing, including deliberate vintage year diversification is also an integral element of superior private market investment results.

5.) CAPITAL MARKETS HAVE INEFFICIENCIES THAT CAN BE EXPLOITED

A. Inefficiencies that can be exploited by active management may exist in certain segments of the capital markets.

- While largely efficient, select segments of the capital markets can sometimes be exploited by skilled active management.
- The nature (i.e., perceived magnitude and likely duration) of such inefficiencies should inform the proposed active management strategy (e.g., discretionary or systematic).

B. Passive investment management in public markets will outperform the median active manager in those markets over time.

- Active management should therefore be a deliberate choice and applied only to those public market strategies/managers in which the OIC enjoys a high degree of confidence that such strategies/managers will be sufficiently rewarded on a risk-adjusted basis and net of all fees and related transactions costs.

6.) COSTS DIRECTLY IMPACT INVESTMENT RETURNS AND SHOULD BE MONITORED AND MANAGED CAREFULLY

A. All fees, expenses, commissions, and transaction costs should be diligently monitored and managed in order to maximize net investment returns.

- While all costs should be monitored and controlled, these costs should also be evaluated relative to both expected and realized returns.

B. External incentive structures should be carefully evaluated to ensure proper alignment with investment program objectives.

- Fee and incentive structures drive both individual and organizational behavior.
- These structures (particularly in private market strategies) should be carefully evaluated and monitored to ensure that the goals and incentives of individual investment professionals and their respective organizations are well aligned with the specific investment objectives established by the OIC and/or OST staff.

7.) FAIR AND TRANSPARENT CAPITAL MARKETS ARE ESSENTIAL FOR THE LONG-TERM SUCCESS OF OIC/OST INVESTMENT ACTIVITIES

A. The OIC recognizes that the quality of regulation and corporate governance can affect the long-term value of its investments.

- The Council promotes open, competitive market structures to ensure accurate and timely price discovery/asset valuation.

B. The OIC also recognizes that voting rights have economic value and therefore must be treated as a fund or beneficiary asset.

- The OIC shall vote shares in its capacity as fiduciary and based solely on the economic merits of specific proxy proposals.

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- ~~Portfolio risk is multifaceted. For example, the~~The OIC must weigh the short-term risk of principal loss against the long-term risk of failing to meet return expectations. ~~As part of the risk monitoring process, the OIC should establish a process for identifying extreme price/valuation levels as well as a decision-making protocol when such levels have been reached/breached.~~

C. To exploit market inefficiencies, the OIC must be contrarian ~~and~~, innovative and opportunistic in its investment approach ~~to opportunistic investments~~.

- ~~As part of its short- and long-term risk management efforts, the~~The OIC ~~should~~must prepare for and accept periods of extreme price/valuation ~~levels~~volatility and/or related ~~financial~~ market dislocations and ~~have the ability and fortitude~~endeavor to act expeditiously during such periods if and when deemed advantageous.

D. ~~Incentive~~Internal incentive structures should be carefully evaluated to ensure proper alignment with ~~OST/OPERF~~specific investment objectives.

- ~~When applied to staff, evaluation~~Evaluation criteria should be based (in large part) on decisions over which staff members have clear authority and control. ~~Furthermore, total~~

- Total portfolio results (in addition to individual asset class returns) should be considered~~. Finally,~~, and the evaluation period should be consistent with an appropriate investment horizon or market cycle.

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- Staffing levels and operating budgets should be determined by capability requirements using benchmark assessments comprised of other well respected organizations of similar size and portfolio complexity~~. The benefits of OST staff continuity should also be recognized~~.

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- Empirical rigor, coupled with sound judgment, is required in the portfolio construction process to effect true diversification, while discipline is required to maintain diversification through and across successive market cycles.
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- Inefficiencies exist in private markets that provide skilled managers with excess return opportunities relative to public market analogues.~~ Private markets may also offer an "illiquidity premium" that the OIC can exploit given its position as a long-term investor.~~
- Private markets may also offer an "illiquidity premium" that can be exploited by patient, long-term investors.

B. Dispersion in private market investment returns is ~~very~~ wide; accordingly, top-quartile manager selection and vintage year diversification are paramount.

- Private market investment success is predicated on ~~a)~~ identifying skilled managers, and ~~b)~~ developing long-term investment relationships with those mangers that enable their skill to manifest in the form of excess returns.
- Proper investment pacing, including deliberate vintage year diversification is also an integral element of superior private market investment results.

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A. Inefficiencies that can be exploited by active management may exist in certain segments of the capital markets.

- While largely efficient, select segments of the capital markets can sometimes be exploited by skilled active management.
- The nature (i.e., perceived magnitude and likely duration) of such inefficiencies should inform the proposed active management strategy (e.g., discretionary or systematic).

B. Passive investment management in public markets will outperform the median active manager in ~~public~~those markets over time.

- ~~In public market asset classes, passive investment management is expected to outperform the median active manager. Accordingly, active~~Active management should therefore be a deliberate choice and applied only to those public ~~investment~~market strategies~~ and~~ /managers in which the OIC enjoys a high degree of confidence that such ~~active management~~

~~activities~~strategies/managers will be sufficiently rewarded on a risk-adjusted basis and net of all fees and related transactions costs.

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- These structures (particularly in private market strategies) should be carefully evaluated and monitored to ensure that the goals and incentives of individual investment professionals and their respective organizations are well aligned with the specific investment objectives established by the OIC and/or OST staff.

7.) FAIR AND TRANSPARENT CAPITAL MARKETS ARE ESSENTIAL FOR THE LONG-TERM SUCCESS OF OIC/OST INVESTMENT ACTIVITIES

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- The OIC shall vote shares in its capacity as fiduciary and based solely on the economic merits of specific proxy proposals.

Oregon Investment Council

Statement
of
Investment Objectives and Policy Framework
for the
Oregon Public Employees Retirement Fund

Adopted: February 27, 2002

Revised: July 28, 2004; April 27, 2005; May 18, 2005; January 18, 2006; July 6, 2006; January 31, 2007; September 26, 2007; January 30, 2008; April 29, 2009; May 27, 2009; April 28, 2010; December 1, 2010; April 27, 2011; April 25, 2012; October 30, 2013; and December 3, 2014

Contents

Terms explained in the glossary are *italicized* when they first appear in this document.

1.0 Purpose

1.1 This Statement of Investment Objectives and Policy Framework (the "Statement") summarizes the philosophy, objectives and policies approved by the *Oregon Investment Council* (the "Council") for the investment of *Oregon Public Employees Retirement Fund* ("OPERF" or the "Fund") assets.

1.2 The Council approved these objectives and framework after careful consideration of OPERF benefit provisions, and the implications of alternative objectives and policies.

1.3 The Statement has been prepared with five audiences in mind: 1) incumbent, new and prospective Council members; 2) Treasury staff; 3) OPERF active and retired members; 4) the Oregon State Legislature and Governor; and 5) agents engaged by the Council to manage and administer Fund assets.

1.4 The Statement summarizes more detailed policy and procedure documents prepared and maintained by the staff of the *Office of the State Treasurer*, and numerous other documents that govern the day-to-day management of OPERF assets including agent agreements, individual investment manager mandates and limited partnership documents.

1.5 The Council regularly assesses the continued suitability of its approved investment objectives and policies, initiates change as necessary and updates these documents accordingly.

2.0 Investment Objective

2.1 Subject to ORS 293.721 and 293.726, the investment objective for the *Regular Account* is earning, over rolling, consecutive twenty-year periods, an annualized *return* that equals or exceeds the *actuarial discount rate* (ADR) approved by the Public Employees Retirement Board (PERB) and used to value OPERF liabilities.

2.2 The Council believes, based on the assumptions outlined herein, that the investment policies summarized in this document will provide the highest probability of achieving this objective, at a level of *risk* that is acceptable to active and retired OPERF members. The Council evaluates risk in terms of the probability of not achieving the ADR over a consecutive, twenty-year time horizon.

2.3 Historically, members were allowed to direct up to 75% of their contributions to the *Variable Account*. While no longer receiving new contributions, the Variable Account's objective remains investment performance consistent with the *MSCI All Country World Index*.

2.4 The Council has established investment objectives for individual asset classes that are also summarized in this Statement.

3.0 Policy Asset Mix, Risk Diversification and Return Expectations

3.1 After careful consideration of OPERF's investment objective, *liability* structure, *funded status* and liquidity needs, as well as the return, risk and *diversification* characteristics of different asset classes, the Council approved the asset mix policy presented in Exhibit 1 for the OPERF Regular Account. The Council's total fund asset mix policy and active management return expectations are also summarized in Exhibit 1.

3.2 Of its total assets, 57.5 percent of OPERF is targeted for investment in *equities*, inclusive of *private equity*. Equity investments have generated the highest returns over long time periods, but can also produce low and even negative returns over shorter time periods.

3.3 The risk of low returns over shorter time periods makes 100% equity policies unsuitable for most pension funds, including OPERF. By investing across multiple equity asset classes, and in lower return but less risky *fixed-income* and *real estate* assets, the Council is managing and diversifying the Fund's overall risk.

3.4 Specific asset class exposures are maintained within the ranges outlined in Exhibit 1.

3.5 At a 7.6% expected annual return, the Fund has a 50% probability of earning an annualized return equal to or exceeding its actuarial discount rate over a consecutive 20-year horizon or, approximately, the next two to three market cycles.

Exhibit 1: Policy Mix and Return Expectations for OPERF Regular Account

Asset Class	Target Allocation (%)	Re-balancing Range (%)	Expected Annual Policy Return[1, 2] (%)	Expected Annual Active Management Return (net of fees) (%)	Expected Annual Total Return (%)
Public Equities	37.5	32.5-42.5	7.9	0.75	8.6
Private Equity	20	16-24	10.2	0.7	10.9
Total Equity	57.5	52.5-62.5			
Fixed Income	20	15-25	2.3	0.35	2.6
Real Estate	12.5	9.5-15.5	7.1	0.75	7.8
Alternatives	10	0-10	6.4	0.5	6.9
Total Fund	100		7.0	0.6	7.6

1. Based on capital market forecasts developed by the Council's investment consultant, SIS, for the next two to three market cycles.
2. Total Fund expected returns are simply the weighted averages of the individual asset class returns. The policy mix's geometric mean return expectation is 7.9%.

3.6 The policy mix's 7.6% average annual return expectation was developed with reference to observed long-term relationships among major asset classes, adjusted to account for current market conditions. The Council believes this return expectation is reasonable, but recognizes that over shorter time periods, actual returns can deviate significantly from expectations – both positively and negatively.

3.7 U.S. equity, non-U.S. equity, and fixed-income asset classes are managed using both passive and active management strategies. Active management of the Fund's public market equity and real estate allocations is expected to earn a 0.75% per annum return premium over rolling, consecutive five-year periods (and relative to those allocation's respective benchmarks). The Council recognizes that unsuccessful active management can reduce total fund returns.

3.8 The OIC has allocated up to 3.0% of total Fund assets for investment in an *Opportunity Portfolio,* the objective of which is to provide enhanced returns and better diversification for OPERF. Investments in the *Opportunity Portfolio* are expected to comprise a combination of both shorter-term (1-3 year) and longer-term holdings. The *Opportunity Portfolio* has no strategic target since, by definition, eligible investments will only be pursued on an opportunistic basis; moreover, the *Opportunity Portfolio* allocation shall not result in an allocation range breach for any of the other five, primary asset class allocations.

3.9 OPERF cash balances are invested in the *Oregon Short Term Fund* and managed to levels that are deliberately minimized but still sufficient to cover OPERF's short-term cash flow needs.

3.10 In an effort to minimize cash balances at both the fund and manager level, the OIC has retained an overlay manager to more closely align the actual Fund portfolio with the approved policy mix, generally through the purchase and sale of futures contracts to increase or decrease specific asset class exposures, as necessary.

3.11 The Council shall review, at least biennially, its expectations for asset class and active management performance, and assess how the updated expectations affect the probability that the Regular Account will achieve its investment objective.

4.0 Passive and Active Management

4.1 Passive management uses lower cost *index funds* to access the return streams available from the world's capital markets. Active management tries to earn higher returns than those available from index funds through the application of manager skill in the form of sector and security selection as well as market and/or asset mix timing decisions.

4.2 The Council uses passive management to control costs, evaluate active management strategies, capture exposure to *efficient market* segments, manage *tracking error* and facilitate policy mix re-balancing activities. Exchange-traded *real estate investment trusts (REITS)* may also be used to maintain the Fund's real estate exposure within specified policy ranges.

4.3 The Council approves active management of Fund assets when proposed active strategies offer sufficiently high expected incremental returns, net of fees, and when the magnitude of potential under-performance can be estimated, monitored and managed.

4.4 The Council must accept active management in those asset classes for which there are no passive management alternatives, in particular, real estate, private equity and other alternative and opportunistic investment strategies.

4.5 The Council prefers active management strategies that emphasize sector and/or security selection decisions rather than market and/or asset mix timing decisions as the former are much better supported by professional experience and academic research.

4.6 At the aggregate level of the Regular Account, active management strategies authorized by the Council are expected to **add 0.6% of annualized excess return**, net of fees, over rolling, consecutive five-year periods. **Relative to the policy benchmark, Regular Account active risk shall be managed to a 2 to 3 percent annualized tracking error target.**

5.0 Public Equity Strategy

5.1 OPERF's public equity allocation is managed with the objective of earning at least **75 *basis points*** in annualized net excess return relative to the *MSCI All Country World Investable Market Index* (ACWI IMI – net) (unhedged) over rolling, consecutive five-year periods. R**elative to that same benchmark, active risk shall be managed to a 0.75 to 2.0 percent annualized tracking error target.**

5.2 Key elements of the strategy:

(a) In an effort to enhance return, maintain an over-weight to small capitalization stocks and other well supported sources of return premia. These strategic overweights or "tilts" are based on and supported by robust empirical research that historically links persistent and pervasive evidence of excess returns to systematic "factor exposures" such as size (i.e., small cap), value and momentum. Implementation of other factor tilts may be considered at the manager, strategy or mandate level upon approval of both the Chief Investment Officer (CIO) and OIC.

(b) Multiple, specialist active managers with complementary investment styles are employed. For example, some OPERF managers focus on growth stocks, some on value stocks, some on large capitalization stocks and others on small capitalization stocks. This diversified approach produces more consistent excess return opportunities and minimizes the Fund's exposure to any single investment organization.

(c) Active management is more common within OPERF's non-U.S. equity allocation because non-U.S. markets appear to provide more opportunities for the successful application of manager skill.

(d) Managers with skills in security selection and country allocation are utilized as these attributes have been shown to be the principal sources of excess returns in non-U.S. equity portfolios. In addition, managers who have demonstrated an ability to add value through currency management are permitted to do so.

(e) Aggregate exposures to countries, economic sectors, investment styles and market capitalization tiers are monitored and managed relative to corresponding benchmark exposures.

6.0 Fixed Income Strategy

6.1 OPERF's fixed income allocation is managed with the objective of earning **35 basis points** in annualized, net excess returns relative to a blended benchmark comprised of 40% *Barclays U.S. Aggregate Index*, 40% Barclays U.S. 1-3 Year Government/Credit Index, 15% *S&P/LSTA Leveraged Loan Index* and 5% *Bank of America Merrill Lynch High Yield Master II Index* over rolling, consecutive five-year periods. **Relative to the above-described benchmark, active risk with the OPERF fixed income allocation is managed to a 1 to 2 percent annualized tracking error target.**

6.2 Key elements of the strategy:

(a) At least 95% of the OPERF fixed income allocation is actively managed due to performance and cost considerations. Specifically, excess returns from active fixed income management are more likely as many investors hold fixed income securities to meet regulatory and liability matching objectives, and hence are not total return oriented. This market dynamic produces systematic mis-pricings of fixed income securities that skilled investment managers can exploit. Active fixed income management fees are also much lower than active equity management fees.

(b) Multiple active generalist managers will be used for a majority of the fixed income asset class, rather than the specialist manager approach used within OPERF's public equity allocation. However, the OIC may utilize specialist fixed income managers as warranted or necessary, although fixed income manager mandates generally have little impact on the Fund's total risk due to fixed income's lower overall Fund allocation and fixed income managers' generally low tracking error.

(c) Fixed income managers are selected for their skills in issue selection, credit analysis, sector allocations and duration management.

(d) Aggregate exposures to duration, credit and sectors are monitored and managed relative to corresponding exposures in the fixed income allocation benchmark.

7.0 Real Estate Strategy

7.1 OPERF's real estate allocation is managed with the objective of earning at least **75 basis points** in annualized, net excess returns relative to the *NCREIF Index* over rolling, consecutive five-year periods. Because 80% of the Fund's real estate investments are illiquid and/or traded infrequently, conventional risk budget concepts are not applicable.

7.2 Key elements of the strategy:

(a) Real Estate is 100% actively managed because a passive replication of the full breadth and depth of the real estate asset class is not viable.

(b) *Core* property investments represent 30% of the Fund's real estate allocation, with a range of 25% to 35%. Specialist managers are utilized. Risk is diversified by investing across the following major property types: office; apartments; retail; and industrial. The OPERF real estate allocation may also include structured investments in alternative property types with Core-like risk and return attributes.

(c) Exchange traded real estate investment trusts (REITs) represent 20% of the Fund's real estate allocation, with a range of 15% to 25%. Active management will include style and capitalization specialists, as well as broad market managers. Up to 50% of the REIT exposure may be invested in markets outside the United States.

(d) *Value Added* property investments represent 20% of the OPERF real estate allocation, with a range of 15% to 25%, and may include direct investments in each of the property types listed above, as well as structured investments in alternative property types. Risk is diversified by property type and geography.

(e) *Opportunistic* property investments represent 30% of the OPERF real estate allocation, with a range of 20% to 40%. Relative to Core and Value Added strategies, real estate investments will be characterized as "opportunistic" based on higher risk/return expectations and other prevailing market conditions.

(f) Within its real estate allocation, the Fund may participate in *co-investment* opportunities.

8.0 Private Equity Strategy

8.1 OPERF's private equity allocation is managed with the objective of earning at least **300 basis points** in annualized, net excess returns relative to the Russell 3000 Index over very long time horizons, typically rolling, consecutive 10-year periods. Because private equity investments are often illiquid and/or traded infrequently, risk budget concepts are not applicable.

8.2 Key elements of the strategy:

(a) Private Equity is 100% actively managed because private equity index funds are not available.

(b) Risk within OPERF's private equity allocation is diversified by investing across different fund types and strategies including *venture capital*, *leverage buyout*, *mezzanine debt*, *distressed debt*, *sector funds*, *secondaries* and *fund-of-funds*.

(c) OPERF's private equity allocation is further diversified by investing across *vintage year*, industry sectors, investment size, development stage and geography.

(d) OPERF's private equity investments are managed by external managers operating as general partners. Considerations for private equity manager selection include access to transactions (i.e., "deal flow"), specialized areas of operating expertise, established or promising net of fees performance track records, unique or differentiated investment methodologies and transparent/verifiable reporting processes.

(e) Within its private equity allocation, the Fund may participate in co-investment opportunities.

9.0 Alternatives Strategy

9.1 OPERF's allocation to Alternatives is managed with the objective of earning at least **400 basis points** in annualized, net excess returns relative to *CPI* over rolling, consecutive ten-year periods. Because 80% of the OPERF alternatives allocation is illiquid and/or traded infrequently, risk budget concepts are not applicable.

9.2 Key elements of the strategy:

(a) Alternatives are 100% actively managed because index funds replicating the broad alternatives market are not available.

(b) *Infrastructure* investments represent 30% of the Fund's alternatives allocation, with a range of 25% to 35%. Specialist managers are utilized, and risk is diversified by investment type, size and geography. Specific infrastructure sector exposures will likely include energy, transportation, ports and water in both domestic and international markets and comprising both mid-size and large capitalization enterprises.

(c) *Natural Resource* investments represent 45% of the Fund's alternatives allocation, with a range of 40% to 50%. Risk is diversified by investing across multiple industry sectors including oil and gas, agriculture, timberland, mining and commodities. Specialist managers are utilized in both domestic and international markets and across both active and some passive strategies.

(d) *Hedge Funds* represent 20% of the Fund's alternatives allocation, with a range of 15% to 25%. Hedge Fund investments may include relative value, macro, arbitrage and long/short equity strategies. Risk is diversified by investing in multiple managers and across several strategies.

(e) *Other* investments may represent 5% of the Fund's alternatives allocation, with a range of 0% to 10%. Investment strategies will be characterized as "other" based on prevailing market conditions as well as a specific strategy's unique "value proposition" or investment thesis.

(f) Within its alternatives allocation, the Fund may also participate in *co-investment* opportunities.

10.0 Performance Monitoring and Evaluation

10.1 The Council and its agents use a variety of compliance verification and performance measurement tools to monitor, measure and evaluate the management of OPERF assets. Monitoring, reporting and evaluation frequencies range from daily to annually, although quarterly is the most commonly used reporting frequency.

10.2 The Council has developed a performance monitoring and evaluation system that answers two fundamental fiduciary questions:

- Are Fund assets being prudently managed? More specifically, are Fund assets being managed in accordance with established laws, policies and procedures, and are individual investment managers in compliance with their respective mandates?
- Are Fund assets being profitably managed? More specifically, has Fund investment performance affected benefit security, and has capital market risk in general and active management in particular been sufficiently rewarded?

10.3 When a breach of policies, procedures or portfolio mandates is reported or detected, the Council requires a supporting report explaining how the breach was discovered, the reasons for the breach, actions taken to rectify the breach, and steps taken to mitigate future occurrences.

10.4 One of many reports used by the Council to satisfy the requirements of 10.2 above is a simple comparison of Regular Account investment performance relative to the ADR over rolling, consecutive five-year periods. Other reports help the Council assess whether or not the Fund was rewarded for its allocations to higher return, higher risk equity investments and whether or not the active management strategies utilized added or subtracted from policy returns on a net of fees basis.

10.5 The reporting described in this section gives the Council a consolidated or “big picture” view of Regular Account investment performance. This view is the first level of a comprehensive four-level performance report used by the Council to monitor and evaluate Regular Account investment performance over different time horizons. Level two examines Regular Account investment performance excluding hard-to-price illiquid assets such as real estate and private equity investments. Level three examines Regular Account investment performance across the six, primary asset class allocations: U.S. equity; non-U.S. equity; fixed income; real estate; private equity; and alternatives. Level four examines the performance of individual managers within each of the asset class allocations. This four-level reporting structure allows the Council to “drill down” to the level of detail it may need to identify potential performance problems and take whatever corrective actions that may be required.

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Glossary

Actuarial Discount Rate (ADR): The interest rate used to calculate the present value of a defined benefit plan's future obligations and determine the size of the plan sponsor's annual contribution. The ADR approved by the PERB is currently 7.75%.

Alternatives: Investments that are considered non-traditional or emerging in nature. Presently, the following investment types are included within the OPERF alternatives allocation: hedge funds; infrastructure; natural resources; and commodities.

Asset Class: A collection of securities that have conceptually similar claims on income streams and have returns that are highly correlated with each other. The most frequently referenced asset classes include equities, fixed income, real estate and cash.

Bank of America Merrill Lynch U.S. High Yield Master II Index: At September 30, 2013, this index had a market value of approximately $1.2 trillion comprised of approximately 2,200 issues. Its constituents are capitalization-weighted based on their current amount outstanding times the market price plus accrued interest. This index tracks the performance of publicly issued, U.S. dollar-denominated, below investment grade corporate debt. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining to final maturity as of an index rebalancing date, a fixed coupon schedule and a minimum outstanding of $100 million. In addition, qualifying securities must have risk exposure to countries that are members of the FX-G10, Western Europe or territories of the U.S. and Western Europe (the FX-G10 includes all Euro members, the U.S., Japan, the UK, Canada, Australia, New Zealand, Switzerland, Norway and Sweden).

Barclays U.S. Aggregate Index: At September 30, 2013, this index had a market value of approximately $16.7 trillion comprised of approximately 8,500 issues. Its constituents are SEC-registered, taxable, dollar denominated securities. This index covers the U.S. investment grade fixed rate bond market, and includes government, corporate, mortgage pass-through and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis. The Aggregate Index was officially launched by the former Lehman Brothers on January 1, 1976, and its constituents must conform to the following parameters:

- Have at least one year to final maturity regardless of call features;
- Be rated investment-grade (Baa3/BBB- or higher) by at least two of the major ratings agencies (Moody's, S&P or Fitch);
- Be fixed rate, although securities with a coupon that steps up or changes according to a predetermined schedule are permitted;
- Be dollar-denominated and non-convertible; and
- Be publicly issued, although 144A securities with registration rights and Reg-S issues are included.

Barclays U.S. 1-3 Year Government/Credit Index: At September 30, 2013, this index had a market value of approximately $3.8 trillion comprised of approximately 1,460 issues. It includes treasuries (i.e., public obligations of the U.S. Treasury that have remaining maturities of more than one year) and agencies (i.e., publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government), publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements. This index is a sub-component of the Barclays Aggregate Index, was officially launched by the former Lehman Brothers on January 1, 1976, and its constituents must conform to the following parameters:

- Be a U.S. Government or investment grade credit security;
- Have at least one year to final maturity regardless of call features;
- Have at least $250 million par amount outstanding;
- Be rated Baa3/BBB- or higher (i.e., "investment grade") by at least two of the major ratings agencies (Moody's, S&P or Fitch);
- Be fixed rate, although securities with a coupon that steps up or changes according to a predetermined schedule are permitted;
- Be dollar-denominated and non-convertible; and
- Be publicly issued.

Basis Point: One basis point equals 0.01%. One hundred basis points equals one percentage point.

Benchmark: A standard by which investment performance can be measured and evaluated. For example, the performance of U.S. equity managers is often measured and evaluated relative to the Russell 3000 Index. In this case, the Russell 3000 Index serves as or represents the U.S. equity benchmark.

Benchmark Exposure: The proportion that a given stock represents within a benchmark, such as the Russell 3000 Index of U.S. equity securities. Allows investors to measure the extent to which a portfolio or specific investment strategy is over- or under-exposed to a particular stock or investment characteristic (e.g., market capitalization) relative to a benchmark.

Co-investment: Although used loosely to describe any two parties that invest alongside one another in the same company, this term has a special meaning in the context of an investment fund's limited partners. By having co-investment rights, a limited partner can invest directly in a company that is simultaneously backed by the fund's general partner. In this way, the limited partner has two separate stakes in the company: one, an indirect investment through its participation in the general partner's fund; the second, a direct investment alongside the general partner. While the direct, co-investment opportunity is usually offered at terms and conditions more favorable than the fund investment, the direct, concentrated nature of the co-investment opportunity implies higher risk for the limited partner.

Core: Real estate investment strategies which exhibit "institutional" qualities, such as superior location, high occupancy and premium design and construction quality.

Credit: The measure of an organization's ability to re-pay borrowed money. Used most often in a fixed income context. Organizations with the highest credit rating (i.e., those most likely to re-pay borrowed money) are assigned a AAA credit rating.

Distressed Debt: A private equity investment strategy that involves purchasing discounted bonds of a financially-distressed firm. Distressed debt investors frequently convert their holdings into equity and become actively involved in the management of the distressed firm.

Diversification: Reducing risk without a commensurate reduction in expected return by combining assets and/or investment strategies with low or uncorrelated return and volatility profiles. For example, a decline in the price of one asset (e.g., oil stocks) is offset by an increase in the price of another asset (e.g., airline stocks). In lay terms, this principal is often described as "putting your eggs into more than one basket".

Duration: A financial measure used by investors to estimate the price sensitivity of a fixed-income security relative to changes in interest rates. For example, if interest rates increase by 1 percentage point, a 5-year duration bond will decline in price by approximately 5 percent.

Efficient Market: A market in which security prices rapidly reflect all information germane to the price discovery process. A primary implication of an efficient market is that active management efforts often fail to produce results that consistently beat the performance of an index fund or other passive strategy net of fees, transactions costs and other expenses.

Equities: Investments that represent ownership in a company and therefore a proportional share of company profits.

Fixed-Income: Debt obligations that specify the precise repayment of previously borrowed money. Typically, repayment takes the form of a series of fixed-amount, semi-annual interest payments and a single, final repayment of principal.

Funded Status: A comparison of a pension plan's assets and liabilities where the latter are often referred to as the plan's projected benefit obligation (PBO). When a plan's assets exceed its PBO, the plan is considered overfunded. Conversely, if a plan's assets are less than its PBO, the plan is considered underfunded and the plan sponsor has a net liability position with respect to its pension plan.

Fund-of-funds: Often organized by an investment advisor or investment bank, a fund that invests in other funds rather than directly in securities, operating firms or other assets.

Growth Stock: Stocks exhibiting faster-than-average earnings growth with expectations that such growth will continue. Growth stocks usually have high price-to-earnings ratios, high price-to-book ratios and low to no dividend yields.

Hedged: A term applied to one, more or an entire portfolio of assets indicating that the base country value of such assets is partially or wholly protected from foreign currency fluctuations. Forward currency contracts are typically used to hedge or offset the effects of these fluctuations.

Index Fund: A portfolio management strategy that seeks to match the composition and performance of a select index such as the Russell 3000 or S&P 500.

Leverage Buyout (LBO): A strategy in which debt financing is use to acquire a firm or business unit, typically in a mature industry. LBO debt is usually repaid according to a strict schedule that absorbs most of the acquired firm's cash flow.

Liability: A claim on assets by individuals or companies. In a pension context, liabilities represent the claim on fund assets by active and retired plan beneficiaries.

MSCI All Country World Investable Market Index (ACWI-IMI): A capitalization-weighted index that includes over 9,000 publically traded equity securities and is designed to measure equity market performance across developed and emerging markets. As of September 2013, this index consisted of 45 separate country indices comprising 24 developed and 21 emerging market countries. The developed market countries included are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The emerging market countries included are Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand and Turkey.

MSCI World Ex-U.S. Index: Same as the MSCI ACWI-IMI index described directly above, except that U.S. stocks are excluded.

Market Capitalization: The value of a corporation as determined by multiplying the price of its shares by the number of shares outstanding. Investors often use market capitalization as an indicator of portfolio risk or volatility. In general, smaller capitalized companies are more volatile or risky than larger capitalized companies.

Mezzanine: Either a private equity financing undertaken shortly before an initial public offering, or an investment strategy that employs subordinated debt (which has fewer privileges than bank debt but more standing than equity) and often is issued with attached equity warrants.

NCREIF Index: The NCREIF Property Index (NPI) is a quarterly, investment performance composite published by the National Council of Real Estate Investment Fiduciaries (NCREIF). This index measures the total return for a very large pool of commercial real estate properties acquired in private market transactions for investment purposes only. All NPI properties have been acquired, at least in part, on behalf of pension funds and other tax-exempt institutional investors. As such, all NPI properties are held and managed consistent with a fiduciary mandate. The specific qualifications for NPI inclusion are as follows:

- Operating properties only;
- Property types - apartments, hotels, industrial properties, office buildings, and retail only;
- Can be wholly-owned or held in a joint venture structure;
- Investment returns reported on a non-levered (i.e., independent of debt financing) basis;
- Must be owned/controlled by a qualified tax-exempt institutional investor or its designated agent; and
- Existing properties only (i.e., no development projects).

Office of the State Treasurer: Headed by the State Treasurer as the chief financial officer for the state, the Office of the State Treasurer is responsible for managing the day to day investment operations of the state pension fund (and other funds), issuing all state debt, and serving as the central bank for state agencies. Within the Office of the State Treasurer, the Investment Division also manages investment programs for the state's deferred compensation and college savings plans, and serves as staff to the Oregon Investment Council.

Opportunistic: Higher risk but higher expected return real estate investments that are usually illiquid, produce little or no current income and are often focused on distressed and/or highly leveraged properties.

Opportunity Portfolio: Includes non-traditional and/or concentrated investment strategies that may provide enhanced diversification and/or unique sources of return relative to the other asset classes included in the OIC's approved policy mix. The Opportunity Portfolio's objectives are pursued by investing in strategies that fall outside the boundaries of "strategic" or approved policy mix allocations including new or innovative strategies across a wide range of potential investment opportunities and with few limitations or constraints.

Oregon Investment Council (OIC): Oregon Revised Statute (ORS) 293.706 establishes the OIC, which consists of five voting members, four of whom are appointed by the Governor and subject to Senate confirmation (the Treasurer serves by position, and is not subject to confirmation). The members appointed by the Governor must be qualified by training and experience in the field of investment or finance. In addition, the Director of the Public Employees Retirement System is an ex-officio member of the OIC. ORS 293.721 and 293.726 establish the OIC's investment objectives and standards of judgment and care: "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, subject to the prudent investor standard".

Oregon Public Employees Retirement Fund (OPERF): Holds the assets of beneficiaries of the Oregon Public Employees Retirement System (PERS). PERS is a state-wide, defined benefit retirement plan for units of state government, political subdivisions, community colleges and school districts. PERS is administered under ORS chapters 237, 238, 238A, and applicable provisions of the Internal Revenue Code by the Public Employees Retirement Board (PERB). Participation by state government units, school districts, and community colleges is mandatory. Participation by most political subdivisions is optional but irrevocable if elected. All system assets accumulated for the payment of benefits may legally be used to pay benefits to any of the plan members or beneficiaries of the system. PERS is responsible for administrating the management of the plan's liability and participant benefits.

Oregon Short Term Fund (OSTF): The state's commingled cash investment pool managed internally by Treasury staff. The OSTF includes all excess state agency cash, as required by law, as well as cash invested by local governments on a discretionary basis. The OSTF is invested in accordance with investment guidelines recommended by the state's Oregon Short Term Fund Board and approved by the OIC.

Overweight: A stock, sector or capitalization exposure that is higher than the corresponding exposure in a given asset class benchmark, such as the Russell 3000 Index.

Private Equity: Venture Economics (VE) uses the term to describe the universe of all venture investing, buyout investing and mezzanine investing. Fund-of-funds investing and secondaries are also included in this term's broadest interpretation. VE is not using the term to include angel investors or business angels, real estate investments or other investing scenarios outside of the public market. See also *Alternatives*.

Real Estate: Investments in land and/or buildings.

Real Estate Investment Trusts (REIT): A real estate portfolio managed by an investment company for the benefit of the trust unit holders. Most REIT units are publically and exchange traded.

Regular Account: That portion of the Oregon Public Employees Retirement Fund that excludes the Variable Account. A diversified investment portfolio for which the asset allocation and general investment policies are established and approved by the OIC. Tier One participants are guaranteed a minimum rate of return based on the long-term interest rate used by the actuary, currently 7.75 percent. Tier Two participants have no guaranteed rate of return and receive benefits that reflect the Regular Account's actual or realized investment return.

Return: The gain or loss in value of an investment over a given period to time expressed as a percentage of the original amount invested. For example, an initial investment of $100 that grows to $105 over one year has produced a 5% return.

Risk: The probability of losing money or not achieving the expected investment outcome.

Russell 3000 Index: Measures the investment performance of a composite comprised of stocks issued by the 3,000 largest U.S. companies. Based on total market capitalization, this index represents approximately 98% of the investable U.S. equity market.

S&P/LSTA Leveraged Loan Index: At September 30, 2013, this index had a market value of approximately $622 billion comprised of approximately 800 issuers and over 1,000 loan facilities. The index is designed to mirror the market-weighted performance of the largest institutional leveraged loan portfolios based on market weightings, spreads and interest payments. Facilities are eligible for inclusion in the index if they are senior secured institutional term loans with a minimum initial spread of 125 basis points and minimum one-year term. Facilities are retired from the index when there is no bid posted on the facility for at least 12 successive weeks or when the loan is repaid.

Secondaries: The purchase and sale of existing limited partnership commitments to other limited partners and/or fund sponsors.

Sector: A particular group of stocks or bonds that usually characterize a given industry or economic activity. For example, "pharmaceuticals" is the name given to stocks issued by companies researching, manufacturing and selling over-the-counter and prescription medicines. "Corporates" is the name given to fixed-income instruments issued by private and public companies.

Sector Funds: A pooled investment product that focuses on a particular industry or economic activity. For example, pooled funds that invest principally in technology stocks would be termed a technology sector fund.

Tracking Error: The amount by which an investor's investment performance differed from a corresponding or assigned benchmark. Usually measured and expressed as the standard deviation of returns relative to a pre-specified benchmark.

Unhedged: A term indicating that the value of one, more or an entire portfolio of assets may be affected by foreign currency fluctuations and that no deliberate attempt has been made to protect against such fluctuations.

Value Added: As used in real estate, may include office, retail, industrial and apartment properties, but may target structured investments in alternative property types such as hotels, student housing, senior housing and specialized retail uses. Portfolios or strategies that are positioned as Value Added are expected to produce returns between Core and Opportunistic portfolios/strategies. For example, a Value Added property may exhibit some "institutional" qualities such as good location and high design and construction quality, but may need significant leasing improvements to stabilized and enhance its value. Value Added investments may also include development opportunities with balanced risk/return profiles.

Value Stock: Stocks that appear to be undervalued for reasons other that low potential earnings growth. Value stocks usually have low price-to-earnings ratios, low price-to-book ratios and a high dividend yield.

Variable Account: The Variable Annuity Program allowed active PERS members to allocate a portion of their yearly employee contributions to a domestic equity portfolio. No such contributions were allowed after December 31, 2003. Active members who participated in the Variable Program had part of their balance invested in the Regular Account and part invested in the Variable Account. Unless a member explicitly elected to participate in the Variable Program, all of that member's employee contributions were invested in the Regular Account. This "primary" election allowed members to place 25 percent, 50 percent or 75 percent of their employee contributions in the Variable Account. Variable Account balances increase or decrease depending on the investment performance of the variable fund, and individual participant accounts are credited for any amount (gain or loss) available for distribution. The OIC's asset allocation policy purview only applies to the Regular Account since the OIC cannot control the investment option elections of Variable Program participants.

Venture Capital: Independently managed, dedicated pools of capital that focus on equity or equity-linked investments in privately held, high growth companies. Outside of the United States, the term venture capital is used as a synonym for all types of alternative or private equity.

Vintage Year: The calendar year in which an investment fund's first closing occurs. For example, the 1995 vintage year for venture capital includes all venture capital funds that held a first closing in 1995.

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Oregon Investment Council

Statement
of
Investment Objectives and Policy Framework
for the
Oregon Public Employees Retirement Fund

Adopted: February 27, 2002

Revised: July 28, 2004~~,~~; April 27, 2005~~,~~; May 18, 2005~~,~~; January 18, 2006~~,~~; July 6, 2006~~,~~; January 31, 2007~~,~~; September 26, 2007~~,~~; January 30, 2008~~,~~; April 29, 2009~~,~~; May 27, 2009~~,~~; April 28, 2010~~,~~; December 1, 2010~~,~~; April 27, 2011~~,~~; April 25, 2012~~,~~; October 30, 2013; and December 3, 2014

Contents

Terms explained in the glossary are *italicized* when they first appear in this document.

1.0 Purpose

1.1 This Statement of Investment Objectives and Policy Framework (the "Statement") summarizes the philosophy, objectives and policies approved by the *Oregon Investment Council* (the "Council") for the investment of ~~the assets of the~~ *Oregon Public Employees Retirement Fund* ("OPERF~~")~~." or the "Fund") assets.

1.2 The Council approved these objectives and framework after careful consideration of OPERF benefit provisions, and the implications of alternative objectives and policies.

1.3 The Statement has been prepared with five audiences in mind: 1) incumbent, new and prospective Council members; 2) Treasury staff; 3) OPERF active and retired members; 4) the Oregon State Legislature and Governor; and 5) agents engaged by the Council to manage and administer Fund assets.

