Oregon Investment Council

January 23, 2013 - 9:00 AM

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

Keith Larson
Chair

Office of the State Treasurer
Ted Wheeler
State Treasurer

John Skjervem
Chief Investment Officer

OREGON INVESTMENT COUNCIL

2013 Meeting Schedule

Meetings Begin at 9:00 am
at
PERS Headquarters Building
11410 SW 68th Parkway
Tigard, OR 97223

January 23, 2013

February 20, 2013

April 17, 2013

May 29, 2013

July 31, 2013

September 25, 2013

October 30, 2013

December 4, 2013

OREGON INVESTMENT COUNCIL

Agenda

January 23, 2013
9:00 AM

PERS Headquarters
11410 S.W. 68th Parkway
Tigard, Oregon

Time	A. Action Items	Presenter	Tab
9:00-9:05	**1. Review and Approval of Minutes** December 5, 2012 Regular Meeting	**Keith Larson** *OIC Chair*	**1**
9:05-9:50	**2. Riverside Capital Appreciation Fund VI, LP** *OPERF Private Equity*	**Jay Fewel** *Senior Investment Officer, Private Equity* **Stewart Kohl** **Bela Szigethy** *Co-CEOs, Riverside Partners L.L.C.* **Suzanne Kriscunas** *Managing Partner, Riverside Partners L.L.C.* **Kenn Lee** *TorreyCove Capital Partners*	**2**
9:50-10:35	**3. Public Equity Mandate/Manager Recommendations** *OPERF Public Equity*	**Mike Viteri** *Senior Investment Officer, Public Equity* **Bob Deere** *Investment Director, Dimensional Fund Advisors* **John Meier** *Strategic Investment Solutions*	**3**
10:35-10:45	**---------- BREAK ----------**		
10:45-11:15	**4. OST/OIC Investment Beliefs Project: Introduction**	**Allan Emkin** *Pension Consulting Alliance*	**4**
11:15-11:20	**5. OIC Consultant Discussion and Recommendation** *General and Real Estate Consultants*	**John Skjervem** *CIO*	**5**
11:20-11:45	**6. OIC Investment Funds and Operational Review Report**	**Byron Williams** *Chief Audit Executive, OST*	**6**

Keith Larson Chair	Dick Solomon Vice-Chair	Ted Wheeler State Treasurer	Katy Durant Member	Harry Demorest Member	Paul Cleary PERS Director (Ex-officio)

B. Information Items

11:45-11:50	**7. Annual Placement Agent Report**	**John Skjervem**	**7**
11:50-11:55	**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	**John Skjervem**	**9**
	10. Other Items	**Council Members** **Staff** **Consultants**	

C. Public Comment Invited

TAB 1 – REVIEW & APPROVAL OF MINUTES

December 5, 2012 Regular Meeting

JOHN D. SKJERVEM
CHIEF INVESTMENT OFFICER
INVESTMENT DIVISION

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OREGON INVESTMENT COUNCIL
DECEMBER 5, 2012
MEETING MINUTES

Members Present:	Paul Cleary, Harry Demorest, Katy Durant, Keith Larson, Dick Solomon, Ted Wheeler
Staff Present:	Darren Bond, Tony Breault, Karl Cheng, Jay Fewel, Sam Green, John Hershey, Brooks Hogle, Julie Jackson, Perrin Lim, Tom Lofton, Mike Mueller, Tom Rinehart, Michael Selvaggio, Priyanka Shukla, James Sinks, John Skjervem, Michael Viteri
Consultants Present:	David Fann, Kenn Lee and Tom Martin (TorreyCove); John Meier (SIS); Alan Emkin, John Linder and Mike Moy (PCA); Nori Gerardo Lietz (Areté)
Legal Counsel Present:	Dee Carlson, Oregon Department of Justice Deena Bothello, Oregon Department of Justice

The OIC meeting was called to order at 9:00am by Keith Larson, Chair.

I. 9:00 a.m.: Review and Approval of Minutes

MOTION: Mr. Demorest moved approval of the amended October 31, 2012 meeting minutes. Mr. Solomon seconded the motion. The minutes were approved unanimously by a vote of 5/0.

Mr. Larson took a moment to welcome new OST CIO, John Skjervem. He also thanked the search committee for their participation in and contributions to a thorough and effective recruiting process. Lastly, he thanked Mike Mueller for the hard work and dedication Mike demonstrated as Interim CIO.

II. 9:04 a.m.: Stonepeak Infrastructure Fund, L.P.-*OPERF Alternatives Portfolio*

Staff and TorreyCove recommend a commitment of $100 million to Stonepeak Infrastructure Fund L.P., subject to the satisfactory negotiation of requisite documentation with OST staff working in concert with Department of Justice legal staff.

John Hershey, Senior Alternatives Investment Officer introduced Michael Dorrell and Trent Vichie, Senior Managing Directors from Stonepeak. Stonepeak is targeting infrastructure investments in the North American middle market, primarily in the Water & Utilities (electric utilities, water and waste water), Energy (midstream pipelines, alternative energy) and Transportation (rail, barges, airports, roads) sectors. Stonepeak management anticipates that equity commitments will range from $50 million to $200 million with a targeted total equity return in the mid-teens, strong cash-on-cash current yields and real return (i.e., inflation) linkage.

Stonepeak will focus on long lived opportunities with relatively low leverage where there are significant add-on growth opportunities that can provide accretive investments at higher IRRs. Through its operating partners, Stonepeak intends to intensively manage the portfolio companies.

Stonepeak offers one of the few independent and experienced managers with a track record of successful investing as a principal in the infrastructure sector. The investment will further build out the 25-35 percent target allocation of the infrastructure sleeve in the Alternatives Portfolio, as established in OIC Policy 4.06.02.

MOTION: Mr. Solomon moved approval of the staff recommendation. Mr. Demorest seconded the motion. The motion was passed by a vote of 5/0.

III. 9:52 a.m.: A&M Capital Partners-*OPERF Private Equity Portfolio*

Mr. Larson shared that he worked in a prior capacity with A&M's advisory business (from which this fund is separate); however, he does not believe that experience presents a potential conflict of interest.

Staff and TorreyCove recommended that the OIC authorize up to a $100 million commitment to A&M Capital Partners, L.P., on behalf of OPERF, subject to the satisfactory negotiation of terms and conditions, and completion of requisite documentation by DOJ legal counsel working in concert with OST staff.

Jay Fewel, Senior Investment Officer introduced Mike Oldrich, Global Head of A&M Capital Partners, and Jack McCarthy and Kurt Kaull, Managing Directors. A&M Capital is a recently formed affiliate of Alvarez & Marsal Holdings, a global corporate advisory firm focused on distressed situations employing over 1,400 professionals operating from 40 offices around the world. Alvarez & Marsal is the largest firm of its kind, with a deep pool of resources, extensive business connections and a large client base. Alvarez & Marsal is expected to contribute heavily to A&M Capital's deal sourcing, transaction execution and operational improvement efforts in portfolio companies.

While this opportunity is the first fund offering by A&M Capital, staff believes that many of the risks of a first-time fund are mitigated here. The size and resources of the Firm's affiliate, Alvarez & Marsal, minimize start-up and execution risks without introducing potential conflicts of interest common in firms affiliated with investment banks. The Firm's founders have substantial private equity experience, and have worked together before in various capacities.

MOTION: Mr. Demorest moved approval of the staff recommendation. Mr. Solomon seconded the motion. The motion was passed by a vote of 4/1 (Treasurer Wheeler voted no).

IV. 10:47 a.m.: OPERF Opportunity Portfolio Annual Review

John Hershey gave an annual update on the Opportunity portfolio.
New commitments in 2011 include:

- TPG Specialty Lending, Inc. ($100mm – May)
- Royalty Pharma Investments ($50mm – October) * Was never closed
- Nephila Juniper ($50mm – December)
- Nephila Palmetto ($50mm – December)

2012 new commitment:

- RS Investments ($50mm – August)

Strategies of interest:

- Dislocation oriented
    - Structured credit
    - Shipping
- Less correlated oriented
    - Drug royalty streams
    - Insurance and reinsurance related
    - Intellectual property
- Innovation oriented
    - Currencies
    - Trade finance
    - Legal settlements
- Strategic partnerships
    - "Club Deals"

- Co-mingled tactical/opportunistic partnerships

V. 11:12 a.m.: Higher Education Endowment Fund Annual Review

Mike Mueller, Deputy CIO, and John Meier, SIS, provided an annual review of the Higher Education Endowment Fund. The HIED Endowment Fund returned 15.4 percent for the year ended September 30, 2012. Unlike last year, the market environment provided a good tailwind (i.e., the Russell 3000 gained 30.2 percent and the MSCI AC World ex-US index gained 14.5 percent over the previous 12 month period). This performance was 20 basis points under the fund's passive policy benchmark which recorded a 15.6 percent total return. On a relative basis, however, the domestic equity and international equity managers continued to perform well, with only Columbia Acorn lagging its benchmark over the past one and three-year periods. Over longer periods, however, each manager has added value over its respective benchmark.

VI. 11:15 a.m.: OPERF 3rd Quarter Performance Review

John Meier with SIS reviewed the 3rd quarter 2012 OPERF performance.

VII. 11:35 a.m.: Asset Allocations and NAV Updates

John Skjervem, OST Investment Division CIO, reviewed the Asset Allocations and NAV's for the period ending October 31, 2012.

VIII. 11:36 a.m.: Calendar – Future Agenda Items

Mr. Skjervem highlighted future agenda topics.

IX. 11:37 a.m.: Other Business

None

11:38 a.m.: Public Comments

None

The meeting adjourned at 11:38am.

Respectfully submitted,

Julie Jackson

Julie Jackson
Executive Support Specialist

TAB 2 – RIVERSIDE CAPITAL APPRECIATION FUND VI, LP

OPERF Private Equity

Riverside Capital Appreciation Fund VI, L.P.

Purpose

Staff recommends a $75 million commitment to Riverside Capital Appreciation Fund VI, L.P. ("the Fund," or "Fund VI"), a private equity buyout strategy focused on investments in the small end of the U.S. middle market (SMM).

Investment Opportunity

The Fund has a target size of $1.0 billion, with a hard cap set at $1.5 billion, and will seek to invest in 20-30 SMM opportunities, with a generalist, rather than sector-specific focus. While Riverside employs a generalist approach, their history shows success in the consumer discretionary, industrial and health care industries. Riverside, as a firm, invests across the globe in multiple different funds. Riverside's Capital Appreciation Funds (RCAF) invest primarily in North America, and target acquisitions in companies that generate between $5 million and $25 million of EBITDA.

As mentioned in the attached supporting documents, the Fund will invest primarily in companies that are established leaders within their markets, or that have the potential to become such market leaders. This criterion typically involves demonstrating a sustainable competitive advantage and/or market share leadership. A fundamental element of Riverside's strategy is to find small companies through proprietary sources, rather than an auction process, which leads to relatively lower EBITDA purchase multiples. Once changes to increase a company's revenue and EBITDA as well as efforts to institutionalize its business model have been successfully implemented, Riverside's most common exit strategy is a sale to either a strategic or financial buyer. Evidence of Riverside's ability to exit portfolio companies profitably can be found in OPERF's prior RCAF investing experience. Specifically, OPERF has invested in three prior RCAF funds, with commitments totaling $225 million (see below). As of December 31, 2012, Riverside has called roughly $199 million of OPERF capital and returned roughly $220 million with significant value remaining.

History/Team

As described in the accompanying support material, Riverside was formed in 1988 by Bela Szigethy to focus on the SMM space, as Mr. Szigethy identified what he believed to be an abundance of attractive but un- or under-pursued investment opportunities. Five years later, Stewart Kohl joined Riverside as Co-CEO. Mr. Kohl and Mr. Szigethy worked together at Citibank Venture Capital, prior to Riverside, and were personal friends dating back to their time together as students at Oberlin College.

Firm-wide, Riverside is a relatively large (by private equity standards) organization. Across all strategies and support teams, the Firm employs nearly 200 employees in 20 offices throughout North America, Europe and Asia. RCAF is Riverside's largest fund unit with over 40 professionals.

Fund VI will be managed by four distinct groups: the Origination Group (assisting the Fund in finding quality, proprietary investment opportunities), the Transaction Group (30 dedicated professionals actively involved with the investment process, typically guiding investments from inception to completion), the Operating Group (assisting the Transaction Group during the due diligence process, as well as during the post-investment phase) and the Shared Services Group (90 individuals responsible for a number of firm-wide functional areas including human resources, investor relations, accounting, legal and compliance). Bottom line, the firm has abundant resources dedicated to deal flow, investment execution and operations which in turn help drive the historically good performance of Riverside's investments.

Since inception, the firm has raised five RCAF funds and has made four 'pre-fund' investments, totaling slightly over $2.5 billion of capital commitments in aggregate and generating a net IRR of 32.5 percent as of September 30, 2012.