1.4 The Statement summarizes more detailed ~~policies~~policy and ~~procedures~~procedure documents prepared and maintained by the staff of the *Office of the State Treasurer*, and numerous other documents that govern the day-to-day management of OPERF assets including agent agreements, individual investment manager mandates~~,~~ and limited partnership documents.

1.5 The Council regularly assesses the continued suitability of ~~the~~its approved investment objectives and policies, initiates change as necessary~~,~~ and updates these documents accordingly.

2.0 Investment Objective

2.1 Subject to ORS 293.721 and 293.726, the investment objective for the *Regular Account* is earning, over ~~moving~~rolling, consecutive twenty-year periods, an annualized *return* that equals or exceeds the *actuarial discount rate* (ADR~~)~~,) approved by the Public Employees Retirement Board (PERB) and used to value OPERF liabilities.

2.2 The Council believes, based on the assumptions outlined herein, that the investment policies summarized in this document will provide the highest probability of achieving this objective, at a level of *risk* that is acceptable to active and retired OPERF members. The Council evaluates risk in terms of the probability of not achieving the ADR over a consecutive, twenty-year time horizon.

2.3 Historically, members were allowed to direct up to 75% of their contributions to the *Variable Account*. ~~No~~ While no longer receiving new contributions ~~are being made to this fund. The investment objective of~~, the Variable ~~Account is to perform in line~~Account's objective remains investment performance consistent with the *MSCI All Country World Index*.

2.4 The Council has established investment objectives for individual asset classes that are also summarized in this Statement.

3.0 Policy Asset Mix, Risk Diversification and Return Expectations

3.1 After careful consideration of ~~the~~OPERF's investment objective, *liability* structure, *funded status* and liquidity needs~~ of OPERF, and~~, as well as the return, risk and ~~*risk-diversifying*~~*diversification* characteristics of different asset classes, the Council approved ~~for the OPERF Regular Account~~ the asset mix policy presented in Exhibit 1~~.~~ for the OPERF Regular Account. The~~ exhibit also summarizes the~~ Council's total fund asset mix policy and active management return expectations~~.~~ are also summarized in Exhibit 1.

3.2 Of its total assets, 57.5 percent of OPERF is targeted for investment in *equities*, inclusive of *private equity*. Equity investments have ~~provided~~generated the highest returns over long time periods, but can also produce low and even negative returns over shorter time periods.

3.3 The risk of low returns over shorter time periods makes 100% equity policies unsuitable for most pension funds, including OPERF. By investing across multiple equity asset classes, and in lower return but less risky *fixed-income* and *real estate* assets, the Council is managing and diversifying the ~~fund's~~Fund's overall risk~~ exposure.~~.

3.4 ~~Exposures to selected~~Specific asset ~~classes~~class exposures are maintained within the ~~re-balancing~~ ranges ~~specified~~outlined in Exhibit 1.

3.5 ~~With an~~At a 7.6% expected annual return, ~~there is an estimated~~the Fund has a 50% probability of ~~the fund~~ earning an annualized return ~~that equals~~equal to or ~~exceeds the~~exceeding its actuarial discount rate over a consecutive 20~~-~~-year horizon or, approximately, the next two to three market cycles.

Exhibit 1: Policy Mix and Return Expectations for OPERF Regular Account

Asset Class	Target Allocation (%)	Re-balancing Range (%)	Expected Annual Policy Return[1, 2] (%)	Expected Annual Active Management Return (net of fees) (%)	Expected Annual Total Return (%)
Public Equities	37.5	32.5-42.5	7.9	0.75	8.6
Private Equity	20	16-24	10.2	0.7	10.9
Total Equity	57.5	52.5-62.5			
Fixed Income	20	15-25	2.3	0.35	2.6
Real Estate	12.5	9.5-15.5	7.1	0.75	7.8
Alternatives	10	0-10	6.4	0.5	6.9
Total Fund	100		7.0	0.6	7.6

1. Based on capital market forecasts developed by the Council's investment consultant, SIS, for the next two to three market cycles.
2. Total Fund expected returns are simply the weighted averages of the individual asset class returns. The policy mix's geometric mean return ~~of the policy portfolio~~expectation is 7.9%.

3.6 The policy mix's 7.~~0% expected~~6% average annual ~~asset mix policy~~ return expectation was developed with reference to ~~the~~ observed long-term relationships among major asset classes, adjusted ~~by~~to account for current market conditions. The Council believes this return expectation is reasonable, but recognizes that over shorter time periods, actual ~~mix policy~~ returns can deviate significantly from ~~this expectation~~expectations – both positively and negatively.

3.7 ~~US~~U.S. equity, non-~~US~~U.S. equity, and fixed-income asset classes are managed using both passive and active management strategies. Active management of the Fund's public market ~~securities~~equity and real estate ~~assets~~allocations is expected to earn a 0.75% per annum ~~of additional returns~~return premium over ~~moving~~rolling, consecutive five-year periods~~. —~~ (and relative to those allocation's respective benchmarks). The Council recognizes that unsuccessful active management can reduce total fund returns.

3.8 The OIC has ~~provided for~~allocated up to 3.0% of total ~~plan~~Fund assets ~~to be invested~~for investment in an *Opportunity Portfolio*~~-~~, the objective of which is to provide enhanced returns and better diversification ~~to~~for OPERF. Investments in the *Opportunity Portfolio* are expected to ~~be~~comprise a combination of both shorter-term (1-3 ~~years~~year) and longer-term holdings. ~~This allocation will not result in any of the previously established strategic asset allocation targets falling outside their ranges. No~~ The *Opportunity Portfolio* has no strategic target ~~is established for the Portfolio~~ since, by definition, eligible investments will only be pursued ~~only~~ on an opportunistic basis~~, unless changed by~~; moreover, the ~~OIC~~*Opportunity Portfolio* allocation shall not result in an allocation range breach for any of the other five, primary asset class allocations.

3.9 ~~Cash is~~OPERF cash balances are invested in the *Oregon Short Term Fund* and ~~is kept at a minimum level,~~managed to levels that are deliberately minimized but still sufficient to cover ~~the~~OPERF's short-term cash flow needs ~~of OPERF~~.

3.10 In an effort to minimize cash ~~exposure~~balances at both the fund and manager level, the OIC has retained ~~a cash~~an overlay manager to more closely align the actual Fund portfolio with the approved policy ~~portfolio~~mix, generally through the ~~buying~~purchase and ~~selling~~sale of futures contracts to increase or decrease specific asset class exposures, as necessary.

3.11 The Council shall review, at least biennially, its expectations for asset class and active management performance, and assess how the updated expectations affect the probability that the Regular Account will achieve ~~the~~its investment objective.

4.0 Passive and Active Management

4.1 Passive management uses lower cost *index funds* to access the return streams available from the world's capital markets. Active management tries to earn higher returns than those available from index funds ~~by making value-adding~~ through the application of manager skill in the form of sector and security selection as well as market and/or asset mix timing decisions.

4.2 The Council uses passive management to control costs, evaluate active management strategies, capture exposure to ~~the more~~ *efficient* ~~*markets*~~*market* segments, manage ~~the~~

~~risk of under-performance~~*tracking error* and facilitate policy mix re-balancing ~~to policy asset mix.~~ activities. Exchange-~~-~~traded *real estate investment trusts (REITS)* may also be used to maintain the Fund's ~~asset class exposures~~real estate exposure within ~~the~~ specified policy ranges.

4.3 The Council approves ~~the~~ active management of ~~fund~~Fund assets when ~~available investment~~proposed active strategies offer sufficiently high expected incremental returns, net of fees~~, to compensate for the risk of under-performance~~, and when the magnitude of potential under-performance can be estimated, monitored and managed.

4.4 The Council must accept active management ~~of~~in those asset classes for which there ~~is~~are no passive management ~~alternative~~alternatives, in particular, real estate~~ and~~, private equity and other alternative and opportunistic investment strategies.

4.5 The Council prefers active management strategies that emphasize sector and/or security selection decisions rather than market and/or asset mix timing decisions~~. General investor~~ as the former are much better supported by professional experience and ~~surveys of~~ academic ~~and professional studies indicate that security selection decisions are more likely to earn above index returns than asset mix timing decisions~~research.

4.6 At the aggregate level of the Regular Account, active management strategies authorized by the Council are expected to **add 0.6% of annualized excess return**, net of fees, over ~~moving~~rolling, consecutive five-year periods. **~~Active risk of~~Relative to the policy benchmark, Regular Account ~~is~~active risk shall be managed to a ~~targeted~~2 to 3 percent annualized tracking error ~~of 2 to 3 percent, relative to the policy benchmark~~target.**

5.0 Public Equity Strategy

5.1 ~~Public~~OPERF's public equity allocation is managed with the objective of earning at least **75 *basis points*** in annualized net excess return ~~above~~relative to the *MSCI All Country World Investable Market Index* (ACWI IMI – net) (unhedged) over ~~moving~~rolling, consecutive five-year periods. **~~Active~~Relative to that same benchmark, active risk ~~is~~shall be managed to a ~~targeted~~0.75 to 2.0 percent annualized tracking error ~~of 0.75 to 2.0 percent, relative to the above benchmark~~target.**

5.2 Key elements of the strategy:

~~(a) 25% of assets are targeted for passive management, primarily in the large and mid capitalization *sectors* of the market, which are believed to be more efficiently valued.~~

~~(b) Maintain a double weighting to U.S. small capitalization stocks, in an effort to enhance return. This tilt is based on the Investment Council's belief that inefficiencies in the small and micro cap markets, relative to the large cap market, through active management, will outperform large cap stocks over the long-term.~~

(a) In an effort to enhance return, maintain an over-weight to small capitalization stocks and other well supported sources of return premia. These strategic overweights or "tilts" are based on and supported by robust empirical research that historically links persistent and pervasive evidence of excess returns to systematic "factor exposures" such as size (i.e., small cap), value and momentum.

Implementation of other factor tilts may be considered at the manager, strategy or mandate level upon approval of both the Chief Investment Officer (CIO) and OIC.

~~(c)~~(b) Multiple, specialist active managers with ~~risk diversifying~~ complementary investment styles are employed. For example, some OPERF managers ~~that~~ focus on ~~either~~ growth ~~or~~ stocks, some on value stocks ~~and managers that focus~~, some on large ~~or~~capitalization stocks and others on small capitalization stocks. This diversified approach produces more consistent excess ~~returns~~return opportunities and ~~reduces~~minimizes the ~~fund's~~Fund's exposure to any single investment organization.

~~(d) The Fund maximizes exposure to security selection based investment decisions by maintaining aggregate exposures to *value* and *growth* stocks, economic sectors and *market capitalizations* relative to their *benchmark exposures*, adjusted for the strategic small cap overweight.~~

~~(e)~~(c)Active management ~~exposure is higher for~~is more common within OPERF's non-~~US~~U.S. equity allocation because ~~the Council believes the~~ non-~~US~~U.S. markets appear to provide more opportunities for ~~skilled managers to earn incremental returns~~the successful application of manager skill.

~~(f)~~(d)Managers with skills in security selection and country allocation are utilized~~. These decisions~~ as these attributes have been shown to be the principal sources of ~~the~~ excess ~~return~~returns in non-~~US~~U.S. equity portfolios. ~~Managers~~ In addition, managers who have demonstrated an ability to add value through currency management are permitted to do so.

~~(g)~~(e) Aggregate exposures to countries, economic sectors, ~~equity management~~ investment styles and market capitalization tiers are monitored and managed relative to ~~their~~corresponding benchmark exposures.

6.0 Fixed Income Strategy

6.1 ~~Fixed~~OPERF's fixed income allocation is~~ being~~ managed with the objective of earning **35 basis points** in annualized, net excess returns ~~above~~relative to a blended benchmark comprised of 40% *Barclays U.S. Aggregate Index*, 40% Barclays U.S. 1-3 Year Government/Credit Index, 15% *S&P/LSTA Leveraged Loan Index*~~,~~ and 5% *Bank of America Merrill Lynch High Yield Master II Index* over ~~moving~~rolling, consecutive five-year periods~~ (Note: final~~. **Relative to the above-described benchmark**~~ to be phased in over implementation period). **Active**~~ **, active risk with the OPERF fixed income allocation is managed to a ~~targeted~~1 to 2 percent annualized tracking error ~~of 1 to 2 percent, relative to the above benchmark~~target.**

6.2 Key elements of the strategy:

(a) At least 95% of the OPERF fixed income allocation is actively managed ~~because~~due to performance and cost considerations. Specifically, excess returns from active fixed income management ~~is generally more cost effective than active equity management. Excess returns~~ are more likely ~~because~~as many investors hold fixed income securities to meet regulatory and liability matching objectives, and hence are not total return ~~investors~~oriented. This market dynamic produces systematic mis-pricings of fixed income securities that skilled investment managers can exploit. ~~Also,~~Active fixed income management fees are also much lower than active equity management fees.

(b) Multiple active generalist managers will be used for a majority of the fixed income asset class, rather than ~~multiple sector specialists as in~~ the ~~US~~specialist manager approach used within OPERF's public equity ~~market. The~~ allocation. However, the OIC may ~~supplement this strategy with~~utilize specialist fixed income managers as warranted~~. Fixed~~ or necessary, although fixed income manager ~~structures~~mandates generally have little impact on the Fund's total ~~Fund~~ risk ~~because of~~ due to fixed income's lower overall ~~lower allocations to the asset class~~Fund allocation and ~~the~~ fixed income managers' generally low tracking ~~errors. The asset class tracking~~ error~~ is diversified into insignificance at the total Fund level.~~ .

(c) ~~Managers~~Fixed income managers are selected for their skills in issue selection, credit analysis, sector allocations and duration management.

(d) Aggregate exposures to duration, credit and sectors are monitored and managed relative to corresponding exposures in the ~~asset class~~fixed income allocation benchmark.

7.0 Real Estate Strategy

7.1 ~~Real~~OPERF's real estate ~~investments are being~~allocation is managed with the objective of earning at least **75 basis points** in annualized, net excess returns ~~above~~relative to the *NCREIF Index* over ~~moving~~rolling, consecutive five-year periods. Because 80% of the Fund's real estate investments are illiquid and/or traded infrequently, conventional risk budget concepts are not applicable.

7.2 Key elements of the strategy:

(a) Real Estate is 100% actively managed because ~~index funds replicating~~a passive replication of the full breadth and depth of the real estate ~~broad market are~~asset class is not ~~available~~viable.

(b) *Core* property investments represent 30% of the Fund's real estate ~~portfolio~~allocation, with a range of 25% to 35%. Specialist managers are utilized. Risk is diversified by investing across the following major property types: ~~offices,~~office; apartments~~,~~; retail; and industrial~~, but~~. The OPERF real estate allocation may also include structured investments in alternative ~~types of~~ property types with Core~~ type~~-like risk and return attributes.

(c) Exchange traded real estate investment trusts (REITs) represent 20% of the Fund's real estate ~~portfolio~~allocation, with a range of 15% to 25%. Active management will include style and capitalization specialists, as well as broad market managers. Up to 50% of the REIT exposure may be invested in markets outside the United States.

(d) *Value Added* property investments represent 20% of the OPERF real estate ~~portfolio~~allocation, with a range of 15% to 25~~%. Investments~~%, and may include direct investments in each of the property types listed above, as well as structured investments in alternative property types. Risk is diversified by property type and geography.

(e) *Opportunistic* ~~*real estate*~~property investments represent 30% of the OPERF real estate ~~portfolio~~allocation, with a range of 20% to 40%. ~~Investment~~Relative to Core and Value Added strategies, real estate investments will be characterized as "opportunistic" based on ~~the~~ higher risk/return expectations and other prevailing market conditions~~ prevailing at~~.

~~(e)~~ Within its real estate allocation, the ~~time of investment.~~

(f) ~~The~~ Fund may ~~also~~ participate in *co-investment* opportunities~~ within the real estate asset class~~.

8.0 Private Equity Strategy

8.1 ~~Private~~OPERF's private equity allocation is ~~being~~ managed with the objective of earning at least **300 basis points** in annualized, net excess ~~return above~~returns relative to the Russell 3000 Index over very long time horizons, typically ~~moving~~rolling, consecutive 10-year periods. Because private equity investments are often illiquid and/or traded infrequently, risk budget concepts are not applicable.

8.2 Key elements of the strategy:

(a) Private Equity is 100% actively managed because ~~index funds of~~ private equity index funds are not available.

(b) ~~Asset class risk~~Risk within OPERF's private equity allocation is diversified by investing across different ~~private equity~~ fund types~~:~~ and strategies including *venture capital*, *leverage ~~buyouts~~buyout*, *mezzanine debt*, *distressed debt*, *sector funds*, *secondaries*~~,~~ and *fund-of-funds*.

(c) ~~Asset class risk~~OPERF's private equity allocation is further diversified by investing across *vintage ~~years~~year*, industry sectors, investment size, development stage and geography.

(d) ~~Private~~OPERF's private equity ~~programs~~investments are managed by external managers operating as general partners ~~with sound~~. Considerations for private equity manager selection include access to transactions (i.e., "deal flow~~,~~"), specialized areas of operating expertise, established or promising net of fees performance track records, ~~and fully disclosed~~unique or differentiated investment methodologies and transparent/verifiable ~~management~~reporting processes.

(e) ~~The~~ Within its private equity allocation, the Fund ~~will~~may participate in co-investment opportunities ~~in the private equity asset class~~.

9.0 Alternatives ~~Portfolio~~ Strategy

9.1 OPERF's allocation to Alternatives ~~investments are being~~is managed with the objective of earning at least **400 basis points** in annualized, net excess returns ~~above the~~relative to *CPI* over ~~moving~~rolling, consecutive ten-year periods. Because 80% of the ~~alternative investments are~~OPERF alternatives allocation is illiquid and/or traded infrequently, risk budget concepts are not applicable.

9.2 Key elements of the ~~target~~ strategy:

(a) Alternatives are 100% actively managed because index funds replicating the broad alternatives market are not available.

(b) *Infrastructure* investments represent 30% of the ~~target~~Fund's alternatives ~~portfolio~~allocation, with a range of 25% to 35%. Specialist managers are utilized~~.~~ ~~Risk~~, and risk is diversified by ~~investing across the major infrastructure types,~~ investment type, size and ~~geographies:~~ geography. Specific infrastructure sector exposures will likely include energy ~~infrastructure~~, transportation, ports~~,~~ and water~~;~~ in both domestic and international markets and comprising both mid~~-sized~~-size and large capitalization~~; domestic and international.~~ enterprises.

(c) *Natural ~~Resources~~Resource* investments represent 45% of the ~~target~~Fund's alternatives ~~portfolio~~allocation, with a range of 40% to 50%. Risk is diversified by investing across ~~the major~~multiple industry sectors~~:~~ including oil and gas, agriculture ~~land~~, timberland, mining~~,~~ and commodities. Specialist managers are ~~across both active and passive strategies and~~utilized in both domestic and international markets~~.~~ and across both active and some passive strategies.

(d) *Hedge ~~Fund investments~~Funds* represent 20% of the ~~target~~Fund's alternatives ~~portfolio~~allocation, with a range of 15% to 25%. ~~Investments~~ Hedge Fund investments may include relative value, macro, arbitrage~~,~~ and long~~-~~/short equity strategies. Risk is diversified by investing in multiple managers and across several strategies ~~and managers.~~.

(e) *Other* investments may represent 5% of the ~~target~~Fund's alternatives ~~portfolio~~allocation, with a range of 0% to 10%. Investment strategies will be characterized as "other" based on ~~the strategy and~~prevailing market ~~at the time~~

~~of~~conditions as well as a specific strategy's unique "value proposition" or investment thesis.

(f) ~~The~~Within its alternatives allocation, the Fund may also participate in *co-investment* opportunities ~~within the alternatives asset class.~~ .

10.0 Performance Monitoring and Evaluation

10.1 The Council and its agents use a variety of compliance verification and performance measurement tools to monitor, measure and evaluate ~~how well~~the management of OPERF assets~~ are being managed.~~. Monitoring, reporting and evaluation frequencies range from ~~hourly, to daily, to weekly, to monthly, to quarterly,~~daily to annually, although quarterly is the most commonly used reporting frequency.

10.2 The Council has developed a performance monitoring and evaluation system that answers two fundamental fiduciary questions:

- Are Fund assets being prudently managed? More specifically, are Fund assets being managed in accordance with established laws, policies and procedures, and are individual investment managers in compliance with their respective mandates?
- Are Fund assets being profitably managed? More specifically, has Fund investment performance affected benefit security, and has capital market risk ~~been rewarded~~in general and ~~has~~ active management ~~risk~~in particular been sufficiently rewarded?

10.3 When a breach of policies, procedures or portfolio mandates is reported or detected, the Council requires a supporting report explaining how the breach was discovered, the reasons for the breach, actions taken to rectify the breach, and steps taken to mitigate future occurrences.

10.4 One of ~~the~~ many reports used by the Council to ~~monitor and evaluate performance~~ satisfy the requirements of ~~the~~ 10.2 above is a simple comparison of Regular Account ~~indicates if the Regular Account has exceeded the (~~investment performance relative to the ADR~~)~~ ~~return~~ over ~~moving~~rolling, consecutive five-year periods. ~~Additionally,~~Other reports ~~quantify if the fund~~help the Council assess whether or not the Fund was rewarded for ~~investing in~~its allocations to higher return~~ but more risky~~, higher risk equity investments ~~over~~and whether or not the ~~same period, and if~~ active management ~~has~~strategies utilized added or subtracted from policy returns~~,~~ on a net of fees~~.~~ basis.

10.5 The reporting described in this section gives the Council a consolidated or "big picture" view of ~~the performance of the~~ Regular Account~~.~~ investment performance. This view is the first level of a comprehensive four-level performance report used by the Council to monitor and evaluate Regular Account investment performance over different time horizons. Level two examines Regular Account investment performance excluding hard-to-price illiquid assets such as real estate and private ~~equities~~equity investments. Level three examines ~~the~~ Regular Account investment performance ~~of~~across the ~~Regular Account's~~ six~~ individual~~, primary asset class ~~strategies: US equity, non-US~~allocations: U.S. equity~~,~~; non-U.S. equity; fixed income~~,~~; real estate~~,~~; private equity~~,~~; and ~~alternative investments~~alternatives. Level four examines the performance of individual managers within each of the asset class ~~strategies. The~~allocations. This four-level reporting structure allows the Council to "drill down" to the level of detail ~~that is needed~~it may need to identify potential performance problems~~,~~ and take whatever corrective ~~action as~~actions that may be required.

- end -

Glossary

Actuarial Discount Rate (ADR): The interest rate used to calculate the present value of a defined benefit plan's future obligations and determine the size of the ~~state's~~plan sponsor's annual contribution~~ to the plan.~~. The ~~OPERS~~ ADR approved by the PERB is currently 7.75%.

~~Alternative Investments~~Alternatives: Investments that are considered non-traditional or emerging ~~investment types.~~in nature. Presently, the following investment types are ~~considered alternative investments~~included within the OPERF alternatives allocation: hedge funds~~,~~; infrastructure~~,~~; natural resources~~,~~; and ~~other~~ commodities.

Asset Class: A collection of securities that have conceptually similar claims on income streams and have returns that are highly correlated with each other. ~~Most~~The most frequently referenced ~~publicly traded~~ asset classes include ~~US~~ equities, ~~US debt~~fixed income, real estate and ~~US~~ cash.

Bank of America Merrill Lynch U.S. High Yield Master II Index: ~~HY Master II Index (~~At September 30, 2013, this index had a market value of approximately $1.~~235+~~2 trillion ~~with 2,193~~comprised of approximately 2,200 issues~~ at September 30, 2013)~~. Its constituents are capitalization-weighted based on their current amount outstanding times the market price plus accrued interest. ~~The Index~~ This index tracks the performance of ~~US~~publicly issued, U.S. dollar-denominated, below investment grade corporate debt ~~publicly issued in the US domestic market.~~. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch~~)~~), at least 18 months to final maturity at the time of issuance, at least one year remaining ~~term~~ to final maturity as of ~~the~~an index rebalancing date, a fixed coupon schedule and a minimum outstanding of $100 million. In addition, qualifying securities must have risk exposure to countries that are members of the FX-G10, Western Europe or territories of the ~~US~~U.S. and Western Europe (the FX-G10 includes all Euro members, the ~~US,~~U.S., Japan, the UK, Canada, Australia, New Zealand, Switzerland, Norway and Sweden).

Barclays U.S. Aggregate Index: ~~The Aggregate Index (~~At September 30, 2013, this index had a market value of approximately $16.~~719~~7 trillion~~, with~~ comprised of approximately 8,~~518~~500 issues~~, at September 30, 2013), represents securities that~~. Its constituents are SEC-registered, taxable, ~~and~~ dollar denominated~~. The~~ securities. This index covers the U.S. investment grade fixed rate bond market, ~~with index components for~~and includes government~~ and~~, corporate~~ securities~~, mortgage pass-through ~~securities,~~ and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis. The Aggregate Index was officially launched by the former Lehman Brothers on January 1, 1976~~. Index~~, and its constituents~~:~~ must conform to the following parameters:

- ~~Must have~~Have at least one year to final maturity regardless of call features~~.~~;
- ~~Must be~~Be rated investment-grade (Baa3/BBB- or higher) by at least two of the ~~following~~major ratings agencies~~:~~ (Moody's, S&P~~,~~ or Fitch~~.~~);
- ~~Must be~~Be fixed rate, although ~~can carry~~ securities with a coupon that steps up or changes according to a predetermined schedule~~.~~ are permitted;
- ~~Must be~~Be dollar-denominated and non-convertible~~.~~; and
- ~~Must be~~Be publicly issued~~. However,~~, although 144A securities with ~~Registration Rights~~registration rights and Reg-S issues are included.

Barclays U.S. 1-3 Year Government/Credit Index: ~~The 1-3 Year Gov/Credit Index (~~At September 30, 2013, this index had a market value of approximately $3.~~85~~28 trillion~~,~~ ~~with~~ comprised of approximately 1,460 issues~~, at September 30, 2013),~~. It includes treasuries (i.e., public obligations of the U.S. Treasury that have remaining maturities of more than one year) and agencies (i.e., publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government), publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements. ~~The 1-3 Year Gov/Credit Index~~ This index is a sub-component of the Barclays Aggregate Index~~ and~~, was officially launched by the former Lehman Brothers on January 1, 1976~~. Index~~, and its constituents~~:~~ must conform to the following parameters:

- ~~Must be~~Be a U.S. Government or ~~Investment Grade Credit~~investment grade credit security~~.~~;
- ~~Must have~~Have at least one year to final maturity regardless of call features~~.~~;
- ~~Must have~~Have at least $250 million par amount outstanding~~.~~;
- ~~Must be~~Be rated ~~investment grade (~~(Baa3/BBB- or higher~~)~~ (i.e., "investment grade") by at least two of the ~~following~~major ratings agencies~~:~~ (Moody's, S&P~~,~~ or Fitch~~.~~);
- ~~Must be~~Be fixed rate, although ~~it can carry~~securities with a coupon that steps up or changes according to a predetermined schedule~~.~~ are permitted;
- ~~Must be~~Be dollar-denominated and non-convertible~~.~~; and
- ~~Must be~~Be publicly issued.

Basis Point: One basis point ~~is~~equals 0.01%. One hundred basis points equals one percentage point.

Benchmark:~~–~~ A standard by which investment performance can be measured and evaluated. For example, the performance of ~~US~~U.S. equity managers is often measured and evaluated relative to the ~~benchmark performance of~~Russell 3000 Index. In this case, the Russell 3000 Index~~.~~ serves as or represents the U.S. equity benchmark.

Benchmark ~~Exposures~~Exposure: The proportion ~~to which~~that a given stock ~~or investment characteristic is represented in an investment~~represents within a benchmark, such as the Russell 3000 Index of ~~US companies.~~U.S. equity securities. Allows investors to measure the extent to which ~~their~~a portfolio or specific investment strategy is over- or under~~–~~-exposed to a ~~given~~particular stock~~,~~ or investment characteristic ~~such as~~(e.g., market capitalization) relative to a benchmark.

Co-investment: ~~-~~Although used loosely to describe any two parties that invest alongside ~~each other~~one another in the same company, this term has a special meaning in ~~relation to~~the context of an investment fund's limited partners~~ in a fund.~~. By having co-investment rights, a limited partner ~~in a fund~~ can invest directly in a company ~~also~~that is simultaneously backed by the ~~fund managers itself.~~fund's general partner. In this way, the limited partner ~~ends up with~~has two separate stakes in the company: one, ~~indirectly, through the private equity fund to which the limited partner has contributed; another,~~ an indirect investment through its participation in the general partner's fund; the second, a direct investment~~, generally under better investment~~ alongside the general partner. While the direct, co-investment opportunity is usually offered at terms and conditions more favorable than the fund investment, the direct, concentrated nature of the co-investment opportunity implies higher risk for the limited partner.

Core~~ Property Investments:~~ : Real estate investment strategies which exhibit "institutional" qualities, such as ~~being well located within local and regional markets, well occupied, and of~~superior location, high ~~quality~~occupancy and premium design and construction~~.~~ quality.

Credit: The measure of an organization's ability to re-pay borrowed money. Used most often in ~~the managing~~a fixed income ~~portfolios~~context. Organizations with the highest credit rating~~,~~ (i.e., those most likely to re-pay ~~money they have~~ borrowed~~,~~ money) are assigned a AAA credit rating.

Distressed Debt: A private equity investment strategy that involves purchasing discounted bonds of a financially~~-~~-distressed firm. Distressed debt investors frequently convert their holdings into equity and become actively involved ~~with~~in the management of the distressed firm.

~~*Duration:* A financial measure used by investors to estimate the price sensitivity of a fixed-income security to a change in interest rates. For example, if interest rates increase by 1 percentage point, a bond with a 5-year duration will decline in price by 5 percent.~~ *Diversification:* Reducing risk without a commensurate reduction in expected return by combining assets and/or investment strategies with low or uncorrelated return and volatility profiles. For example, a decline in the price of one asset (e.g., oil stocks) is offset by an increase in the price of another asset (e.g., airline stocks). In lay terms, this principal is often described as "putting your eggs into more than one basket".

Duration: A financial measure used by investors to estimate the price sensitivity of a fixed-income security relative to changes in interest rates. For example, if interest rates increase by 1 percentage point, a 5-year duration bond will decline in price by approximately 5 percent.~~*Efficient Markets:* A market in which security prices rapidly reflect all information about securities and, by implication, active managers find it more difficult to pick stocks that consistently beat the performance of an index fund.~~

Efficient ~~*Equities:* Investments that represent ownership in a company and therefore a proportional share of company profits.~~ *Market:* A market in which security prices rapidly reflect all information germane to the price discovery process. A primary implication of an efficient market is that active management efforts often fail to produce results that consistently beat the performance of an index fund or other passive strategy net of fees, transactions costs and other expenses.

~~*Fixed Income:* Debt obligations of corporations and governments that specify how money previously borrowed is to be repaid. Typically, money is repaid by a series of semi-annual interest payments of fixed amounts, and final repayment of principal.~~ *Equities:* Investments that represent ownership in a company and therefore a proportional share of company profits.

~~*Funded Status:* A comparison of plan assets with the plan liability (e.g. the projected benefit obligation (PBO)). When plan assets are greater than the PBO, the plan is overfunded. If plan assets are less than the PBO, the plan is underfunded and the state has a net liability position with respect to its pension plan.~~ *Fixed-Income:* Debt obligations that specify the precise repayment of previously borrowed money. Typically, repayment takes the form of a series of fixed-amount, semi-annual interest payments and a single, final repayment of principal.

~~*Fund-of-funds:* a fund that invests primarily in other private equity funds rather than operating firms, often organized by an investment advisor or investment bank.~~ *Funded Status:* A comparison of a pension plan's assets and liabilities where the latter are often referred to as the plan's projected benefit obligation (PBO). When a plan's assets exceed its PBO, the plan is considered overfunded. Conversely, if a plan's assets are less than its PBO, the plan is considered underfunded and the plan sponsor has a net liability position with respect to its pension plan.

~~*Growth Stock*: Stocks that exhibited faster-than-average earnings growth over the last few years and is expected to continue to do so into the near future. Growth stocks usually have high price-to-earnings ratios, high price-to-book ratios and low dividend yields.~~ *Fund-of-funds:* Often organized by an investment advisor or investment bank, a fund that invests in other funds rather than directly in securities, operating firms or other assets.

~~*Hedged:* A term applied to a portfolio of non-domestic stocks or bonds that is unaffected by changes in the relative value of the domestic and foreign currencies. Forward currency contracts are typically used to hedge a portfolio against currency risk.~~ *Growth Stock*: Stocks exhibiting faster-than-average earnings growth with expectations that such growth will continue. Growth stocks usually have high price-to-earnings ratios, high price-to-book ratios and low to no dividend yields.

~~*Index Fund:* A portfolio management strategy that seeks to match the composition and performance of a selected market index, such as the Russell 3000.~~ *Hedged:* A term applied to one, more or an entire portfolio of assets indicating that the base country value of such assets is partially or wholly protected from foreign currency fluctuations. Forward currency contracts are typically used to hedge or offset the effects of these fluctuations.

~~*Leverage Buyouts (LBO):* The acquisition of a firm or business unit, typically in a mature industry, with a considerable amount of debt. The debt is then repaid according to a strict schedule that absorbs most of the firm's cash flow.~~*Index Fund:* A portfolio management strategy that seeks to match the composition and performance of a select index such as the Russell 3000 or S&P 500.

Leverage Buyout (LBO): A strategy in which debt financing is use to acquire a firm or business unit, typically in a mature industry. LBO debt is usually repaid according to a strict schedule that absorbs most of the acquired firm's cash flow.~~*Liability:* A claim on assets by individuals or companies. In a pension context, liabilities represent the claim on fund assets by active and retired members of the pension plan.~~

Liability: A claim on assets by individuals or companies. In a pension context, liabilities represent the claim on fund assets by active and retired ~~*MSCI All Country World Investable Market Index (ACWI-IMI)*: A free float-adjusted market capitalization index that is designed to measure equity market performance in the global developed and emerging markets, by capturing up to 99% of the developed and emerging investable market universe, covering over 9,000 securities. As of September 2013 the MSCI ACWI-IMI consisted of 45 country indices comprising 24 developed and 21 emerging market country indices. The developed market country indices included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The emerging market country indices included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.~~plan beneficiaries.

~~*MSCI ACWI Ex US*: The same as the MSCI ACWI, except that stocks in the United States are not included.~~*MSCI All Country World Investable Market Index (ACWI-IMI)*: A capitalization-weighted index that includes over 9,000 publically traded equity securities and is designed to measure equity market performance across developed and emerging markets. As of September 2013, this index consisted of 45 separate country indices comprising 24 developed and 21 emerging market countries. The developed market countries included are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The emerging market countries included are Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand and Turkey.

~~*MSCI World Ex US Index*: A free float-adjusted market capitalization index that is designed to measure global developed market equity performance, excluding the United States. As of September 2013 the MSCI World Ex US Index consisted of the following 23 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.~~*MSCI World Ex-U.S. Index*: Same as the MSCI ACWI-IMI index described directly above, except that U.S. stocks are excluded.

Market Capitalization: The value of a corporation as determined by multiplying the price of its shares by the number of shares outstanding. Investors often use market capitalization as an indicator of portfolio risk or volatility. In general, smaller capitalized companies are more volatile or risky than larger capitalized companies.

Mezzanine: Either a private equity financing undertaken shortly before an initial public offering, or an investment strategy that employs subordinated debt ~~that~~(which has fewer privileges than bank debt but more standing than equity) and often ~~has~~is issued with attached equity warrants.

NCREIF Index: The NCREIF Property Index (NPI) is a quarterly, investment performance composite published by the National Council of Real Estate Investment Fiduciaries (NCREIF~~) is an association of institutional real estate professionals who share a common interest in their industry. The NCREIF Property Index (NPI) is a quarterly time series composite~~). This index measures the total ~~rate of~~ return ~~measure of investment performance of~~ for a very large pool of ~~individual~~ commercial real estate properties acquired in ~~the~~ private market transactions for investment purposes only. All NPI properties ~~in the NPI~~ have been acquired, at least in part, on behalf of pension funds and other tax-exempt institutional investors~~ – the great majority being pension funds.~~. As such, all NPI properties are held ~~in a~~ and managed consistent with a fiduciary ~~environment.~~mandate. The specific qualifications for NPI inclusion ~~in the NPI~~ are as follows:

- Operating properties only~~-~~;
- Property types - apartments, hotels, industrial properties, office buildings, and retail only~~-~~;
- Can be wholly~~-~~-owned or held in a joint venture structure~~.~~;
- Investment returns ~~are~~ reported on a non-~~leveraged~~levered (i.e., independent of debt financing) basis~~. While there are properties in the NPI that have leverage, returns are reported to NCREIF as if there is no leverage~~ ;
- Must be owned/controlled by a qualified tax-exempt institutional investor or its designated agent~~-~~; and
- Existing properties only (i.e., no development projects~~)~~).

Office of the State Treasurer: Headed by the State Treasurer as the chief financial officer for the state, the Office of the State Treasurer is responsible for managing the day to day investment operations of the state pension fund (and other funds), issuing all state debt, and serving as the central bank for state agencies. Within the Office of the State Treasurer, the Investment Division also manages ~~the~~ investment programs for the state's deferred compensation ~~plan~~ and college savings ~~plan~~plans, and serves as staff to the Oregon Investment Council.

Opportunistic ~~Real Estate Investments~~: Higher risk but higher expected return real estate investments that are usually ~~very~~ illiquid, ~~not currently~~produce little or no current income~~-producing~~ and are often focused on distressed ~~purchases~~ and/or highly leveraged~~.~~ properties.

Opportunity Portfolio: ~~Non~~Includes non-traditional and/or concentrated investment strategies that may provide enhanced diversification and~~-~~/or unique sources of return ~~potential outside of~~ relative to the ~~OIC formally approved~~ other asset classes~~.~~ included in the OIC's approved policy mix. The ~~Portfolio may be populated with~~ Opportunity Portfolio's objectives are pursued by investing in strategies that fall outside the boundaries of "strategic" or approved policy mix allocations including new or innovative ~~investment approaches~~ strategies across a wide range of potential investment opportunities ~~with no limitation as to asset classes or strategies that may be used. The Opportunity Portfolio investment program seeks to achieve its investment objective by investing in strategies that fall outside the OIC's previously identified asset classes because of the expected time horizon, tactical nature of the investment, or some other unique aspects which must be clearly defined in the written recommendation provided to the OIC~~and with few limitations or constraints.

Oregon Investment Council (OIC): Oregon Revised Statute (ORS) 293.706 establishes the OIC, which consists of five voting members, four of whom are appointed by the Governor and subject to Senate confirmation (the Treasurer serves by position, and is not subject to confirmation). The members appointed by the Governor must be qualified by training and experience in the field of investment or finance. In addition, the Director of the Public Employees Retirement System is an ex-officio member of the OIC. ORS 293.721 and 293.726 establish the OIC's investment objectives and ~~standard~~standards of judgment and care~~ for the OIC:~~: "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, subject to the prudent investor standard~~.~~".

Oregon Public Employees Retirement Fund (OPERF): Holds the assets of beneficiaries of the Oregon Public Employees Retirement System (PERS). PERS is a ~~statewide~~ state-wide, defined benefit retirement plan for units of state government, political subdivisions, community colleges~~,~~ and school districts. PERS is administered under ORS chapters 237, 238, 238A, and applicable provisions of the Internal Revenue Code by the Public Employees Retirement Board (PERB). Participation by state government units, school districts, and community colleges is mandatory. Participation by most political subdivisions is optional but irrevocable if elected. All system assets accumulated for the payment of benefits may legally be used to pay benefits to any of the plan members or beneficiaries of the system. PERS is responsible for administrating the management of the plan's liability and participant benefits.

Oregon Short Term Fund (OSTF): The state's commingled cash investment pool managed internally by Treasury staff. The OSTF includes all excess state agency cash, as required by law, as well as cash invested by local governments on a discretionary basis. The OSTF is invested in accordance with investment guidelines recommended by the state's Oregon Short Term Fund Board and approved by the OIC.

Overweight: A stock, sector or capitalization exposure that is higher than the corresponding exposure in a given asset class benchmark, such as the Russell 3000 Index.

Private Equity: Venture Economics (VE) uses the term to describe the universe of all venture investing, buyout investing and mezzanine investing. Fund~~-~~-of~~-fund~~-funds investing and secondaries are also included in this term's broadest ~~term.~~interpretation. VE is not using the term to include angel investors or business angels, real estate investments or other investing scenarios outside of the public market. See also ~~*Alternative Investments*~~*Alternatives*.

Real Estate: Investments in land and/or buildings.

Real Estate Investment Trusts (REIT): A real estate portfolio managed by an investment company for the benefit of the trust unit holders. Most REIT units are publically and exchange traded.

Regular Account: That portion of the Oregon Public Employees Retirement Fund that excludes the Variable Account. A diversified investment portfolio~~, with an OIC established~~ for which the asset allocation~~.~~ and general investment policies are established and approved by the OIC. Tier One ~~member funds in the regular account~~participants are guaranteed a minimum rate of return based on the long-term interest rate used by the actuary~~. The rate is~~, currently ~~8 percent per year and will move to~~ 7.75 percent~~ effective January 1, 2014.~~. Tier Two ~~member funds in the regular account~~participants have no guaranteed rate of return~~. Tier Two regular accounts~~ and receive ~~whatever is available for distribution~~benefits that reflect the Regular Account's actual or realized investment return.

Return:- The gain or loss in value of an investment over a given period to time expressed as a percentage of the original amount invested. For example, an initial investment of $100 that grows to $105 over one year has ~~earned~~produced a 5% return.

Risk: ~~A statistical measure of the possibility of losing or not gaining value. May also be expressed as the~~The probability of losing money or not achieving ~~an~~the expected investment outcome.

~~*Risk diversifying:* Reducing risk without reducing expected returns by combining assets with returns that move in opposite directions over a given time period thereby reducing the total portfolio risk. A decline in the price of one asset is offset by the increase in the price of another asset in the portfolio. In laypersons term's, this is often described as putting your eggs into more than one basket.~~

Russell 3000 Index: Measures the investment performance of a composite comprised of stocks issued by the 3,000 largest U.S. companies~~ based~~. Based on total market capitalization, ~~which~~this index represents approximately 98% of the investable U.S. equity market.

S&P/LSTA Leveraged Loan Index: ~~The S&P/LSTA Leveraged Loan Index (~~At September 30, 2013, this index had a market value of approximately $622 billion ~~with 791 issuers~~ comprised of approximately 800 issuers and over 1,~~012facilities at September 30, 2013) mirrors~~000 loan facilities. The index is designed to mirror the market-weighted performance of the largest institutional leveraged ~~loans~~loan portfolios based ~~upon~~on market weightings, spreads and interest payments. Facilities are eligible for inclusion in the index if they are senior secured institutional term loans with a minimum initial spread of 125 basis points and ~~term of~~minimum one~~-~~-year~~.~~ term. Facilities are retired from the index when there is no bid posted on the facility for at least 12 successive weeks or when the loan is repaid.

Secondaries: The ~~buying~~purchase and ~~selling~~sale of ~~pre-~~existing limited partnership commitments to ~~private equity funds~~other limited partners and/or fund sponsors.

Sector: A particular group of stocks or bonds that usually characterize a given industry or economic activity. For example, “pharmaceuticals” is the name given to stocks ~~of~~issued by companies researching, manufacturing and selling over-the-counter and prescription medicines. ~~–~~“Corporates” is the name given to fixed-income instruments issued by private and public companies.

Sector Funds: A pooled investment product ~~with investments~~ that ~~focus~~focuses on a particular industry or economic activity. For example, pooled funds that invest principally in technology stocks would be termed a technology sector fund.

Tracking Error: ~~When using an indexing or any other benchmarking strategy the~~The amount by which ~~the~~an investor’s investment performance ~~of the portfolio~~ differed from ~~that of the~~a corresponding or assigned benchmark. ~~In reality, no indexing strategy can perfectly match the performance of the index or benchmark, and the tracking error quantifies the degree to which the strategy differed from the index or benchmark.~~ Usually ~~defined~~measured and expressed as the standard deviation of returns relative to a pre-specified benchmark.

Unhedged: ~~–~~A term ~~applied to a~~indicating that the value of one, more or an entire portfolio of ~~non-domestic stocks or bonds that is~~assets may be affected by ~~the changes in the value of domestic and~~ foreign ~~currencies.~~ currency fluctuations and that no deliberate attempt has been made to protect against such fluctuations.

Value Added: As used in real estate, may include office, retail, industrial and apartment properties, but may target structured investments in alternative property types such as hotels, student housing, senior housing~~,~~ and specialized retail uses. ~~The~~ Portfolios or strategies that are positioned as Value Added ~~portfolio is~~are expected to produce returns between Core and Opportunistic portfolios~~ but may experience greater vacancy or interest rate risk than the Core portfolio.~~/strategies. For example, a Value Added ~~properties~~property may exhibit some "institutional" qualities such as ~~being well located within local~~good location and ~~regional markets, and be of~~ high ~~quality~~ design and construction quality, but may need ~~redevelopment, or~~ significant leasing improvements to ~~achieve~~ stabilized ~~investment~~and enhance its value. Value Added investments may also include development opportunities with balanced risk/return profiles.

Value Stock: Stocks that appear to be undervalued for reasons other that low potential earnings growth. Value stocks usually have low price-to-earnings ratios, low price-to-book ratios and a high dividend yield.

Variable Account: The Variable Annuity Program allowed active PERS members to ~~place~~allocate a portion of their yearly employee contributions ~~exclusively within~~to a domestic equity portfolio. No such contributions were allowed after December 31, 2003. Active members who participated in the Variable Program had part of their ~~member account~~ balance invested in the ~~regular account~~ Regular Account and part invested in the ~~variable account.~~Variable Account. Unless a member explicitly elected to participate in the Variable Program, all of ~~the~~that member's employee contributions ~~went into~~were invested in the ~~regular account.~~Regular Account. This "primary" election allowed members to place 25 percent, 50 percent~~,~~ or 75 percent of their employee contributions in the ~~variable account.~~ Variable ~~account~~Account. Variable Account balances increase or decrease depending on the investment performance of the variable fund~~;~~, and individual participant accounts are credited for ~~whatever is~~any amount (gain or loss) available for distribution~~, whether it is a gain or a loss.~~. The ~~OIC only sets~~OIC's asset allocation policy ~~at~~purview only applies to the Regular Account ~~level,~~ since the OIC cannot control ~~historical employee directed~~the investment ~~options~~option elections of Variable Program participants.

Venture Capital: Independently managed, dedicated pools of capital that focus on equity or equity-linked investments in privately held, high growth companies. Outside of the United States, the term venture capital is used as a synonym for all types of alternative or private equity.

Vintage Year: The ~~group of funds whose~~calendar year in which an investment fund's first closing ~~occurred in the same year.~~ occurs. For example, the 1995 vintage year for venture capital ~~funds of vintage year 1995 were closed to additional investors~~includes all venture capital funds that held a first closing in 1995.

- end -

TAB 3 – CEM BENCHMARKING

CEM Benchmarking, Inc. (CEM)
2013 OPERF Cost Study

Purpose
To present the OPERF investment cost analysis performed by CEM for both the calendar and five-year period ended 31 December 2013.

Background
Beginning in 2003, Treasury staff provided the OIC an independent assessment of the various costs paid for the management of OPERF (e.g., management fees, custody fees, consulting fees, staff costs, etc.), and how those costs (and the resultant performance) compare to other institutional investors.

CEM is recognized as the key, independent, third-party provider of cost analysis to defined benefit and defined contribution plans. Using their unique database, CEM has provided defined benefit fund sponsors with insights into their cost, return, risk and liability performance since 1990. Their database includes 163 U.S. funds (including 52 U.S. public funds), valued at approximately $2.8 trillion.

Similar to previous years' analyses, staff provided CEM with updated OPERF cost and operating data. For the calendar year ended December 31, 2013, OPERF's total investment management costs (including oversight, custodial and other costs) were approximately 77 basis points, consistent with the 78 bps reported for calendar year 2012.

OPERF's custom peer group for benchmarking purposes is comprised of 16 funds ranging in asset size from $22 billion to $80 billion. In terms of asset size, the median fund in this peer group was $42 billion, and within the peer group, OPERF was the 13th largest fund. Based on CEM's analysis and benchmarking, OPERF's total costs were lower than "expected" by approximately $25 million.

Recommendation
None, information only. Report findings will be presented by CEM.

Oregon Public Employees Retirement Fund
Investment Benchmarking Results

For the 5 year period ending December 2013

Bruce Hopkins
CEM Benchmarking Inc
December 3, 2014

CEM Benchmarking Inc.
What gets measured gets managed

Key takeaways

Returns

- Your 5-year total net return was 12.7%. This was above the U.S. Public median of 12.0% and above the peer median of 11.9%.
- Your 5-year policy return was 11.8%. This was slightly below the U.S. Public median of 12.0% and slightly above the peer median of 11.6%.

Value added

- Your 5-year net value added was 0.9%. This was above the U.S. Public median of 0.0% and above the peer median of 0.1%.

Cost

- Your investment cost of 77.2 bps was below your benchmark cost of 81.2 bps. This suggests that your fund was low cost compared to your peers.

This benchmarking report compares your cost and return performance to CEM's extensive pension database.

• 163 U.S. pension funds participate. Total participating U.S. assets were $2.8 trillion.

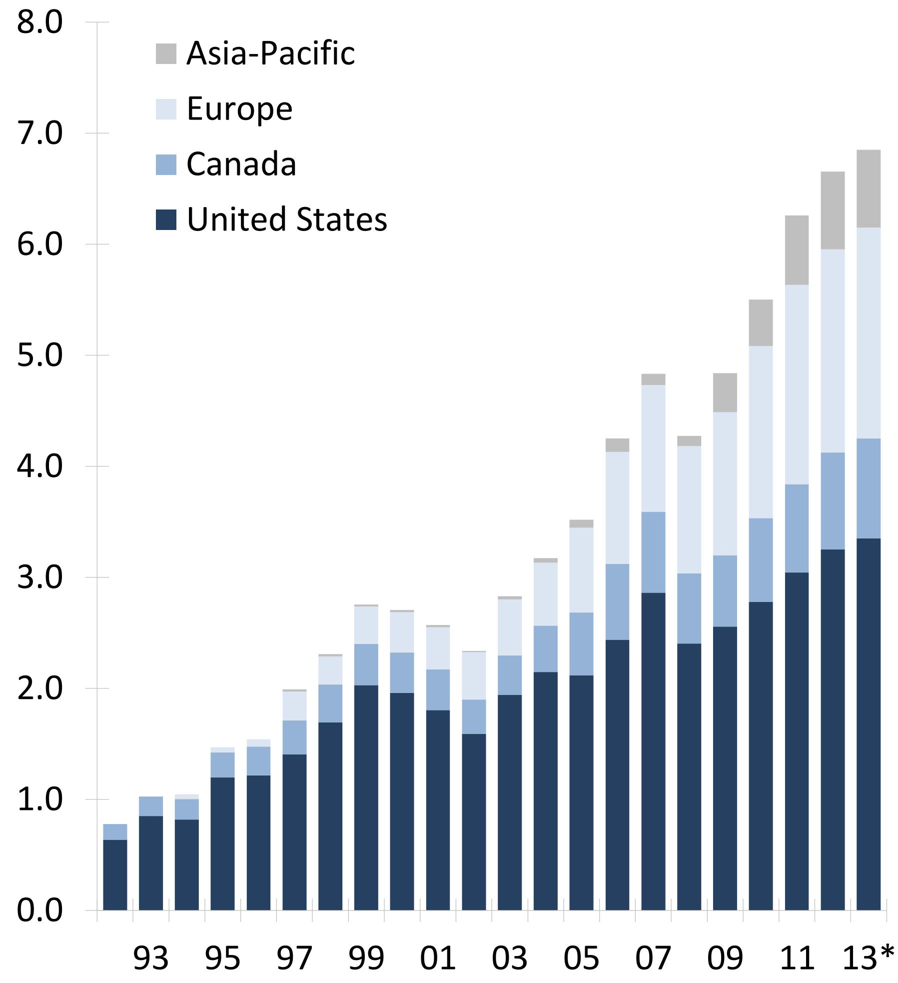
• 79 Canadian funds participate with assets totaling $548 billion.

• 53 European funds participate with aggregate assets of $1.7 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the U.K.

• 3 Asia-Pacific funds participate with aggregate assets of $62 billion. Included are funds from Australia and New Zealand.

The most meaningful comparisons for your returns and value added are to the U.S. Public universe which consists of 52 funds.

Participating assets ($ trillions)

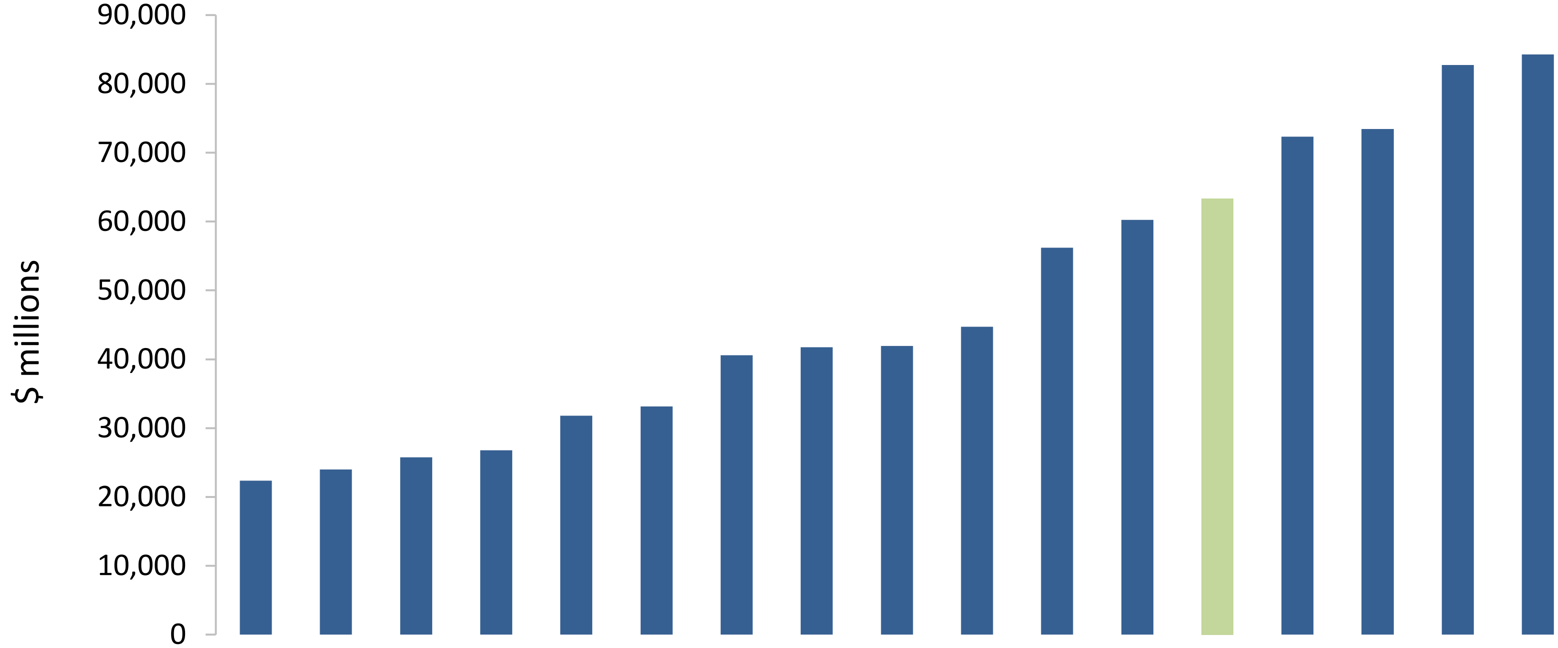


* The graph for 2013 reflects both received and expected data.

The most valuable comparisons for cost performance are to your custom peer group because size impacts costs.

Peer group for Oregon Public Employees Retirement Fund

- 17 U.S. public sponsors from $22 billion to $84 billion
- Median size of $42 billion versus your $63 billion



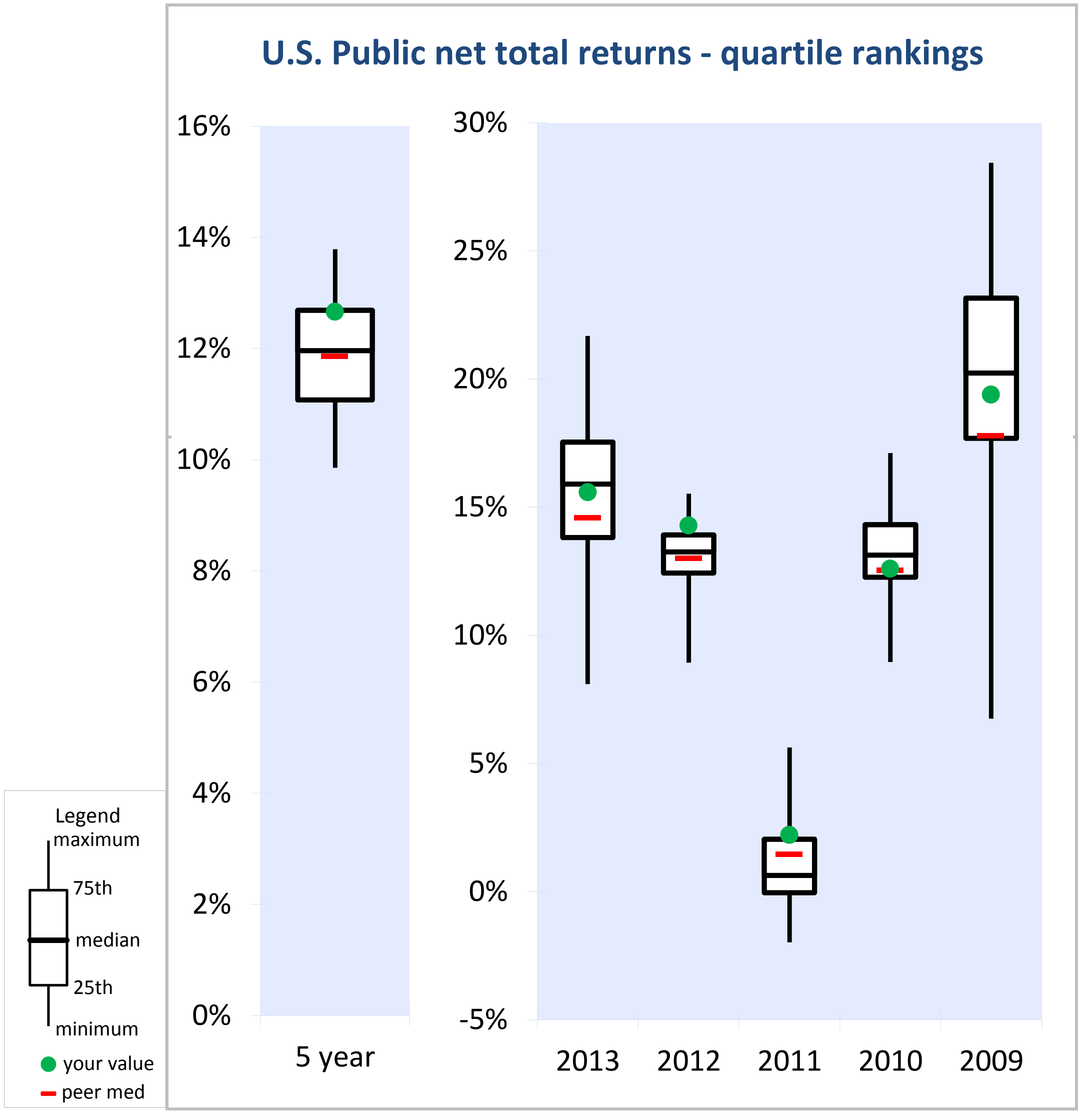
To preserve client confidentiality, given potential access to documents as permitted by the Freedom of Information Act, we do not disclose your peers' names in this document.

What gets measured gets managed, so it is critical that you measure and compare the right things:

1. Returns	Why do total returns differ from other funds? What was the impact of your policy mix decisions versus implementation decisions?
2. Net value added	Are your implementation decisions (i.e., the amount of active versus passive management) adding value?
3. Costs	Are your costs reasonable? Costs matter and can be managed.

Your 5-year total net return of 12.7% was above the U.S. Public median of 12.0% and above the peer median of 11.9%.

	Your 5-year
Net total fund return	12.7%
- Policy return	11.8%
= Net value added	0.9%

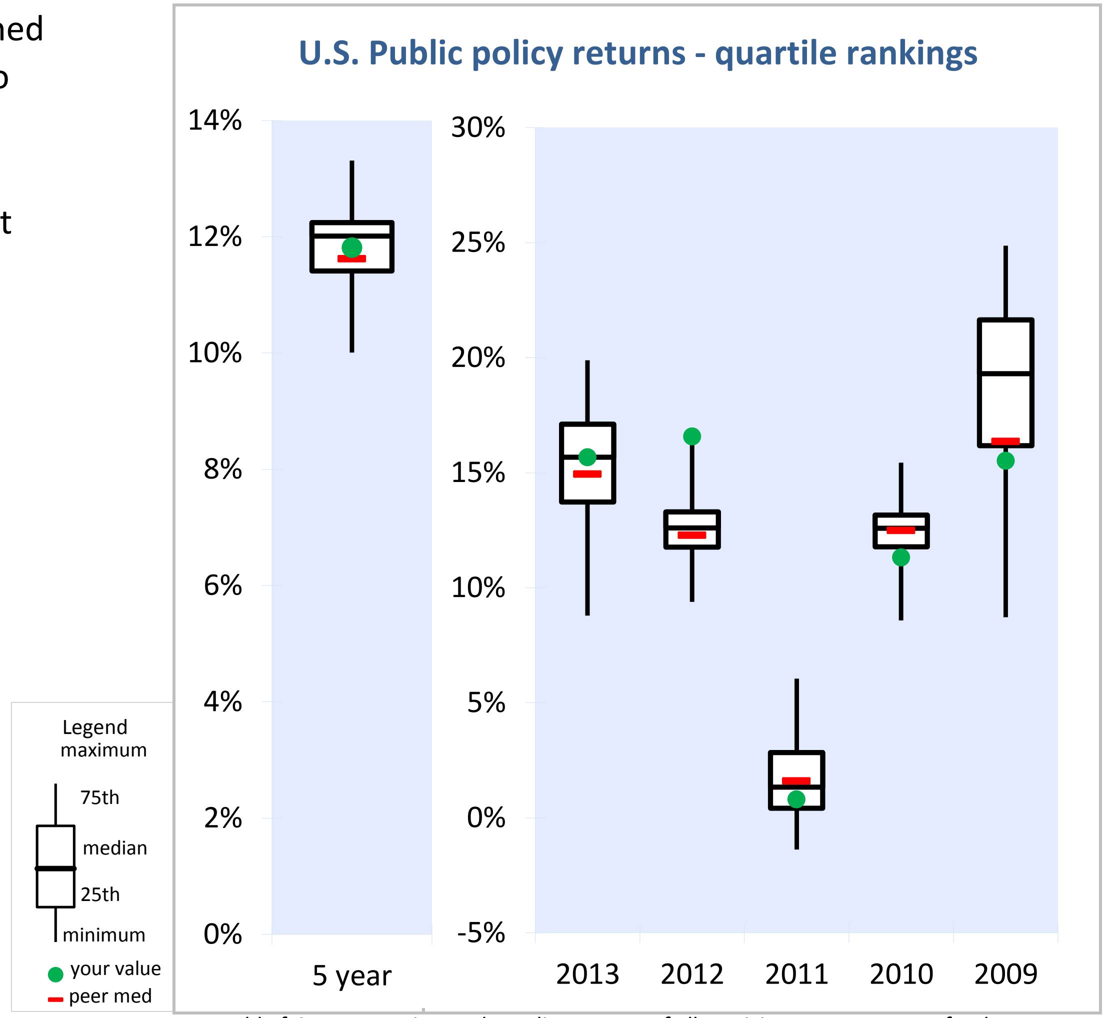


Your 5-year policy return of 11.8% was slightly below the U.S. Public median of 12.0% and below the peer median of 11.6%.

Your policy return is the return you could have earned passively by indexing your investments according to your policy mix.

Having a higher or lower relative policy return is not necessarily good or bad. Your policy return reflects your investment policy, which should reflect your:

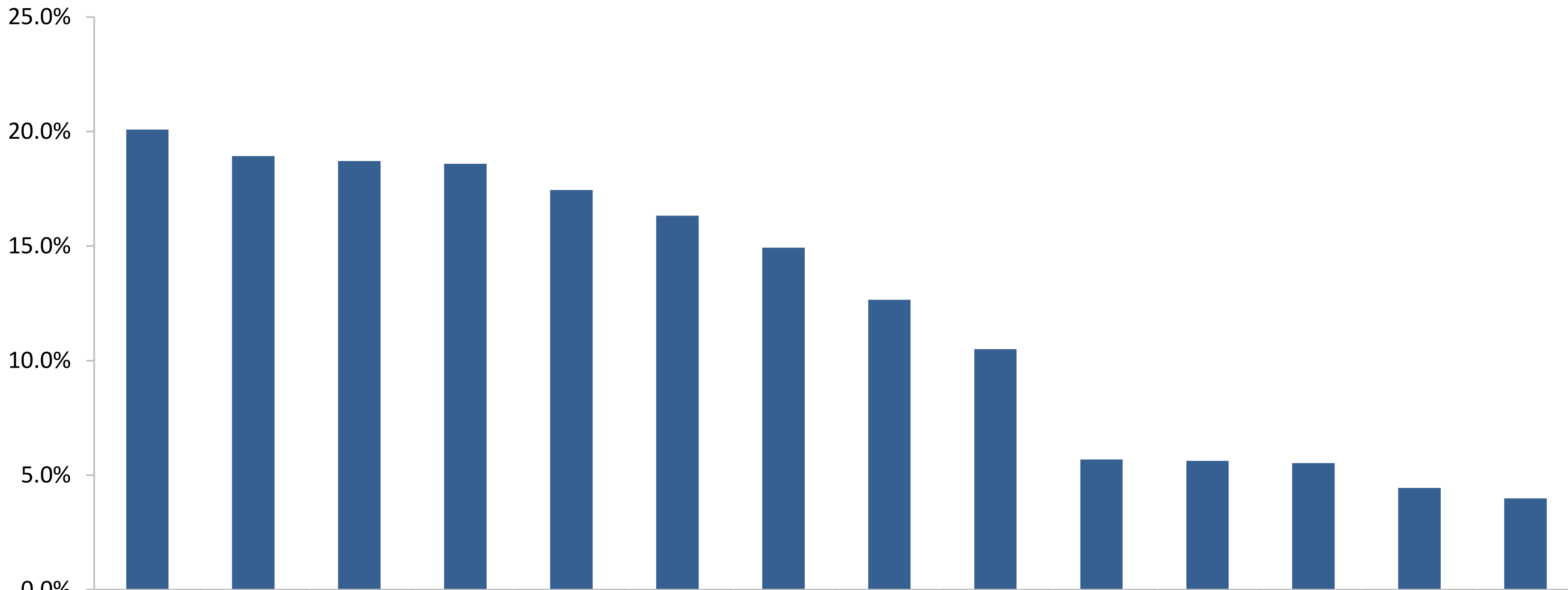
- Long term capital market expectations
- Liabilities
- Appetite for risk



To enable fairer comparisons, the policy returns of all participants except your fund were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices.

Differences in policy returns are caused by differences in benchmarks and policy mix.

5-Year returns for frequently used benchmark indices



	Russell 2000	Barclays High Yield	Russell 3000	Russell 1000	MSCI U.S. REIT	MSCI World	MSCI Emerg. Market	MSCI EAFE	Private Equity[1]	NCREIF	Barclays TIPS	Hedge Funds[1]	Barclays Aggr. Bond	Barclays Long Bond
US 5yr	20.1%	18.9%	18.7%	18.6%	17.5%	16.3%	14.9%	12.7%	10.5%	5.7%	5.6%	5.5%	4.4%	4.0%

1. The hedge fund benchmark is the average benchmark return reported by U.S. participants. The private equity benchmark is the average of the default private equity benchmark returns applied to U.S. participants.

Your 5-year policy return was slightly below the U.S. Public median primarily because of:

- The negative impact of your lower weight in one of the better performing asset classes of the past 5 years: Stock - Aggregate (your 44% 5-year average weight versus a U.S. Public average of 52%).

5-Year average policy mix

	Your Fund	Peer Avg.	U.S. Public Avg.
U.S. Stock	0%	24%	27%
ACWIxUS Stock	0%	8%	9%
Global Stock	44%	8%	6%
EAFE/Emerging	0%	10%	10%
Total Stock	44%	49%	52%
U.S. Bonds	22%	21%	20%
Long Bonds	0%	0%	0%
Other Fixed Income[1]	4%	8%	7%
Total Fixed Income	26%	29%	28%
Hedge Funds	0%	3%	3%
Real Estate incl. REITS	11%	9%	7%
Other Real Assets[1]	2%	1%	2%
Private Equity	18%	9%	7%
Total	100%	100%	100%

1. Other fixed income includes inflation indexed, high yield, global and global bonds. Other real assets includes commodities, natural resources and infrastructure.

Your policy asset mix has changed over the past 5 years. At the end of 2013 your policy mix compared to your peers and the U.S. Public universe as follows:

Policy asset mix

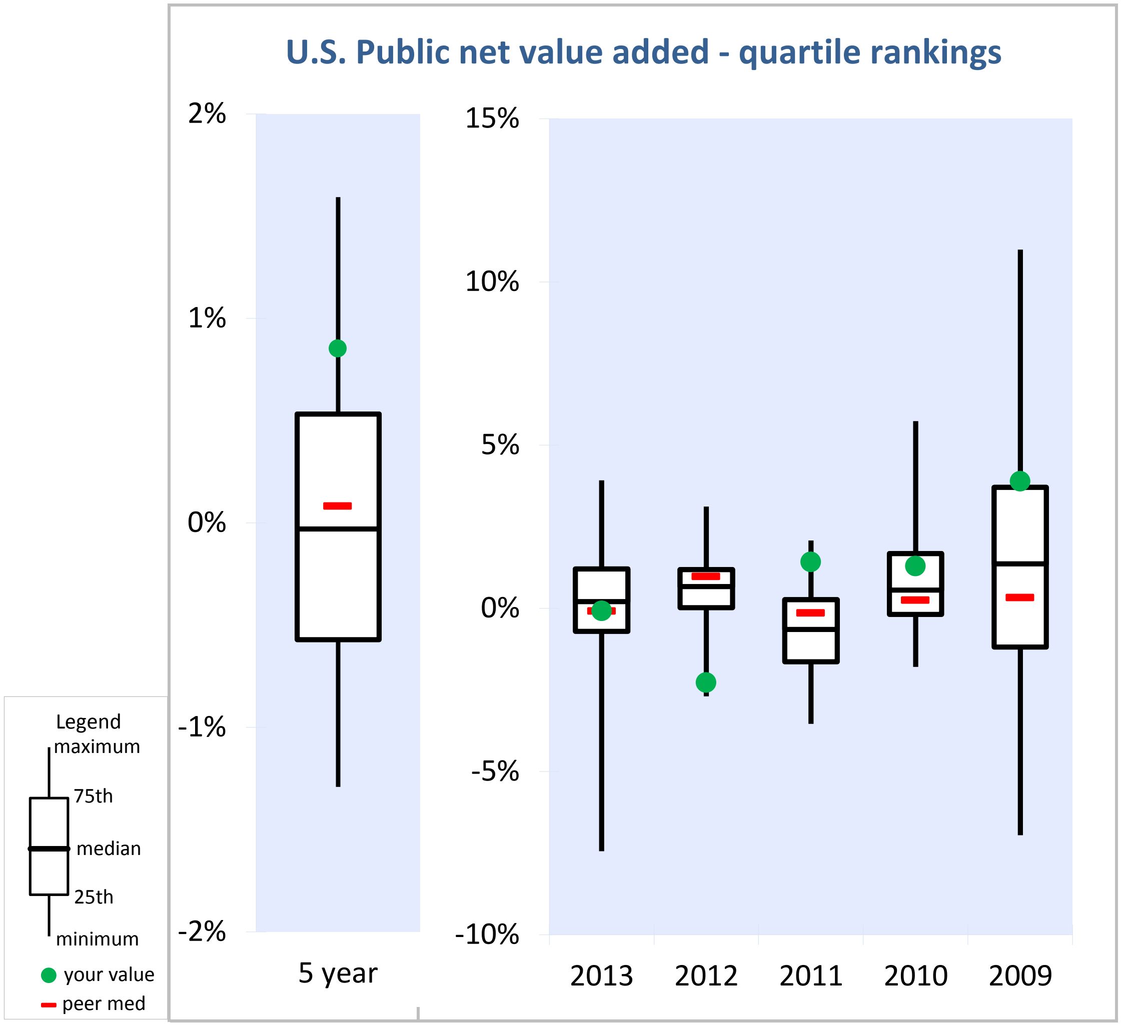
	2009	2013		
Asset class	Your fund	Your fund	Peer avg.	U.S. Public avg.
U.S. Stock	0%	0%	21%	25%
ACWIxUS Stock	0%	0%	5%	9%
Global Stock	46%	42%	11%	7%
EAFE/Emerging	0%	0%	11%	11%
Total Stock	46%	42%	48%	51%
U.S. Bonds	27%	17%	19%	19%
Long Bonds	0%	0%	0%	0%
Other Fixed Income[1]	0%	7%	10%	8%
Total Fixed Income	27%	24%	28%	27%
Hedge Funds	0%	0%	3%	4%
Real Estate incl. REITS	11%	13%	9%	7%
Other Real Assets[1]	0%	3%	1%	3%
Private Equity	16%	20%	10%	8%
Total	100%	100%	100%	100%

1. Other fixed income includes inflation indexed, high yield, global and global bonds. Other real assets includes commodities, natural resources and infrastructure.

Net value added is the component of total return from active management. Your 5-year net value added of 0.9% was above the U.S. public and peer medians of 0.0% and 0.1% respectively.

Value added for Oregon Public Employees Retirement Fund

Year	Net Return	Policy Return	Net value Added
2013	15.6%	15.7%	(0.1%)
2012	14.3%	16.6%	(2.3%)
2011	2.2%	0.8%	1.4%
2010	12.6%	11.3%	1.3%
2009	19.4%	15.5%	3.9%
5-year	12.7%	11.8%	0.9%



Your investment costs were $489.4 million or 77.2 basis points in 2013.

Asset management costs by asset class and style ($000s)

	Internal Management			External Management			
	Passive	Active	Overseeing of external	Passive fees	Active base fees	Perform. fees [3]	Total
U.S. Stock - Broad/All			246		10,221	1,706	12,173
U.S. Stock - Large Cap	31		379	139	9,632		10,181
U.S. Stock - Small/Mid Cap	48		65		6,541		6,655
Stock - Emerging		273	143		10,181		10,597
Stock - ACWIxU.S.			371	527	33,131		34,029
Stock - Global			236	413	3,119		3,768
Fixed Income - U.S.			564		10,998		11,562
Fixed Income - Other			135		17,519		17,654
Cash		98					98
REITs			21		5,661		5,682
Real Estate			191		13,726	excluded [3]	13,917
Real Estate - LPs			796		42,971	excluded [3]	43,767
Other Real Assets			719		16,520	920 [3]	17,239
Diversified Private Equity			2,572		260,088 [1]	excluded [3]	262,660
Diversified Priv. Eq.- Fund of Funds			3		25,200 [2]	excluded [3]	25,203
Other Private Equity			174		11,306 [1]	13,053 [3]	11,480
Overlay Programs			47		608		655
Total asset management costs							487,320 76.9bp

Oversight, custodial and other costs [4]

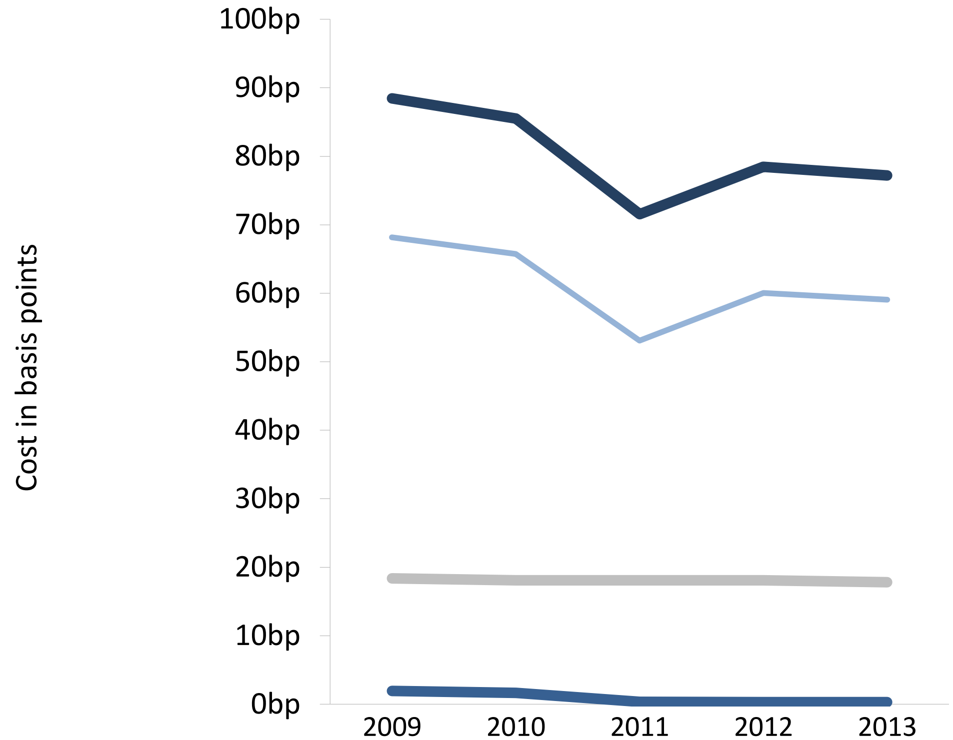
Oversight of the fund	1,532	
Trustee & custodial	100	
Consulting and performance measurement		
Audit	235	
Other	226	
Total oversight, custodial & other costs	2,093	0.3bp
Total investment costs	489,413	77.2bp

[1] PE cost derived from the partnership level detail you provided. Costs are based on partnership contract terms.
[2] Default underlying costs added to provided top-layer costs for fund of funds.
[3] Total cost excludes carry/performance fees for real estate, infrastructure, hedge funds and private equity. Performance fees are included for the public market asset classes.
[4] Excludes non-investment costs, such as PBGC premiums and preparing checks for retirees.

Your costs decreased slightly between 2009 and 2013.