Track Record

OPERF committed $50 million to the 2000 RCAF Fund (2000), $75 million to the 2003 RCAF Fund (2003) and $100 million to RCAF Fund V (2008). TorreyCove has provided the following investment performance metrics as of September 30, 2012:

Fund	Vintage	Net IRR	Net TVM	IRR Quartile	TVM Quartile
2000	2000	19.8%	2.05x	First	Second
2003	2003	17.1%	2.08x	First	First
V	2008	8.7%	1.21x	Third	Third

Quartile ranking data is Thompson Reuters US Venture Capital, as of 6/30/2012.

Portfolio Fit

RCAF is an appropriate complement to OPERF's larger middle market private equity investments. While OPERF's private equity allocation includes a well-diversified middle market portfolio, that portfolio is slightly under exposed on the smaller end. Moreover, there are very few funds that focus on deals as small as RCAF and that are also large enough for OPERF to make a meaningful commitment. Most of the competition in this space has insufficient staff resources to drive the "buy and build" strategy Riverside pursues.

Fund VI will serve an important role in OPERF's middle market portfolio. Specifically, this commitment will be allocated 100 percent to the Medium Corporate Finance investment sub-sector, and will further be categorized as a Domestic Investment. As of September 30, 2012, OPERF's target allocation to Medium Corporate Finance is 5 to 25 percent with a current fair market plus unfunded commitments exposure totaling 21.6 percent.

Issues to consider

Turnover

Riverside is a large organization, and with large organizations, personnel turnover can become a concern. Two such personnel losses were Andrew Strauss and David Gordon, both of whom were portfolio managers. While TorreyCove and OST staff believe Riverside can successfully manage any transition issues related to these personnel departures as well as continue to add

depth to the Riverside talent pool, we have requested that the key person terms be strengthened as part of current limited partnership agreement negotiations.

Fund V Performance

As noted above, Fund V currently has a third quartile performance ranking; however, staff and TorreyCove believe that such performance assessments are premature as the average age of Fund V portfolio company investments is only two years. It should also be noted that Fund V is a 2008 vintage year fund. When investing in smaller, less stable companies during a deep recession, Riverside's short term performance will be more negatively affected than their middle market peers investing in larger, more stable companies.

Litigation

According to Riverside, and confirmed by TorreyCove's independent research, no past litigation, investigations or proceedings have been material to Riverside and/or Riverside principals. Riverside and Riverside principals do not expect any pending litigation to have a material effect on Riverside, its private equity funds, and/or on Riverside principals.

Placement Agents

The Firm has engaged Probitas Partners as a placement agent to assist in fundraising. As an existing limited partner, staff have had no contact with Probitas or any other placement agent in connection with this offering, and instead have dealt directly with Riverside staff.

Private Partnership Investment Principles

Staff and TorreyCove have reviewed Riverside's responses and comments to the OIC's Private Partnership Principles, and note general overall compliance therewith. It should be noted that Fund VI's proposed terms are much more LP friendly than Fund V. For example, staff has pre-negotiated a 100% deal fee offset. Also, as a result of ongoing discussions with OST staff, Riverside has agreed to decrease their management fee from 2.25% to 2.0%, while increasing the proposed hard cap on Fund VI from $1.35 billion to $1.5 billion. OST staff and TorreyCove do not feel that the incremental $150 million will be detrimental to Fund VI performance.

Recommendation

Staff recommends that the OIC authorize a $75 million commitment to Riverside Capital Appreciation Fund VI, L.P., on behalf of OPERF, subject to satisfactory negotiation of terms and conditions, and completion of the requisite legal documents by DOJ legal counsel working in concert with OST staff.

TorreyCove
CAPITAL PARTNERS

MEMORANDUM

TO: Oregon Public Employees Retirement Fund ("OPERF")

FROM: TorreyCove Capital Partners ("TorreyCove")

DATE: January 8, 2013

RE: Riverside Capital Appreciation Fund VI L.P.

Strategy:

The Fund will target companies headquartered in North America with a particular focus on the United States. The typical portfolio company is expected to operate in the small end of the middle market, defined by the General Partner as companies with annual EBITDA less than $25 million. While Riverside is a generalist investor, the Firm has developed significant experience and completed a number of transactions in several specific industries. These industries include consumer discretionary, industrials, and health-care, as well as more specialized niches such as education and training, packaging, and franchising.

The Fund will invest primarily in companies that are established leaders within their markets, or that have the potential to become leaders. This typically involves demonstrating a sustainable competitive advantage and being a leader in market share. Additionally, Riverside looks for companies with solid growth prospects, which the General Partner defines as at least 5% annual organic revenue growth and/or the ability to double or triple EBITDA. Typically, this is achieved through the implementation of long-term sustainable operational improvements as well as organic and acquisition-oriented growth.

A key piece of the Riverside strategy is to find small companies through proprietary sources and acquire them at relatively low EBITDA multiples. Under Riverside's stewardship, the company will strive to increase revenue and EBITDA as well as professionalize the business. Once this is complete, Riverside can typically find strategic buyers or middle/large market financial firms that are looking to acquire these institutionalized businesses. Typically, these acquirers are willing to pay higher EBITDA multiples for a larger, better managed, and faster growing company than the one that existed before Riverside's investment.

Please see attached investment memorandum for further detail on the investment opportunity.

Allocation:

A new commitment to the Fund would be allocated 100% to the Medium Corporate Finance investment sub-sector and will further be categorized as a Domestic investment. As of September 30, 2012, OPERF's allocation to Medium Corporate Finance is listed in the table below. It is important to note that since allocation is based on fair market value, a commitment to the Fund would not have an immediate impact on OPERF's current portfolio allocation. Commitments to the Fund are complementary to OPERF's existing fund commitments and provide the overall portfolio with a further degree of diversification.

As of September 30, 2012	Target	FMV	FMV + Unfunded
Medium Corporate Finance	5-25%	22.1%	21.6%

Conclusion:

The Fund and offers OPERF an opportunity to participate in a differentiated portfolio of private equity investments with relatively attractive overall terms. TorreyCove's review of the General Partner and the proposed Fund indicates that the

potential returns available justify the risks associated with an investment in the Fund. TorreyCove recommends that OPERF consider a commitment of $75 million to the Fund. TorreyCove's recommendation is contingent upon the following:

(1) Satisfactory negotiation or clarification of certain terms of the investment;

(2) Satisfactory completion of legal documents;

(3) Satisfactory continuation and finalization of due diligence;

(4) No material changes to the investment opportunity as presented; and

(5) Confidentiality maintained regarding the commitment of OPERF to the Partnership until such time as all the preceding conditions are met.

TAB 3 – PUBLIC EQUITY MANDATE / MANAGER RECOMMENDATIONS

Public Equities
Domestic Equity – Micro Cap Value
STAFF RECOMENDATION

Purpose
Staff requests OIC approval for a $150 million allocation to the Dimensional Fund Advisors (DFA) Micro Cap Value strategy for the OPERF portfolio.

Background
OIC Policy 04-05-01 addresses the strategic role of Public Equities within OPERF. One objective of OIC Policy 04-05-01 is to achieve a portfolio return of 75 basis points or more above the MSCI All Country World Investable Market Index (ACWI IMI). In an effort to enhance return, one of the strategies specified in OIC policy is a strategic overweight to U.S. Small Cap targeted at 100 percent relative to the Russell 3000 Index (with an upward bound range of 140 percent). This overweight to U.S. Small Cap is supported by widely recognized academic studies which show that the smaller cap equities provide greater expected returns relative to larger cap equities.

Staff originally identified the need for Micro Cap Value (MCV) exposure in 2010. At that time, staff and SIS independently screened the pool of candidates to create a "shortlist," of potential managers based on a variety of qualitative and quantitative factors. MCV is a capacity constrained asset sub-class, and SIS and staff found that many favorable asset managers in this space were hard closed and no longer accepting additional assets. As a result, staff postponed bringing any recommendations for MCV to the OIC.

At the July 2012 OIC meeting, staff and SIS codified the need for MCV exposure by providing a place holder for the asset sub-class in the public equity manager structure study. In late 2012, staff received communications from various MCV managers whose previously closed products were once again open or had limited new capacity. These communications were the catalyst for staff to start looking at MCV strategies again, and given the underperformance of MCV versus Micro Cap Growth since the last search (March 2010 through December 2012), the current consideration of MCV also appears to be supported by a relatively attractive entry point. Although the total allocation to MCV will only represent a little more than 1 percent of the total OPERF public equity exposure (or approximately $250 million of $21.5 billion), staff feels that it is appropriate to begin funding this asset sub-class mandate at this time.

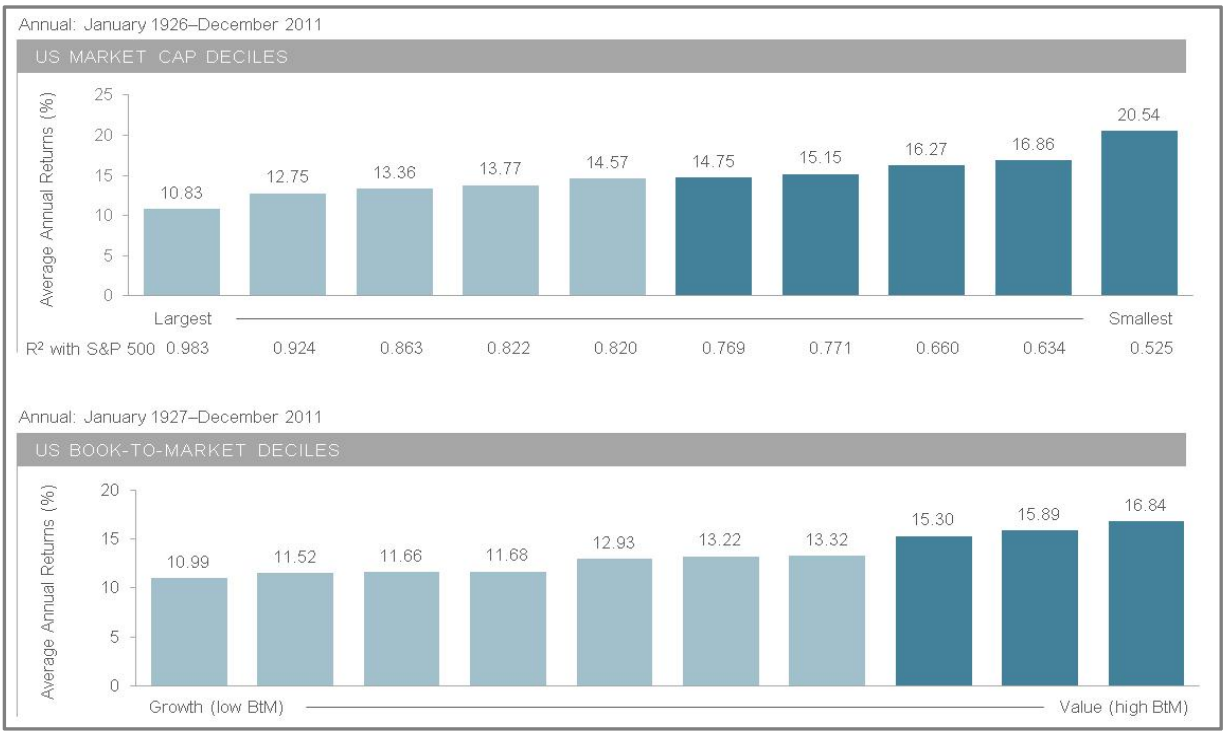
Process
Staff reviewed the eVestment Alliance universe of 28 MCV products across various criteria including firm, team, portfolio characteristics and historical performance, and narrowed the universe to a subset of 16 candidate managers. The majority of these managers were familiar to staff as we have met with 9 of the 16 in OST offices over the last few years. Although capacity in MCV space has opened up, fees have not changed since our 2010 search. The average fee for the screened subset of MCV managers is about 120 basis points, making it one of the more expensive investment mandates in public equity.

Firm

DFA was founded in 1981, and is a private limited partnership owned primarily by its founders, employees and company directors. The firm is headquartered in Austin, Texas, employs over 600 people firm-wide and maintains regional and investment offices around the world with trading and portfolio management activities based primarily in Santa Monica, London and Sydney. As of September 30, 2012, DFA reported $252 billion in assets under management ("AUM") in a variety of equity and fixed income products.

DFA's investment philosophy is based on academic research which shows that small companies (as measured by market capitalization) and value stocks (measured by book value to market price ratios) provide greater expected returns relative to large companies and growth stocks, respectively. Specifically, broad academic research supports the notion that while small and value stocks are more volatile, these "size" and "value" risk factors generate material return premiums for long term investors. This research initially focused on U.S. equities (see chart below for research highlights), but later expanded to international equities and today serves as foundation for DFA's equity investment strategies.