Your reduction in costs is primarily due to a reduction in private equity fees. This reduction could reflect a maturing, as opposed to growing private equity program. The amount on which private equity fees are based is usually the commitment amount during commitment period and net asset value afterwards.

Trend in your investment costs



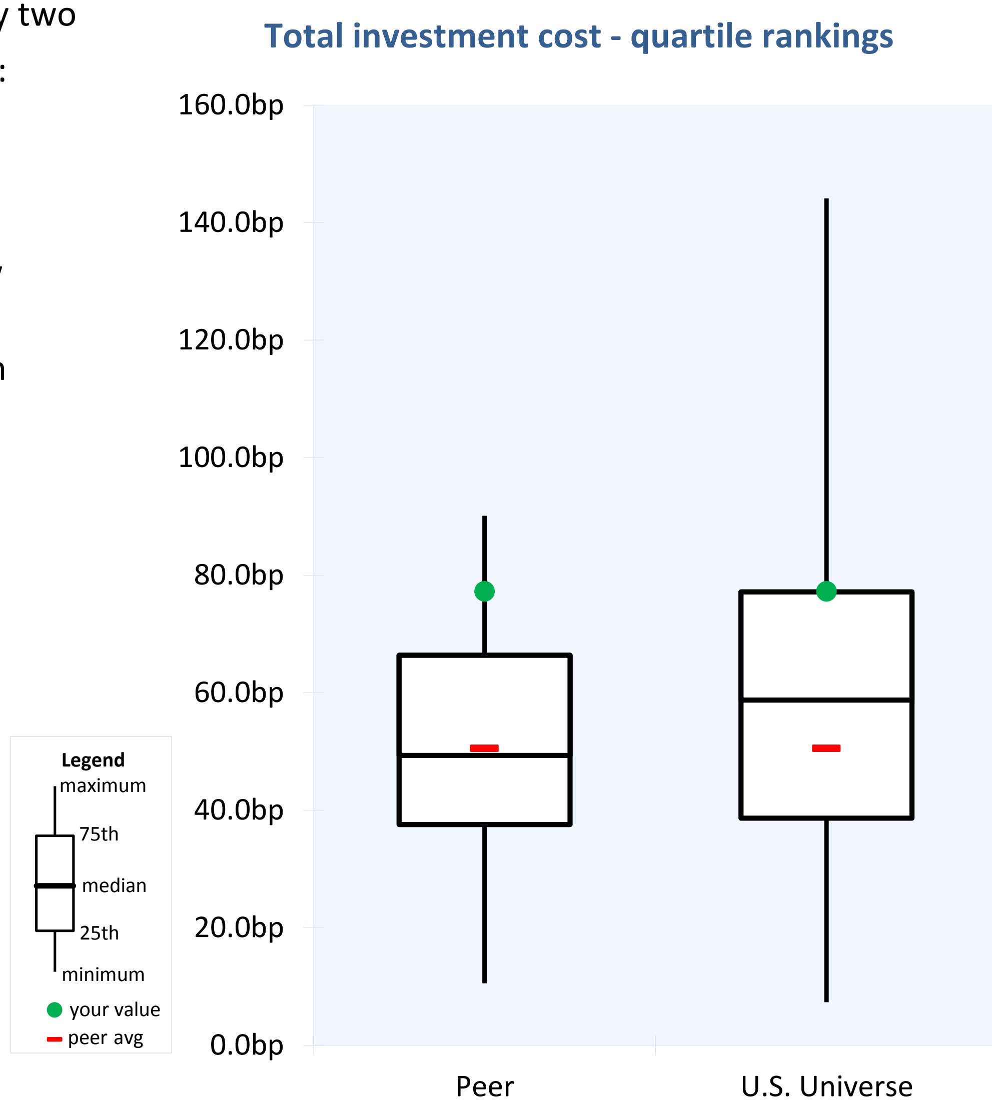
	2009	2010	2011	2012	2013
Public Assets (ex. Hedge funds)	18.4	18.1	18.1	18.1	17.8
Private Assets & Hedge Funds	68.2	65.7	53.1	60.0	59.0
Oversight	2.0	1.7	0.4	0.3	0.3
Total Cost	88.5	85.5	71.6	78.5	77.2

Your total investment cost of 77.2 bps was above the peer average of 50.5 bps.

Differences in total investment cost are often caused by two factors that are often outside of management's control:

- asset mix and
- fund size.

Therefore, to assess whether your costs are high or low given your unique asset mix and size, CEM calculates a benchmark cost for your fund. This analysis is shown on the following page.



Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was low cost by 3.9 basis points in 2013.

Your benchmark cost is an estimate of what your cost would be given your actual asset mix and the median costs that your peers pay for similar services. It represents the cost your peers would incur if they had your actual asset mix.

Your total cost of 77.2 bp was below your benchmark cost of 81.2 bp. Thus, your cost savings was 3.9 bp.

Your cost versus benchmark

	$000s	basis points
Your total investment cost	489,413	77.2 bp
Your benchmark cost	514,384	81.2 bp
Your excess cost	(24,971)	(3.9) bp

Your fund was low cost because it paid less than peers for similar mandates. These savings were partly offset by a higher cost implementation style.

Reasons for your low cost status

	Excess Cost/ (Savings) $000s	Excess Cost/ (Savings) bps
1. Higher cost implementation style		
• Less fund of funds	(423)	(0.1)
• More external active management (vs. lower cost passive and internal)	34,325	5.4
• More overlays	329	0.1
• Other style differences	(734)	(0.1)
	33,496	5.3
2. Paying less than peers for similar mandates		
• External investment management costs	(52,582)	(8.3)
• Internal investment management costs	19	0.0
• Oversight, custodial & other costs	(5,904)	(0.9)
	(58,467)	(9.2)
Total savings	(24,971)	(3.9)

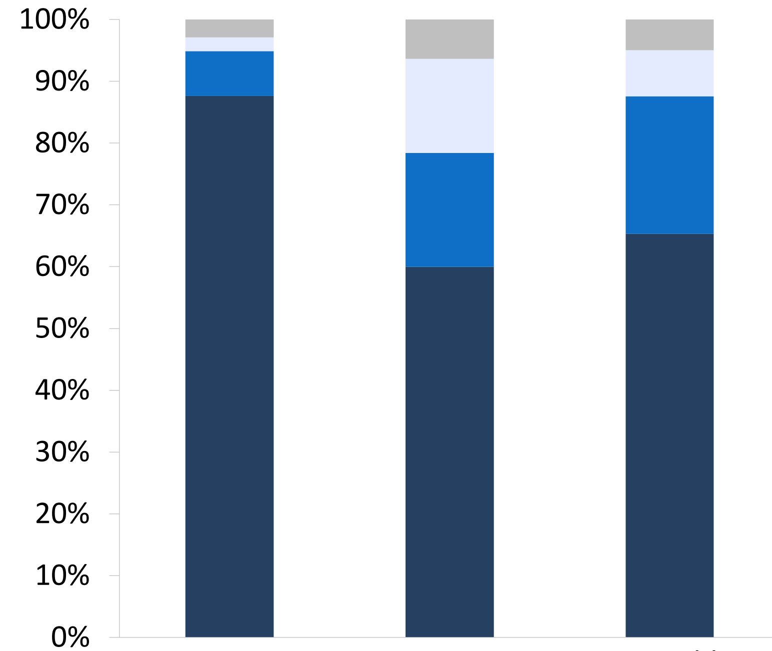
Differences in cost performance are often caused by differences in implementation style.

Implementation style is defined as the way in which your fund implements asset allocation. It includes internal, external, active, passive and fund of funds styles.

The greatest cost impact is usually caused by differences in the use of:

- External active management because it tends to be much more expensive than internal or passive management. You used more external active management than your peers (your 88% versus 60% for your peers).
- Within external active holdings, fund of funds usage because it is more expensive than direct fund investment. You had less in fund of funds. Your 5% of hedge funds, real estate and private equity in fund of funds compared to 12% for your peers.

Implementation style[1]



	Your Fund	Peers	U.S. Public Funds
Internal passive	3%	6%	5%
Internal active	2%	15%	7%
External passive	7%	18%	22%
External active	88%	60%	65%

1. The graph above does not take into consideration the impact of derivatives.

Differences in implementation style cost you 5.3 bps relative to your peers.

Calculation of the cost impact of differences in implementation style

Asset class	Your avg holdings in $mils (A)	% External active You	Peer average	More/ (less) (B)	Premium vs passive & internal[1] (C)	Cost/ (savings) $000s (A X B X C)	bps
U.S. Stock - Broad/All	2,756	100.0%	34.5%	65.5%	43.1 bp	7,767	
U.S. Stock - Large Cap	6,898	55.6%	18.5%	37.1%	24.4 bp	6,233	
U.S. Stock - Small/Mid Cap	1,329	64.0%	76.2%	(12.2%)	55.1 bp	(896)	
Stock - Emerging	1,773	87.4%	78.0%	9.3%	54.3 bp	896	
Stock - ACWIxU.S.	10,107	82.9%	66.8%	16.1%	35.9 bp	5,824	
Stock - Global	1,578	49.1%	63.3%	(14.2%)	33.3 bp	(745)	
Fixed Income - U.S.	10,245	100.0%	55.2%	44.8%	12.3 bp	5,653	
Fixed Income - Other	3,724	100.0%	95.3%	4.7%	Insufficient[2]	0	
REITs	1,564	100.0%	81.6%	18.4%	44.4 bp	1,280	
Real Estate ex-REITs	5,828	100.0%	90.9%	9.1%	Insufficient[2]	0	
of which Ltd Partnerships represent:		67.1%	39.0%	28.1%	50.7 bp	8,313	
Other Real Assets	591	100.0%	100.0%	0.0%		0	
Diversified Private Equity	20,641	100.0%	99.8%	0.2%	Insufficient[2]	0	
Other private equity	866	100.0%	83.1%	16.9%	Insufficient[2]	0	
Impact of less/more external active vs. lower cost styles						34,325	5.4 bp
		Fund of funds % of LPs			Premium vs. direct LP[1]		
Real Estate ex-REITs - LPs	3,911	0.0%	5.6%	(5.6%)	Insufficient[2]	0	
Diversified Private Equity - LPs	20,641	6.5%	6.8%	(0.3%)	66.9 bp	(423)	
Impact of less/more fund of funds vs. direct LPs						(423)	(0.1) bp
		Overlays and other					
Impact of higher use of portfolio level overlays						329	0.1 bp
Impact of mix of internal passive, internal active, and external passive[3]						(734)	(0.1) bp
Total impact of differences in implementation style						33,496	5.3 bp

Footnotes

1. The cost premium is the additional cost of external active management relative to the average of other lower cost implementation styles - internal passive, internal active and external passive.

2. A cost premium listed as 'Insufficient' indicates that there was not enough peer data to calculate the premium.

3. The 'Impact of mix of internal passive, internal active and external passive' quantifies the net cost impact of differences in cost between, and your relative use of, these 'low-cost' styles.

The net impact of paying more/less for external asset management saved 8.3 bps.

Cost impact of paying more/(less) for external asset management

	Your avg holdings in $mils	Cost in bps			Cost/(savings)	
		Your Fund	Peer median	More/ (less)	in $000s	bps
	(A)			(B)	(A X B)	
U.S. Stock - Broad/All - Active	2,756	44.2	44.2	0.0	0	
U.S. Stock - Large Cap - Passive	1,704	1.5	0.9	0.6	102	
U.S. Stock - Large Cap - Active	3,835	25.8	27.1	(1.3)	(516)	
U.S. Stock - Small/Mid Cap - Active	850	77.7	58.0	19.7	1,675	
Stock - Emerging - Active	1,549	66.7	64.9	1.8	273	
Stock - ACWIxU.S. - Passive	1,729	3.4	4.0	(0.6)	(108)	
Stock - ACWIxU.S. - Active	8,378	39.9	39.9	0.0	0	
Stock - Global - Passive	803	7.5	7.5	0.0	0	
Stock - Global - Active	775	40.8	40.8	0.0	0	
Fixed Income - U.S. - Active	10,245	11.3	14.7	(3.4)	(3,461)	
Fixed Income - Other - Active	3,724	47.4	47.4	0.0	0	
REITs - Active	1,564	36.3	48.7	(12.3)	(1,930)	
Real Estate ex-REITs - Active	1,917	72.6	61.4	11.2	2,152	
Real Estate ex-REITs - Limited Partnership	3,911	111.9	112.1	(0.2)	(60)	
Other Real Assets - Active	591	291.7	141.8	149.9	8,861	
Diversified Private Equity - Active	19,297	136.1	165.0	(28.9)	(55,744)	
Diversified Private Equity - Fund of Fund	1,344	187.5	231.9	(44.4)	(5,963)	
Other Private Equity - Active	866	132.6	102.4	30.2	2,612	
	Notional					
Derivatives/Overlays - Passive Beta	2,054	3.2	5.5*	(2.3)	(475)	
Total impact of paying more/less for external management					(52,582)	(8.3) bp

*Universe median used as peer data was insufficient.

The net impact of paying more/less for internal asset management rounds to 0.0 bps.

Cost impact of paying more/(less) for internal asset management

	Your avg holdings in $mils	Cost in bps			Cost/(savings)	
		Your Fund	Peer median	More/ (less)	in $000s	bps
	(A)			(B)	(A X B)	
U.S. Stock - Large Cap - Passive	1,359	0.2	0.1	0.1	19	
U.S. Stock - Small/Mid Cap - Passive	479	1.0	1.0	(0.0)	(0)	
Stock - Emerging - Active	224	12.2	12.2	0.0	0	
Total impact of paying more/less for internal management					19	0.0 bp

The net impact of differences in oversight, custodial & other costs saved 0.9 bps.

Cost impact of differences in oversight, custodial & other costs

	Your avg holdings in $mils	Cost in bps			Cost/(savings)	
		Your fund	Peer median	More/ (less)	in $000s	bps
	(A)			(B)	(A X B)	
Oversight / consulting	63,384	0.2	0.9	(0.7)	(4,232)	
Custodial	63,384	0.0	0.2	(0.2)	(1,274)	
Audit	63,384	0.0	0.0	(0.0)	(26)	
Other	63,384	0.0	0.1	(0.1)	(372)	
Total					(5,904)	(0.9) bp

Summary of key takeaways

Returns

- Your 5-year total net return was 12.7%. This was above the U.S. Public median of 12.0% and above the peer median of 11.9%.
- Your 5-year policy return was 11.8%. This was slightly below the U.S. Public median of 12.0% and slightly above the peer median of 11.6%.

Value added

- Your 5-year net value added was 0.9%. This was above the U.S. Public median of 0.0% and above the peer median of 0.1%.

Cost

- Your investment cost of 77.2 bps was below your benchmark cost of 81.2 bps. This suggests that your fund was low cost compared to your peers.
  Your fund was low cost because it paid less than peers for similar mandates. These savings were partly offset by a higher cost implementation style.

TAB 4 – COMMON SCHOOL FUND

Oregon Investment Council
Common School Fund
2014 Annual Portfolio Review

Purpose
To provide the Oregon Investment Council an update on the performance, structure, and asset allocation of the Common School Fund for the one-year period ended September 30, in accordance with OIC Policy 4.08.07.

CSF Performance
For the five-year period ended September 2014, the fund returned 10.6 percent, on an average annual basis, which was 60 basis points better than the 10.0 percent policy benchmark. For the 12 months ended September 30, the CSF returned 11.2 percent.

When compared to the 2014 NACUBO[1]-Commonfund Study of Endowments (426 US Colleges and Universities), the 19.2 percent fiscal year return for the CSF compares very favorably to the 15.8 percent (net of fees) return for the median endowment in the NACUBO universe. Over the trailing five-year period, the CSF returned 13.8 percent, compared to the median NACUBO endowment return of 11.7 percent. Most such funds have a dollar-weighted allocation to alternative strategies of well over 50 percent.

Four of the five active equity managers, with at least five years of history, have exceeded their benchmarks over the most recent five-year period. As approved by the OIC in August of this year, ClearBridge Investments replaced Columbia Wagner in the core mid-cap space, effective October 1.

The two CSF fixed income managers employ an active investment strategy that seeks to capitalize on the historical advantage given to market participants taking spread risk. The strategy generally involves underweighting treasury securities, relative to the index, and overweighting corporate debt. Over the past three-, five-, seven-, and ten-year periods, both Western and Wellington have exceeded the BC Universal index.

As reflected in the most recent flash report, the seven- and 10-year performance numbers continue to be impacted by the 2007 and 2008 relative performance, as shown below. However, both CSF's seven- and 10-year performance has recovered to near policy benchmark levels.

[1] National Association of College and University Business Officers, a global membership organization representing more than 2,500 colleges, universities, and higher education service providers.

PERIOD	CSF Net Return	Policy Benchmark	Alpha
Calendar Year 2004	11.73	11.38	0.35
Calendar Year 2005	7.14	6.72	0.42
Calendar Year 2006	15.32	14.45	0.87
Calendar Year 2007	2.77	7.21	(4.44)
Calendar Year 2008	(32.39)	(30.31)	(2.08)
Calendar Year 2009	30.42	27.01	3.41
Calendar Year 2010	12.98	11.37	1.61
Calendar Year 2011	(2.13)	(1.60)	(0.53)
Calendar Year 2012	15.48	15.55	(0.07)
Calendar Year 2013	17.94	16.25	1.69
September 2014 YTD	5.08	5.40	(0.32)

Private Equity
The CSF private equity program is now in its seventh year, relying predominately on OPERF general partners. Total commitments to date are $240 million, with $179 million contributed, through June 30. The first commitments were drawn in late 2007 and to date the total value multiple is 1.4x, with an IRR of 14.0 percent. General partners represented include Apollo, Oak Hill, KKR, TPG, Warburg Pincus, JP Morgan, and Oaktree. Expected future commitments are slated for Francisco Partners and JP Morgan Venture Capital V.

Asset Allocation

CSF	Policy	Target	$ Thousands	Actual
Domestic Equities	25-35%	30%	$431,371	30.7%
International Equities	25-35%	30%	402,617	28.6%
Private Equity	0-12%	10%	162,899	11.6%
Total Equity	**65-75%**	**70%**	**996,887**	**70.9%**
Fixed Income	**25-35%**	**30%**	**404,987**	**28.8%**
Cash	**0-3%**	**0%**	**3,454**	**0.2%**
TOTAL CSF			**$1,405,328**	**100.0%**

See additional background on the CSF, including distributions made to schools, on the following pages. **Importantly, over $481 million has been distributed to schools over the past 10 years, while the corpus has increased to a near all-time high of $1.4 billion (net of contributions).**

Recommended Action
None, information only

Oregon Investment Council
Common School Fund Review
December 3, 2014

Mary Abrams, Director
Oregon Department of State Lands

History and Purpose of the Common School Fund

- Constitutionally based trust fund created at statehood to provide funding for public schools.

  - Congress set aside lands dedicated for schools when Oregon first became a state in 1859. These lands were intended to provide a source of funding for schools and create a permanent endowment fund.

  - Oregon's Common School lands were the 16th & 36th section of each township (2 square miles for every 36 square mile block). Over time, many lands were sold or blocked up. Only about a fifth of the original acreage remains in state ownership.

  - The State Land Board, consisting of the Governor, Secretary of State and State Treasurer, is the trustee of the Common School Fund (CSF).

  - The Land Board manages the CSF for the long-term benefit of current and future generations of school children.

  - All real property revenues, proceeds from escheated estates, and unclaimed funds held in trust are deposited into the CSF.

  - The market value of the fund is now about $1.45 billion.

What Constitutes the CSF Investment Portfolio?

- Equities and fixed income portfolios invested by OIC.
  - Real property assets:
  - 630,000 acres of rangeland and agricultural lands
  - 122,000 acres of forestland
  - 7,000 acres of industrial, commercial and residential lands
  - 13,000 acres of special stewardship lands
  - 767,000 mineral and energy resources

    And:
  - 1.2 million acres of state-owned waterways and the Territorial Sea

- Constitutional real property management revenues are generated from a wide range of activities such as timber harvests, grazing, communication site leases, and royalties from mining (grossing about $6.6 million in FY 2014.)

- Because of compliance with the federal Endangered Species Act, timber harvests have been significantly reduced, and in fact were an expense to the CSF in FY 2013 instead of revenue-generating. Ownership of the Elliott State Forest cost the fund about $3 million.

- Statutorily dedicated proceeds include receipts from unclaimed property and revenues from submerged and submersible lands.

  - Unclaimed property until claimed by true owner ($40 – 60 million per year)
    - Safety deposit box contents
    - Unclaimed payroll checks, utility deposits
    - Dormant bank accounts

  - Submerged and submersible lands (nearly $3 million per year)
    - Waterway leases for uses such as houseboats, docks and fiber optic cables

- Starting in 2017, 40 percent of marijuana tax proceeds will go into the CSF – we estimate the first few years (about $3.6 million) will translate to about $50,000 for schools per year.

Recent Distributions

- In 2013 and 2014, the total distribution to schools totals nearly $104 million, which is only about 1 percent of the total education budget.

Issues/Recent Developments

<u>Distribution Policy</u>

- The Land Board adopted a new distribution policy in April 2009.

- The distribution policy calls for a distribution of 4% of the average of the three prior calendar year ending balances of the fund.

- In recent years, the Board has adopted resolutions altering this policy: in June 2009 calling for a one-time 5% distribution to help with the 2009-2011 budget deficit; and an additional $12 million in this current biennium.

<u>Elliott State Forest</u>

- The Land Board in October 2011 approved a new Forest Management Plan designed to increase harvest levels while conserving fish and wildlife habitat using take-avoidance strategies for threatened or endangered species.

- In January 2012, Cascadia Wildlands, the Audubon Society of Portland, and the Center for Biological Diversity filed suit regarding habitat in state forests, including the Elliott, for the marbled murrelet, a seabird protected by the Endangered Species Act. The lawsuit halted or deferred some timber sales until it was settled in February 2014. The terms of the settlement of the case indefinitely scaled back timber harvest levels and associated revenues.

- Because the Elliott is now losing money for the CSF, the Department of State Land began the Elliott State Forest Alternatives Project, which sought public and technical input into alternative ownership and management scenarios for the forest. The report will be presented to the Land Board on Dec. 9, at which time the Department hopes for direction from the board on how to proceed with various options.

<u>Real Estate Asset Management Plan</u>

In addition to the investment portfolio assets managed by the OIC, the Common School Fund has a real property asset component that has been managed historically by the DSL. In 2012, the State Land Board adopted a revised asset management plan. The REAMP guides how CSF lands are managed, particularly with respect to maximizing their value to the Common School Fund over the long term. The CSF real estate portfolio is currently valued at $500 - $570 million. However the forest revenue issues discussed previously are resulting in a decline in the real property value of the asset. The Department has used the plan to set management direction, and includes specific implementation activities (e.g. criteria for divesting of non-performing tracts) to achieve the overall goal of increasing returns to the CSF. The concept is to reinvest receipts from land sales in higher-performing properties. In FY 2014, land sales (including three parcels in the Elliott State Forest) generated $4.6 million.

<u>Portland Harbor Superfund Site</u>

DSL owns 75 parcels of submerged and submersible lands with the Portland Harbor Superfund site. Several of these parcels have been leased during various periods of time since 1939. We are participating in the both the allocation process and Natural Resources Damage Assessment (NRDA) process. The draft Remedial Investigation/Feasibility Study (RI/FS) was just released. A final Record of Decision is expected from the Environmental Protection Agency in 2017. What liability, if any, the state has is unknown at this time.

DEPARTMENT OF STATE LANDS FACT SHEET

COMMON SCHOOL FUND

Oregon Schools Benefit from Common School Fund

The State Treasurer and Oregon Investment Council invest the Common School Fund, which exceeded its performance target over the three-year period ending in 2013, earning a 9 percent average annual return. The value of the fund fluctuates with changing market conditions, and is now valued at $1.3 billion. Historically, about 4 percent of the fund has been distributed to school districts annually.

"Every education advocate should understand the Common School Fund."

Mary Abrams, Director
Department of State Lands

$50.8 million earmarked for state's 197 K-12 districts in 2014

Since Oregon became a state in 1859, a little-known fund – the Common School Fund – has provided hundreds of millions of dollars for Oregon public schools.

Common School Fund distributions are considered local revenue in the state funding formula, and the dollars are not insignificant. In a district such as Eugene, their share in 2014 ($1,711,668) would support 19 full-time teaching positions. In Bend, 16. And in Medford, 13.5.

State Land Board oversees Common School Fund

The act of Congress admitting Oregon to the Union in 1859 granted sections 16 and 36 of every township for the use of schools. Nearly 3.4 million acres – roughly the size of Connecticut – came under state ownership.

Our "land-rich, cash-poor" state quickly sold many school lands, as state officials felt private ownership of these lands would yield more for schools through property taxes and other economic benefits. As a result, only a fifth of Oregon's original acreage – about 760,000 acres – remains in state ownership.

2014 Common School Fund Distributions

A sampling of districts and their distributions

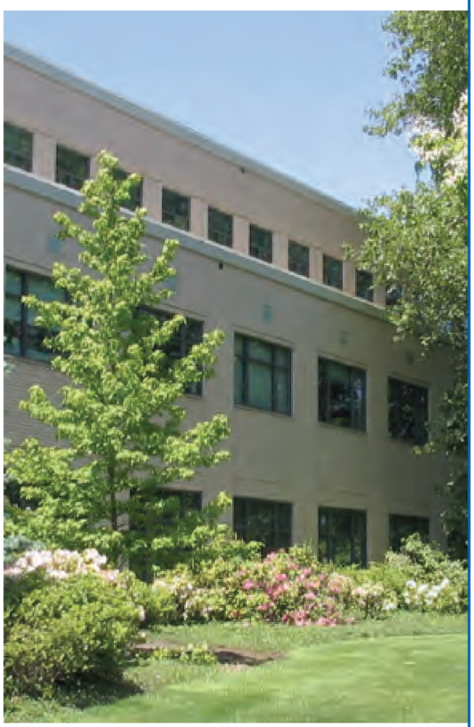
School District	Distribution	Equal to*
Astoria	**$167,985**	**2 full-time teachers**
Bend	**$1,410,473**	**16 full-time teachers**
Coos Bay	**$270,706**	**3 full-time teachers**
Eugene	**$1,711,668**	**19 full-time teachers**
Hood River	**$335,199**	**4 full-time teachers**
Medford	**$1,186,527**	**13.5 full-time teachers**
Pendleton	**$283,646**	**3 full-time teachers**
Portland	**$4,427,154**	**50 full-time teachers**

* Based on the annual statewide average of $88,339 per teacher for salary and benefits; figures are rounded

DEPARTMENT OF STATE LANDS FACT SHEET

COMMON SCHOOL FUND

Common School Fund distributions are sent to school districts twice a year. By law, fund distributions cannot benefit current students at the disadvantage of future students, or vice-versa.



The Land Board's 2012 Real Estate Asset Management Plan calls for a more aggressively managed real estate portfolio. The plan emphasizes "strategic investment and reinvestment in industrial/ commercial/residential lands to increase land values and Common School Fund revenues over the ten-year life of the plan."

"Protecting and enhancing the Common School Fund is arguably the most important thing we do as a state agency," says Mary Abrams, director of the Department of State Lands, the administrative arm of the Land Board.

Inputs into the fund include revenues from state-owned lands and waterways, and from estates that escheat to the state from people who die without a will and known heirs. All unclaimed property (money) the state receives is held in the Common School Fund until the rightful owner is located.

Goal is to grow the fund significantly over time

As the Common School Fund grows, so do distributions to Oregon school districts. Since 2000, distributions have ranged from a low of $13 million in 2004 to a high of $55.4 million in 2008. Distributions in the 2013-15 biennium will total $105 million.

The Department of State Lands is strategically managing the fund's real estate assets to increase revenues to schools. Divesting of non-producing lands, investing in high-quality lands, and ensuring that state land leases reflect market values are among the agency's strategies, says Abrams.

"Every dollar helps Oregon schools – it's just that simple," she says. "My goal is for every education advocate across the state to understand the Common School Fund and the Department of State Lands' role in supporting Oregon's schoolchildren from generation to generation."

For more information and copies of this fact sheet, contact:

Julie Curtis: (503) 986-5298; julie.curtis@state.or.us

Oregon Department of State Lands
775 Summer St. NE, Suite 100
Salem, Oregon 97301-1279
(503) 986-5200 | www.oregonstatelands.us

DSL by the Numbers

Fiscal Year 2014 (July 1, 2013 – June 30, 2014)

The Department of State Lands (DSL) was first established in 1878 as the Office of the Clerk of the State Land Board. The agency is the administrative arm of the board, managing land and other resources dedicated to the Common School Fund. The Land Board, Oregon's oldest board, is composed of the Governor, Secretary of State and State Treasurer. Oregon's Constitution directs the board to manage state trust lands to generate revenue for Oregon public schools.

Ensuring a legacy for Oregonians and their public schools through sound stewardship of lands, waterways, unclaimed property, estates and the Common School Fund.

In 1957 the Legislature passed the Uniform Unclaimed Property Act and assigned the Land Board and DSL the responsibility of safeguarding lost financial assets until claimed by rightful owners.

Beginning in 1967, DSL began implementing the state's removal-fill law which protects natural waterways and wetlands for purposes of navigation, fisheries, commerce and recreation. The agency assumed Oregon's wetlands conservation program as a result of the 1989 Wetlands Conservation Act.

The agency has four program areas and serves as the state partner for the South Slough National Estuarine Research Reserve in Charleston, the first of 28 reserves throughout the United States.

For the 2013-15 biennium, DSL has 104 employees:

- Director's Office (5 staff)
- Common School Fund Property (27 staff)
- Aquatic Resource Management (26 staff)
- Business Operations and Support Services (30 staff)
- South Slough Reserve (16 staff)

The agency's 2013-15 Legislatively Adopted Budget is $43.7 million. No General Funds are used for operations, only Other Funds and Federal Funds.

Common School Fund

Market Value

$1.45 billion

As of June 30,2014

Distribution to Schools	**$50,779,254**
CSF Revenues/Receipts	**$325,591,960**
CSF Investment Earnings	**$143,084,501**

Oregon's Constitution directs the State Land Board to manage state trust lands to generate revenue for Oregon public schools.

Common School Fund Property

Real Property

Estimated total value of Common School Fund land assets: $518– $570 million

Rangelands/Ag Lands	**630,437 acres**
No. of active authorizations	218
Gross revenues	$804,337

Forestlands	**122,092 acres**
No. of active authorizations	126
Gross revenues	$3,573,367

Industrial/Commercial/ Residential	**7037 acres**
No. of active authorizations	88
Gross revenues	$1,582,070

Special Stewardship Lands	**13,212 acres**
No. of active authorizations	27
Gross revenues	$46,443

Mineral and Energy Resources	**767,092 acres**
No. of active authorizations	20
Gross revenues	$560,091

Land Sales	**$4,623,559**

Trust Property

Unclaimed Property	
Gross Receipts	$63,863,439
Claims Paid	$23,261,206
No. of Claims Paid	13,277

Estates Administration	
No. of estates handled	284
Funds pending permanent escheat to Common School Fund	$6,692,114

Aquatic Resource Management

Removal-Fill Permits	**1,233**
Individual Permits	158
General Permits	29
Placer Mining Authorizations	951
Other General Authorizations	66
Emergency Authorizations	29
Permit fees	$367,063

Wetland Delineation Reports	**218**
Report fees	$86,143

Wetland Determinations	**243**

Wetland Land Use Notices	**267**

Wetland Mitigation Banks	
No. of approved banks	25
No. of credits available as of 6-30-14	165
No. of credits sold in FY 2014	51

Removal-Fill Mitigation Fund	
No. of permits using program	17
Credits sold	2.75
Funds collected	$260,476
New project funding (2 projects)	$529,258

Technical Assistance for Certified Industrial Sites	
No. of sites	22

State-Owned Waterways	**1,264,558 acres**
No. of active authorizations	4,500
Gross revenues	$2,873,586

South Slough National Estuarine Research Reserve

No. of acres managed	5,927
No. of research projects	19
No. of education/interp. programs	225
No. of training workshops	36
No. of program participants	7,610
No. of visitors at interp. center	3,745

Oregon Department of State Lands
775 Summer St. NE, Suite 100 Salem, Oregon 97301-1279
(503) 986-5200 | www.oregonstatelands.us

TAB 5 – OPERF ALTERNATIVE PORTFOLIO

OPERF Alternatives Portfolio 2014 Plan and Review

Ben Mahon, Alternatives Investment Officer

December 3, 2014

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Alternatives Portfolio Background/Objectives

- <u>Alternatives Portfolio Background:</u>

  - Alternatives Portfolio approved at January 26, 2011 OIC meeting
  - Portfolio seeded July 1, 2011 with three investments from the Opportunity Portfolio
  - Target allocation increased from 5% to 10% (0-10% range) at June 26, 2013 OIC meeting

- <u>Alternatives Portfolio Objectives:</u>

  - Seek "real assets" and "real return" strategies
  - Source of diversification for OPERF
  - Less correlated returns, diversifying risk premias
  - Seek hedges against inflation
  - Benchmark: CPI + 4%

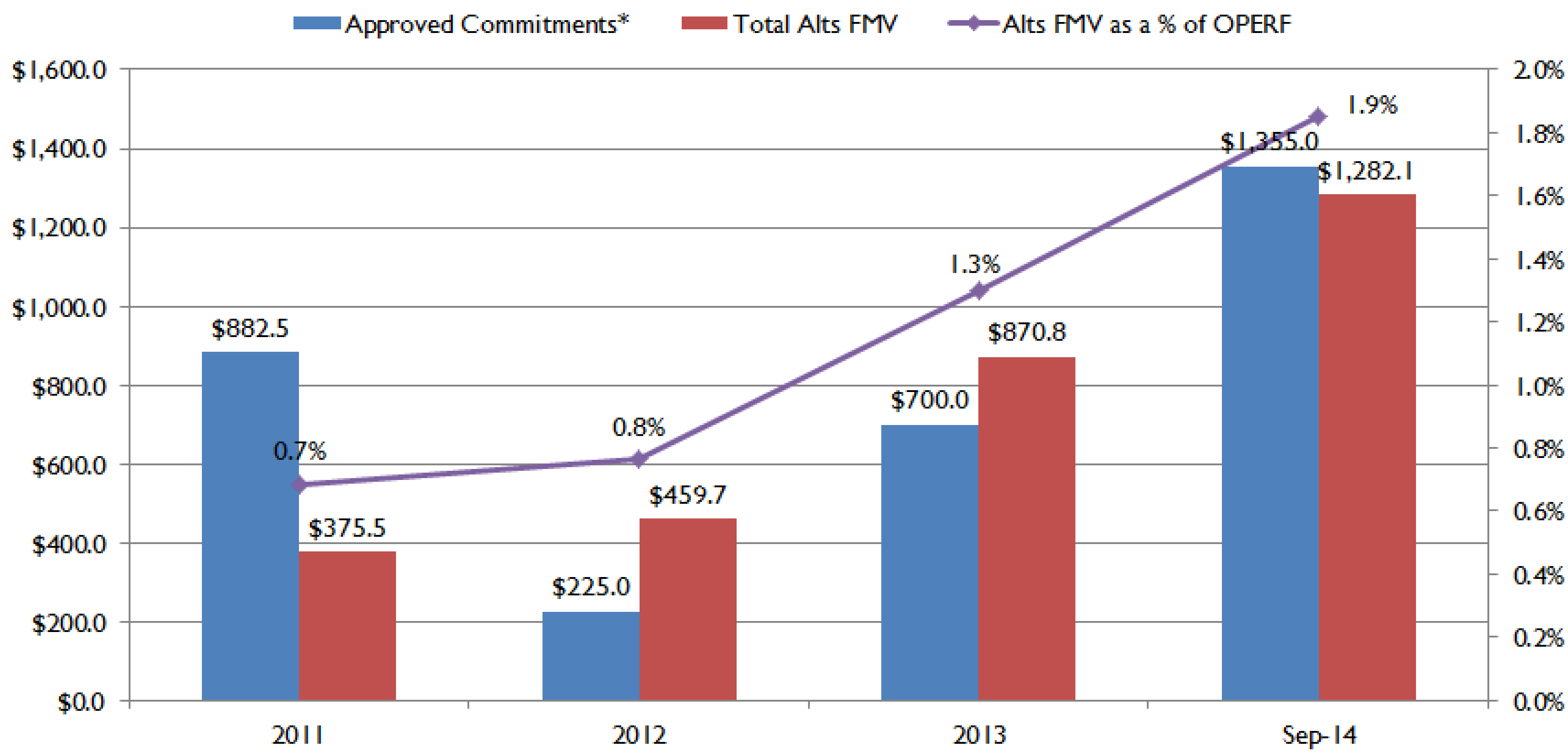
Recent Investment Activity

- During 2014, OIC approved $1.4 billion in commitments across ten funds
- Six of the commitments were new relationships; four were "re-ups"
- Commitments comprise a diverse set of investment strategies

INVESTMENT NAME	AUTHORIZED DATE	FIRST OPERF DRAWDOWN	COMMITMENT AMOUNT
Mariner International Infrastructure Finance Company Fund, L.P.	1/9/2014	3/27/2014	$50,000,000
Alterna Capital Management Fund II, L.P.	2/13/2014	4/14/2014	$100,000,000
NGP Agribusiness Follow-on Fund, L.P.	2/13/2014	7/11/2014	$100,000,000
The Forest Company	2/13/2014	N/A	$100,000,000
EnCap Flatrock Midstream Fund III, L.P.	3/19/2014	7/9/2014	$50,000,000
Energy & Minerals Group Fund III, L.P.	4/30/2014	7/3/2014	$205,000,000
Taurus Mining Finance Fund, L.P.	5/9/2014	8/1/2014	$100,000,000
GIP Capital Solutions, L.P.	7/30/2014	N/A	$200,000,000
NGP Natural Resources Fund XI	8/14/2014	11/5/2014	$200,000,000
Sheridan Production Partners III-B, L.P.	10/13/2014	11/6/2014	$250,000,000
TOTAL:			**$1,355,000,000**

Commitments and Market Values

- Alternatives Portfolio weight increasing as a percentage of OPERF
- Since inception of the Program, $3.2 billion of commitments have been approved



Source: State Street. Data as of September 30, 2014. $ in millions.
*2011 commitments include initial transfer from Opportunity Portfolio.

Portfolio Snapshot

- Sector exposures are generally within targeted allocation ranges

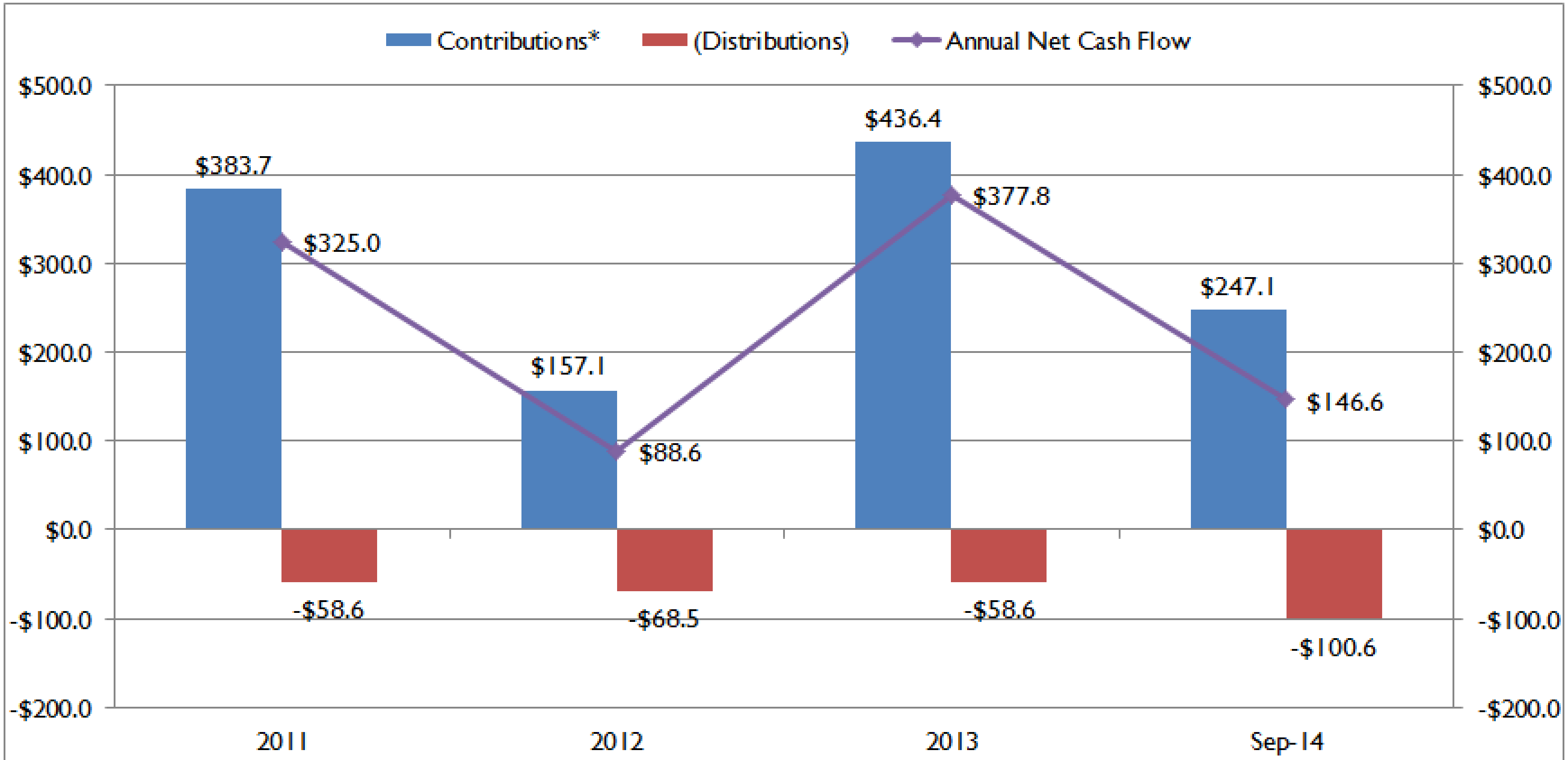
SECTOR	TARGET ($)	TARGET (%)	TARGET RANGE (%)	MARKET VALUE ($)	MARKET VALUE (%)
Infrastructure	$2,076.2	30.0%	25-35%	$347.0	27.1%
Natural Resources	$3,114.3	45.0%	40-50%	$585.4	45.7%
Energy	*$1,038.1*	*15.0%*	*10-20%*	*$329.8*	*25.7%*
Metals & Mining	*$519.1*	*7.5%*	*5-10%*	*$49.2*	*3.8%*
Water, Ag & Timber	*$519.1*	*7.5%*	*5-10%*	*$10.9*	*0.9%*
Liquid commodities/natural resources	*$1,038.1*	*15.0%*	*10-20%*	*$195.6*	*15.3%*
Hedge Fund**	$1,730.2	25.0%	15-35%	$349.7	27.3%
TOTAL:	**$6,920.7**	**100.0%**	**0-10%**	**$1,282.1**	**100.0%**

Source: State State. Data as of September 30, 2014. $ in millions.

**Hedge Fund target weight includes 5% allocation to "Other."

Annual Cash Flow Activity

- As anticipated early in the life of a long-term investment program, cash outflows have outweighed cash inflows by a meaningful amount



Source: State Street/Alpha Frontier. Data as of September 30, 2014. $ in millions.
*2011 cash flows include initial transfer from Opportunity Portfolio.

Portfolio Activity

- As of September 30, 2014, OPERF has contributed $1.2 billion in capital, funding approximately 39% of aggregate capital commitments made since inception. Approximately $1.9 billion of capital commitments remain outstanding.
- Since inception, a total of $286.3 million has been distributed to OPERF
- As new commitments continue to be made, the weighted-average age of the Portfolio has remained consistent throughout its history

	2011	2012	2013	2014 YTD
Contributions	$383.7	$157.1	$436.4	$247.1
(Distributions)	-$58.6	-$68.5	-$58.6	-$100.6
Net Cash Flow	$325.0	$88.6	$377.8	$146.6
Unfunded Commitments	$282.5	$534.4	$574.3	$1,860.3
Weighted Avg. Age of Portfolio (yrs)	2.6	2.7	2.5	2.7

Source: State Street/Alpha Frontier. Data as of September 30, 2014. $ in millions.

Portfolio Initiatives

- Progress-to-date
  - Committed $2.1 billion over past two years; $3.2 billion cumulatively since inception
  - Portfolio exposures are balanced and within target ranges
  - "Second inning" of portfolio development. Look to develop anchor positions complemented by specialists/next generation relationships.
  - No shortage of deal flow! Issue has been discriminating among opportunities.

- Co-investment
  - Staff and consultant commencing project to determine best approach for co-investment program
    - Create a shortlist of potential co-investment partners, developing a framework for implementation
    - Assess additional resource (both internal and external) requirements

- Reporting
  - TorreyCove reporting initiated June 2013
  - State Street's Alpha Frontier product onboarding complete

Portfolio Initiatives, cont.

- Pipeline
  - Core infrastructure (global, public markets)
  - Value add infrastructure (North American/European-focused, private markets)
  - Infrastructure debt (global, public markets)
  - Agriculture (Brazilian-focused, private markets)
  - Agriculture (North American, private markets)
  - Timber (North American, private markets)
  - Multi-sector natural resources (global, private markets)
  - Energy (North American, private markets)

- Current Market Themes
  - North American energy plays
  - "De-risking" strategies
  - Infrastructure debt
  - Clean energy
  - Emerging markets

Portfolio Structure/Relationships

Total OPERF Alternatives

$1.3 billion NAV

Since inception IRR*	6.6%
CPI +4% index	6.1%

Infrastructure	Natural Resources	Hedge Funds
$347.0 million NAV	$585.4 million NAV	$349.7 million NAV

Number of Relationships / Managers

Infrastructure	Natural Resources	Hedge Funds
Alinda	Appian	AQR
Alterna	Brookfield	Reservoir
EnCap Flatrock	EMG	
GIP	NGP	
Highstar	Orion	
Mariner	SailingStone GNR	
LS Power	Sheridan	
Reservoir	Taurus	
Stonepeak		
9	**8**	**2**

*Performance as of June 30, 2014. Source: TorreyCove. Market values as of September 30, 2014. Source: State Street.

Portfolio Structure/Relationships Vision

Goals:
- Target 30 relationships
- Use for priority setting
- Assess current targets – are they reasonable?

Total OPERF Alternatives

$1.3 billion NAV
$7.0 billion target
$3.2 billion committed

Since inception IRR*	6.6%
CPI +4% index	6.1%

Infrastructure

$347.0 million NAV
$2.1 billion target
$1.2 billion committed

Natural Resources

$585.4 million NAV
$3.1 billion target
$1.7 billion committed

Hedge Funds

$349.7 million NAV
$1.7 billion target
$350.0 million committed

Number of Relationships / Managers

Infrastructure – 9

Alinda
Alterna
EnCap Flatrock
GIP
Highstar
Mariner
LS Power
Reservoir
Stonepeak

- Envision 10-12 relationships
- Larger manager and investable universe, so average commitment larger

Natural Resources – 8

Appian
Brookfield
EMG
NGP
Orion
SailingStone GNR
Sheridan
Taurus

- Envision 14-16 relationships
- Smaller manager and investable universe, so average commitment smaller

Hedge Funds – 2

AQR
Reservoir

- Envision 4-6 relationships
- Maintain HF beta and style premia-oriented manager bias

*Performance as of June 30, 2014. Source: TorreyCove. Market values as of September 30, 2014. Source: State Street.

Portfolio Pacing

- 2015 Plan
  - $1.5 – $2.0 billion in commitments
  - Based on balanced portfolio allocation, not driven by need to fill an exposure
  - Implies total commitments of $4.6 – $5.2 billion by year end

- Longer-term pacing
  - Staff has been measured, given entry point risk, research, education and resources required
  - At current pace, will not reach target allocation for several years
  - Can deploy "liquid strategies" such as hedge funds and listed commodities/natural resources more quickly than "illiquid strategies" such as infrastructure and private natural resources
  - Remain cognizant of exposures while aiming for vintage year diversification

Strategy Review

- <u>Illiquid ("private market") strategies:</u>

Infrastructure

- Essential, relatively inelastic demand assets that underpin economic and social activities
- Market segments: midstream energy (pipelines, storage, transmission), power generation facilities, transportation (airports, ports, toll roads, bridges), asset leasing (rail cars, aircraft, shipping vessels)
- Investment stages: greenfield/development, brownfield
- Target portfolio ~30% of Alternatives Portfolio or ~$2.1 billion in NAV
- Current authorized commitments of $1.2 billion
- Target return on underlying assets of 8-18%: wide range depending on type, stage and leverage
  - Base return provided through long-term agreements, with additional sources of return though improvements to operations/management
  - Current income a significant component of total return
- Concerns
  - Fees, particularly on committed capital
  - Shortage of experienced managers gives fee leverage to established GPs
  - Entry point risk driven by increased investor interest
  - Ability to co-invest, which could be most cost effective way of reducing fees

Strategy Review

- Illiquid ("private market") strategies:

Energy

- Core investment strategy consists of acquiring acreage and drilling/operating wells to produce hydrocarbons; generating or distributing fuels or electricity
- Market segments: upstream (conventional or unconventional), midstream (transport, storage), downstream, renewables
- Investment stages: exploration to proved developed producing (PDP) wells
- Target portfolio ~15% of Alternatives Portfolio or ~$1.0 billion in NAV
- Current authorized commitments of $988 million
- Target return on underlying assets of 10-18%, depending on stage and leverage
  - Commodity price exposure can be minimized through hedging
  - Current income a significant component of total return
- Concerns
  - Fees, particularly on committed capital
  - Entry point risk driven by increased investor interest
  - Technology dislocations (can affect supply and therefore commodity price)
  - Leverage (bank borrowing base depends on commodity price "strip")
  - Environmental (water and chemical use for unconventional drilling techniques – "fracking")

Strategy Review

➢ Illiquid ("private market") strategies:

Metals and Mining

- Core investment strategy consists of investing in companies or projects, with rights to extract resources
- Market segments: precious, base, energy, bulk and industrial metals
- Investment stages: feasibility, project finance, off-takes, equity in producing mines
- Target portfolio ~7.5% of Alternatives Portfolio or ~$519 million in NAV
- Current authorized commitments of $225 million
- Target total net return of 10-20%, depending on stage and leverage
- Concerns
  - Entry point risk driven by increased investor interest
  - Commodity price volatility
  - Shortage of experienced managers, particularly in later stages
  - Global demand shifts (emerging market demand, in particular China)
  - Counterparty risk (on debt and off-take transactions)

Strategy Review

- Illiquid ("private market") strategies:

Agriculture, Timberland, and Water

- Investment in the ownership, lease and/or management of income-producing timberland or agriculture land
- Market segments: water rights, row crops, permanent crops, mature groves, plantations, related infrastructure
- Investment stages: brownfield, greenfield, conversion
- Target portfolio ~7.5% of Alternatives Portfolio or ~$519 million in NAV
- Current authorized commitments of $250 million.
- Target total net return of 5-12%, depending on stage and leverage
  - Returns driven by biological growth and lease payments and income generated by harvesting a commodity
- Concerns
  - Entry point risk driven by increased investor interest
  - Small investable universes, with limited ability to create new investment opportunities
  - Commodity price volatility
  - Ability to co-invest, which could be most cost effective way of reducing fees
  - Shortage of experienced managers, particularly in water and agriculture

Strategy Review

- Liquid ("capital markets") strategies:

Commodity/Natural Resource Strategies

- Core investment strategy consists of exposure to raw materials or agricultural products
- Market segments: energy, metals, agriculture, and soft commodities
- Investment stages: passive index, active management, absolute return
- Strategies expressed through futures contracts, listed equities, physical commodities
- Target portfolio ~15% of Alternatives Portfolio or ~$1.0 billion in NAV
- Current authorized commitments of $200 million.
- Target total net return of 6-10%
- Concerns
  - Volatility
  - Open interest (inflow of index funds)
  - Index construction
  - Limited number of institutional long-only managers
  - Many specialized managers
  - Contango (negative "carry") markets
  - Underlying emerging market demand (drives spot prices)
  - Correlation with existing assets

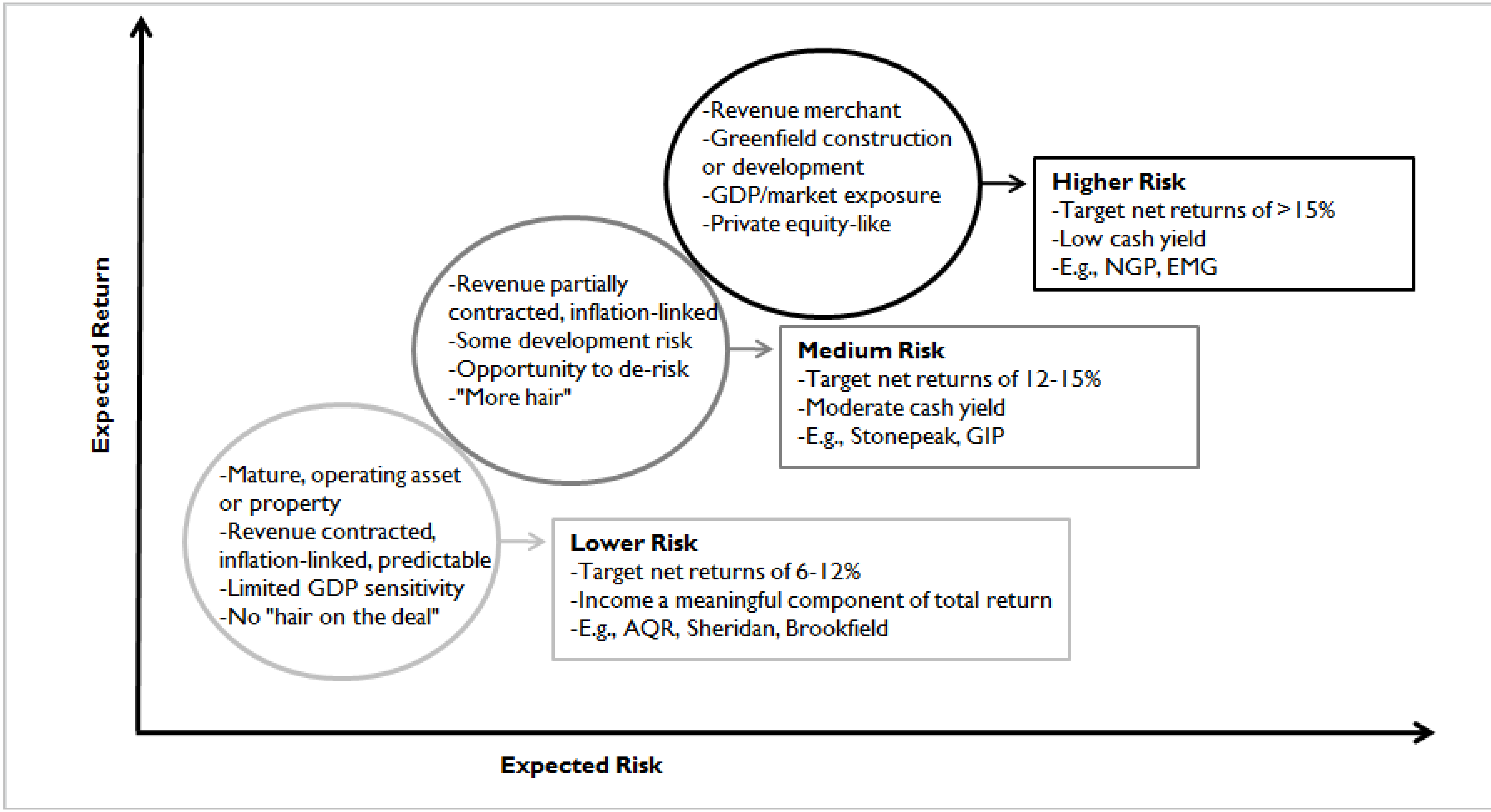
Strategy Review

- <u>Liquid ("capital markets") strategies:</u>

Hedge Fund Strategies

- Focused on diversifying risk premia using hedge fund techniques (i.e., value, carry, momentum, etc.)
- Trading strategies: Multi-strategy, long-short equity, relative value, arbitrage, event driven, global macro, managed futures
- Target portfolio ~25% of Alternatives Portfolio or ~$1.7 billion in NAV
- Current authorized commitments of $350 million
- Target total net return of Libor plus 4-6%
- Concerns
  - Fees, headline risk, business/operational risk
  - Sourcing truly complementary strategies
  - Alignment of interests, transparency, custody
  - Risk management
  - Realization of low correlations

Relative Risk & Return Expectations



TAB 6 – OPERF OPPORTUNITYPORTFOLIO

OPERF Opportunity Portfolio 2013/2014 Review

John Hershey, Director of Alternative Investments

December 3, 2014

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Opportunity Portfolio strategy

- **Opportunity Portfolio objectives:**

  - Opportunistic/dislocation oriented
  - Less correlated returns
  - Innovation oriented
  - Not a "strategic" allocation

- **Strategies of interest:**
  - Dislocation oriented
    - Regulatory Capital Arbitrage
    - Structured credit
    - Mortgages
  - Less correlated oriented
    - Drug royalty streams
    - Insurance and reinsurance related
    - Intellectual property
  - Innovation oriented
    - Currencies
    - Trade finance
    - Legal settlements
  - Strategic partnerships
    - "Club Deals"
    - Tactical/opportunistic partnerships

New investments/pipeline 2013/2014

- <u>2013 (commitment dates):</u>

  Blackstone Tactical Opportunities ($250mm – May)
  Content Partners ($50mm – Dec)

- <u>2014 (commitment dates):</u>

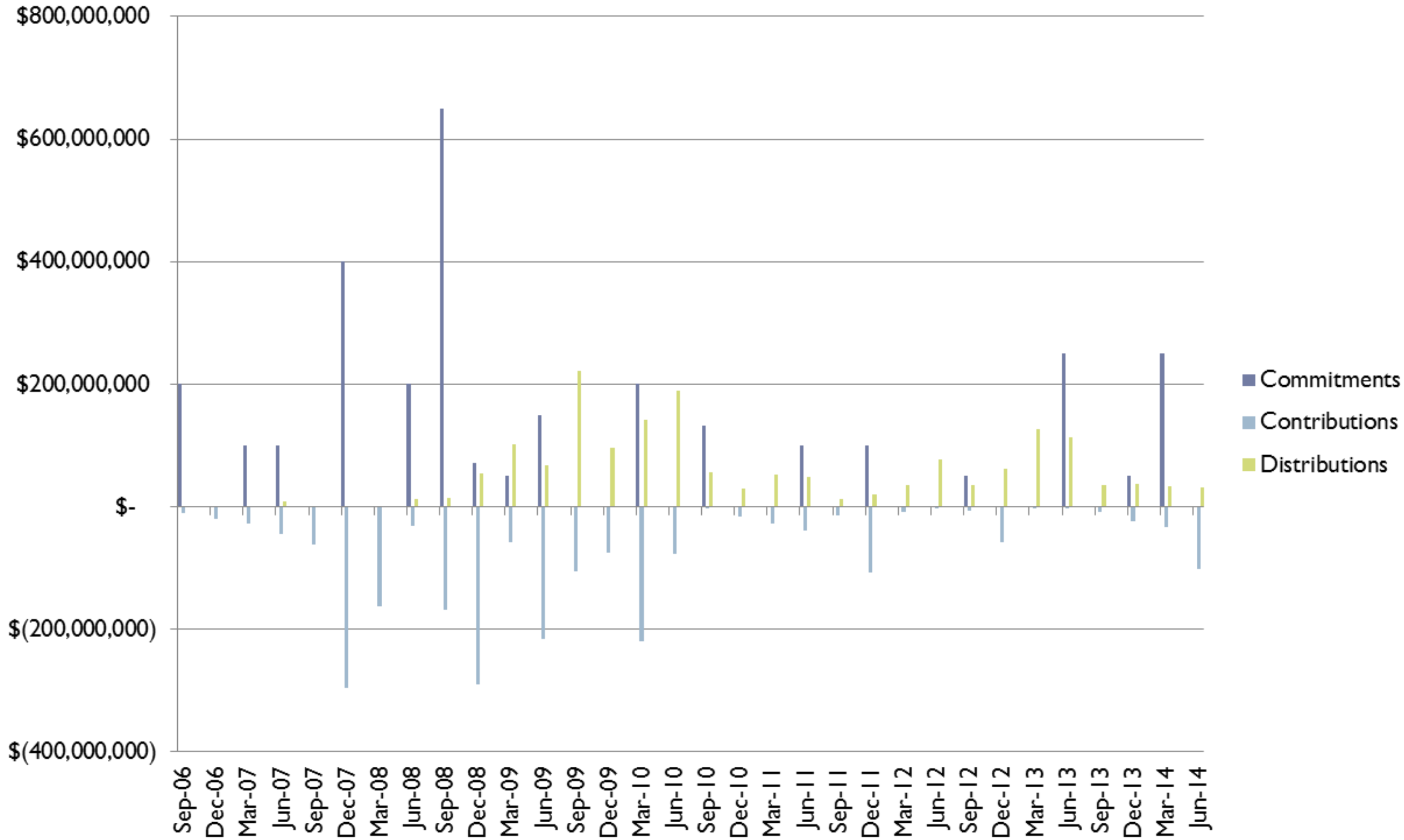
  TPG TAO ($250mm – Jan)
  Galton Mortgage ($50mm – Jul)
  Blackstone Tactical Opportunities ($250mm – Aug)

- <u>Current Pipeline:</u>

  Orbimed Royalties II ($75mm – Dec)
  Lone Star Residential Fund I ($100mm – Dec)
  TPG European Specialty Lending ($100mm – Q1'15)

Commitments and cash flows

Inception to June 2014

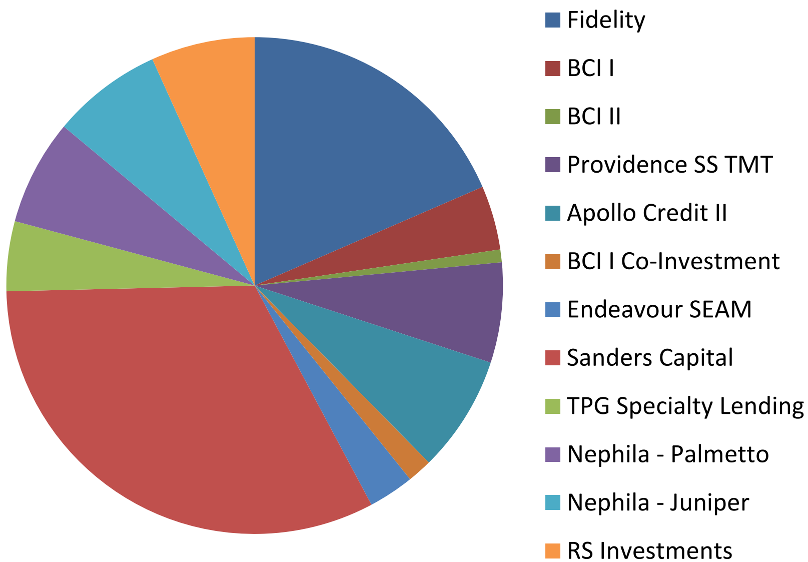


Portfolio (FMV 6/30/14)

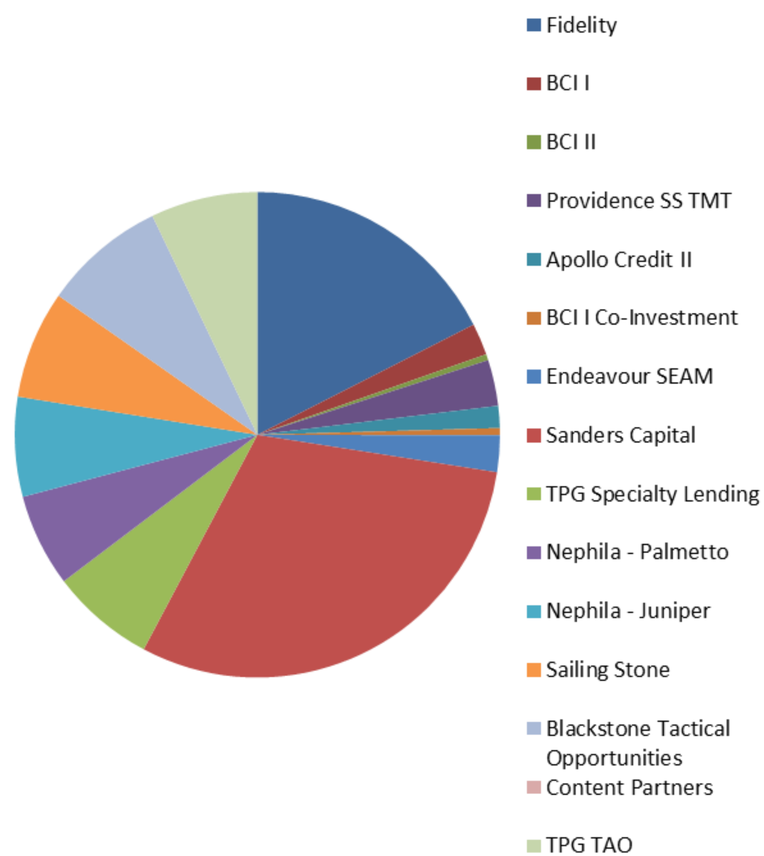
Fund	FMV ($ mm)	%	Strategy
Fidelity Real Estate Opportunities	$170.0	17.5%	Debt
Blackrock Credit Investors I	20.6	2.1	Debt
Blackrock Credit Investors II	3.9	0.4	Debt
Providence Special Situations TMT	29.8	3.1	Debt
Apollo Credit Opportunities Fund II	14.2	1.5	Debt
Blackrock Credit Co-invest	4.7	0.5	Debt
Endeavour Structured Equity and Mezzanine	23.6	2.4	Debt
Sanders Capital	293.8	30.3	All Asset
TPG Specialty Lending	67.2	6.9	Debt
Nephila Juniper	64.4	6.6	Reinsurance
Nephila Palmetto	60.1	6.2	Reinsurance
Sailing Stone (fka RS Investments) Natural Gas	69.8	7.2	Equity
Blackstone Tac Opps	79.2	8.2	All Asset
Content Partners	0.1	0.0	Royalties
TPG Special Situations TAO	69.0	7.1	Debt
Total	$969.9	100.0%	

Portfolio Snapshot (Fair Market Value)

FMV Jun-2013 $816.5 million

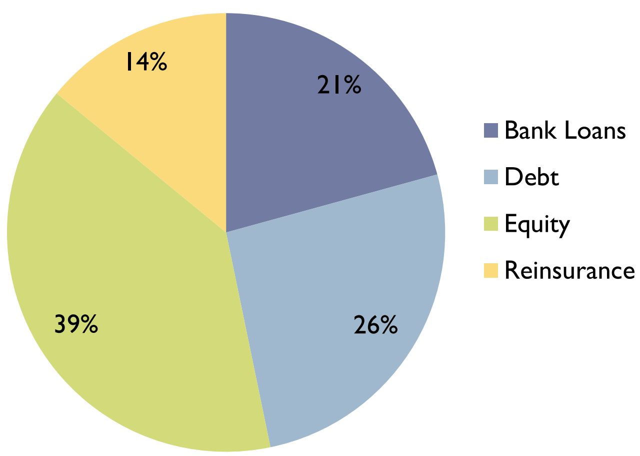


FMV Jun-2014 $969.9 million

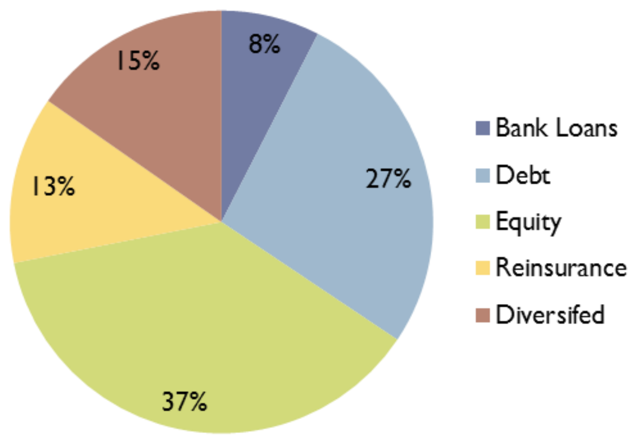


Portfolio Snapshot (Strategy)

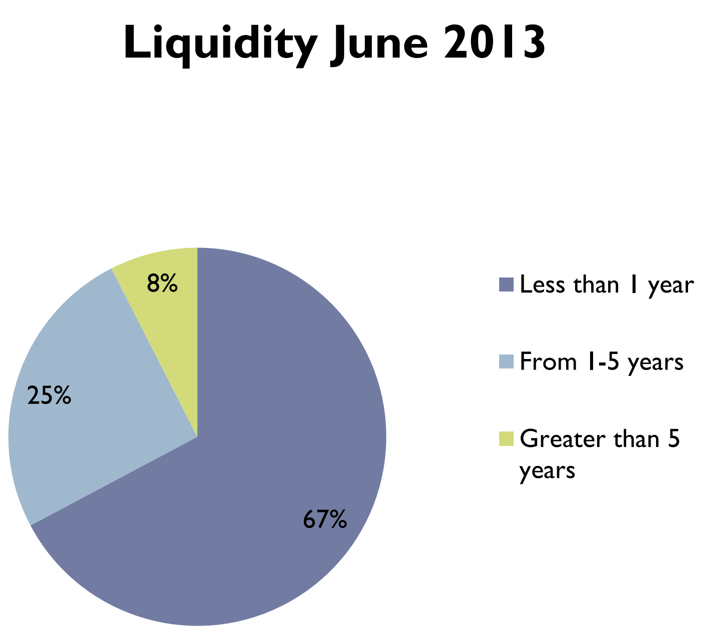
Strategy June 2013

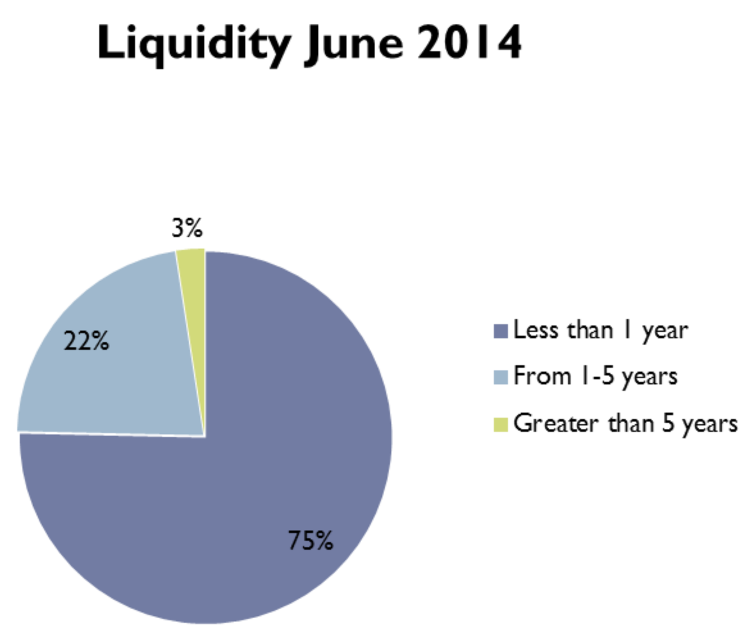


Strategy June 2014



Portfolio Snapshot (Liquidity)





Performance (LTM June 30th)

NAV (June 30, 2013)	$816,503,183
Plus contributions	$166,543,661
Minus distributions	($136,688,288)
Plus unrealized appreciation	$123,498,294
NAV (June 30, 2014)	$969,876,850

Performance (LTM June 30th)

	6/2014	6/2013
FMV + Distributions	$2,643mm	$2,353mm
FMV	$969.9mm	$816.5mm
FMV % of OPERF	~1.4%	~1.3%
FMV + unfunded commitments % of OPERF	~2.0%	~1.4%
Multiple [(FMV + Distributions)/Drawn]	1.26x	1.20x
IRR since Q2/2006 inception (source: Staff/Torrey Cove)	8.8%	8.0%
Time weighted returns (source: State Street)		
YTD (June)	12.4%	8.6%
1 year	19.1%	17.6%
2 years	18.7%	8.3%
3 years	11.8%	12.8%
4 years	14.4%	16.6%
5 years	17.1%	8.8%
7 years	8.1%	na

Active funds review

Fidelity Real Estate Opportunities Fund	
Strategy	OTC real estate debt
Performance	~8.0% net IRR since inception (4/07); 7.4% YTD through 9/30
Outlook	5.5% current yield; 7.4% Yield-to-worst

Endeavour Structured Equity and Mezzanine Fund I	
Strategy	Middle market mezzanine debt
Performance	8.7% net IRR since inception (Q1/09)
Outlook	12% current yield (including PIK); target total return 10-12%

Active funds review

Sanders Capital	
Strategy	All asset value fund
Performance	8.6% net time weighted return since inception (3/10 - 9/14); 1.4% YTD (9/30)
Outlook	Target return 12 -14%

TPG Specialty Lending, Inc.	
Strategy	Senior corporate loans
Performance	28.9% net IRR since inception (6/11)
Outlook	10.6% current yield and 11% YTM; Target total return 12-14%

Active funds review

Nephila Juniper	
Strategy	Catastrophe Risk Reinsurance
Performance	10.4% net TW return since inception (1/12); 7.0% YTD (9/30)
Outlook	Target total return T-bills + 10-15%

Nephila Palmetto	
Strategy	Catastrophe Risk Reinsurance
Performance	7.5% net TW return since inception (1/12); 5.1% YTD (9/30)
Outlook	Target total return T-bills + 8-10%

Active funds review

Sailing Stone Natural Gas Strategy		
Strategy	Natural Gas E&P	
Performance	9.3% net time weighted return since inception (11/12); 4.0% YTD (9/30)	
Outlook	Target total return 15-20%	

Blackstone Tactical Opportunities		
Strategy	All assets	
Performance	NM (less than one year)	
Outlook	Target total return 15-20%	

Active funds review

Content Partners	
Strategy	Royalties
Performance	NM (less than one year)
Outlook	Target total return 10-50%

TPG Special Situations TAO	
Strategy	Debt
Performance	NM (less than one year)
Outlook	Target total return 15-20%

TAB 7 – OPERF Q3 PERFORMANCE REVIEW

Callan
FORTY YEARS

December 3, 2014

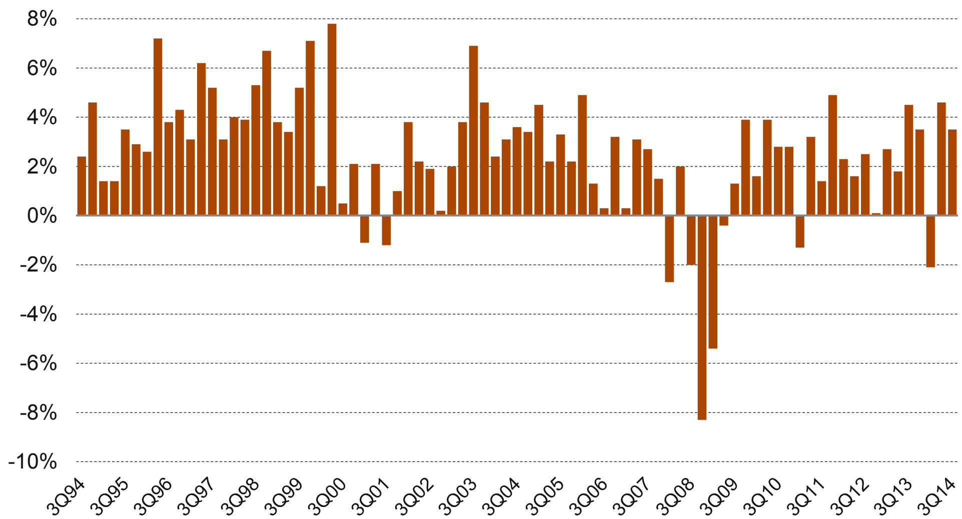
Oregon Investment Council

Third Quarter 2014
Performance Review

Economic Commentary

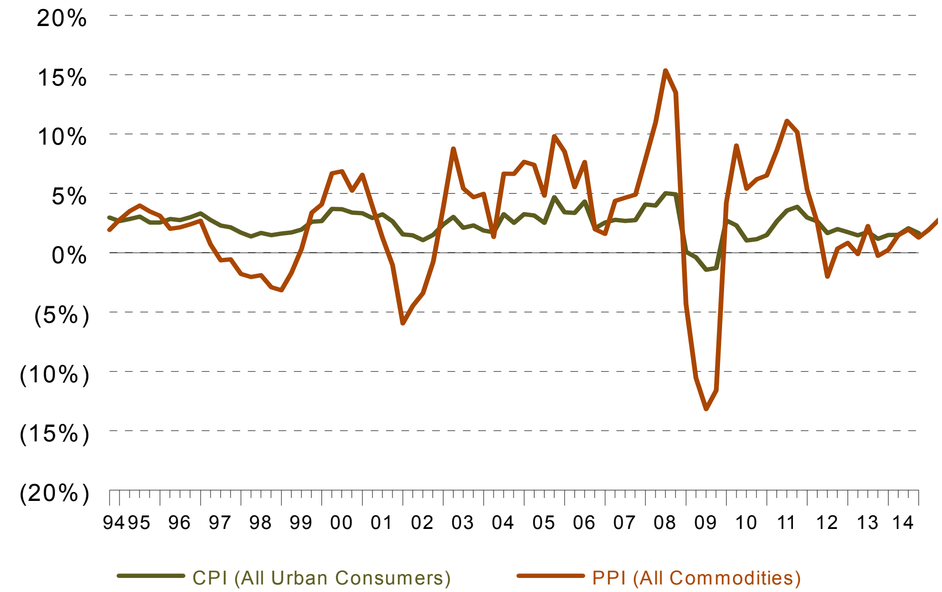
Third Quarter 2014

Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



- US GDP grew at a 3.5% annualized rate, building on the strength of a revised 4.6% gain in the second quarter. Domestic demand is fueling the growth, helped along by steady job creation, a healthy increase in disposable income, and an elevated mood among consumers.
- The labor market continued to improve. The unemployment rate was 5.9% in September, the lowest level since 2008. The labor force participation rate, while at its lowest level since early 1978, was largely unchanged over the quarter, registering at 62.7%.
- Inflation remained benign. Headline and Core (excluding food and energy) CPI increased 1.8% year-over-year as of September 30. While CPI readings are slightly below the Fed's target of 2%, deflation risks in the US do not appear to be a concern.