DFA maintains strong ties to the academic community: for example, Chicago's Eugene Fama, Dartmouth's Kenneth French and Wharton's Donald Keim serve as consultants and provide on-going research in support of current and proposed DFA investment strategies. Investment researcher Roger Ibbotson and Nobel laureates Merton Miller and Myron Scholes also serve as directors on the firm's mutual funds board.



Source: Dimensional Fund Advisors.

The OIC is familiar with DFA as it has approved three prior DFA separate account mandates: World ex-U.S. Small Cap Value (January, 2009) and Emerging Markets Small Cap (May, 2010) for OPERF; and Emerging Markets Core (February, 2011) for the Oregon Savings Growth Plan.

Strategy

Although DFA manages over $25 billion in U.S. Small and Micro Cap strategies, the absence of a Micro Cap Value track record in the eVestment Alliance database became evident when staff began evaluating the MCV space. Staff contacted DFA whose representatives confirmed that the firm did not have a Micro Cap Value product. Given the firm's history in investing Small Cap and Value stocks, staff asked DFA to consider creating a customized MCV mandate for OPERF. After internal research on their end, DFA responded affirmatively and enthusiastically and presented staff and SIS with a proposed MCV strategy portfolio. Staff and SIS reviewed the proposed portfolio and worked collaboratively with DFA on minor structural changes so that the proposed MCV portfolio would better complement OPERF's existing Micro Cap Growth exposure.

In addition to investing in the two dimensions (or common risk factors) for which the firm is known (i.e., size and value), DFA recently produced research on the investment efficacy of a Profitability factor which the firm will soon begin applying to its portfolio management activities. Contemporary academic research now supports the premise that all three common risk factors (namely, size, value, and profitability) command statistically significant return premiums over time.

Given the long relationship Oregon has enjoyed with DFA and the multiple mandates that the OIC has funded with the firm, DFA proposed a management fee that is significantly less than the average active management fee in the MCV space. DFA has also agreed to reserve additional of $150 million of the firm's MCV capacity should Oregon decide to increase its allocation to this strategy and asset sub-class.

Issues to Consider

Pros:

- Staff has a very high regard for DFA as a firm. Current DFA/OPERF mandates have met and/or exceeded investment objectives.
- Average active management fees in Micro Cap Value are in excess of 120 bps, while the proposed DFA fee structure for this mandate is more in line with passive management fees.

Cons:

- This is a new product with no available track record. {Mitigant: the firm has successfully engineered new products in this space several times over the course of its 30 year history.}
- The DFA Micro Cap Value strategy may only provide index like returns. {Mitigant: the brokerage community generally regards DFA as the buyer or seller of last resort for small cap stocks. This unique position allows DFA to be, at the margin, a "price maker" and extract a liquidity premium of 200 to 300 basis points per annum on a benchmark-relative basis.}
- Due to its deeper value bias, this product may under-perform during certain market environments.

Recommendation

1) Staff and SIS recommend funding DFA's proposed Micro Cap Value strategy with an initial commitment of $150 million and the option to increase this mandate to $300 million subject to CIO approval.
2) Amend OIC policy 04-05-01 accordingly.

TAB 4 – OST/OIC INVESTMENT BELIEFS PROJECT:

Introduction

Date: January 16, 2013

To: OIC Members

From: John Skjervem

Re: Investment Beliefs Project

At this month's upcoming OIC meeting, Allan Emkin of PCA will introduce what we are calling the OIC/OST Investment Beliefs Project. This memo provides background for both the project in general and Allan's role in particular.

The genesis for this project was the realization that a broader, more structured framework would be useful as we (staff, OIC members and consultants) assess our existing set of policies and procedures relative to new investment ideas and strategies. In addition, we thought this framework could help us develop a better, collective understanding of how such policies and procedures may be impacted by the organizational changes contemplated in SB 120 as well as changes we should consider should some or all of that legislation become effective. The important work associated with the recently initiated asset/liability study also provides us with a timely and critical set of project inputs.

Consultants PCA performed similar work for us a decade ago, but the investment landscape has changed dramatically since then. Moreover, the organizational changes contemplated in SB 120 combined with my new leadership assignment offers us a unique opportunity to consider and evaluate a number of important investment, operating and policy issues that will influence our future progress.

Allan's long association with the OIC and keen familiarity with our investment portfolio make him especially well qualified to lead this work and its associated deliberations. However, the project's success will in large part be determined by the degree of inclusiveness we foster among staff, OIC members and supporting consultants; accordingly, we intend to guide this work and our subsequent conversations with you and related parties with a pronounced emphasis on candor and collaboration. We aren't aiming to force a uniform, "house view" regarding any one or more of these issues, and believe the project's conclusions and resulting recommendations should reflect and will indeed greatly benefit from the many views and experiences comprised by our current investment and governance partners.

I look forward to our project "kick-off" later this month, and thank you in advance for your participation.

OIC / OST Investment Beliefs Project

Introduction

Pension Consulting Alliance

Agenda

1. Investment beliefs defined
2. Existing investment beliefs
3. Importance of well designed investment beliefs
4. Why now?
5. Implications

What are Investment Beliefs of an Organization?

Explicit or Implicit principals held by an organization that inform decisions

Pension Funds can formulate investment beliefs as an effective tool[1]:

- for decision making; and
- for mitigating potential informational problems stemming from a principal-agent relationship between trustees and investors

Four main categories of investment beliefs[2]:

1. Beliefs about financial markets (e.g., risk premia, efficiency, diversification)
2. Beliefs about investment process (e.g., risk management / decision metrics)
3. Beliefs about organizational structure (e.g., insourcing versus outsourcing)
4. Beliefs about ESG factors (e.g., corporate governance, sustainability)

[1] Clark and Urwin, 2007; Laboul and Yermo, 2006.
[2] Koedijk and Slager, "Do Institutional Investors Have Sensible Investment Beliefs?" pages 12-20, Rotman International Journal of Pension Management (spring 2009, volume 2, issue 1).

Existing Beliefs of the Oregon Investment Council

An example of a current explicit belief:

OIC Statement of Investment Objectives and Policy Framework Section 2.2 – The Council believes...(*it is the OIC's responsibility to develop policies that*) provide:

- the highest probability of achieving (*the actuarial discount rate, ADR*)
- 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 twenty-year time horizon.

An example of a current implicit or latent belief:

Over 35% of the OPERF Regular Account is allocated to illiquid (private) investments. It is reasonable to conjecture that former OIC members believed they would be compensated for illiquidity.

Importance of Well Designed Investment Beliefs

Investment beliefs impact everything:

1. Dictate the look and behavior of the portfolio
2. Provide clarity in assessing the investment policy options available
3. Answer resource allocation tradeoff questions
4. Are the prism through which portfolio performance is evaluated
5. Prepare the decision makers against potential future criticism

Therefore, investment beliefs should:

- be based on sound theory, supported by empirical evidence
- provide a clear basis for assessment and eventual action
- be implementable given the organizational structure / constraints

Why Address the Investment Beliefs of the OIC now?

- Forum for new CIO and OIC to consider policy revisions and/or new strategic initiatives
- Best practices in light of increased economic and market volatilities
- Similarities and differences with existing governance documents

Why Address the Investment Beliefs of the OIC now?

Forum for new CIO and OIC to consider policy revisions and/or new strategic initiatives:

- CIO can present vision, philosophy, capital market investment views
- Guide asset-liability analysis:
  1. Asset-liability analyses require a basis for decision making
  2. The basis for decision making should be consistent with beliefs
  3. Beliefs should precede asset-liability analysis
- OIC has been weighing organizational models:
  1. Organizational model should support beliefs
  2. Staffing decisions will follow from organizational model
  3. Incentive systems should support beliefs

Why Address the Investment Beliefs of the OIC now?

Best practices in light of increased economic and market volatilities:

- World's most sophisticated plan sponsors now on second and third generations of codified investment beliefs:

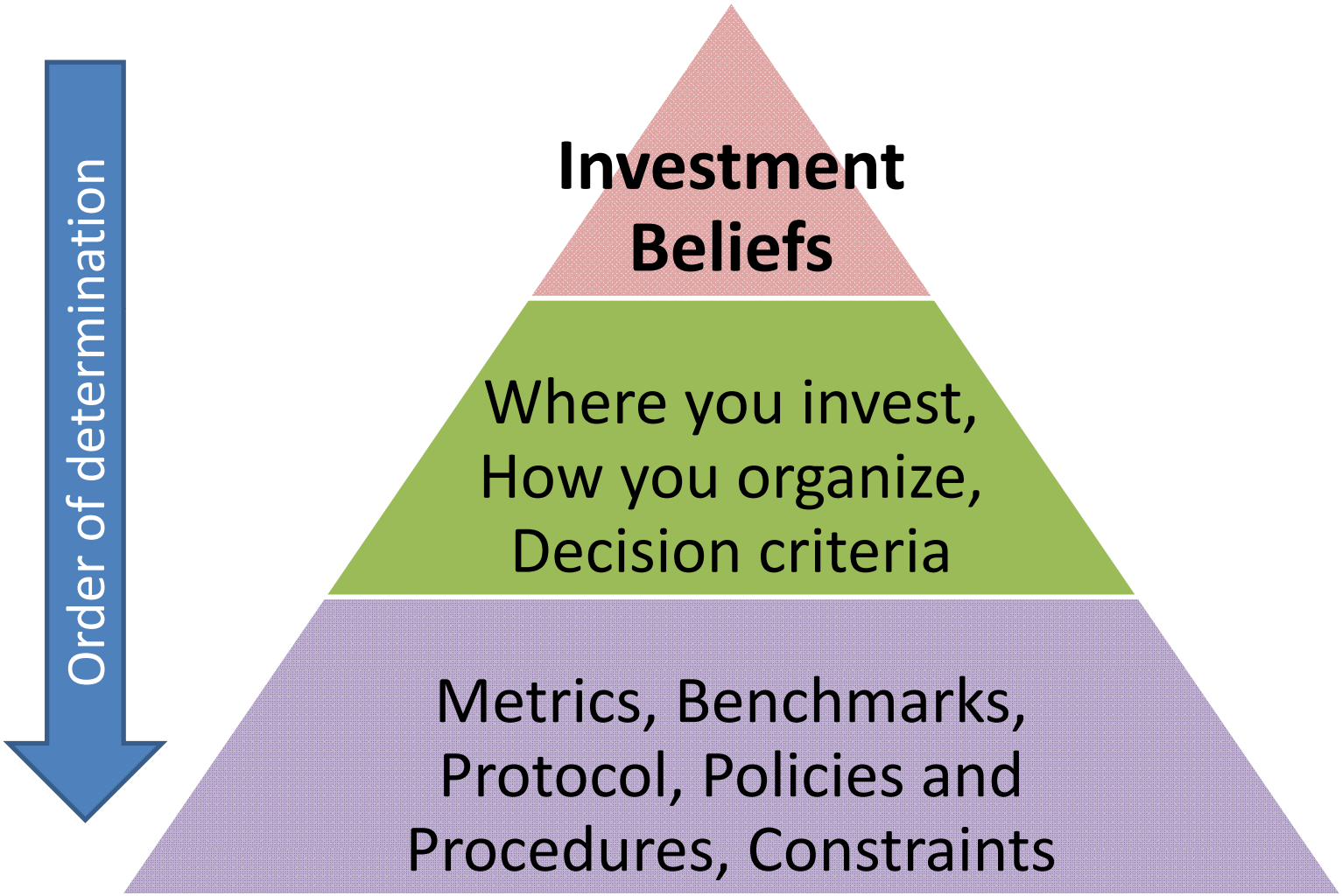
- Investment beliefs impact:
  1. Significant changes in strategic asset allocation
  2. Incorporate governance issues in investment policy
  3. Inform cost-benefit decision making
  4. Frame and clarify the big picture

Why Address the Investment Beliefs of the OIC now?

Similarities and differences with existing governance documents:

- Approximately 10 years ago, governance documents were created
  1. Summary of Key Investment Duties and Functions
  2. Statement of Fund Governance
  3. Statement of Investment Objectives and Policy Framework
- These documents contain elements of investment beliefs
- Perform a different function: more detailing <u>who</u> is responsible for <u>what</u>
- The process of clarifying and documenting investment beliefs:
  1. Does not replace these documents, they will still be necessary
  2. Beliefs will provide insight into <u>where</u> and <u>how</u> to invest the Fund
  3. Should drive <u>what</u> staff proposes to do and how you evaluate it
  4. May certainly alter the <u>who</u> and the <u>what</u> detailed in these documents

Investment Beliefs Drive Implementation / Policy



Potential Implications of this Belief Clarification Process

1. Provide a policy basis for investment decision making
2. Potentially impact the asset liability analysis
3. Potentially impact policy asset allocation (might look very different)
4. Potentially alter policy targets and ranges
5. Reporting should incorporate investment beliefs
6. Align staff / organizational structure to reflect investment beliefs
7. Change in the priority of projects

Next Steps, Timeline, Deliverables for Project

Late January to early February:

Create a framework document to guide the thought process

February to early March:

1-on-1, 2-on-1 interviews to elicit OIC member beliefs / ideas (between Allan Emkin, John Skjervem and OIC members)

March to early April:

Assemble and circulate a draft beliefs document highlighting areas of consensus as well as areas of divergent opinion

April retreat (after April OIC Meeting):

Explore, discuss, receive outside input on, and arrive at consensus (or at least compromise on) OIC beliefs

End of April to early May:

Circulate and finalize OIC Beliefs document

Potential adoption at May OIC

TAB 5 – OIC CONSULTANT DISCUSSION AND RECOMMENDATIONS

General and Real Estate Consultants

OIC General and Real Estate Consultant Contracts

Purpose

At the February 2012 OIC meeting, the Council extended the existing contracts of SIS, PCA and Arete Capital to June 30, 2013, given the expected duration of the CIO search process. Direction by the OIC is now requested in light of the upcoming expiration of these three contracts.

Background

General Consultants

Under OST Policy 4.01.13 (attached herewith), new contracts are awarded for a three-year period, can be renewed no more than twice and are limited to a final expiration date that is no more than four years beyond the original expiration date. At the end of seven years, contracts are to be re-bid and a new seven year cycle can begin.

SIS was initially hired, and PCA (Emkin) was re-hired, to new three-year contracts in December 2003. The initial new contract period for both the SIS and PCA consulting engagements started January 1, 2004 and ended three years later on December 31, 2006. In December 2006, the OIC renewed these two contracts for an additional two-year period. In September of 2008, these contracts were extended again through December 31, 2010. Then, in September of 2010, and in part due to a series of consulting industry mergers and consolidations, these contracts were extended through December 31, 2011.

In October of 2011, staff was in the process of actively soliciting bids for the general consultant mandate(s) when former OST CIO Ron Schmitz resigned. Specifically, the general consultant bid process ended on October 11, 2011 with the following seven firms submitting proposals: Callan; Hewitt EnnisKnupp; PCA; RV Kuhns; Strategic Investment Solutions; Wilshire; and Brookhouse & Cooper (the latter's proposal was limited to public manager research, monitoring and risk budgeting). The proposals were not reviewed or scored, pending further direction from the OIC.

Given the duration of the CIO search process, the existing contracts with SIS, PCA and Arete Capital were subsequently amended by the OIC and extended first to June 2012 and then again to June 2013. The current contracts are presently in their tenth year.

Real Estate Consultant

OIC's contract with Arete Capital (fka PCA Real Estate Advisors) expired on December 31, 2011. Prior to that particular contract's expiration, OST staff was fully engaged in a process to solicit bids for a new 3-year real estate consulting mandate. An OST staff committee (the "Committee") comprised of the SIO and IO of Real Estate as well as the IO of Alternatives reviewed nine responses to a Request for Proposals (RFP) the Committee had prepared and issued for Real Estate Consultant Services earlier that same year. After an initial review of the written submissions, the Committee selected four respondents to interview: Pension Consulting Alliance (PCA); The Townsend Group; Courtland Partners Ltd.; and Arete Capital. Staff then conducted on-site visits with each of the four finalist firms. However, given the departures of

both the Real Estate SIO and OST CIO, the OIC subsequently extended Arete Capital's contract first to June 2012 and then again to June 2013.

Recommendations

1. Staff proposes that the OIC extend the contracts of Strategic Investment Solutions and PCA (Emkin) through December 31, 2013, given the current work being performed by both firms related to the OIC asset-liability study and Investment Beliefs project. A new general consultancy RFP process will be initiated by staff once the asset-liability study and Investment Beliefs project have been completed.

2. Direct staff to update the real estate consultant search, focusing on the firms previously selected as finalists in 2011, for action by the OIC prior to June 30, 2013.

FUNCTION: General Policies and Procedures
ACTIVITY: Consulting Contracts

POLICY: All consultants of the Council, including but not limited to, full-service consultants as well as specific asset class advisors (e.g. real estate, alternative equities) shall be engaged by the Council through a form of written contract. These contracts shall have specified expiration dates, termination clauses and renewal/extension terms. Before the end of the contract term (including any renewals or extensions granted) a formal "request for proposal" (RFP) process shall be undertaken by Staff for the purpose of identifying new candidates, upgraded services, competitive pricing and any other information considered relevant to Staff and the Council.

PROCEDURES:

1. Consulting contracts shall be negotiated and executed in compliance with Council policy 4.01.10.

2. Consulting contracts shall expire on a date not to exceed three years from the effective date of the contract.

3. Consulting contracts shall include a "no-cause" termination clause with a maximum 90 day notice period.

4. It is the policy of the Council to continuously review all contractors.

5. Consulting contracts may be renewed or extended beyond the original expiration date no more than twice and limited to a final expiration date that is no more than four years beyond the original expiration.

6. Upon the final expiration of the original contract, or whenever directed by the Council, staff shall undertake and complete an RFP process which shall include the following:

   a. Identification of those potential candidates who may reasonably be believed to perform those services under examination;
   b. Directing of an RFP which shall include, but not be limited to:
      1. Description of services requested;
      2. Description of the potential or preliminary standards required by the Council of the candidates; and
      3. Request for pricing or fee schedule information.

7. Consultants under contract to the Council shall disclose, in written investment recommendations to the Council, any contact the Consultant's staff had with Placement Agents for the firm being recommended.

DEFINITIONS:

"**Placement Agent**" includes any third party, whether or not affiliated with an investment manager, investment advisory firm, or a general partnership, that is a party to an agreement or arrangement (whether oral or written) with an investment manager, investment advisory firm, or a general partnership for the direct or indirect payment of a Placement Fee in connection with an OIC investment.

"**Placement Fee**" includes any compensation or payment, directly or indirectly, of a commission, finder's fee, or any other consideration or benefit to be paid to a Placement Agent.

SAMPLE FORMS, DOCUMENTS, OR REPORTS (Attached): None

TAB 6 – OIC INVESTMENT FUNDS AND OPERATIONAL REVIEW REPORT

Office of the State Treasurer
Audits Update

Purpose

To provide the Oregon Investment Council with a copy of the most recent Operational Review Report released by Internal Audit Services on January 22nd, 2012. This report fulfills the requirements of ORS 293.776.

Background

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

Investment Policy 04.01.12 addresses this requirement as follows:

> At least once every four years:
> The Office of the State Treasurer (OST) will perform a procedural (operational) review of the investment portfolio (or area) and its practices as compared and contrasted to the investment portfolio practices of similarly managed investments in the private and public sectors.
>
> This work and report shall comply with applicable professional standards and fulfill the requirements stated in ORS 293.776

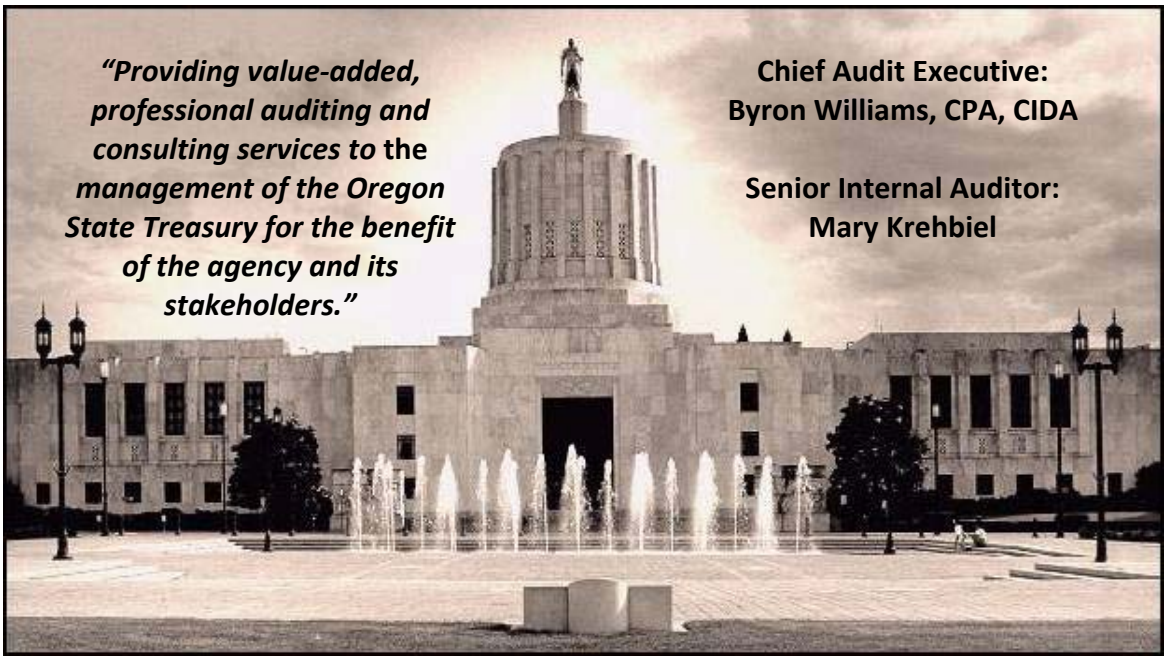
Recommendation

Internal Audit Services is recommending that the Oregon Investment Council work with Treasury management and staff to respond to the recommendations in this audit report.

Oregon State Treasury
Internal Audit Services

Oregon Investment Council
Investment Funds
Operational Review

Issued 1/22/2013



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Executive Summary

Audit Results

The Oregon Investment Council (OIC) and Oregon State Treasury (OST) oversee the investment of state funds – a major responsibility covering nearly $73 billion in public funds. This audit, conducted by OST Internal Audit Services in response to state law, addresses two key aspects of the current governance and management practices of the OIC and OST in connection with the investment funds investment program.

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

With regard to the first question, based on audit work performed, our opinion is that the OIC and OST have managed the investment program prudently. In all respects, current practices complied with the requirements of state law; moreover, current practices also compared favorably with most aspects of a set of nationally accepted fiduciary standards, though some opportunities for improvement exist to clarify various policies and improve manager oversight.

With regard to the second question, we found that in many respects current practices also compare favorably to industry guidance and best practices for effectiveness. We commend the OIC and OST staff for seeking to be a leader in public pension fund management. While current practices matched many industry best practices, we did identify opportunities for improvement in the best practice areas studied. Specifically:

- Investment council structure and authority – Opportunities exist to improve the OIC's autonomy, expand orientation and related educational programs for its members, and develop a skills matrix to use in ensuring Council membership reflects a wide range of experience and expertise.
- Investment policies and transparency – Opportunities exist to clarify policies and ensure compliance with these policies, improve public disclosure, and enhance ethics policies and reporting.
- Investment risk management – Opportunities exist to clarify and enhance internal risk management efforts as well as risk reporting to the OIC.
- Investment operations management – Opportunities exist to reduce the operational risks to the fund by enhancing in-house operations around enterprise risk management, compliance activities, segregation of duties, performance measurement, and data governance.

For many of these improvement opportunities, the limited staffing levels at OST present a challenge to successful implementation. For example, in our analysis of similar-sized (in terms of assets under

management) public pension funds, we found that OST had about a quarter of the FTE supporting operations relative to peer plans. Specifically, average peer plan staffing was 96 FTE compared to OST's 25 FTE. Additional details on our staffing analysis can be found starting on page 32.

We recognize that current staffing limitations present a challenge to effective implementation of our recommendations; nonetheless, we believe the risks and opportunities associated with the above listed issues still warrant OIC and OST attention. Additionally, some of our recommendations will require legislative action because the OIC and/or OST lack(s) the requisite authority to implement these recommendations independently changes on their own.

The goal of our recommendations is to keep oversight of the state's investment program strong – and where possible, improve oversight – especially during the significant membership changes the OIC faces in the near future. Specifically, three of the four appointed OIC members will "term out" in 2014 under current legislative requirements. As this is the second term for all three members, they are ineligible for re-appointment. In our assessment, we considered the types of on-going support and education new members would need to ensure OIC governance continuity and continued long term investment success.

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

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

Management Response

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

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

Investment Funds Operation Review Report

Background and Audit Approach

Who Oversees State Investments, and What Monies are Involved?

Oversight of state investments is carried out by the following entities:

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

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

The two entities oversee and administer the investment of state funds, nearly $73 billion in total. This number consists of the following:

- **The Oregon Public Employee Retirement Fund (OPERF).** This is by far the largest fund, at roughly $55 billion. OPERF is the 14th largest public pension plan in the US and the 20th largest US pension plan of any type, public or private. The fund invests in a diversified portfolio of public equity securities as well as private equity, real estate and fixed income instruments around the globe. Compared with peer funds it has a heavy allocation to alternative equity strategies. The funded status of the pension fund is approximately 82 percent as of December 31, 2011.