Market Summary

	Third	Annualized Periods Ending 9/30/14 (%)				
	Quarter	1-Year	3-Year	5-Year	10-Year	15-Year
Domestic Stock Indices:						
S&P:500	1.1	19.7	23.0	15.7	8.1	4.9
Russell:3000 Index	0.0	17.8	23.1	15.8	8.4	5.5
Russell:1000 Value	(0.2)	18.9	23.9	15.3	7.8	6.7
Russell:1000 Growth	1.5	19.1	22.4	16.5	8.9	3.4
Russell:Midcap Value	(2.6)	17.5	24.7	17.2	10.2	10.6
Russell:Midcap Growth	(0.7)	14.4	22.7	17.1	10.2	6.9
Russell:2000 Value	(8.6)	4.1	20.6	13.0	7.3	9.7
Russell:2000 Growth	(6.1)	3.8	21.9	15.5	9.0	5.7
Domestic Bond Indices:						
Barclays:Aggregate Index	0.2	4.0	2.4	4.1	4.6	5.6
Barclays:Gov/Credit Bond	0.2	4.1	2.5	4.3	4.6	5.6
Barclays:Gov/Credit Long	1.0	12.9	4.7	8.0	7.0	7.9
Barclays:Gov/Credit 1-3	0.0	0.8	0.9	1.5	2.8	3.7
Barclays:Mortgage Idx	0.2	3.8	2.1	3.5	4.7	5.4
Barclays:High Yld Corp	(1.9)	7.2	11.1	10.6	8.3	7.7
Barclays:US Universal Idx	0.0	4.4	3.2	4.7	4.9	5.8
Real Estate Indices:						
NCREIF:Total Index	2.6	11.3	11.1	11.0	8.5	8.9
NAREIT Composite Idx	(2.6)	13.2	16.6	15.6	7.5	11.2
International Stock Indices:						
MSCI:ACWI	(2.2)	11.9	17.2	10.6	7.8	4.8
MSCI:AC WORLD IMI	(2.8)	10.7	16.7	10.3	7.6	4.8
MSCI:ACWI ex US	(5.2)	5.2	12.3	6.5	7.5	5.1
MSCI:ACWI exUS IMI	(5.5)	4.7	11.9	6.3	7.3	4.9
MSCI:ACWI SC ex US	(6.8)	4.6	12.5	8.3	9.0	7.3
MSCI:EAFE US$	(5.9)	4.3	13.6	6.6	6.3	3.9
MSCI:EAFE LC(Net)	0.9	10.7	17.3	8.1	5.8	2.9
MSCI:Emer Markets	(3.4)	4.7	7.6	4.8	11.0	9.3
Other Indices:						
3 Month T-Bill	0.0	0.0	0.1	0.1	1.6	2.1
US DOL:CPI All Urban Cons	(0.1)	1.7	1.6	2.0	2.3	2.4

- Global volatility pummeled the markets at summer's end. Intensified conflicts in Eastern Europe and the Middle East, the Umbrella Revolution in Hong Kong, and the alarming resurgence of Ebola cast a pall over the markets.
- U.S. equities (as measured by the S&P 500 Index) managed a positive return as economic data in the U.S., including housing improvements, declining unemployment, and tempered inflation, have instilled confidence.
- The Fed continued on the path toward eliminating its quantitative easing (QE) program. October's purchase totaled $15 billion, down from $25 billion in September. Short-term rates remained stable, as the Fed once again pegged the federal funds and discount rates at 0.00%–0.25% and 0.75%, respectively.
- While the U.S. economy gained traction, news from Europe and Japan was far bleaker with euro zone GDP barely positive in the second quarter and Japan's economy suffering its worst contraction since 2009 with second quarter GDP shrinking by an annualized 7.1% (in the wake of a sales tax hike from 5% to 8%).

Market Summary

Periodic Table of Investment Returns
for Periods Ended September 30, 2014

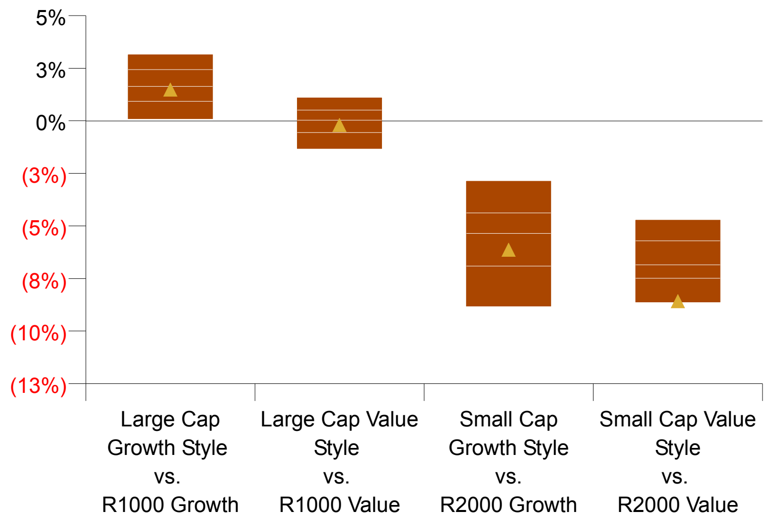
Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
NFI-ODCE Val Gross 3.2%	S&P:500 19.7%	Russell:3000 Index 23.1%	Russell:3000 Index 15.8%	MSCI:Emer Markets 11.0%
S&P:500 1.1%	Russell:3000 Index 17.8%	S&P:500 23.0%	S&P:500 15.7%	Russell:3000 Index 8.4%
Barclays:Aggregate Index 0.2%	NFI-ODCE Val Gross 12.4%	Russell:2000 Index 21.3%	Russell:2000 Index 14.3%	Russell:2000 Index 8.2%
Russell:3000 Index 0.0%	ML:High Yield CP Idx 7.1%	NFI-ODCE Val Gross 12.3%	NFI-ODCE Val Gross 12.4%	ML:High Yield CP Idx 8.1%
3 Month T-Bill 0.0%	MSCI:ACWI x US (Net) 4.8%	MSCI:ACWI x US (Net) 11.8%	ML:High Yield CP Idx 10.3%	S&P:500 8.1%
ML:High Yield CP Idx (1.9%)	MSCI:Emer Markets 4.7%	ML:High Yield CP Idx 10.9%	MSCI:ACWI x US (Net) 6.0%	NFI-ODCE Val Gross 7.1%
MSCI:Emer Markets (3.4%)	Barclays:Aggregate Index 4.0%	MSCI:Emer Markets 7.6%	MSCI:Emer Markets 4.8%	MSCI:ACWI x US (Net) 7.1%
MSCI:ACWI x US (Net) (5.3%)	Russell:2000 Index 3.9%	Barclays:Aggregate Index 2.4%	Barclays:Aggregate Index 4.1%	Barclays:Aggregate Index 4.6%
Russell:2000 Index (7.4%)	3 Month T-Bill 0.0%	3 Month T-Bill 0.1%	3 Month T-Bill 0.1%	3 Month T-Bill 1.6%

US Equity

Third Quarter 2014

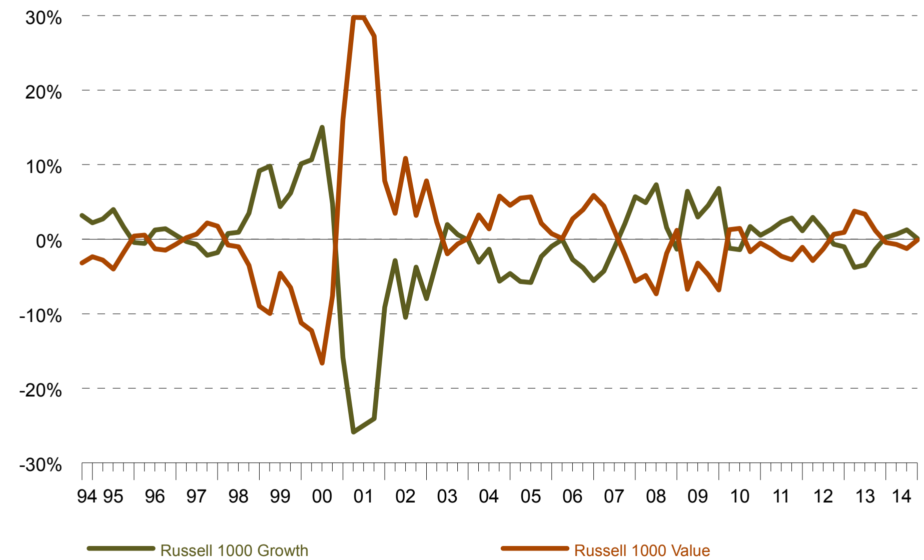
- Third quarter returns were muted (Russell 3000: +0.0%) given declines of 2.0% in July and 2.1% in September, bookending a 4.2% rally in August.
- Large cap stocks led the way (Russell 1000: +0.7%), and large growth companies overtook value (Russell 1000 Growth: +1.5%, Russell 1000 Value: -0.2%). Small cap (Russell 2000: -7.4%) and mid cap (Russell Mid-Cap Index: -1.7%) stocks landed in the red; value lost to growth in both capitalizations.

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	3.15	1.09	-2.87	-4.72
25th Percentile	2.43	0.51	-4.38	-5.70
Median	1.64	0.03	-5.35	-6.85
75th Percentile	0.93	-0.56	-6.91	-7.49
90th Percentile	0.10	-1.32	-8.81	-8.61
Benchmark ▲	1.49	-0.19	-6.13	-8.58

Rolling 1-Year Relative Returns (versus Russell 1000)

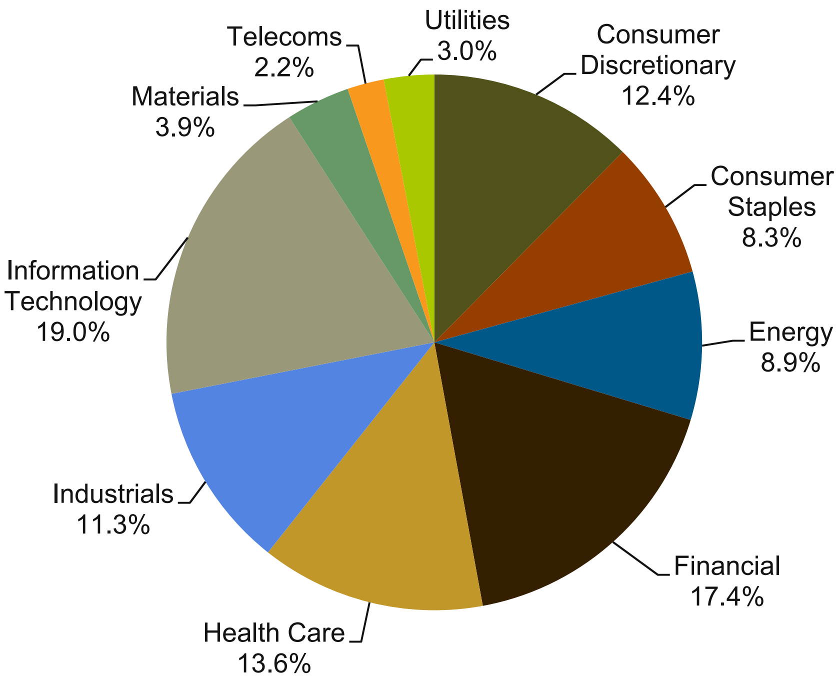


Source: Russell Investment Group

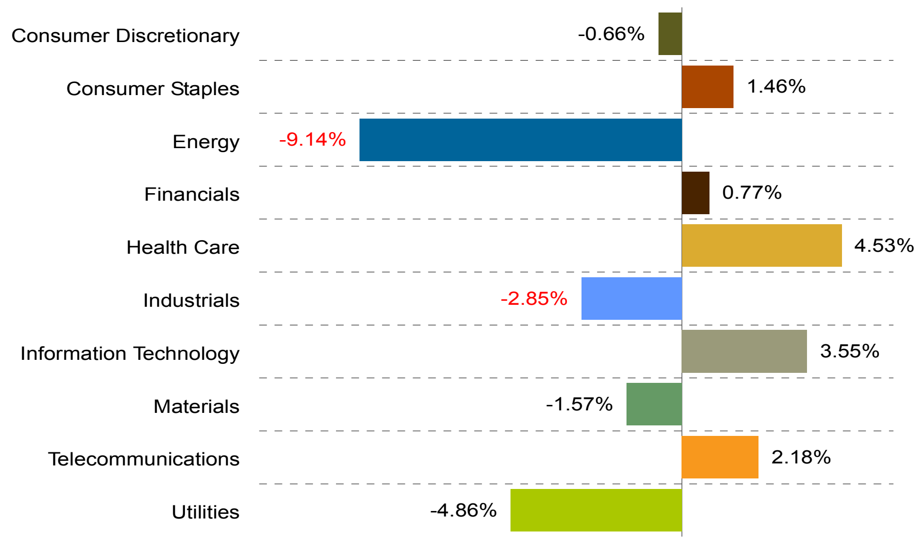
US Equity Overview

Third Quarter 2014

Economic Sector Exposure (Russell 3000)



Economic Sector Quarterly Returns (Russell 3000)



Source: Russell Investment Group

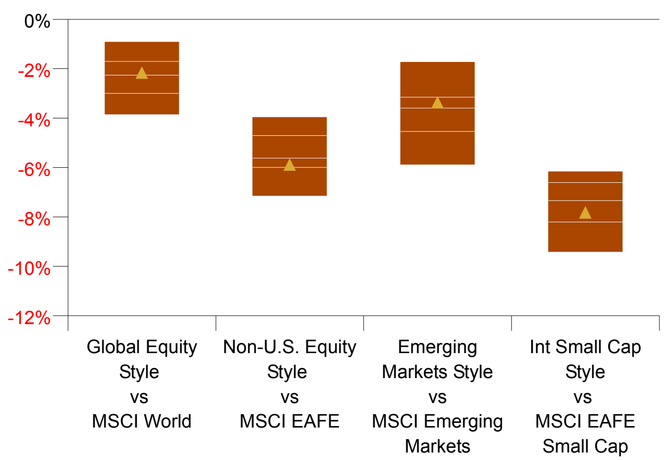
- Within the Russell 3000, Energy (-9.1%) sank with falling oil and natural gas prices and Utilities was the only other sector to post a sharp negative return (-4.9%). Technology (+3.6%) and Health Care (+4.5%) posted the strongest gains from a sector perspective.

Non-US Equity

Third Quarter 2014

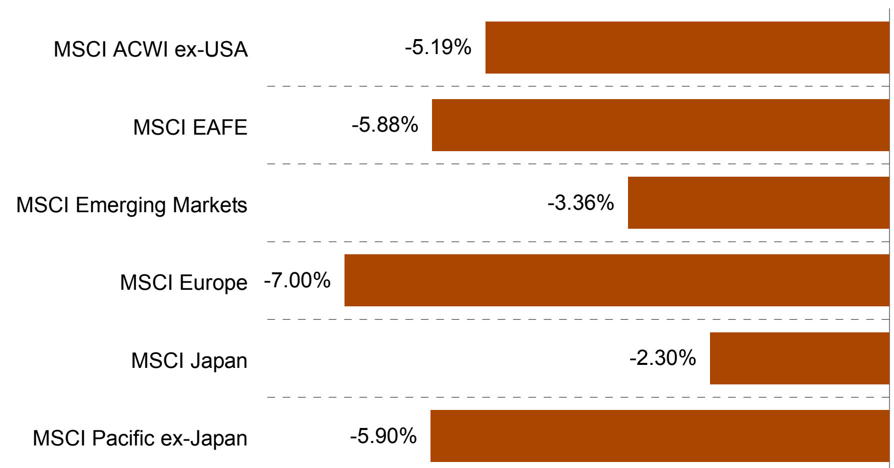
- Relatively attractive yields offered in the US and expectations for higher rates in the third quarter, propelled the dollar higher versus most currencies.
- The dollar gained 7% versus the euro and 8% versus the yen and appreciated versus most emerging markets currencies as well. This major strength in the US dollar pushed non-US equity returns well into negative territory.
- Broadly representing both developed and emerging stocks, the MSCI ACWI ex-US declined 5.2%.

Callan Style Group Quarterly Returns



10th Percentile	-0.91	-3.96	-1.74	-6.16
25th Percentile	-1.70	-4.71	-3.15	-6.61
Median	-2.26	-5.62	-3.59	-7.34
75th Percentile	-2.99	-5.99	-4.54	-8.20
90th Percentile	-3.83	-7.13	-5.86	-9.40
Benchmark ▲	-2.16	-5.88	-3.36	-7.82

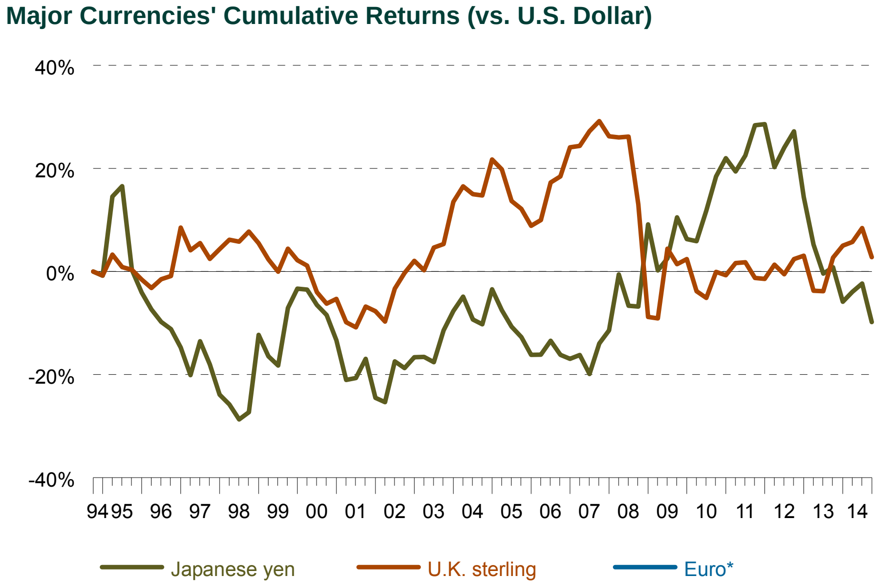
Regional Quarterly Performance (US Dollar)



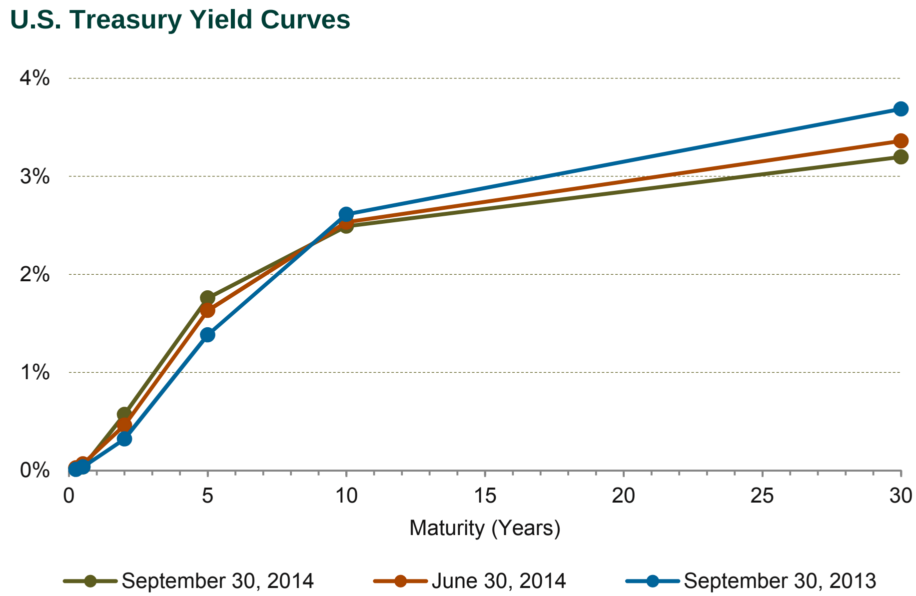
Source: MSCI

Currency and Yield Curve

Third Quarter 2014



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



Source: Barclays

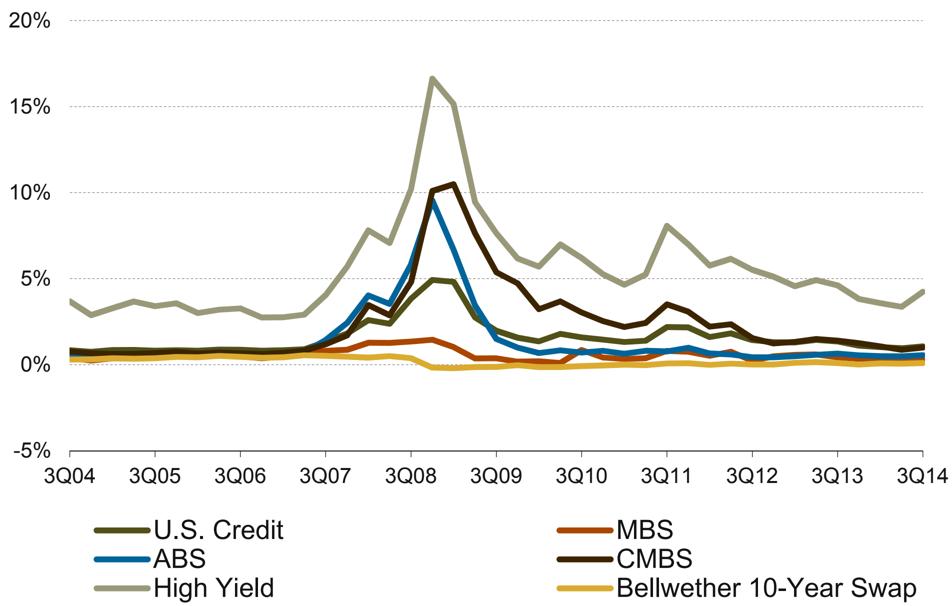
- The dollar gained against most major currencies during the third quarter.
- An improving U.S. economy put upward pressure on interest rates, but a significant yield advantage relative to other developed markets helped to dampen this effect.
- Yields on 10 year Treasuries were nearly unchanged, declining 1 basis point to end the quarter at 2.52%.

Fixed Income

Third Quarter 2014

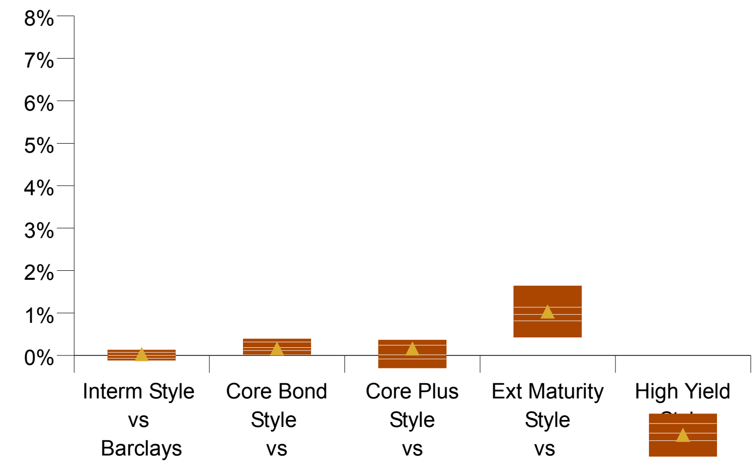
- Yield spreads reversed course and began to widen across most non-Treasury sectors. The Barclays Aggregate landed just above zero at 0.2% for the quarter. The markets were abuzz after Janus Capital Group surprised investors with the news Bill Gross was joining the firm and departing PIMCO.
- High yield corporate bonds were one of the worst performers in the US fixed income market, reversing a previous trend of strong returns. The Barclays Corporate High Yield Index fell 1.9%.

Effective Yield Over Treasuries



Source: Barclays

Callan Style Group Quarterly Returns



	Interm Style vs Barclays Interm Agg	Core Bond Style vs Barclays Agg	Core Plus Style vs Barclays Agg	Ext Maturity Style vs Barclays Gov/Cr Long	High Yield Style vs Barclays High Yield
10th Percentile	0.13	0.39	0.37	1.64	-1.37
25th Percentile	0.08	0.32	0.25	1.14	-1.60
Median	0.00	0.19	0.02	0.97	-1.83
75th Percentile	-0.07	0.12	-0.08	0.82	-2.01
90th Percentile	-0.11	0.03	-0.29	0.43	-2.38
Benchmark ▲	0.03	0.17	0.17	1.04	-1.87

OPERF Total Regular Account

Performance Summary for the Third Quarter 2014

Total Fund:

For the third quarter of 2014, the Total Regular Account retreated 0.10% (-0.17% net of fees), trailing the OPERF Policy Target return of 0.56%; this return ranked the Account in the 12th percentile of Callan's $10 billion+ public fund peer group. For the 12 months ended September 30, 2014, the Account gained 11.52% (+11.27% net of fees), lagging the Policy Target return of 12.76%, and ranked in the 48th percentile of Callan's $10 billion+ public fund peer group.

Asset Classes:

— **U.S. Equity**: The U.S. Equity Portfolio declined 0.96% (-1.00% net of fees)for the quarter while the Russell 3000 Index was essentially unchanged. This return ranked the Portfolio in the 84th percentile of Callan's Public Fund: $10B+ Domestic Equity (gross) peer group. On a trailing year basis, the Portfolio rose 14.91% (+14.67% net of fees) versus a gain of 17.76% for the benchmark, and ranked in the 96th percentile of the peer group. Longer term results are slightly ahead of the benchmark and rank favorably versus peers.

— **International Equity:** The International Equity Portfolio retreated 5.46% (5.55% net of fees) in the quarter, versus a decline of 5.46% for the MSCI ACWI ex-U.S. IMI Index. This return ranked the Portfolio in the 76th percentile of Callan's Public Fund: $10B+ International Equity (gross) peer group. For the trailing year, the Portfolio rose 6.08% (5.69% net of fees), easily outpacing the 4.74% gain in the benchmark, and ranked in the 17th percentile of the peer group. Longer term results are well ahead of the benchmark and rank in the top quartile of the peer group.

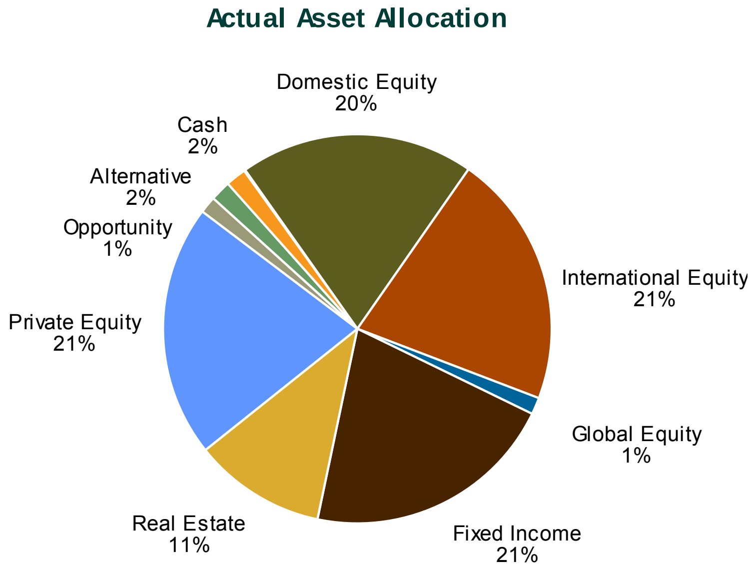
— **Fixed Income:** The Fixed Income Portfolio lost 0.05% (-0.10% net of fees) in the quarter, essentially matching the -0.09% return of the Custom Benchmark. This return ranked the Portfolio in the 44th percentile of Callan's Large Public Fund – Domestic Fixed (Gross) peer group. For the trailing year, the Portfolio returned 4.35% (4.14% net of fees) versus 3.31% for the benchmark. This return ranked the Portfolio in the 78th percentile of the peer group. Longer term results are favorable versus both the benchmark and peer group.

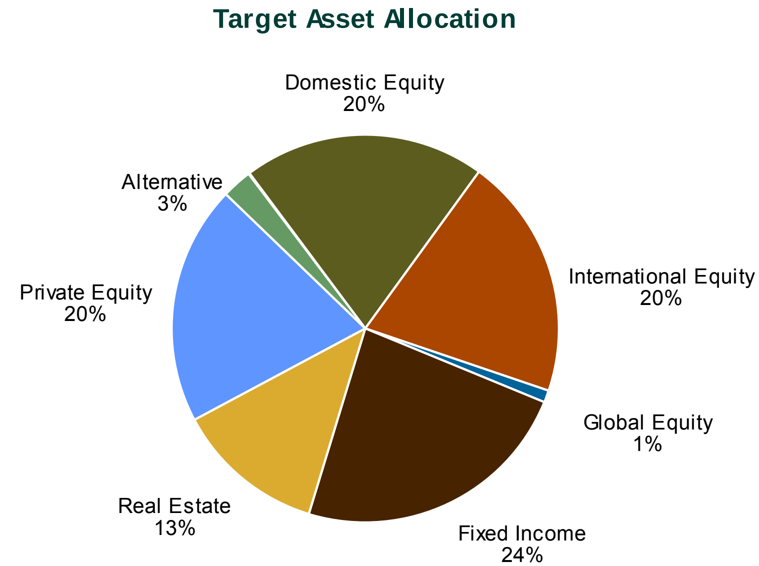
— **Private Equity:** The Private Equity Portfolio has performed very well over the last decade, with trailing 10 year net results well ahead of the benchmark (14.22% vs. 11.96%).

— **Real Estate:** The Real Estate Portfolio has enjoyed solid returns over the last 10 years with the Portfolio rising 9.56% net versus the benchmark return of 8.63% over the same time period.

OPERF Total Regular Account

Asset Allocation as of September 30, 2014





Asset Class	$000s Actual	Weight Actual	Target	Percent Difference	$000s Difference
Domestic Equity	13,092,717	18.9%	20.2%	(1.3%)	(921,796)
International Equity	13,719,546	19.8%	20.2%	(0.4%)	(294,968)
Global Equity	953,351	1.4%	1.0%	0.4%	261,277
Fixed Income	14,745,979	21.3%	23.5%	(2.2%)	(1,517,777)
Real Estate	7,620,431	11.0%	12.5%	(1.5%)	(1,030,503)
Private Equity	15,086,439	21.8%	20.0%	1.8%	1,244,945
Opportunity	924,384	1.3%	0.0%	1.3%	924,384
Alternative	1,282,130	1.9%	2.5%	(0.6%)	(448,057)
Cash	1,782,495	2.6%	0.0%	2.6%	1,782,495
Total	69,207,474	100.0%	100.0%		

OPERF Total Regular Account

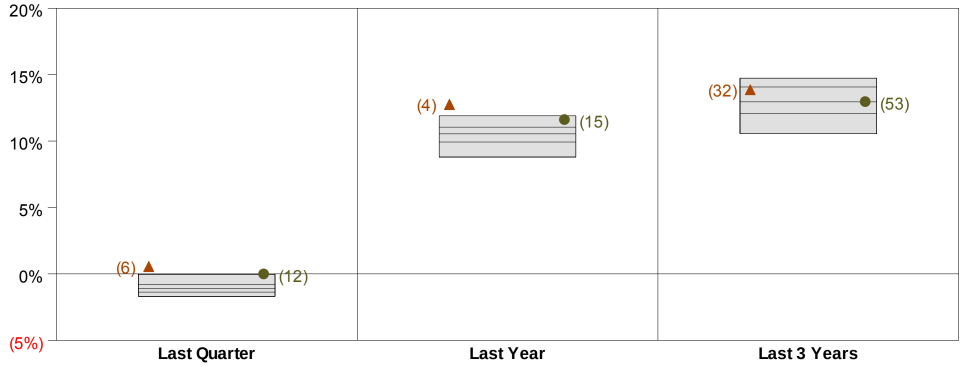
Net Performance by Asset Class as of September 30, 2014

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Public Equity	**(3.38%)**	**10.11%**	**17.68%**	**11.03%**	**7.51%**
MSCI ACWI IMI Net	(2.83%)	10.70%	16.74%	10.32%	7.57%
CAI Global Equity Broad Style	(2.41%)	11.66%	18.68%	11.31%	8.39%
Domestic Equity	**(1.00%)**	**14.67%**	**22.46%**	**15.53%**	**8.30%**
Russell 3000 Index	0.01%	17.76%	23.08%	15.78%	8.44%
CAI Pub Fund:10+ Dom Eq	(0.77%)	16.97%	22.72%	16.03%	8.61%
International Equity	**(5.55%)**	**5.69%**	**13.44%**	**7.58%**	**8.40%**
MSCI ACWI ex-US IMI Index	(5.46%)	4.74%	11.88%	6.30%	7.32%
CAI Pub Fund:10+ Intl Eq	(5.00%)	5.55%	12.64%	6.97%	7.49%
Total Fixed Income	**(0.10%)**	**4.14%**	**5.48%**	**6.76%**	**6.03%**
Custom FI Benchmark	(0.09%)	3.31%	4.58%	4.70%	4.93%
Large Public Fund - Dom. Fixed	(0.13%)	6.65%	4.88%	6.28%	5.63%
Total Real Estate	**2.38%**	**12.27%**	**12.90%**	**10.17%**	**9.56%**
Total Real Estate ex REITs	3.73%	12.43%	12.12%	8.65%	9.77%
NCREIF Property Index Qtr Lag	2.91%	11.21%	11.32%	9.67%	8.63%
Public Plan - Real Estate	1.79%	10.75%	11.67%	11.18%	7.07%
Total Private Equity	**4.61%**	**21.50%**	**13.24%**	**16.81%**	**14.22%**
Russell 3000 + 300 BPS Qtr Lag	5.64%	28.91%	19.91%	22.81%	11.96%
Total Alternative	**4.25%**	**7.97%**	**2.61%**	**-**	**-**
CPI + 4%	0.77%	5.58%	5.54%	6.08%	6.37%
Opportunity Portfolio	**(4.78%)**	**11.06%**	**12.28%**	**12.73%**	**-**
Russell 3000 Index	0.01%	17.76%	23.08%	15.78%	8.44%
CPI + 5%	1.01%	6.58%	6.54%	7.08%	7.37%
Total Regular Account	**(0.17%)**	**11.27%**	**12.61%**	**11.10%**	**8.11%**
Total Regular Account ex-Overlay	(0.16%)	11.30%	12.56%	10.99%	8.15%
OPERF Policy Benchmark*	0.56%	12.76%	13.87%	11.19%	7.99%

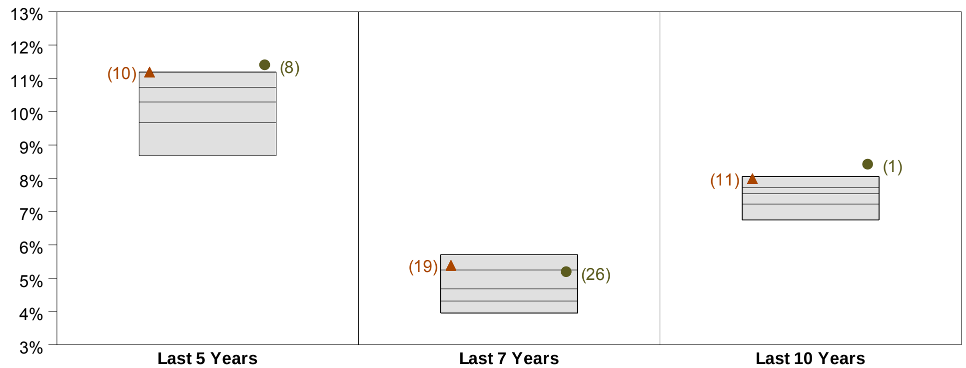
*Policy Benchmark = 41.5% MSCI ACWI-net, 23.5% Custom FI Benchmark, 20.0% Russell 3000 + 300 BPS Qtr Lag, 12.5% NCREIF Property Index Qtr Lag, 2.5% CPI + 400 bps

OPERF Total Regular Account

Performance and Peer Group Rankings* as of September 30, 2014



	Last Quarter	Last Year	Last 3 Years
10th Percentile	(0.03)	11.90	14.73
25th Percentile	(0.77)	11.05	14.07
Median	(1.10)	10.55	12.96
75th Percentile	(1.36)	9.93	12.07
90th Percentile	(1.69)	8.79	10.55
Total Regular Account ●	(0.10)	11.52	12.88
Policy Target ▲	0.56	12.76	13.87



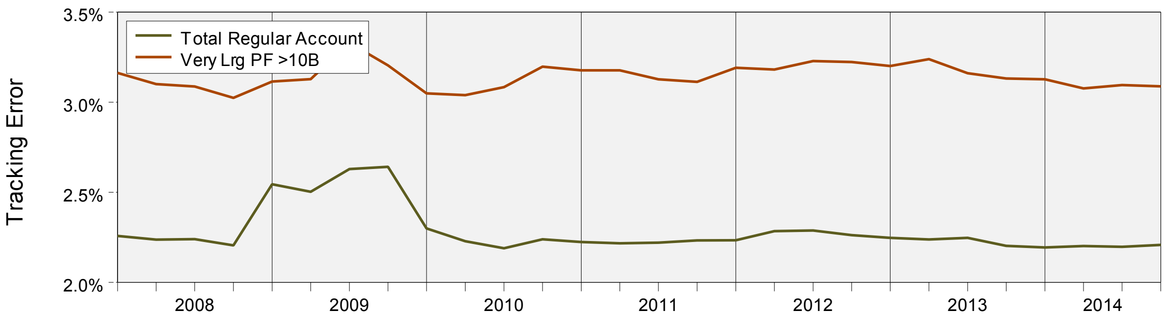
	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	11.19	5.71	8.05
25th Percentile	10.73	5.25	7.72
Median	10.29	4.68	7.54
75th Percentile	9.67	4.32	7.23
90th Percentile	8.68	3.95	6.75
Total Regular Account ●	11.37	5.16	8.39
Policy Target ▲	11.19	5.39	7.99

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

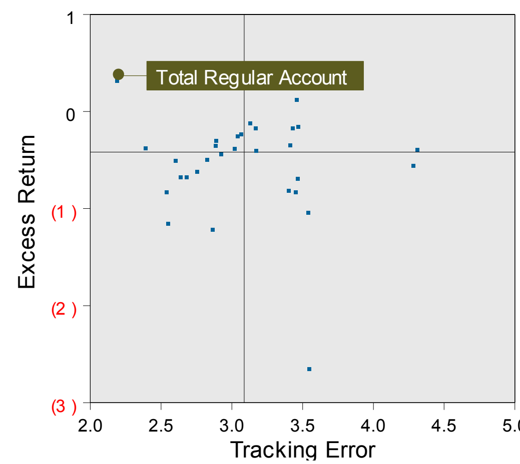
OPERF Total Regular Account

Risk Analysis vs. Very Large Public Funds (>10 billion)
Ten Years ended September 30, 2014

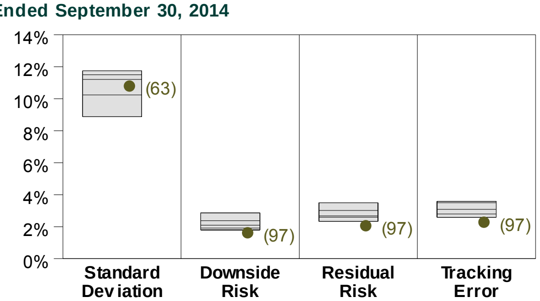
Rolling 40 Quarter Tracking Error vs Policy Target



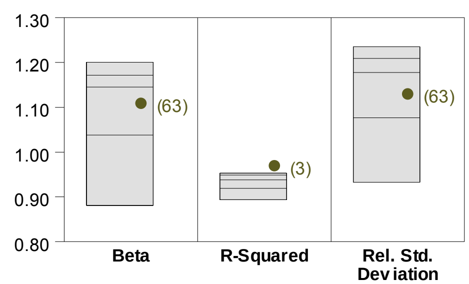
Risk Analysis vs Very Lrg Public Funds (>10B) (Gross)
Ten Years Ended September 30, 2014



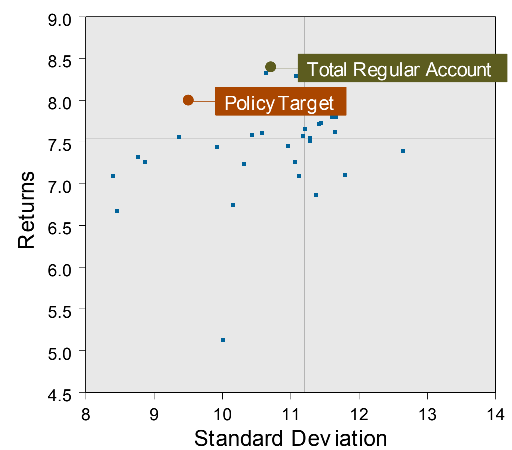
Risk Statistics Rankings vs Policy Target
Rankings Against Very Lrg Public Funds (>10B) (Gross)
Ten Years Ended September 30, 2014



	Standard Deviation	Downside Risk	Residual Risk	Tracking Error
10th Percentile	11.75	2.87	3.50	3.59
25th Percentile	11.51	2.38	3.02	3.50
Median	11.21	2.10	2.68	3.09
75th Percentile	10.25	1.92	2.60	2.80
90th Percentile	8.88	1.80	2.33	2.59
Total Regular Account ●	10.72	1.54	1.98	2.21



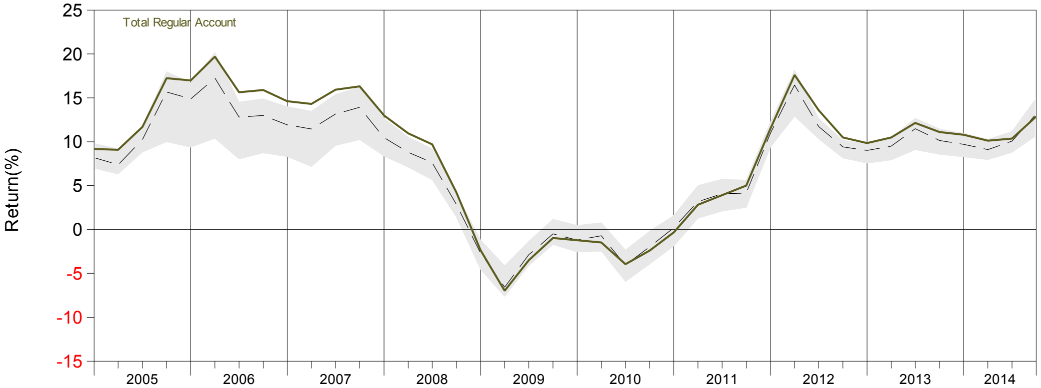
	Beta	R-Squared	Rel. Std. Deviation
10th Percentile	1.20	0.95	1.24
25th Percentile	1.17	0.95	1.21
Median	1.15	0.94	1.18
75th Percentile	1.04	0.92	1.08
90th Percentile	0.88	0.89	0.93
Total Regular Account ●	1.11	0.97	1.13



OPERF Total Regular Account

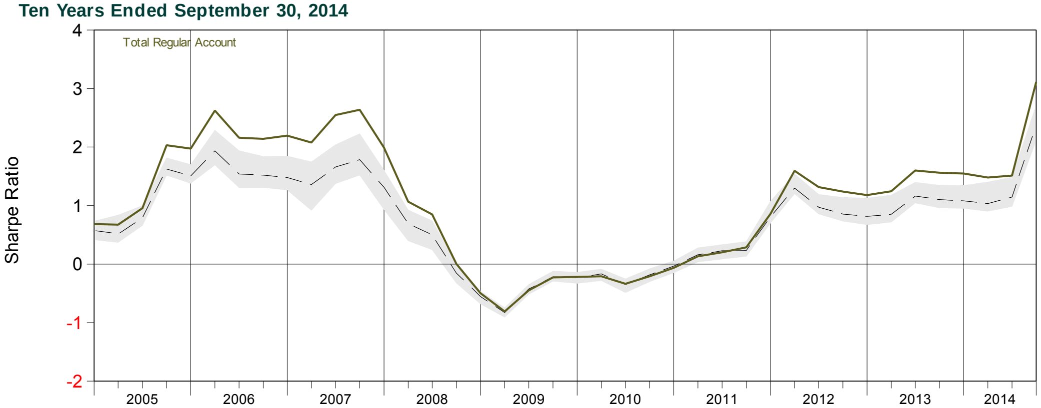
Historical Consistency Analysis vs. Very Large Public Funds (>10 billion)

Rolling Three Year Return(%) Relative to
Ten Years Ended September 30, 2014



Rolling Three Year Period Analysis	Median	Portfolio
Average Annual Return(%)	7.53%	8.60%
% Positive Periods	80%	78%
Average Ranking	50	27

Rolling Three Year Sharpe Ratio Relative to Policy Target
Ten Years Ended September 30, 2014

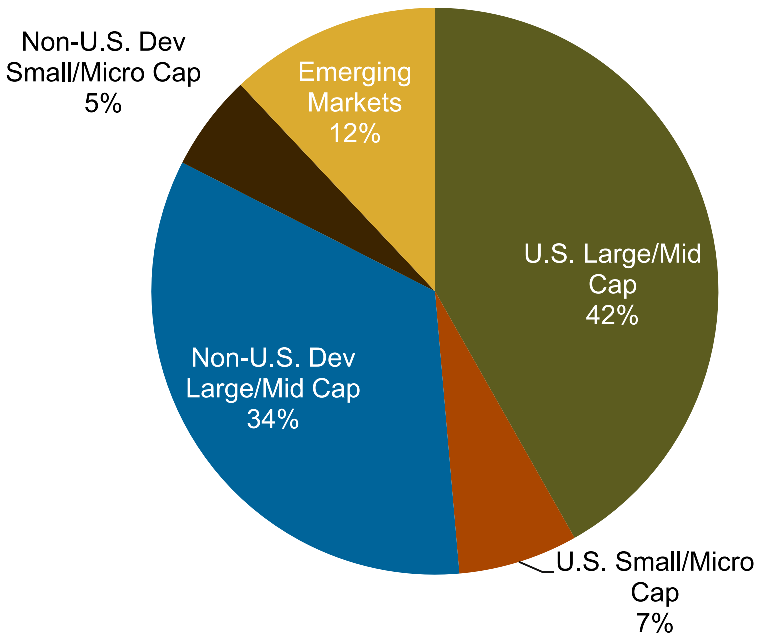


Rolling Three Year Period Analysis	Median	Portfolio
Average Annual Sharpe Ratio	0.74%	1.06%
% Positive Periods	75%	78%
Average Ranking	50	20

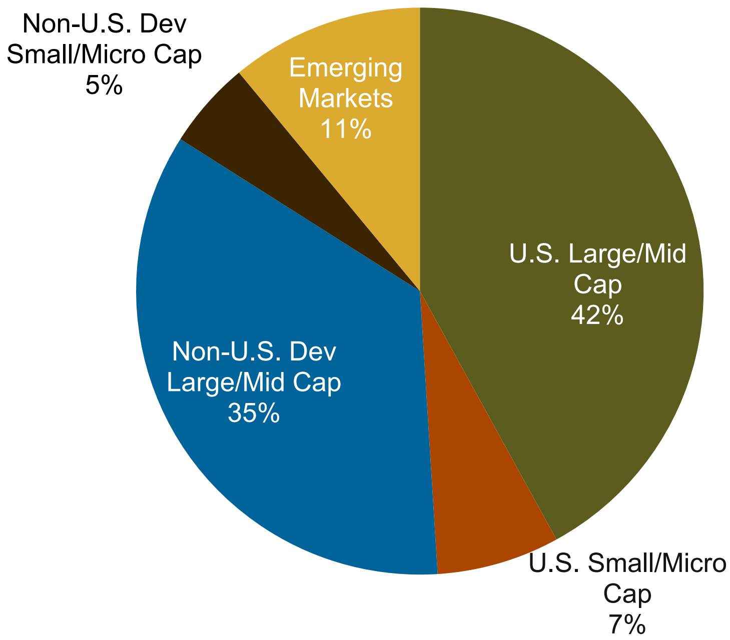
OPERF Public Equity

Regional Style Allocation as of September 30, 2014

Current Allocation



Target Allocation



Percentages may not sum to 100% due to rounding

OPERF Public Equity

Style and Region Exposure as of September 30, 2014

Style Exposure Matrix
Holdings as of September 30, 2014

	Value	Core	Growth	**Total**
Large	20.9% (263) 23.8% (260)	20.0% (271) 23.1% (269)	23.9% (322) 23.4% (307)	**64.8% (856)** **70.3% (836)**
Mid	5.6% (439) 5.8% (501)	6.4% (483) 5.8% (513)	8.1% (567) 7.7% (660)	**20.1% (1489)** **19.3% (1674)**
Small	3.1% (866) 2.8% (1023)	4.2% (905) 3.2% (1207)	3.7% (735) 2.8% (1118)	**11.0% (2506)** **8.8% (3348)**
Micro	1.6% (1964) 0.6% (968)	1.5% (1474) 0.6% (878)	1.1% (737) 0.4% (664)	**4.1% (4175)** **1.6% (2510)**
Total	**31.2% (3532)** **33.0% (2752)**	**32.1% (3133)** **32.6% (2867)**	**36.8% (2361)** **34.4% (2749)**	**100.0% (9026)** **100.0% (8368)**

Style Exposure Matrix
Holdings as of September 30, 2014

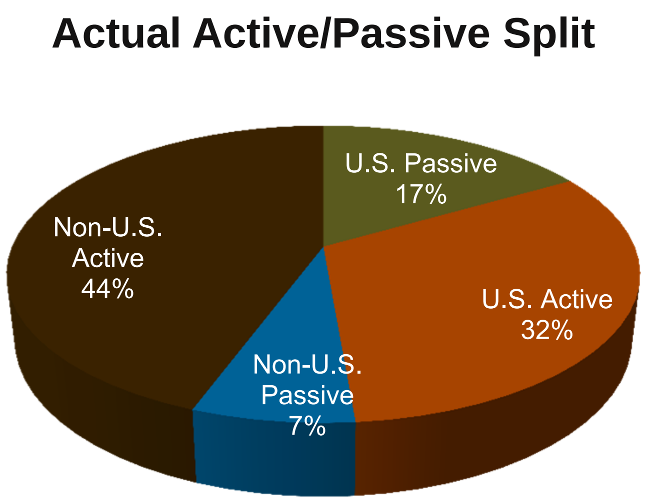
	Value	Core	Growth	**Total**
Europe/ Mid East	7.4% (472) 7.1% (424)	7.8% (445) 7.3% (479)	8.8% (397) 7.9% (484)	**23.9% (1314)** **22.4% (1387)**
N. America	16.7% (975) 18.2% (881)	16.8% (940) 17.9% (981)	19.7% (740) 18.5% (908)	**53.2% (2655)** **54.6% (2770)**
Pacific	3.9% (775) 4.0% (556)	3.7% (469) 3.9% (555)	4.5% (405) 4.1% (535)	**12.1% (1649)** **12.0% (1646)**
Emerging	3.1% (1307) 3.7% (891)	3.7% (1270) 3.5% (852)	3.7% (814) 3.8% (822)	**10.6% (3391)** **11.0% (2565)**
Total	**31.1% (3529)** **33.0% (2752)**	**32.0% (3124)** **32.6% (2867)**	**36.7% (2356)** **34.4% (2749)**	**99.8% (9009)** **100.0% (8368)**

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

Percentages may not sum to 100% due to rounding

OPERF Public Equity

Public Market Allocation as of September 30, 2014

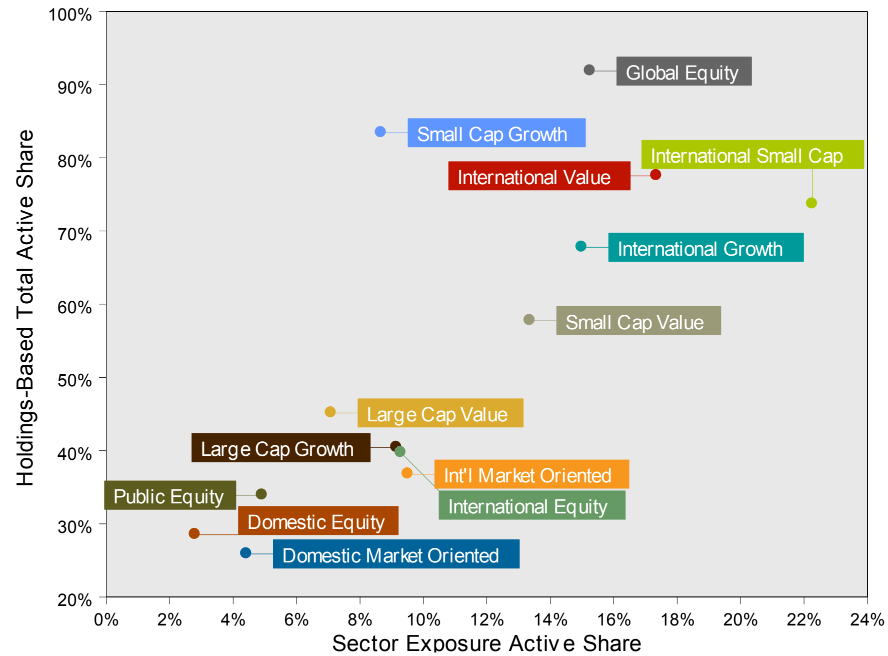


Target

Active: 75%

Passive: 25%

Active Share Analysis
Ended September 30, 2014



	Weight %	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities
Public Equity	100.00%	AC WORLD IMI	33.92%	2.92%	4.93%	9391

OPERF Public Equity

Asset Distribution as of September 30, 2014

	September 30, 2014	
	Market Value	% of Total Fund
Public Equity	**$27,765,614,309**	**39.69%**
Domestic Equity	**$13,092,717,277**	**18.71%**
Large Cap Growth	**$2,974,248,486**	**4.25%**
Delaware Investment Advisors	724,604,144	1.04%
Wells Capital Management	957,884,135	1.37%
BlackRock Russell 1000 Growth	1,291,760,207	1.85%
Large Cap Value	**$3,101,860,306**	**4.43%**
Aronson, Johnson & Ortiz	1,146,731,183	1.64%
MFS Institutional	1,110,945,547	1.59%
BlackRock Russell 1000 Value	844,183,576	1.21%
Small Cap Growth	**$273,373,861**	**0.39%**
Next Century Small Cap	88,525,382	0.13%
Next Century MicroCap Growth	66,016,607	0.09%
EAM MicroCap Growth	118,831,872	0.17%
Small Cap Value	**$713,684,604**	**1.02%**
AQR Capital Management, LLC	194,272,464	0.28%
Boston Company Asset Management	223,412,034	0.32%
DFA MicroCap Value	179,454,054	0.26%
Callan US Microcap Value	116,546,053	0.17%
Market Oriented	**$5,911,615,627**	**8.45%**
PIMCO	533,716,339	0.76%
Russell Fundamental LC OST managed	1,220,945,853	1.75%
NT Domestic Equity (liquidating)	7,352	0.00%
Wanger Asset Management	694,918,617	0.99%
Wellington Mgmt - Domestic Equity	349,236,449	0.50%
Russell 2000 Synthetic - OST managed	316,793,690	0.45%
S&P 500 - OST managed	1,701,556,532	2.43%
S&P 400 - OST managed	453,146,791	0.65%
OST Risk Premia Strategy	641,294,004	0.92%
Other		
Transitional & Closed Accounts	1,529,815	0.00%
Shott Capital Management	116,404,577	0.17%

	September 30, 2014	
	Market Value	% of Total Fund
International Equity	**$13,719,545,767**	**19.61%**
International Market Oriented (Core)	**$7,176,060,134**	**10.26%**
Northern Trust Non - US Equity	285,890,471	0.41%
Arrowstreet Capital, L.P.	1,199,141,449	1.71%
Lazard Asset Management	958,383,092	1.37%
Pyramis Global Advisors	1,081,370,771	1.55%
Wells Cap International CEF	323,987,299	0.46%
Lazard International CEF	360,885,130	0.52%
AQR Capital Management	1,040,551,659	1.49%
SSgA MSCI World ex US Net Index	1,925,850,264	2.75%
International Value	**$1,792,457,536**	**2.56%**
Acadian Asset Management	913,936,916	1.31%
Brandes Investment Partners	878,520,621	1.26%
International Growth	**$1,400,637,746**	**2.00%**
TT International	669,942,228	0.96%
Walter Scott Management	730,589,633	1.04%
UBS Global Asset Mgmt Americas	105,886	0.00%
International Small Cap	**$1,348,103,267**	**1.93%**
DFA International Small Cap	277,735,812	0.40%
Harris Associates	267,314,071	0.38%
Pyramis Select Small Cap	342,694,921	0.49%
Victory Capital Management	219,125,640	0.31%
EAM International Micro Cap	100,209,717	0.14%
DFA International Micro Cap	141,023,107	0.20%
Emerging Markets	**$2,002,287,084**	**2.86%**
Genesis Emerging Markets	675,952,945	0.97%
Arrowstreet Emerging Markets	453,931,997	0.65%
BlackRock Tiered Emerging Markets	232,629,969	0.33%
Westwood Global Investment	177,308,963	0.25%
William Blair and Company	215,154,041	0.31%
DFA Emerging Market Small Cap	129,882,871	0.19%
William Blair Emerging Mkt Small Cap	117,426,296	0.17%
Global Equity	**$953,351,265**	**1.36%**
Alliance Bernstein Global Value	953,351,265	1.36%

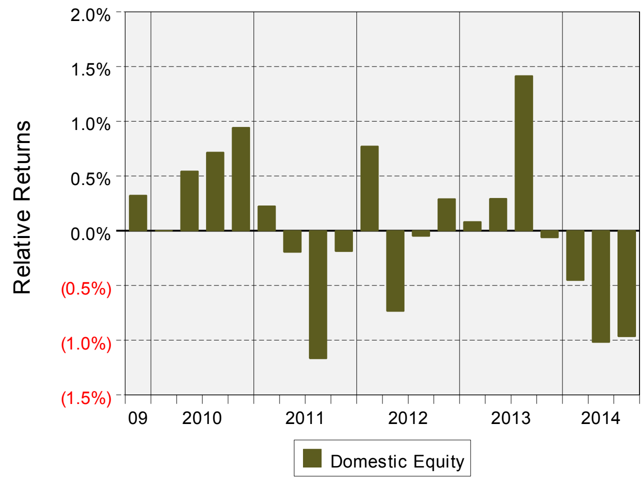
OPERF U.S. Equity

Performance Analysis as of September 30, 2014

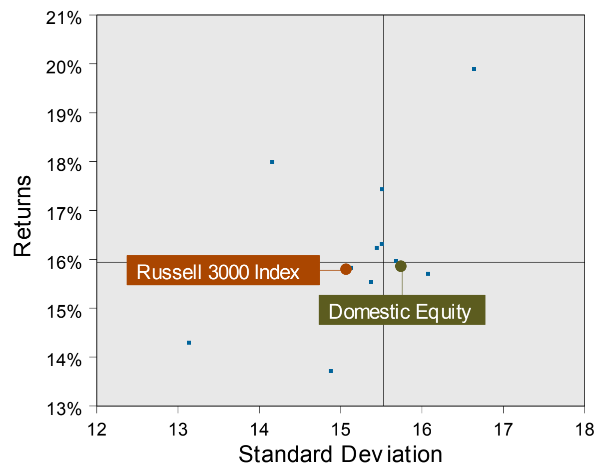
Performance vs CAI Pub Fund:10+ Dom Eq (Gross)

	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	(0.13)	19.07	20.72	23.99	19.49	6.83	8.99
25th Percentile	(0.48)	17.64	20.39	23.53	17.41	6.58	8.72
Median	(0.70)	17.41	19.91	23.19	15.94	6.34	8.40
75th Percentile	(0.89)	16.11	19.07	22.83	15.51	5.93	8.20
90th Percentile	(1.40)	15.33	17.84	19.33	13.81	3.99	6.79
Domestic Equity ●	(0.96)	14.91	19.38	22.76	15.83	6.23	8.57
Russell 3000 Index ▲	0.01	17.76	19.66	23.08	15.78	6.24	8.44

Relative Return vs Russell 3000 Index



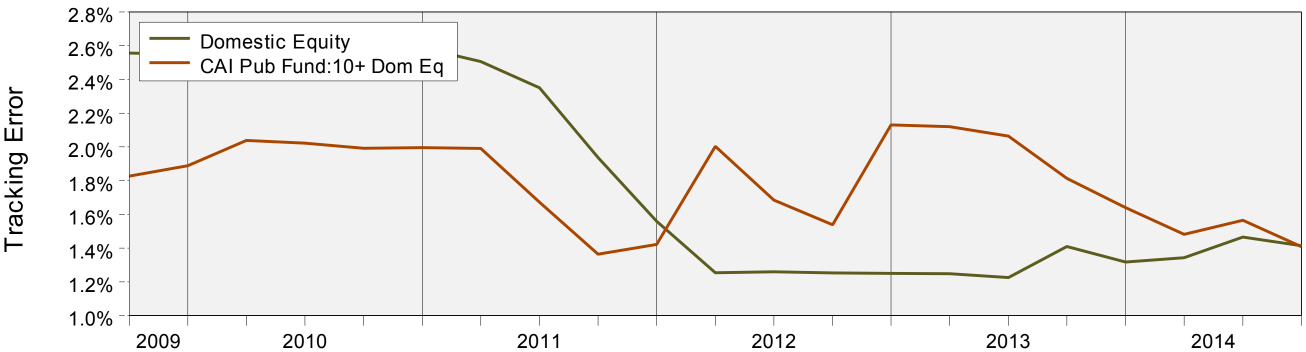
CAI Pub Fund:10+ Dom Eq (Gross)
Annualized Five Year Risk vs Return



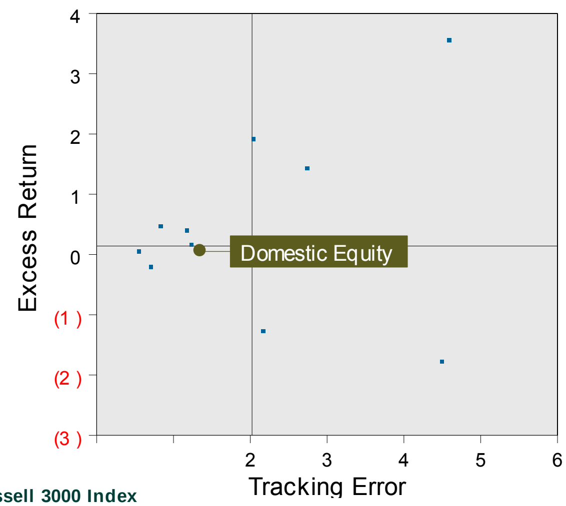
OPERF U.S. Equity

Risk Analysis as of September 30, 2014

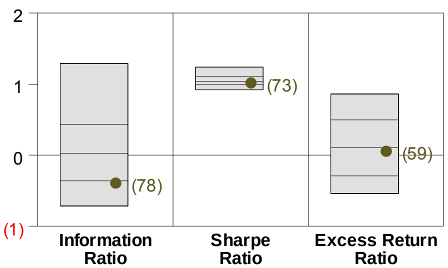
Rolling 12 Quarter Tracking Error vs Russell 3000 Index



Risk Analysis vs CAI Pub Fund:10+ Dom Eq (Gross)
Five Years Ended September 30, 2014

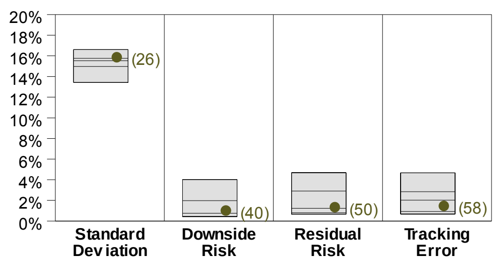


Risk Adjusted Return Measures vs Russell 3000 Index
Rankings Against CAI Pub Fund:10+ Dom Eq (Gross)
Five Years Ended September 30, 2014



	Information Ratio	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.29	1.24	0.86
25th Percentile	0.44	1.11	0.50
Median	0.02	1.04	0.11
75th Percentile	(0.36)	1.00	(0.29)
90th Percentile	(0.72)	0.92	(0.54)
Domestic Equity ●	(0.41)	1.00	0.04

Risk Statistics Rankings vs Russell 3000 Index
Rankings Against CAI Pub Fund:10+ Dom Eq (Gross)
Five Years Ended September 30, 2014

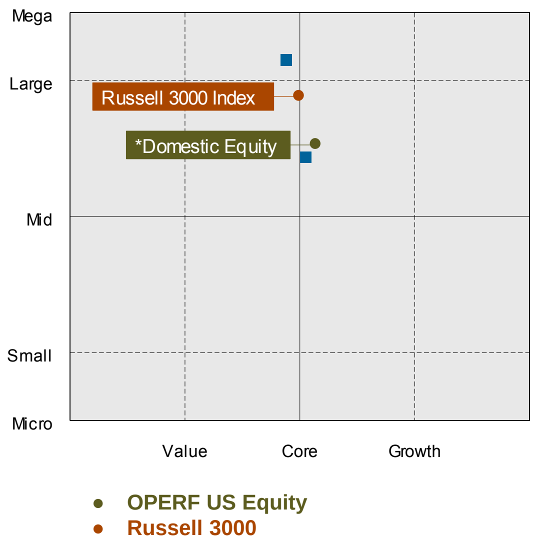


	Standard Deviation	Downside Risk	Residual Risk	Tracking Error
10th Percentile	16.61	4.02	4.69	4.66
25th Percentile	15.77	1.99	2.90	2.84
Median	15.53	0.76	1.23	2.02
75th Percentile	14.96	0.46	0.81	0.93
90th Percentile	13.42	0.41	0.67	0.68
Domestic Equity ●	15.75	0.91	1.24	1.36

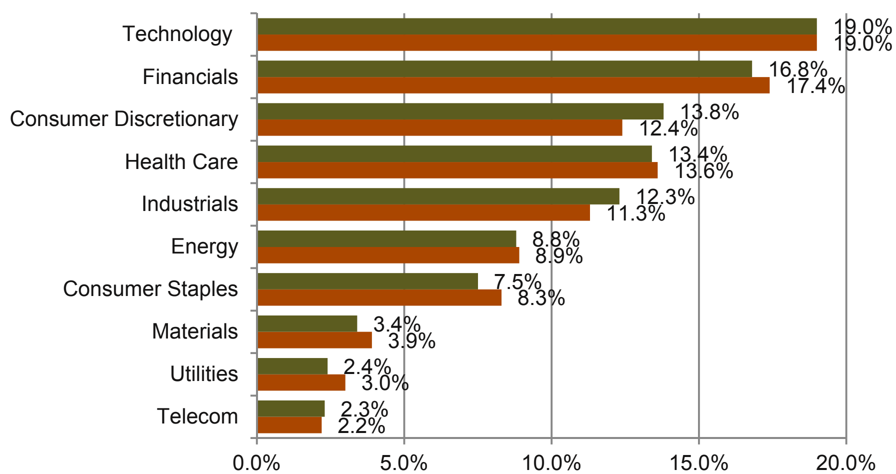
OPERF U.S. Equity

Characteristics as of September 30, 2014

Style Map vs CAI Pub Fund:10+ Dom Eq
Holdings as of September 30, 2014



	Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
Domestic Equity ●	34.14	15.93	2.51	12.80	1.67	0.10
Russell 3000 Index ▲	51.07	16.11	2.56	12.13	1.90	(0.01)



Style Exposure Matrix
Holdings as of September 30, 2014

	Value	Core	Growth	Total
Large	20.2% (87) 24.1% (86)	20.5% (109) 24.5% (100)	25.5% (118) 24.5% (108)	66.2% (314) 73.0% (294)
Mid	5.4% (192) 5.9% (188)	5.8% (198) 5.7% (197)	7.6% (205) 6.5% (205)	18.8% (595) 18.1% (590)
Small	2.9% (270) 2.2% (330)	4.4% (341) 3.3% (484)	3.2% (209) 2.3% (367)	10.6% (820) 7.8% (1181)
Micro	1.7% (330) 0.4% (306)	1.7% (250) 0.4% (348)	1.1% (138) 0.3% (230)	4.4% (718) 1.1% (884)
Total	30.2% (879) 32.5% (910)	32.3% (898) 33.9% (1129)	37.5% (670) 33.6% (910)	100.0% (2447) 100.0% (2949)

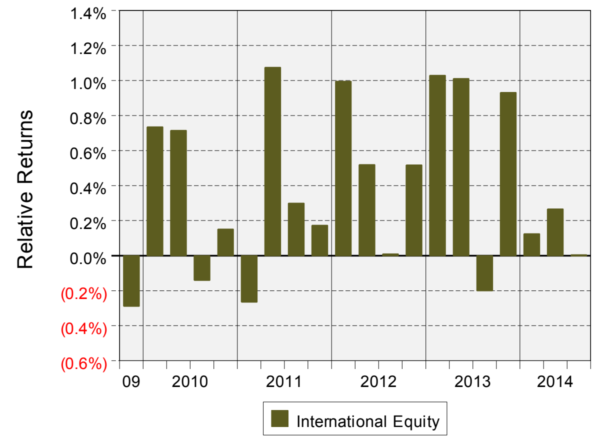
OPERF Non-US Equity

Performance Analysis as of September 30, 2014

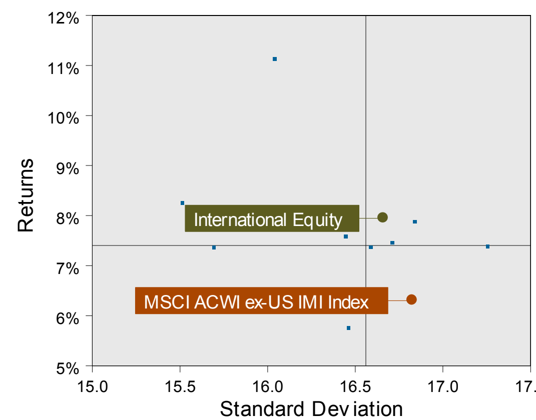
Performance vs CAI Pub Fund:10+ Intl Eq (Gross)

	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	(4.76)	6.39	12.82	18.83	10.82	3.12	9.27
25th Percentile	(5.00)	5.86	12.16	13.76	7.95	1.22	8.69
Median	(5.30)	5.34	11.44	13.06	7.40	0.60	7.64
75th Percentile	(5.45)	5.04	10.66	12.27	7.09	0.30	7.29
90th Percentile	(5.53)	4.55	9.04	10.92	5.79	(0.29)	6.85
International Equity ●	(5.46)	6.08	12.67	13.84	7.95	1.84	8.77
MSCI ACWI ex-US IMI Index ▲	(5.46)	4.74	10.66	11.88	6.30	0.09	7.32

Relative Return vs MSCI ACWI ex-US IMI Index



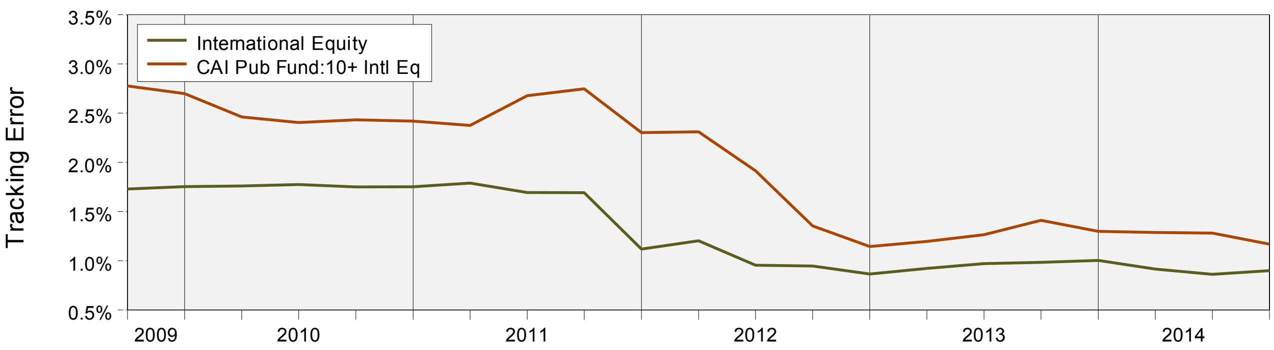
CAI Pub Fund:10+ Intl Eq (Gross)
Annualized Five Year Risk vs Return



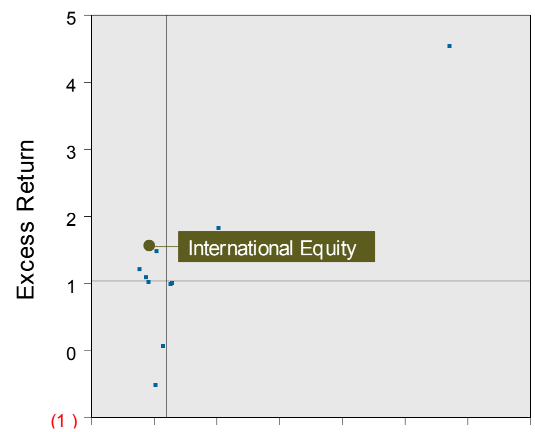
OPERF Non-US Equity

Risk Analysis as of September 30, 2014

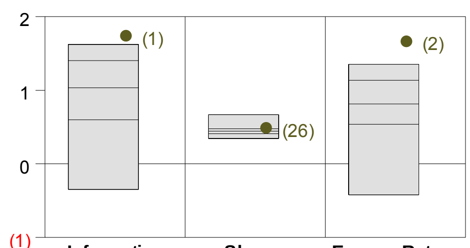
Rolling 12 Quarter Tracking Error vs MSCI ACWI ex-US IMI Index



Risk Analysis vs CAI Pub Fund:10+ Intl Eq (Gross)
Five Years Ended September 30, 2014

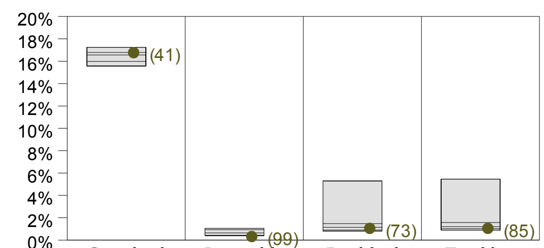


Risk Adjusted Return Measures vs MSCI ACWI ex-US IMI Index
Rankings Against CAI Pub Fund:10+ Intl Eq (Gross)
Five Years Ended September 30, 2014



	Information Ratio	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.62	0.67	1.35
25th Percentile	1.40	0.48	1.14
Median	1.04	0.45	0.81
75th Percentile	0.60	0.41	0.54
90th Percentile	(0.35)	0.34	(0.42)
International Equity ●	1.72	0.47	1.65

Risk Statistics Rankings vs MSCI ACWI ex-US IMI Index
Rankings Against CAI Pub Fund:10+ Intl Eq (Gross)
Five Years Ended September 30, 2014



	Standard Deviation	Downside Risk	Residual Risk	Tracking Error
10th Percentile	17.25	1.06	5.30	5.44
25th Percentile	16.78	0.93	1.47	1.58
Median	16.56	0.65	1.14	1.20
75th Percentile	15.99	0.43	0.91	1.01
90th Percentile	15.57	0.39	0.80	0.88
International Equity ●	16.66	0.21	0.95	0.94

OPERF Non-US Equity

Characteristics as of September 30, 2014

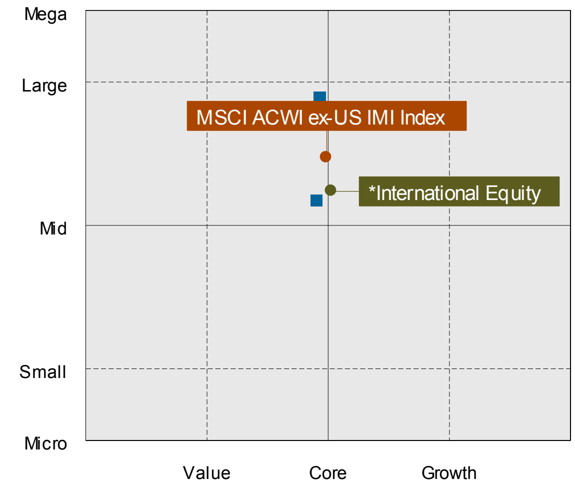
Style Exposure Matrix
Holdings as of September 30, 2014

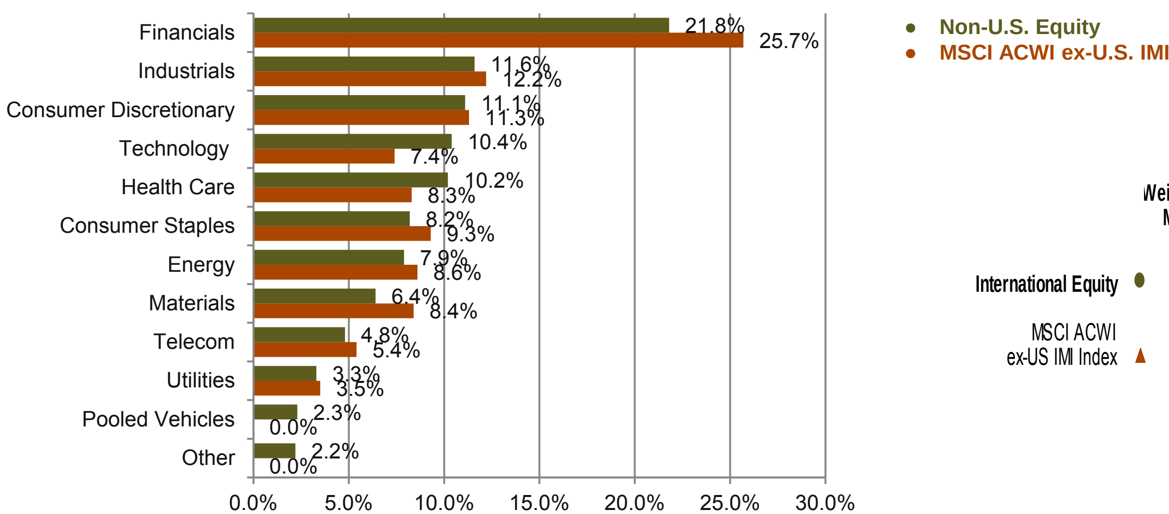
	Value	Core	Growth	Total
Large	19.4% (155) 21.9% (152)	19.3% (157) 21.8% (156)	19.8% (175) 19.7% (166)	58.5% (487) 63.3% (474)
Mid	6.7% (252) 6.6% (305)	7.5% (284) 6.8% (320)	9.8% (347) 9.3% (422)	24.0% (883) 22.8% (1047)
Small	3.9% (580) 3.7% (699)	4.9% (591) 3.8% (779)	4.7% (517) 3.7% (748)	13.5% (1688) 11.2% (2226)
Micro	1.5% (1689) 1.0% (858)	1.4% (1245) 1.0% (747)	1.1% (615) 0.7% (566)	4.0% (3549) 2.7% (2171)
Total	31.5% (2676) 33.2% (2014)	33.1% (2277) 33.3% (2002)	35.4% (1654) 33.4% (1902)	100.0% (6607) 100.0% (5918)