- **The Oregon Short Term Fund (OSTF).** The OSTF is an $11 billion short-term investment pool used by State Agencies and over 1,000 local governments. By pooling moneys from across the state and prudently managing the fund, OST is able to provide agencies and local government a stable value on their investment and returns that often exceed other short-term deposit or investment options.

- **Other Funds under OIC Oversight.** These include the $4 billion State Accident Insurance Fund trust fund, the $1 billion Common School Fund, and a number of investments for state agencies totaling just over $1 billion.

Why We Did this Audit

Oregon Revised Statute 293.776 requires the OIC to provide for an audit of the investment program at least once every four years. To accomplish this, by policy the OIC has directed Internal Audit Services to perform an operational review of the investment portfolio and its practices as compared and contrasted to the investment portfolio practices of similarly managed investments at least once every four years. This work and report thereon fulfill the requirements stated in ORS 293.776.

In compliance with this requirement, we have completed an audit of the operations of the OIC and OST oversight of the investment funds investment program for the year ended December 31, 2011. This audit was conducted in conformance with *Generally Accepted Government Auditing Standards* and the *International Standards for the Professional Practice of Internal Auditing*. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The results of this audit, including auditor observations and recommendations, have been included in this audit report.

Audit Objective, Scope, and Methodology

This audit had the following two specific objectives:

1) Determine if the policies and activities of those charged with governance of the investment funds have managed the funds to make them as productive as possible in a prudent manner.

2) Compare current practices to current guidance literature and best practices in the following four areas to determine if they promote effectiveness:
   A) Governance structure and authority
   B) Investment policies and transparency
   C) Investment risk management
   D) Investment operations management

The audit covered the period from December 31, 2008 through June 30, 2012. The work consisted primarily of a review of OPERF-related investments and policies. When we use the phrase “the fund” in this report, we are referring to OPERF unless specifically stated otherwise. All investment funds were subject to other audits during this period. We reviewed the findings of those audits as part of our work.

To address the first objective, auditors used the framework "Prudent Practices for Investment Stewards" (fi360, 2006), written by fi360, a fiduciary education group, with technical review by the American Institute of Certified Public Accountants (AICPA). The framework contains twenty-two practices substantiated by legislation, case law, and/or regulatory opinions. The specific sources include federal law (the Employee Retirement Income Security Act, or ERISA), and three model laws promulgated by the Uniform Law Commission - the Uniform Prudent Investors Act (UPIA), Uniform Prudent Management of Institutional Funds Act (UPMIFA), and Uniform Management of Public Employee Retirement Systems Act (UMPERSA). While none of these elements are legally binding on the OIC and investment operations except UPIA, they do provide a useful yardstick for the evaluation of management and governance of investment funds. A summary of these practices has been included in Appendix B, titled "The Periodic Table of Global Fiduciary Practices."

To address the second objective, we used current guidance from a number of sources, including the following:

- The Committee on Fund Governance Best Practice Principles, issued by the Stanford Institutional Investor's Forum, and also known as the Clapman Report (hereinafter the "Clapman Report").
- Governance of Public Employee Post-Retirement Benefits Systems, issued by the Government Finance Officers Association (hereinafter the "GFOA Governance Guidelines").
- The Organisation for Economic Co-operation and Development (OECD) Guidelines for Pension Fund Governance, issued by the OECD Working Party on Private Pensions (hereinafter the "OECD Governance Guidelines").
- The Canadian Association of Pension Supervisory Authorities' Pension Governance Guidelines (hereinafter the "CAPSA Governance Guidelines").
- Model laws established by the Uniform Law Commission, including The Uniform Prudent Investor Act (UPIA), 1994 and The Uniform Management of Public Employees Retirement Systems Act (UMPERSA), 1997.
- National Conference on Public Employee Retirement Systems Best Governance Practices for Public Retirement Systems, March 2012 (hereinafter "NCPERS Best Governance Practices").

Auditors also retained a number of consultants to provide additional detail, benchmarking, and practice comparisons.

Objective 1: Evaluation of Practices for Ensuring Prudent Investment Management

Oregon Revised Statute 293.726 requires that the OIC manage the investment funds as a prudent investor. In Oregon, the Uniform Prudent Investor Act (UPIA), a model law developed by the National Conference of Commissioners on Uniform Laws, is codified in ORS 130.750 through 130.775. This language contains Oregon's basic requirements for managing funds prudently. The requirements in UPIA are not as robust as the legal requirements and case law for private-sector pension plans. To ensure we were looking at a robust set of criteria, we supplemented our evaluation criteria with private-sector guidance as well. The additional guidance we chose was the publication "Prudent Practices for Investment Stewards", written by fi360, a fiduciary education group, with technical review by the American Institute of Certified Public Accountants (AICPA). The framework contains 22 practices. While not all of these elements are legally binding on OIC and investment operations, they do provide a robust framework for evaluating management and governance of investment funds. The 22 practices are organized into four steps: organize, formalize, implement, and monitor. Appendix B contains a table of the practices. Our analysis focused on the policies and practices of the OIC as they relate to the Oregon Public Employee Retirement Fund (OPERF).

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

Step 1 -Organize

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

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

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

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

improvement. First, the OIC has not established the role and responsibilities of the OIC Chair. Second, for the documented roles, there is not a formal written acknowledgement by all parties of their duties and responsibilities. Requiring written acknowledgement ensures that all parties are clear regarding their duties, and it decreases the chances that a party is unaware of its role or the role of another party. A documented, detailed analysis of the roles and responsibilities of each party helps ensure that each group is fulfilling its duties. If one party begins operating in an area for which another is responsible, the effectiveness of both groups decreases. Adding additional detail to the current roles and responsibilities will help ensure all necessary functions are performed. Having all parties review this document on an annual basis will help reduce any potential misunderstandings.

Recommendation: The OIC should add language to existing policies outlining the roles and responsibilities of the OIC Chair.

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

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

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

Recommendation: OIC members should consider attending annual training on current applicable ethics laws and policies.

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

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

Our finding: compensation arrangements can be better documented and disclosed. Our review of a sample of contracts showed that, in many respects, this practice was being met. For example, legal counsel from the Department of Justice had reviewed all investments managers' contracts,

OST management signed the contracts after approval by the OIC, and OST staff reviewed all invoices to ensure that amounts paid to managers agreed with the contracted amounts. Although investment staff are aware of the fees paid to managers and what fees are typical in the industry, after a manager is hired no formal process exists for reviewing the ongoing reasonableness of costs in light of the current market rates for similar services. Ensuring the reasonableness of fees is important due to the lack of predetermined contract length for many investment managers. Instead, the OIC has contracted with CEM benchmarking, a consulting firm, to conduct an evaluation and comparison of costs at the portfolio and asset class level. Contracts with the investment advisors cover an initial three year period with up to two, two-year extensions –a timeline that ensures advisory fees remain competitive with the marketplace for services.

We also noted that the process for disclosing compensation arrangements could be strengthened. Effective July 1, 2012, the federal Employee Retirement Income Security Act (ERISA, §408(b)(2)) requires service providers to provide plan fiduciaries a disclosure that includes a description of services, their status as a fiduciary, direct and indirect compensation, and other relevant information. The service providers contracted by the OIC are not required to comply with ERISA requirements for their work with the OIC. However, the rule does provide the OIC with an easy reference point to help document these arrangements. Many of the service providers are subject to ERISA with other clients, and likely have a standard report to provide. We obtained one such report from a current investment manager. This level of reporting will help ensure that all parties are clear on the duties and responsibilities of each entity, the service provider's receipt of direct or indirect compensation, any potential or actual conflicts of interest, and that this information is documented in a clear and transparent manner.

Recommendation: The OIC should establish a formal process to periodically evaluate and document the reasonableness of investment fees paid to each manager and service provider.

Recommendation: The OIC should consider requiring an annual disclosure of compensation arrangements and affiliations for each service provider as well as a formal acknowledgement of their fiduciary status.

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

Our finding: fully conforms. The OIC has established State Street Bank (SSB) as the custodian for the funds. SSB is a US company and within the jurisdiction of US courts. Legal Counsel reviews all investment contracts for legal sufficiency.

Step 2 – Formalize

2.1. An investment time horizon has been identified.

Our finding: opportunity to better document liquidity requirements and cash flows. Understanding the sources, timing, distribution, and uses of cash flows helps to ensure that the OIC has established a time horizon appropriate to match the investments to the necessary cash flows. During the asset/liability study, consultants perform an analysis comparing the timing of cash flows in and out of the fund. This study provides the OIC with valuable information regarding the cash flows that OPERF will experience in the long run. Consistent with the long time frame of the pension liabilities, the OIC has set a long-term time horizon on the pension investments. Formal documentation does not exist for shorter-term cash flows that affect the pension fund. Our discussions with investment staff showed they are aware of typical cash flows and have plans for providing cash when needed. However, formal liquidity requirements have not been established. Doing so would help ensure that disruptive trading is minimal.

Outside of OPERF, cash flow documentation is limited. The need for additional cash flow documentation is especially important for the Oregon Short Term Fund (OSTF). As the cash fund for the state and many local governments, the OSTF requires both highly liquid positions for immediate cash needs, as well as longer one- to three-year positions to help to prudently maximize the yield on the fund. Effective cash analysis helps ensure that the maximum and average duration of the fund match the most accurate cash flow expectations possible. This analysis will ensure that the investment team maximizes the return on investment for the fund.

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

Recommendation: OST staff should work to create formal documents outlining the source, timing, distribution, and uses of cash flows for each fund.

2.2 A risk level has been identified.

Our finding: effects of a worst-case loss scenario can be better documented. Oregon Revised Statute 293.726 requires that the investment strategy incorporate risk and return objectives reasonably suited for each investment fund. Consistent with best practices, the OIC has incorporated a risk framework into the Investment Policy Statement. This framework has two parts: (1) the investment risk management system used by the OIC to manage the risks to each investment fund at the portfolio level, and (2) the investment risk management system used by OST staff to manage the risks to each investment at the operational level. Our evaluation focused on the first part of the framework. The “Practices Related to Investment Risk Management” section of the report contains additional detail in this area, but in general, the level of review necessary for an evaluation of staff investment risk management systems is beyond the scope of this review. The level of detail needed by the investment staff is considerably greater than the level needed by the OIC.

For the most part, the OIC’s risk management framework appears sound. The risk management framework used by the OIC should be sufficiently granular to allow for the management of relevant risks to the portfolio, but not so complex as to require the Council to operate at the level of investment staff. In evaluating the OIC’s risk management framework for prudence, we looked at

two components. The first component was the documentation of requirements. For the OIC, these requirements are contained in the investment policy statement. We reviewed this document and found it contained the standard risks managed by fiduciaries. The second component was how the Council monitored compliance with the established policies. The OIC receives a quarterly performance report that contains the elements outlined in the policy statement. This allows the Council to ensure that the risk levels are appropriate. At each meeting, the Council also receives reports on the asset allocation as well as manager performance versus their benchmarks.

One item that was not included in the current risk management framework was a formal analysis of the fund's liquidity in a significant loss event, and the impact of such an event on the portfolio. No formal requirement for this analysis exists, but the financial crisis of 2008 served as a test of the fund in this area. While the funding status of the plan declined in this period, the fund did not encounter significant liquidity problems. Despite having a significant asset allocation to illiquid private market securities, the fund did not have to sell private market securities to meet short-term cash needs. However, the fund did have to sell public market assets at depressed prices for short-term cash needs. Going forward, performing and documenting an analysis of liquidity will help to ensure that all fiduciaries have a better idea of the impacts to the portfolio in the event of another significant loss. During the asset-liability study, the investment consultant did prepare for the OIC an analysis of the impact of various return environments on the 5- and 7-year liquidity of the fund. The current investment policy does not identify formal targets and requirements regarding liquidity.

Recommendation: The OIC should establish a formal process to document the effects on the portfolio and liquidity of the portfolio in a worst-case loss scenario.

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

Our finding: fully conforms. For OPERF, the expected return over the next two to three market cycles is 8.4%. The model return provides a 50% chance that the funds will meet the pension fund's assumed investment rate of return of 8%. The role of the assumed investment rate of return and the portfolio expected rate of return presents a chicken-and-egg challenge. The OIC sets the asset allocation to a level that will allow a reasonable probability of reaching the assumed investment rate of return. The PERS board uses the asset allocation to model an expected rate of return to establish the assumed investment rate of return. As long as both variables reset to match the other, the target will continue to be 8%. The State Treasurer recently encouraged the PERS board to revisit the assumed investment rate of return. Given the economic pressures the investment program will face in the next few years, a discussion about the modeled return would help to ensure that the expected return values are reasonable.

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

Our finding: asset allocation study requirements can be better documented. Based on the time horizon, risk tolerance, and assumed rate of return for the fund, the OIC has worked with its general investment consultant, Strategic Investment Solutions (SIS), to develop an asset allocation.