Style Exposure Matrix
Holdings as of September 30, 2014

	Value	Core	Growth	Total
Europe/ Mid East	14.7% (476) 14.6% (429)	15.3% (443) 14.8% (482)	17.3% (385) 16.0% (476)	47.4% (1304) 45.4% (1387)
N. America	2.2% (89) 2.9% (113)	1.9% (92) 2.8% (113)	1.9% (73) 2.2% (94)	6.0% (254) 8.0% (320)
Pacific	7.9% (788) 8.2% (574)	7.8% (463) 8.2% (546)	9.0% (397) 7.9% (526)	24.7% (1648) 24.3% (1646)
Emerging	6.6% (1320) 7.5% (898)	7.9% (1270) 7.5% (861)	7.1% (794) 7.3% (806)	21.6% (3384) 22.3% (2565)
Total	31.5% (2673) 33.2% (2014)	32.9% (2268) 33.3% (2002)	35.3% (1649) 33.4% (1902)	99.6% (6590) 100.0% (5918)

Style Map vs CAI Pub Fund:10+ Intl Eq
Holdings as of September 30, 2014



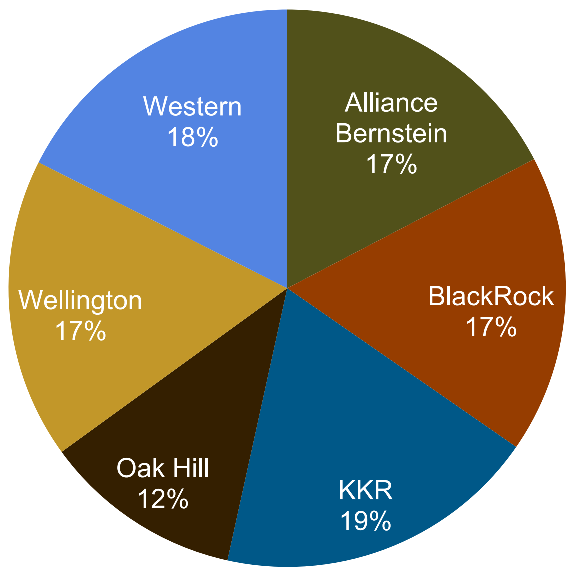


	Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
International Equity ●	17.66	13.33	1.61	11.96	2.50	0.03
MSCI ACWI ex-US IMI Index ▲	24.12	13.25	1.63	11.35	2.82	(0.00)

OPERF Total Fixed Income

Allocations as of September 30, 2014

Managers	Assets ($M)	% Allocation
AllianceBernstein	2,558,051	17.3%
BlackRock	2,556,406	17.3%
KKR Asset Mgmt	2,748,573	18.6%
Oak Hill	1,697,861	11.5%
Wellington	2,569,851	17.4%
Western Asset Mgmt	2,585,218	17.5%
Transitional Account	30,019	0.2%
Total	**$ 14,745,979**	**100.0%**

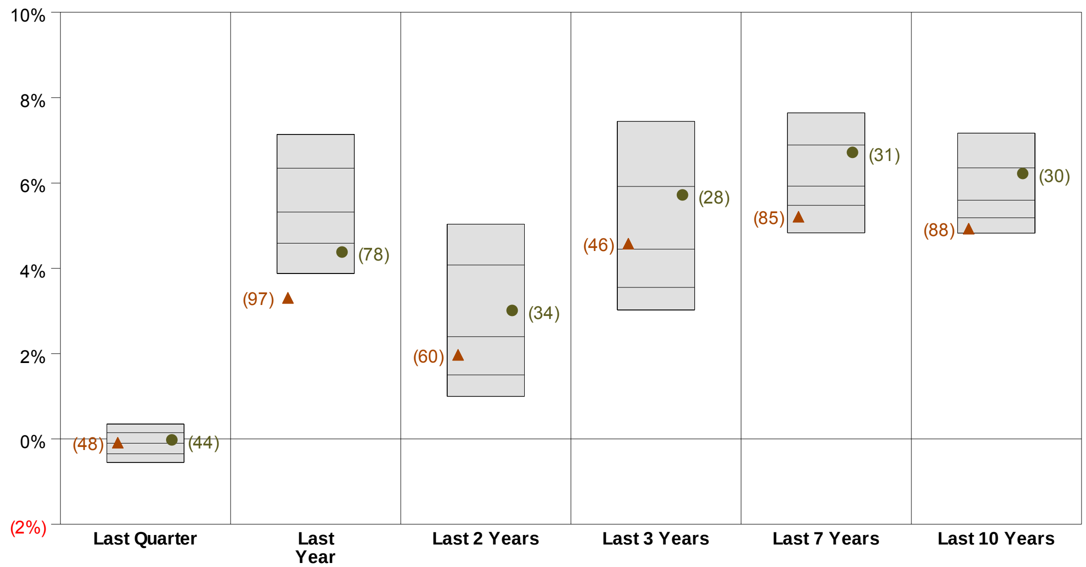


Percentages may not sum to 100% due to rounding

OPERF Total Fixed Income

Performance Analysis as of September 30, 2014

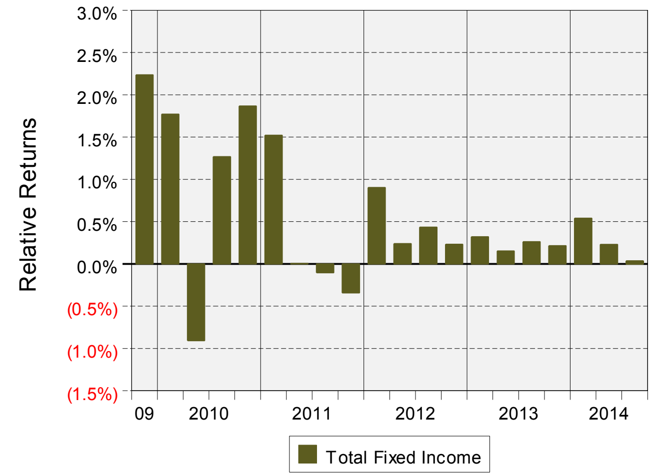
Performance vs Lg Public Fund - Domestic Fixed (Gross)



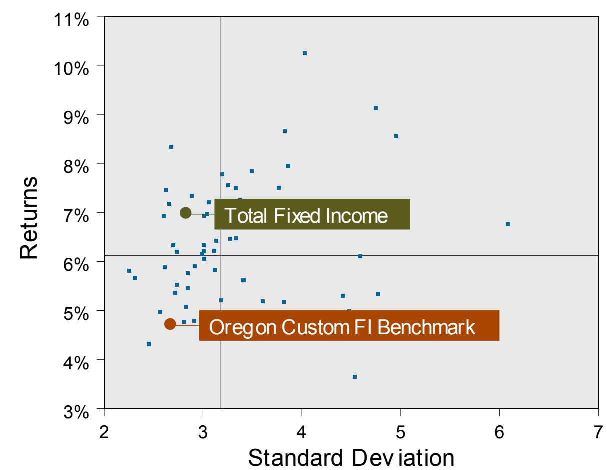
	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 7 Years	Last 10 Years
10th Percentile	0.35	7.14	5.03	7.44	7.64	7.17
25th Percentile	0.15	6.35	4.08	5.92	6.89	6.35
Median	(0.10)	5.32	2.40	4.45	5.93	5.59
75th Percentile	(0.35)	4.59	1.50	3.55	5.47	5.18
90th Percentile	(0.55)	3.88	1.00	3.02	4.83	4.82
Total Fixed Income ●	(0.05)	4.35	2.98	5.69	6.69	6.19
Oregon Custom FI Benchmark ▲	(0.09)	3.31	1.97	4.58	5.21	4.93

Current 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

Relative Returns vs Oregon Custom FI Benchmark



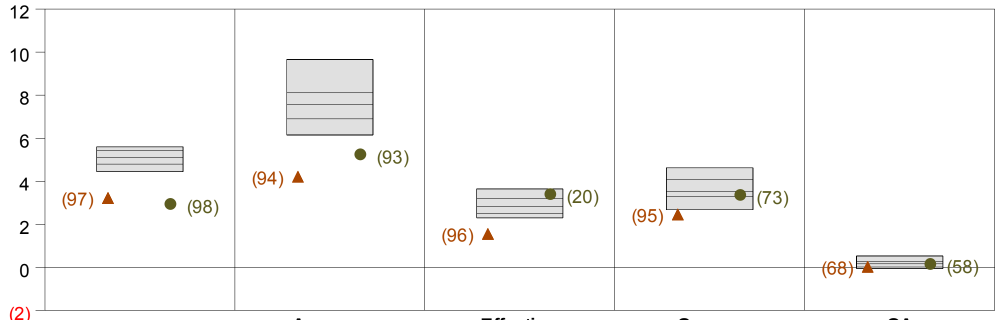
Lg Public Fund - Domestic Fixed (Gross) Annualized Five Year Risk vs Return



OPERF Total Fixed Income

Characteristics as of September 30, 2014

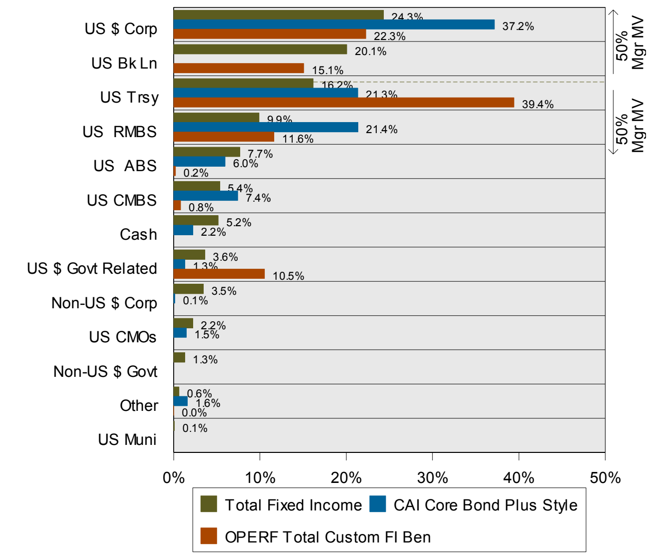
Fixed Income Portfolio Characteristics
Rankings Against CAI Core Bond Plus Style
as of September 30, 2014



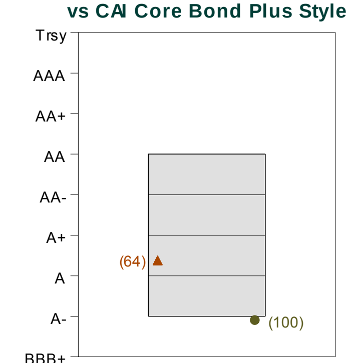
	Duration	Average Life	Effective Yield	Coupon Rate	OA Convexity
10th Percentile	5.60	9.66	3.64	4.63	0.53
25th Percentile	5.43	8.11	3.19	4.09	0.27
Median	5.10	7.57	2.84	3.53	0.17
75th Percentile	4.80	6.90	2.50	3.28	0.02
90th Percentile	4.45	6.15	2.30	2.68	(0.05)
Total Fixed Income ●	2.88	5.18	3.34	3.30	0.10
OPERF Total Custom FI Ben ▲	3.22	4.21	1.56	2.46	0.03

Current 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

Sector Allocation
September 30, 2014



Quality Ratings
vs CAI Core Bond Plus Style

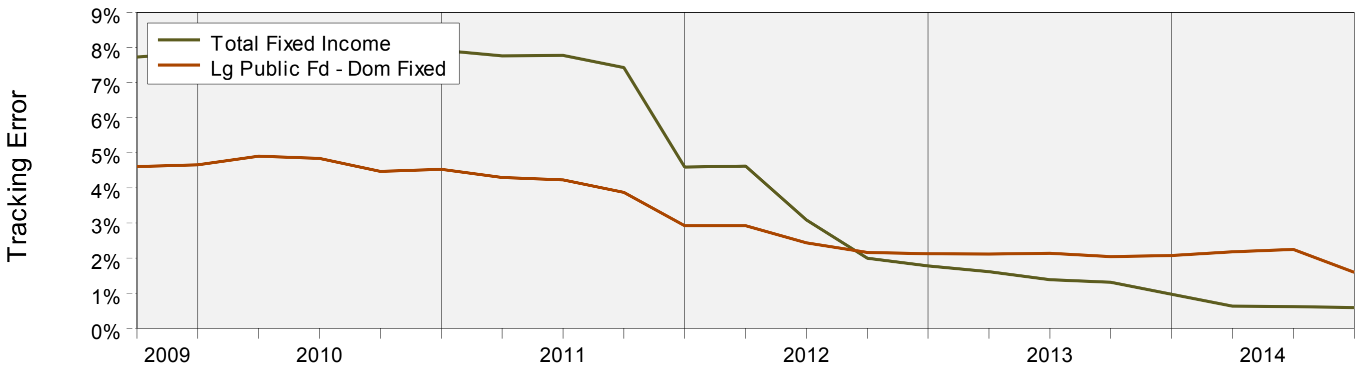


	Weighted Average Quality Rating
10th Percentile	AA
25th Percentile	AA-
Median	A+
75th Percentile	A
90th Percentile	A-
Total Fixed Income ●	A-
OPERF Total Custom FI Ben ▲	A

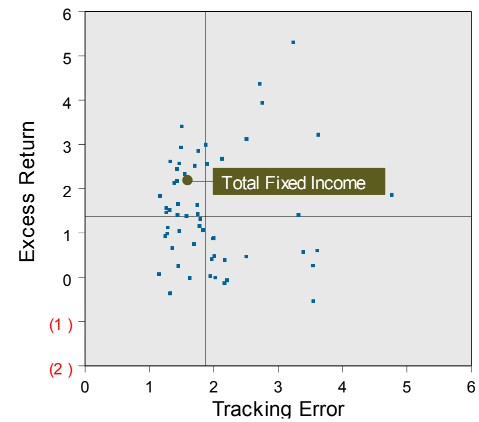
OPERF Total Fixed Income

Risk Analysis as of September 30, 2014

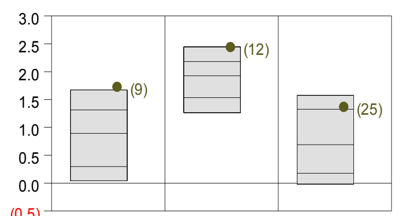
Rolling 12 Quarter Tracking Error vs Oregon Custom FI Bench



Risk Analysis vs Lg Public Fund - Domestic Fixed (Gross)
Five Years Ended September 30, 2014

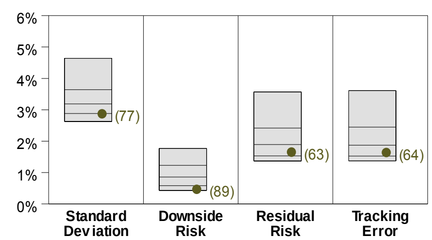


Risk Adjusted Return Measures vs Oregon Custom FI Benchmark
Rankings Against Lg Public Fund - Domestic Fixed (Gross)
Five Years Ended September 30, 2014



	Information Ratio	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.67	2.44	1.58
25th Percentile	1.31	2.18	1.32
Median	0.89	1.93	0.69
75th Percentile	0.30	1.53	0.18
90th Percentile	0.04	1.26	(0.02)
Total Fixed Income ●	1.71	2.42	1.35

Risk Statistics Rankings vs Oregon Custom FI Benchmar
Rankings Against Lg Public Fund - Domestic Fixed (Gross)
Five Years Ended September 30, 2014



	Standard Deviation	Downside Risk	Residual Risk	Tracking Error
10th Percentile	4.64	1.77	3.57	3.61
25th Percentile	3.64	1.23	2.42	2.45
Median	3.19	0.86	1.90	1.88
75th Percentile	2.88	0.59	1.53	1.53
90th Percentile	2.63	0.43	1.37	1.37
Total Fixed Income ●	2.84	0.44	1.62	1.61

Current 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

TAB 8 – ASSET ALLOCATIONS & NAV UPDATES

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Asset Allocations at October 31, 2014

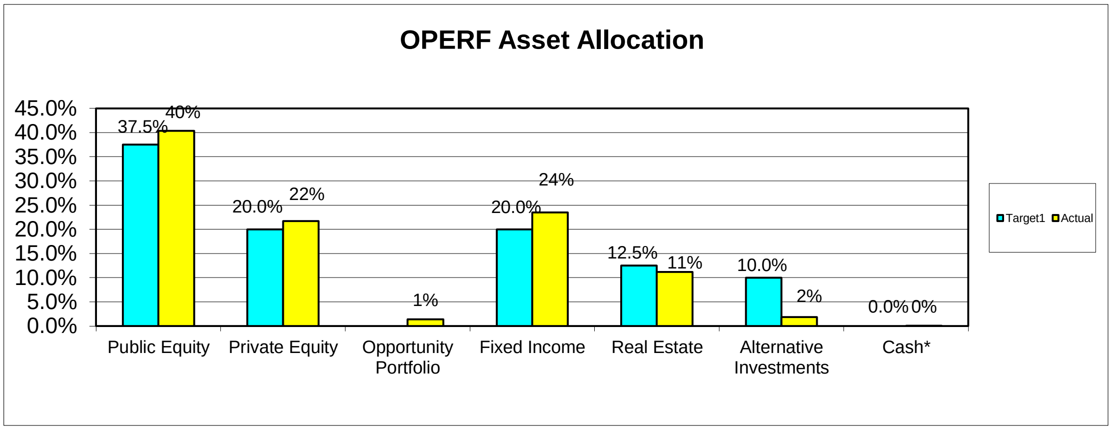
OPERF	Policy	Target[1]	Regular Account: $ Thousands	Pre-Overlay	Overlay	Net Position	Actual	Variable Fund: $ Thousands	Total Fund: $ Thousands
Public Equity	32.5-42.5%	37.5%	27,953,612	40.4%	(72,913)	27,880,699	40.3%	770,921	28,651,620
Private Equity	16-24%	20.0%	14,992,636	21.7%		14,992,636	21.7%		14,992,636
Total Equity	**52.5-62.5%**	**57.5%**	**42,946,248**	**62.1%**	**(72,913)**	**42,873,335**	**62.0%**		**43,644,256**
Opportunity Portfolio			986,098	1.4%		986,098	1.4%		986,098
Fixed Income	**15-25%**	**20.0%**	**14,825,456**	**21.4%**	**1,428,627**	**16,254,083**	23.5%		**16,254,083**
Real Estate	**9.5-15.5%**	**12.5%**	**7,735,249**	**11.2%**	**(8,700)**	**7,726,549**	11.2%		**7,726,549**
Alternative Investments	**0-10%**	**10.0%**	**1,291,627**	**1.9%**		**1,291,627**	1.9%		**1,291,627**
Cash*	**0-3%**	**0.0%**	**1,352,643**	**2.0%**	**(1,347,014)**	**5,629**	0.0%	4,348	**9,977**
TOTAL OPERF		**100%**	**$ 69,137,321**	**100.0%**	**$ -**	**$ 69,137,321**	**100.0%**	**$ 775,269**	**$ 69,912,590**

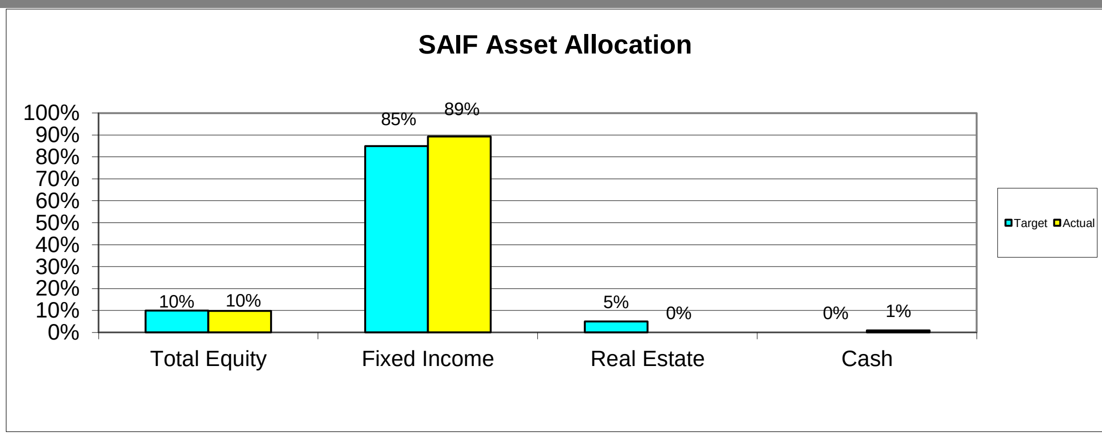
[1]Targets established in June 2013. Interim policy benchmark consists of: 41.5% MSCI ACWI Net, 23.5% Custom FI Benchmark, 20% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF (1 quarter lagged), & 2.5% CPI+400bps.
*Includes cash held in the policy implementation overlay program.

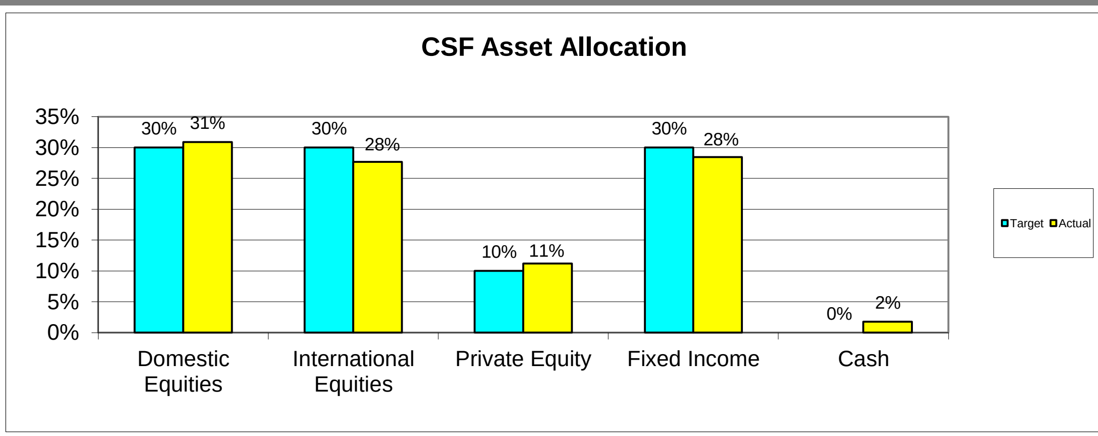
SAIF	Policy	Target	$ Thousands	Actual
Total Equity	**7-13%**	**10.0%**	**444,849**	**9.7%**
Fixed Income	**80-90%**	**85.0%**	**4,078,536**	**89.3%**
Real Estate	**0-7%**	**5.0%**	**0**	**0.0%**
Cash	**0-3%**	**0%**	**43,627**	**1.0%**
TOTAL SAIF		**95%**	**$4,567,012**	**100.0%**

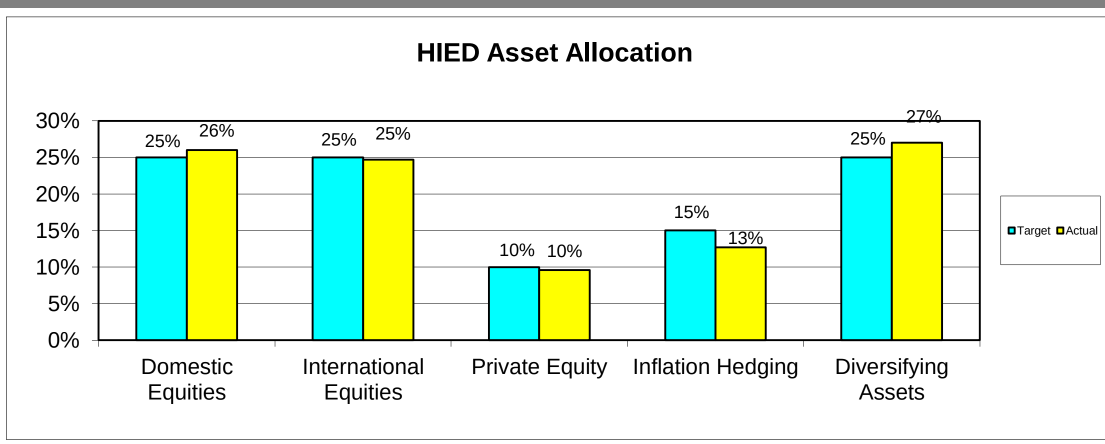
CSF	Policy	Target	$ Thousands	Actual
Domestic Equities	25-35%	30%	$443,657	30.9%
International Equities	25-35%	30%	397,612	27.7%
Private Equity	0-12%	10%	160,589	11.2%
Total Equity	**65-75%**	**70%**	**1,001,858**	**69.8%**
Fixed Income	**25-35%**	**30%**	**408,966**	**28.5%**
Cash	**0-3%**	**0%**	**25,091**	**1.7%**
TOTAL CSF			**$1,435,915**	**100.0%**

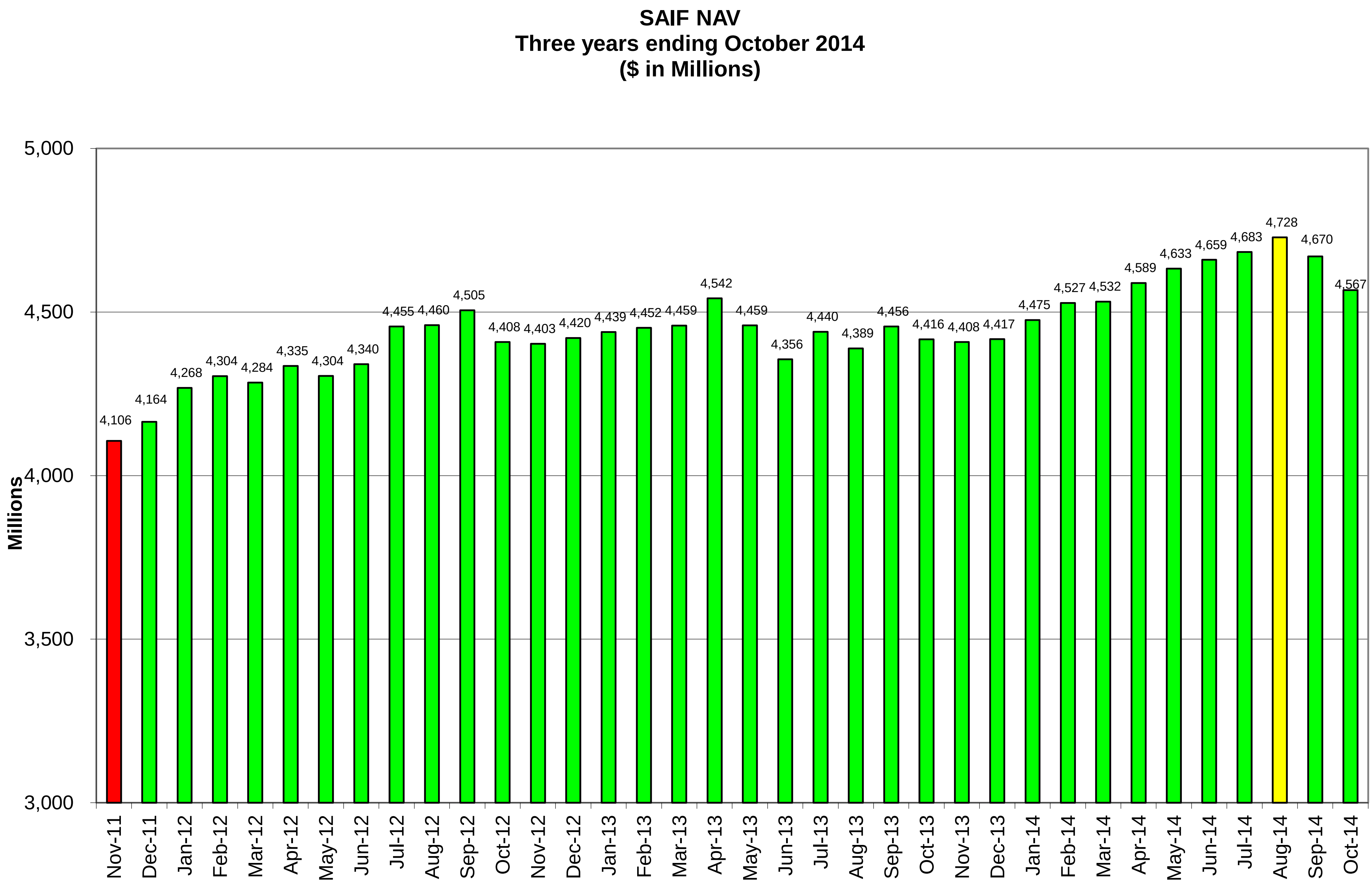
HIED	Policy	Target	$ Thousands	Actual
Domestic Equities	20-30%	25%	$11,671	26.0%
International Equities	20-30%	25%	11,084	24.7%
Private Equity	0-15%	10%	4,298	9.6%
Growth Assets	**50-75%**	**60%**	**27,053**	**60.3%**
Real Estate	0-10%	7.5%	1,132	2.5%
TIPS	0-10%	7.5%	4,563	10.2%
Inflation Hedging	**7-20%**	**15%**	**5,695**	**12.7%**
Fixed Income	20-30%	25%	10,531	23.5%
Cash	0-3%	0%	1,592	3.5%
Diversifying Assets	**20-30`%**	**25%**	**12,123**	**27.0%**
TOTAL HIED			**$44,871**	**100.0%**


OPERF Asset Allocation
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
37.5%
40%
20.0%
22%
1%
20.0%
24%
12.5%
11%
10.0%
2%
0.0%
0%
Public Equity
Private Equity
Opportunity Portfolio
Fixed Income
Real Estate
Alternative Investments
Cash*
Target1
Actual


SAIF Asset Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
10%
10%
85%
89%
5%
0%
0%
1%
Total Equity
Fixed Income
Real Estate
Cash
Target
Actual

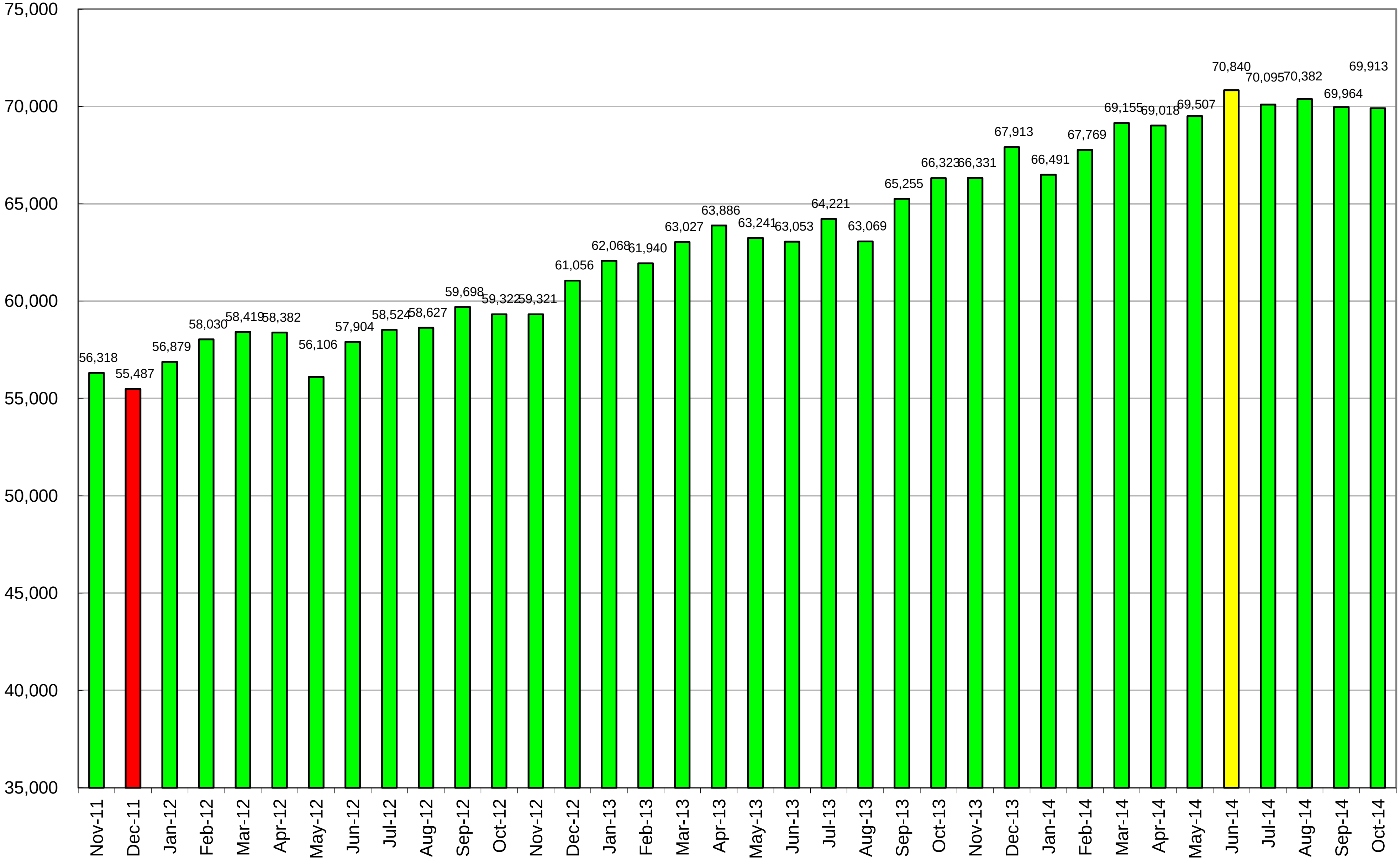

CSF Asset Allocation
35%
30%
25%
20%
15%
10%
5%
0%
30%
31%
30%
28%
10%
11%
30%
28%
0%
2%
Domestic Equities
International Equities
Private Equity
Fixed Income
Cash
Target
Actual


HIED Asset Allocation
30%
25%
20%
15%
10%
5%
0%
25%
26%
25%
25%
10%
10%
15%
13%
25%
27%
Domestic Equities
International Equities
Private Equity
Inflation Hedging
Diversifying Assets
Target
Actual

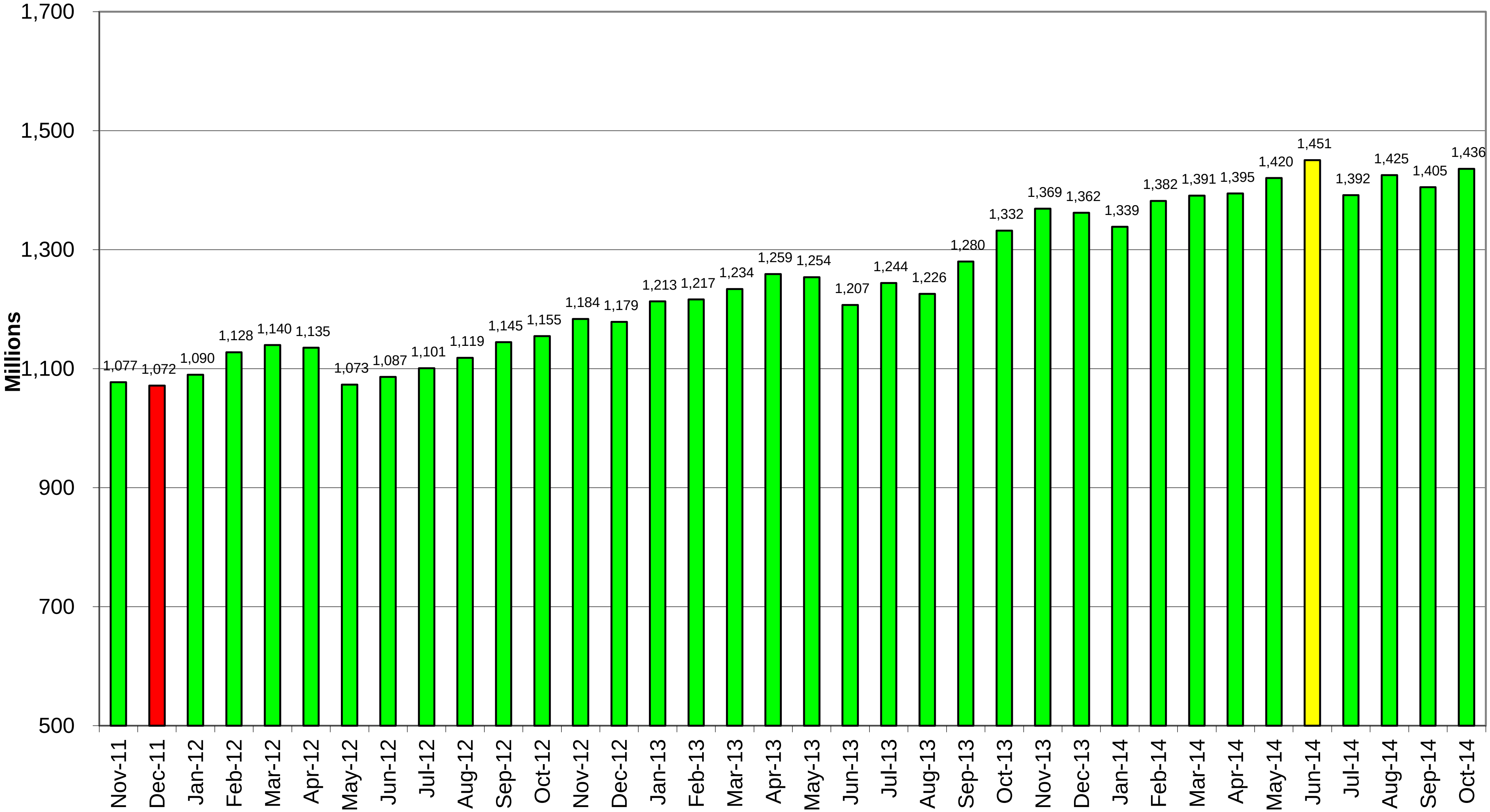


SAIF NAV
Three years ending October 2014
($ in Millions)
Millions
5,000
4,500
4,000
3,500
3,000
4,106
4,164
4,268
4,304
4,284
4,335
4,304
4,340
4,455
4,460
4,505
4,408
4,403
4,420
4,439
4,452
4,459
4,542
4,459
4,356
4,440
4,389
4,456
4,416
4,408
4,417
4,475
4,527
4,532
4,589
4,633
4,659
4,683
4,728
4,670
4,567
Nov-11
Dec-11
Jan-12
Feb-12
Mar-12
Apr-12
May-12
Jun-12
Jul-12
Aug-12
Sep-12
Oct-12
Nov-12
Dec-12
Jan-13
Feb-13
Mar-13
Apr-13
May-13
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14
Apr-14
May-14
Jun-14
Jul-14
Aug-14
Sep-14
Oct-14

OPERF NAV
Three years ending October 2014
($ in Millions)



CSF NAV
Three years ending October 2014
($ in Millions)



TAB 9 – CALENDAR/FUTURE AGENDA ITEMS

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2015 OIC Forward Agenda Topics

February 4:	Updated OPERF A/L Study & SAA Review OPERF Fixed Income Review Annual Placement Agent Report
March 4:	OPERF Q4 2014 Performance Report OPERF Private Equity Review and Plan HIED Annual Review
April 29:	OPERF Policy Implementation Overlay Review OPERF Securities Lending Update Litigation Update
June 3:	OITP Review OPERF Q1 2015 Performance Report
July 29:	OSGP Annual Update
September 16:	OPERF Real Estate Review OIC Private Equity Consultant Recommendation OPERF Q2 2015 Performance
October 28:	OSTF Annual Review OPERF Public Equity Review OPERF Alternative Portfolio Review CEM Benchmarking Report Approve 2016 OIC Calendar
December 9:	OPERF Opportunity Portfolio Review SAIF Annual Review CSF Annual Review OPERF Q3 2015 Performance Report