The OIC reviews the asset allocation as part of the asset-liability study that is conducted every three to five years. Staff reviews the asset allocation with SIS annually and presents any necessary updates during the April policy update meeting. However, the amount of information required and the divisions of responsibility for preparing and documenting this information are not contained in policy. Doing so would help to ensure that asset allocation practices are consistent across time and that all parties are aware of their responsibilities.

Recommendation: The OIC should work with OST staff and consultants to establish a policy documenting requirements for the preparation and presentation of the asset allocation study.

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

Our finding: **additional staffing can improve efficiency and reduce operational risks**. In reviewing implementation and monitoring constraints, auditors evaluated two topics—(1) the staff assigned to implement and monitor investment decisions, and (2) the processes used to implement and monitor those decisions. With regard to the first topic, OST has done a good job of attracting qualified staff. Staff possess the knowledge to carry out the investment strategy determined by the OIC. However, as the fund size and complexity has grown, staffing levels have not kept pace. This has caused an increasing reliance on external service providers and investment consultants. The limited staffing levels significantly affect the ability of staff to handle more internal management of funds, or to appropriately implement many of the recommendations in this report. With regard to the second topic, the processes in place to implement and monitor the investment decisions are generally sound. Each year we review a portion of the investment program and its processes. These reviews have not identified significant breakdowns in the current processes. We have previously provided all suggestions from these reviews to management and to the OIC. Additional details on some of the operational risks faced by the fund are included later in this report in the "Practices Related to Investment Operations Management" section.

Recommendation: The OIC and OST staff should continue to work with the legislature to obtain additional staffing to allow the fund to continue to effectively manage the funds and to implement best practices and cost saving measures.

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

Our finding: opportunity to clarify existing policies. A number of investment policies supplement the Investment Policy Statement (IPS) for OPERF. Taken together these policies contain the elements necessary to effectively define, implement, and manage the investment strategy. The creation and oversight of the IPS is the most critical function an investment fiduciary performs. It clearly articulates to all parties involved the philosophy and structure of the investment funds. The IPS should have sufficient detail to allow a third party to implement the strategy laid out by the fiduciary. It should also include the rationale supporting the approved strategy. The IPS should be

supplemented with an investment operations manual that provides the granular detail necessary to carry out the process.

At present, however, the investment policies approved by the OIC contain many operational procedures and practices that should be separated from the investment policies. It is prudent for the OIC to delegate the maintenance and performance of these operational procedures to investment staff. Removing them from OIC policies will clarify which responsibilities the OIC retains and which responsibilities it delegates to investment staff. Those policies that expand upon or clarify the IPS should be incorporated by reference. We reviewed the current IPS for OPERF against a list of subject areas to identify potential areas for clarification. The results of this analysis are included in Appendix C.

Recommendation: The OIC should work with staff to separate current Council-level policies from operational policies and practices.

Recommendation: The OIC should work with OST staff and consultants to review the current Investment Policy Statement to ensure it contains all of the elements that would assist a third party in executing the approved strategy.

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

Our finding: not applicable. The trust documents have not outlined specific targets for socially responsible investments. State law has restricted investments in Sudan. Accordingly, staff does not specifically search for social investing opportunities, and investments in Sudan are restricted. Current OIC policy limits the consideration of investments to a judgment on the expected risk-adjusted returns, seeking to obviate politically motivated investment initiatives. The Council has done a good job of maintaining its required duty of loyalty to invest solely in the interest of the beneficiaries. However, the fund could be subject to political pressures. The Uniform Prudent Investor Act clarifies that social investing (for example, accepting below-market returns in favor of other benefits to a particular social cause) is not consistent with the duty of loyalty. It does not, however, prohibit the analysis of collateral benefits that an equally returning investment may offer. ERISA opinion Letter No. 98-04A provides guidance on reviewing these collateral benefits. Social factors can place pressure on either approving or rejecting an investment proposal. Due to the sensitive legal issues, clear policies on the topic and documentation of individual investments will assist in supporting the prudence of any decision made by the Council if a legal challenge should arise. Similar issues exist around economically targeted investing.

Step 3 – Implement

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

Our finding: fully conforms. Treasury has adopted an open-door policy regarding potential investment opportunities. Investment officers receive new investment ideas from these meetings, from their own research, and from recommendations made by consultants. Each asset class has its own due diligence process. Multiple processes are needed because of the differing types of investments in the different asset classes. We reviewed the initial due diligence process and found it to be generally sufficient. The investment officers meet with managers from the potential investment, perform a site visit of their operations, and utilize one of the OIC's consultants to perform additional due diligence work as required for the specific type of investment.

3.2 Applicable safe harbor provisions are followed.

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

3.3 Investment vehicles are appropriate for the portfolio size.

Our finding: fully conforms. Based on the asset allocation established by the OIC, the Senior Investment Officer for each asset class develops a plan to carry out that strategy. Staff selects specific strategies, including passive versus active investing and the investment style, as well as selecting specific managers to carry out that specific strategy. Typically, public market investments utilize separate accounts, with commingled accounts utilized when appropriate for the particular investment style. The OIC has the final approval over the selection of individual managers and their mandates. Investments with liquidity limitations and non-readily determinable market values are used in the private equity, real estate, opportunity, and alternatives portfolios as approved by the OIC based on their risk and return profiles.

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

Our finding: fully conforms. The process for selecting the custodian and service providers is required to follow statutory purchasing requirements. As these are often large multi-year contracts, a request for proposal (RFP) is issued to determine the potential vendors. In the most recent custody search, OST retained a consulting firm to assist in preparing the RFP and in reviewing the submissions. Proposers submit competitive bids and staff review the proposals. The State Treasurer then selects the custodian based on this process. All assets held by the custodian are held in trust. All services provided by the custodian are reviewed, and a determination is made as to whether it is more cost-beneficial to use the custodian or look for other service providers instead.

Step 4 – Monitor

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

Our finding: Fully conforms. The OIC has established benchmarks for each asset class in the portfolio. Based on the asset class benchmarks and the specific style of the individual managers, each manager is assigned a benchmark. The OIC receives monthly reports prepared by the custodian showing the actual returns of each manager, the asset class, and the fund compared with the manager's benchmarks. For each Council meeting, a report is prepared showing the current allocation to each asset class, the target allocation, and the allowable range. If an asset class is outside of the range, the OIC will determine what action is necessary. On a quarterly basis, the OIC's general consultant, Strategic Investment Services (SIS), presents a performance review of the fund to the Council. On an annual basis, each asset class is required to give an update to the Council on the performance in that asset class. Watch list procedures have been established against which managers are reviewed. All activity related to the watch list is reported to the OIC on a quarterly basis through the CIO.

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

Our finding: **ongoing due diligence can be improved**. Once a manager is hired, the investment officers perform on-site due diligence visits according to the schedule established for each respective asset class. These reviews are supplemented with on-going calls with each manager to discuss performance and other qualitative and quantitative factors. For a portion of the period under review, the compliance unit performed on-site visits of public equity and fixed income managers to review their middle- and back-office operations.

While these procedures are sound, we identified several opportunities for improving overall due diligence. First, the due diligence work that had previously been conducted by the compliance unit is not currently being performed due to staff vacancies. Second, the level of review of the investment consultants and the custodian is not as formalized as it is for investment managers. The investment officers meet with the consultants regularly, but a formal monitoring system has not been established. Staff from the custodian bank meet with OST investment staff on an annual basis, with OST staff visiting the custodian bank on an ad-hoc basis. Third, although the custodian receives an internal control review performed by an independent audit firm and provides this report to OST, a process does not exist to review the report and determine if any actions are necessary based on the information found in the report.

Recommendation: The OIC should instruct OST staff to establish an ongoing operational due diligence program that covers all asset classes to review the middle- and back-office support systems of managers.

Recommendation: The OIC should establish a formal review process for work performed by investment consultants.

Recommendation: The OIC should instruct staff to establish a formal review process for work performed by the custodian, including a process to review the internal control reports from the independent auditors.

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

Our finding: opportunity to improve oversight of best execution and soft dollar activity. The OIC has not established policies regarding best execution or soft dollar activity. (Soft dollar practices are those in which an investment manager receives research or other services that aid the investment process in exchange for conducting trading with a specific brokerage firm.) Reviewing best execution entails analyzing the buying and selling of securities within the portfolio to determine if the trader has minimized the frictional trading costs. In the public equity portfolio, the senior investment officer has a third party perform a best execution review of all public equity trades on a quarterly basis. The OIC has retained a firm to coordinate proxy voting and provided it with a policy on proxy voting. Generally, the firm provides a suggestion on how to vote on a topic, and absent objection by the investment staff or investment manager, the firm places the votes.

Recommendation: The OIC should develop a best execution policy consistent with the guidelines in the CFA Institute Trade Management Guidelines.

Recommendation: The OIC should design control procedures that would periodically review policies for soft dollars at external managers as well as soft dollar practice within the fund that is consistent with the CFA Institute Soft Dollar Guidelines.

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

Our finding: **fully conforms**. The OPERF annual financial statements document the investment management fees paid by the fund. Prior to paying a management fee, OST staff or consultants review the fee to ensure that it complies with the investment agreement. As mentioned in practice 1.4, additional formal disclosures from managers will help to ensure the consistent recording of all management fees. The Council has contracted with CEM Benchmarking to provide an annual review of the cost effectiveness of the fund. For the year ending December 31, 2011, CEM found that based on the asset allocation selected by the Council, actual costs were lower than the benchmark costs for the assets by $63 million. For additional discussion on costs, see the “Practices Related to Investment Operations Management” section of the report.

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

Our finding: fully conforms. OST staff review and record fees paid to third parties. These amounts are disclosed in the respective annual financial statements of the fund. The OIC also requires that staff prepare an annual statement documenting any placement agents used by any investment firms where the firm was recommended for approval, which is also posted on the OST website.

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

Our finding: opportunity to improve OIC self-evaluation. The OIC has three primary ways it reviews overall organizational effectiveness. The first is the annual policy review, including the review of the investment policy statements. Staff conduct this review every April and propose policy changes to the Council. Staff also bring policy changes as needed during meetings the remainder of the year, but neither the annual review nor the as-needed consideration of changes is a formalized procedure. The second method is the retention of consultants to review specific topics on an ongoing or ad-hoc basis. Examples include the annual review of costs performed by CEM and the governance review recently completed at the request of the OIC by Funston Advisory Services, an investment consultant. The third method is through the OIC work with Internal Audit Services. The OIC has established requirements for an internal audit of the investment program on an annual basis as well as a review that includes additional fiduciary elements every four years. While these three approaches help provide for a review of the organization's effectiveness in meeting its fiduciary duties, the OIC has delegated these reviews to staff and does not perform a self-evaluation of its performance. Instituting a periodic self-evaluation would establish a process for OIC members to formally evaluate their effectiveness in meeting their fiduciary obligations.

Recommendation: The OIC should consider developing a process for conducting annual self-evaluations to review the fiduciary practices under which they operate.

Objective 2: Evaluation of Practices for Promoting Effective Operations

The first objective of our audit—determining if the funds are prudently managed—establishes the degree to which the OIC and OST staff are meeting a baseline of legal requirements. Our second objective goes beyond this baseline, to ensure that the investment funds are not only managed to meet minimum legal requirements and standards for prudence, but for maximum effectiveness as well.

> "Investors have greatly increased their clout in the marketplace in the past twenty years. Today, pension funds and their fund managers are engaged in taking the next steps to fulfill their fiduciary duty to conduct successful stewardship of companies… Practice what you preach. Funds cannot credibly demand governance standards of corporations that they will not meet themselves." (Davis, Lukomnik, & Pitt-Watson, p. 220)

Evaluating the effectiveness of current practices involves comparing Oregon's current processes with peer practices and current industry guidance to identify the degree to which best practices are being followed. The OIC operates from a unique position within the investment world. Many of the practices and guidance we looked to come from the private pension world. Yet the OIC does not have the legal framework that exists for private plans or the responsibility for pension liabilities that public and private retirement boards have. It also participates in investments and strategies in which private investment companies have their own practices and guidance. We recognize that looking at elements from both operating environments is not an exact comparison, but we attempt to draw relevant aspects as appropriate.

For peer practices, we conducted a benchmarking study of ten peer investment boards. The average assets under management (AUM) for the peer group were about $64 billion. For industry guidance, as explained earlier in the methodology section of this report, our comparison is based on multiple sets of guidance and practices in making this comparison. These sets of guidance and practices differed enough from one another that we could not structure our discussion around a single set of practices as we did in objective 1. Instead, our discussion centers on four main areas that the various sets of guidance and practices have in common: (1) governance structure and authority, (2) investment policies and transparency, (3) investment risk management, and (4) investment operations management.

Overall, we commend the OIC and OST staff for seeking to be a leader in public pension fund management. While current practices matched many industry best practices, we did identify opportunities for improvement in the best practice areas studied. These opportunities are presented in the discussion below and in Appendix A.

Practices Related to the Council Structure and Authority

The OIC Needs Additional Autonomy to Adequately Perform Its Fiduciary Duties

The purpose of the OIC is to manage the investment of state funds. It does this by providing direction and serving as a fiduciary over those funds. Independence and authority are key parts of carrying out these fiduciary responsibilities-and of ensuring an effective and empowered OIC.

> "Independence is required because it permits trustees to perform their duties in the face of pressure from others who may not be subject to such obligations. In the absence of independence, trustees may be forced to decide between fulfilling their fiduciary obligations to participants and beneficiaries or complying with the directions of others who are responding to a more wide-ranging (and possibly conflicting) set of interests." (UMPERSA §5: Powers of Trustees, Comments section)

While the OIC provides investment guidance, it has no legal authority to direct those who actually execute this guidance. Legally, the investment officer for the council is the State Treasurer. Functionally, the OIC delegates much of the investment work to the Chief Investment Officer (CIO). However, the OIC has no legal authority to hire, fire, and provide input regarding the performance of the CIO. If the CIO were to decide to ignore OIC guidance, the OIC would not have a direct recourse allowing the OIC to fulfill its fiduciary responsibility.

The guidance we reviewed and the peer funds we studied both establish a case for greater OIC autonomy. The Clapman Report (Clapman, p. 8) states that: "Trustees should have authority to select and dismiss key executive staff." In our peer comparison, nine out of ten peer boards had the ability to hire and fire key staff. UMPERSA (UMPERSA §5(a)) outlines three exclusive powers of a trustee: 1) to establish a reasonable budget to perform the trustees duties; 2) to contract for the necessary services to perform the trustees duties; and 3) to procure and dispose of goods and property necessary to perform the trustees duties. The OIC does not have the exclusive power in any of these three areas. A summary comparison of the Council autonomy versus its peers has been included in Appendix D.

> Recommendation: Consistent with published guidance and peer practices, the OIC should seek additional autonomy to ensure it has the ability to adequately perform its fiduciary responsibilities. At a minimum, this would include the autonomy and authority to hire and fire key senior staff, establish a reasonable budget, and contract for goods and services including legal counsel, investment custodial services, and the external financial auditor.

OIC Has Fewer Members than Its Peers

The current size of the OIC-five voting and one non-voting member is small relative to recommended guidelines and to actual practice in other funds we reviewed. The Government Financial Officers

Association has published best practice recommendations for the Governance of Public Employee Post-Retirement Benefits Systems. While directed at retirement systems, in many cases the practices are applicable to investment boards managing public pension funds. In relation to the board size GFOA guidelines state "The post-retirement benefit system's board of trustees should be neither so large as to be unwieldy nor so small that it runs the risk of not being able to get a quorum to make decisions. Optimal board size is between 7 and 13 members, depending on the size and complexity of the system." The OIC's current size of five voting and one ex-officio member is smaller than these guidelines suggest. We compared the Council's size to other public fund investment boards and found this to be the smallest board among the 11 funds reviewed. The average for the peer group was 10 members, with 16 being the largest. A review of the OIC's size may help to keep governance requirements for its increasingly complex portfolio from becoming unwieldy. A larger council would allow additional members to balance the workload.

> Recommendation: The OIC should review its membership to determine if additional members would benefit the fund, and propose any necessary changes to the legislature for statutory revisions.

More Attention to Skill Set of OIC Members Could Help Oversight

Oregon Statute requires that all Council members have training and experience in the field of investment or finance. The Clapman report (Clapman, p. 7) suggests, "A governing body should consist of appropriately qualified, experienced individuals dedicated to fulfilling their fiduciary duties to fund beneficiaries. Viewed as a group, the board should be composed of individuals with a portfolio of skills that allows it to make responsible, informed investment and legal decisions, and to discharge its fiduciary obligations to fund beneficiaries." Due to the diverse nature of the portfolio, the significant size of the assets, and the complexity of the operating environment, it is highly unlikely that any one individual would have all of the necessary experience. Having Council members with a variety of experience helps to increase the effectiveness of their oversight.

The current statutory guidelines for qualifications are open for interpretation and could include many skill sets that would be helpful to the Council. For example, training in economics, law, and accounting would all provide additional insight into the management of the funds. Requiring at least one individual to have experience with institutional investments may be beneficial. Within the realm of investments, a background in portfolio management, investment risk management, or compliance would all provide a unique perspective. For example, a recent analysis of global pension funds found that funds that had a board member with experience in probability-based risk systems such as at a bank, insurance company, or investment firm had two and a half times as many FTE devoted to risk management as board that did not have this experience.

Developing a formal skills matrix could be helpful in ensuring that the OIC includes members with a range of expertise, especially when new appointments occur. The list of potential skill sets would be lengthy, and Council members may not possess all of them. However, creating a skills matrix could help the Council become more aware of areas for additional training or consulting services. It would

also provide a framework to potentially help guide the selection of new members. Developing a more detailed list of beneficial skills could help ensure that new members help fill a particular need. Reviewing the composition of the Council against the skills matrix on a regular basis and publishing this evaluation increases accountability to the public. Our review of peer investment board experience requirements showed a variety of approaches. The consistent theme was experience in the financial markets.

> Recommendation: The OIC should consider developing a skills matrix to assist the Governor in selecting new Council members and the Council in its oversight role.

New OIC Member Orientation and On-Going Training Can Be Expanded

GFOA Governance Guidelines suggest that funds have a new trustee orientation and an ongoing continuing education program. Currently, the OIC conducts periodic in-house educational workshops, but does not have a policy around new trustee orientation process or council member education. We reviewed peer practices related to board education and training to eleven peer investment boards and have summarized the results in the table below.

Education and Training Practice	# in Peer Group with Practice	Current OIC Practice
Formal pension orientation is provided to new board members upon joining the board	10	✔
A pension fiduciary handbook or manual is provided to board members (paper or electronic)	10	✔
Educational articles or materials are regularly distributed or made available to board members	7	✔
In-house pension education sessions are periodically provided	11	✔
Access to external conferences	9	✔
The board has established an education policy setting out parameters of its education program.	8	
An annual special meeting devoted to training/education	8	✔
There is a formal process to assess pension education needs of board members	2	
A mentor program	2	
Education Reports (summarizing education activities)	4	

> Recommendation: The OIC should enhance the current education program with an education policy that outlines the requirements for the fiduciary handbook, new trustee education, and additional in-house education focused on topics determined by the Council.

Practices Related to Investment Policies and Transparency

Policy Content and Review Can Be Strengthened

Every April, OST staff conduct a review of the investment policies and suggest changes to the OIC for approval. Currently over 60 policies are subject to this process. They contain a mixture of information including investment policy statements, general policies, operational processes, and procedures. Having this many policies under the oversight of the OIC increases the administrative responsibility placed on Council members. Splitting OIC policies from operational procedures will help to allow the Council to focus on its core responsibilities. OST Policies, relevant statutes, and operational procedures can be amended by reference as needed for clarification.

Our review of current policies showed that, although they generally included topics commonly found in peer funds, there were three policies common among peer fund that are not currently in place. The first was an education policy that would define elements of the Council education program, including training requirements and available resources. The second was a policy addressing monitoring and reporting that would outline what reports the Council should receive from staff, consultants, and managers and the timeframes for receiving them. The third was a communications policy that would establish guidelines for communications between the OIC, Treasury staff, service providers, and interested stakeholders.

One final matter involves how often policies are reviewed and who approves them. Currently staff review policies on an annual basis and propose changes to the OIC every year. For policies that may be less critical, this frequency appears excessive. Reviewing policies too frequently may not allow the OIC sufficient time and perspective to adequately assess the continued appropriateness of a particular policy. Additionally, this review does not include a process to ensure compliance with the policy, it merely determines if the policy is up to date. It also does not clearly identify who approves each of the policies. Many of the policies approved by the OIC have a header titled “Office of the State Treasurer.”

> Recommendation: The OIC should work with OST staff to review the current policies and determine which policies should remain OIC policies and change the remainder to operational procedures that do not require OIC approval and oversight.
>
> Recommendation: The OIC should consider establishing one or more policies covering Council education, monitoring and reporting, and Council communications.
>
> Recommendation: The frequency with which the OIC reviews its policies should be specified in the policies themselves and may vary depending on the criticality of the policy (e.g., every one to three years). The OIC should refrain from reviewing policies more frequently unless circumstances warrant. Finally, all policies and procedures should clearly identify which party has approved them.

Recommendation: The OIC should ensure each policy has a required method for staff to confirm compliance with policies and key procedures that allows the OIC to verify compliance.

Ethics Standards Can Be Expanded and Extended to Additional Parties

The OIC has established an ethics statement to supplement requirements in state statutes and guidelines issued by the Oregon Ethics Commission. Codes of Ethics adopted by public funds are often more stringent than governing statutes, because statutory requirements are often general in nature and do not cover all of the situations that may arise in the management of institutional funds. We reviewed the OIC's ethics statements against best practices guidance and current practices from peer funds. Overall, we found that the current ethics policy has many of the provisions suggested by current guidance and peer practice. We also found, however, that the OIC could improve ethics related procedures in several aspects.

The first improvement relates to the reporting process. Current practice requires all Council members to file an annual Statement of Economic Interest with the Oregon Ethics Commission. This statement serves as an independent third party check on the activities of Council members, but it does not provide information to the OIC as a whole to verify compliance. Having each member of the OIC submit an annual attestation to the OIC would better inform the organization, in addition to the Ethics Commission, about whether its members are in compliance.

The second improvement relates to augmenting the existing ethics policy to include certain subjects that currently are not contained. The current ethics statement is a recitation of existing statutes and requirements. The policy should provide guidance by adding clarifying information to statutory language. It should reference the existing statutory requirements and provide guidance to help ensure that the rules are consistently applied. Some of the elements suggested by guidance and found in other plans include:

- Whistleblowers
- Insider trading prohibitions
- Personal trading disclosures
- Blackout periods during RFPs
- Post-employment restrictions

The third improvement relates to providing additional training. Having all Council members attend annual ethics training will help ensure that they fully understand their responsibilities.

Finally, several improvements exist regarding extending important ethics provisions for a wider group of parties involved in investment transactions. A well-defined conflict-of-interest policy is fundamental to ensuring fiduciaries are not involved in self-dealing, but these policies currently do not apply to all parties involved. In our review of peer practices regarding ethics, it was common for boards to have separate policies for trustees and for staff. The majority of funds had personal trading rules for staff, but only four funds extended this requirement to trustees. Similarly, the trading policy that applies to OST staff does not extend to the OIC. Three of the eleven funds in the survey extended their ethics

statements to consultants and investment managers—something Oregon currently does not do. The Clapman report suggests that all material advisors comply with fiduciaries ethics and conflict of interest policy. This allows the Council to determine if there exists an appearance of a conflict of interest or an actual conflict. Extending additional ethics requirements beyond staff may be advisable, given the potential for conflicts of interest. A study by the SEC of 24 consulting firms found that over half had ongoing conflicts of interest (U.S. Securities and Exchange Commission, 2005). Recent analysis by the United States Government Accountability Office of consultants for defined benefit plans found that plans using a consultant who did not adequately disclose conflicts of interest had statistically significant lower rates of return by 1.2 to 1.3 percentage points (U.S. Government Accountability Office, 2009).

> Recommendation: The OIC should consider requiring all members of the Council to annually sign an attestation stating compliance with the ethics policy and disclosing any violations.
>
> Recommendation: The OIC should consider adding sections to the ethics policy to cover elements suggested by guidelines and found in other plans.
>
> Recommendation: The OIC should develop an annual fiduciary and ethics training program for all Council members and investment staff.
>
> Recommendation: The OIC should establish trading rules for Council members to clearly define and document prohibited transactions.
>
> Recommendation: The OIC should consider extending the conflict of interest policy to any consultants who provide material advice or who have been delegated significant responsibility.

Public Disclosure Generally Good, but Additional Disclosure Opportunities Exist

The public disclosure of investment policies provides transparency into the standards that the Council has set for itself, as well as the standards for those to whom the Council has delegated authority. As part of our review, we compared the information that is publicly available for Oregon compared with what is available from other public retirement funds. In general, we found that the types of information released was similar. This included publicly disclosing items such as the investment policy statement, names of trustees and senior staff, and Council meeting minutes. This disclosure helps ensure that those to whom the Council has delegated responsibility have easy access to the information. It also allows the public greater visibility into the management of the fund.

The Clapman report recommends public disclosure of a wider set of items than currently disclosed by Oregon (and most other states we reviewed). Of the many items that the Clapman report recommended be disclosed on a fund's public website, our analysis found that no plan had disclosed all of the items, and only two or three of the surveyed public investment boards had disclosed any given item. The items suggested in the Clapman report include:

a. The fund's trading policies and procedures including commissions paid;
b. Any referral fees paid by the fund;
c. The role of any external entities in setting policy and strategy for the fund or for any external investment manager used by the fund;
d. An annual summary of actual or potential conflicts of interest that were identified and how they were managed or controlled (e.g., situations involving recusals);
e. A detailed annual statement of risks to the fund in the nature of a risk factors disclosure that might be contained in a registration statement filed with the United States Securities and Exchange Commission;
f. A statement and quantification, based on realistic economic and financial assumptions, of the fund's liabilities and description of how investment practices are structured to satisfy those obligations over the long-term;
g. The fund's policy on personal investment transactions as well as a statement that all covered persons have complied with rules governing personal investment transactions, together with a description of any exceptions from compliance;
h. The fund's policy on receipt of gifts and entertainment for covered persons as well as an annual statement that the gifts and entertainment policy has been complied with together with a description of any exceptions from compliance;
i. An annual statement of the fund's holdings and performance;
j. An annual statement describing whether and how the fund and its trustees have fulfilled the best practices as set forth herein;
k. An annual report of the fund's contracting process and of material contracts let; and
l. A description of proxy voting policies and proxy votes cast, including those by external managers with respect to fund investments, to the extent not otherwise disclosed by the fund.

The Clapman report also outlines several areas that trustees and staff should annually verify and publicly report on:

a. Compliance with regulatory requirements (SEC, CFTC, state agencies, etc.);
b. Compliance with the fund's own governance standards, policies and procedures;
c. Compliance with the fund's Code of Ethics;
d. Compliance with standards governing the reporting of performance and, where applicable, funded status of defined benefit plans;
e. Compliance with rules governing gathering and retaining appropriate records and documents;
f. Compliance with rules governing personal investment transactions; and
g. The suitability of all investments made by the fund in the current or previous year given the fund's fiduciary standard, investment objectives, and investment policies.

Recommendation: The OIC should review the list of disclosures suggested in the Clapman Report and consider adding those that are not currently disclosed on the website.

Recommendation: The OIC should review the list of annual verifications suggested by the Clapman Report to be publicly disclosed and develop a process for staff to affirm and verify the information.

Statutory Stock Thresholds Can be Eliminated

During our review of compliance with legal requirements, we noted there was no policy to monitor the common stock limits set out in ORS 293.726(6). OST Management said the reason is that the public equity allocation is less than 50% of the total fund, so the fund would not be able to exceed the legal threshold. Based on advice from DOJ and our review of the statutes, this requirement only applies to monies initially contributed and not to the full balance of the funds. It is also limited to common stock, which would exclude most, if not all, of the investments in the fixed income, private equity, real estate, opportunity, and alternatives portfolios. It also excludes many types of positions within the public equity portfolio, including derivatives. In today's investment environment, this law does not provide any additional risk reduction above the diversification already required in subsection 3 of that same section.

Recommendation: The OIC should request legislative action to remove the requirements contained in ORS 293.726(6).

Practices Related to Investment Risk Management

The investment risk management process has two distinct components. The first component is a Council-level investment risk management system. This system allows the OIC to monitor, at a high level, key risks to the portfolio. The second is a staff-level investment risk management system employed by the investment team to execute the investment strategy. Staff-level systems vary greatly between funds based on the types of investments and management styles of the teams, and the cost and staffing requirements can be extensive. These staff-level systems can quickly contain more information than Council members can, or need to, readily manage. It is thus important to focus Council-level reporting on those risks that the OIC can control. The OIC can then delegate to staff the responsibility for managing the investment risks not retained by the Council.

Council Level Risk Reports Can Be Strengthened

The OIC currently receives a number of reports that assist in managing the investment risks the fund faces. We outlined the process in our evaluation of prudent practice 2.2. During interviews with trustees and staff, when we asked interviewees about current risk management reports, not everyone saw the current quarterly performance report as a risk report. However, based on our review, most of the investment risk elements we expect to see are contained in the quarterly investment performance report. In our opinion, because this report is a combination of risk and performance data, it is not readily seen as a risk report. Separating the report into separate performance and risk sections would allow for a more structured discussion on the performance results, separate from a discussion of the risk management information. Additional specific training should then be provided to the OIC to cover

what is contained within the report and how to effectively use it. Adding a one- to two-page summary sheet to the front of the risk report would allow the OIC to have a quick visual reference point to identify where additional inquiry and potential action is needed.

> Recommendation: The OIC should consider splitting the quarterly performance report into two separate reports, one highlighting performance results, and one specific to investment risk.
>
> Recommendation: The OIC should consider adding an investment risk summary to the quarterly report that visually outlines key risks that the Council has identified.

Risk Report to the OIC Can Be More Complete

The primary way that the Council establishes risk management requirements is through the Investment Policy Statement (IPS). The IPS should outline all of the risk limits that the Council has established, as well as the requirements for reporting on those elements. We analyzed the current quarterly performance report submitted to the OIC to determine if it contained all of the relevant items in the IPS. In general, the current quarterly performance report contained most of the items we compared. The few opportunities for improvement we found are outlined in the table below.

Risk Factor	Current Reporting	Recommendation
Probability of achieving Actuarial Discount Rate over 20-year horizon	Shows total fund performance relative to Actuarial Discount Rate, over periods up to ten years	Add longer historical analysis
Deviation of actual asset allocation from policy targets	Actual, target and ranges shown with allocations out of allowable range highlighted	Prominently display actual, target and allowable ranges with clear indication of any allocations outside of range
Meeting short-term cash flow needs	No direct analysis of liquidity in regular reporting	Make liquidity analysis part of annual analysis or regular reporting
Active risk above or below desired levels	3- and 5-year tracking error shown for active domestic equity, international equity, fixed income	Add active risk at asset class level for all asset classes, with attribution by components
Level of exposure to any single investment organization	Allocation by investment manager/product, not aggregated by firm	Review in context of annual asset class discussions with OIC
Adequate diversification across investment types within asset classes	Fundamental characteristics and performance/risk statistics of asset classes	Add aggregation at total (active and passive) domestic equity and public equity levels
Investment characteristics relative to benchmark within asset classes	Fundamental statistics shown for active domestic equity, international equity and fixed income	Add aggregation at total (active and passive) domestic equity and public equity levels

Recommendation: The OIC should review the risks outlined in the IPS to determine if additional risk metrics should be added. For all risks, OST staff should ensure that report elements clearly link to the IPS requirements.

Asset-Liability and Asset Allocation Studies are Essential to Effective Management

Asset and Liability modeling is pension-fund risk management at its most fundamental level. The OIC has the general consultant conduct the asset-liability study in conjunction with the PERS board every 3 to 5 years. The purpose of the asset liability study is to review the current actuarially assumed liabilities of the fund to allow the OIC to create a portfolio asset allocation that will assist in meeting the needs of the funds within the expected rate of return and the chosen level of risk. Conducting such a study every 3 to 5 years is consistent with the frequency we found in other public pension plans.

Asset allocation is the primary driver of portfolio returns. Work by SIS, the OIC's general consultant, determined that the target asset allocation drove 80-90% of the investment returns. Historically OPERF has exceeded the 8% assumed rate of return, achieving an average of 9.84% over the last 25 years and 10.02% over the last 40 years. Over the last 10 years, it has also outperformed when compared to other public funds with more than $10 billion in assets under management. The regular account return of 7.02% over the last 10 years places it in the top percentile of returns among the 32 funds in the comparison. SIS also determined that the fund had an expected annual total return of 8.4% over the next two to three market cycles, and a 50% probability of reaching the 8% assumed rate over the next 20 years. Asset allocation is also the primary driver of portfolio volatility and risk. Our analysis of historical volatility showed that 97% of the volatility experienced by the fund over the last five years was attributable to the asset allocation. A recent analysis of public and private sector pension plans by CEM Benchmarking determined that the OPERF portfolio asset risk was 13.6%, placing the fund in the 97th percentile of the funds in the survey. Asset risk was defined as the expected volatility of the policy return.

The OIC reviews asset allocation more frequently than the 3-to-5-year frequency of its asset-liability studies. On an annual basis, staff work with SIS to update the return assumptions and propose any suggested changes to the asset allocation. A recent study of 25 US pension funds found that about one-third conducted their asset allocation study annually, just over one-third conducted a study every 2 to 3 years, and the remaining were on other frequencies. SIS performed the most recent asset allocation study in May 2010, and presented a number of alternatives to the current asset allocation. However, the Council took no action during the meeting to change or affirm the current asset allocation. The next change occurred during the April 2011 policy review by staff based on discussions that occurred after the May 2010 meeting, as recorded in the meeting minutes. Prior to the presentation in 2010, SIS conducted a scenario analysis for the OIC in April of 2009 and an asset allocation study in 2007. While the asset allocation is reviewed annually, it should not be seen as a requirement to change the allocation, but rather to assess the allocation in the context of the current environment. Recent research on large US pension plans found little benefit from active rebalancing and found that not rebalancing quickly may actually improve performance (Andonov, Bauer, & Cremers, 2012).

Creating a Centralized Investment Risk Management Unit Can Help Deal with Serious Financial Turmoil

At the staff level, risk management is currently a decentralized function. The Chief Investment Officer manages investment risk at the portfolio level with a heavy reliance on the consultant and the custodian bank. Each Senior Investment Officer has been delegated the responsibility of managing investment risk within their asset class. However, a review by the Senior Supervisors Group of risk management practices of private firms during the recent financial crisis found that effective firm-wide risk management did limit the impact of the crisis (Senior Supervisors Group, 2008). Specifically, firms that had a comprehensive view of their risk exposures were able to act promptly and proactively to the market turmoil.

By creating a centralized risk management unit, the OIC would help provide additional segregation of duties as well as a group focused exclusively on investment risk management. The head of this group should report to the OIC on a regular basis regarding the investment risks the Council faces. During our review, we compared the risk management tools and practices at OST compared to other pension plans. A summary of this analysis has been included in Appendix E. Our analysis of peer investment boards found that the average risk management unit contained two FTE.

> Recommendation: The OIC should instruct OST staff to develop a centralized investment risk management unit independent of the investment function.

Practices Related to Investment Operations Management

OST Does Not Have an Enterprise Risk Management Framework

> "Enterprise risk management is a process, effected by the entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within the risk appetite, to provide reasonable assurance regarding the achievement of objectives." - (Committee of Sponsoring Organizations of the Treadway Commission (COSO), 2004)

The recent global financial crisis has caused many companies and boards to reevaluate their risk management programs. While the investment risks the fund faces have a significant impact on the performance of the fund, operational risks to the fund also require effective management. The rapidly changing operating environment can create new issues, and old issues can suddenly have an increased impact. A reliance on historical experience may leave an organization unprepared to respond to changes in the environment.

Currently a formal enterprise risk management (ERM) framework does not exist for the investment program. In our review of peer funds, seven of ten funds had an ERM program in place or in development. Some of the benefits of a formal ERM framework include increased awareness of key risks that the organization faces, reduction of key operating risks, and better communication of risk

across the entity and its stakeholders. Research by CEM has shown that other large pension funds typically have 1-2 FTE dedicated solely to ERM, with other staff, managers, and board members providing input into the process. The development of an ERM framework will help to ensure that the OIC and OST are effectively managing risks the investment program faces and can rapidly adapt to emerging risks.

> Recommendation: OST staff should develop an ERM framework that is established program-wide with dedicated staffing.

Steps Can Be Taken to Better Ensure Compliance with Federal Securities Laws

While OST and the OIC are exempt from most federal securities laws, including the Investment Company Act of 1940 and the Investment Advisors Act of 1940, they are subject to relevant portions of the Securities Exchange Act of 1934. Rule10b-5 promulgated under this act prohibits the "employment of manipulative and deceptive devices". This rule has been the grounds for prosecution of those who trade on material non-public information. Currently trade reporting requirements are established in ORS 293.055, which outlines reporting requirements for OST. This is the only current method for detecting violations of rule 10b-5. The State Treasurer, Attorney General, and the Secretary of State all receive copies of the staff trade report statements required by ORS 293.055. Our review did not find, and we are not aware of findings from others, related to the trading activity limitation in Oregon statute or federal securities law.

Violations of this rule could have serious consequences not only for an individual, but also for the organization. If the SEC suspected an OIC member or OST staff of having acted upon material non-public information, it could begin an investigation. The investigation is not limited to the individual that acted upon the information, but can include the employer as well. Based on the language in the statute, OST appears liable for securities fraud under specific circumstances. In 2008, the SEC issued a report reminding public pension funds that they have a responsibility to ensure compliance with the rule. The SEC issued the report subsequent to an investigation of the Retirement System of Alabama for trades placed by the Chief Investment Officer (CIO) for the fund while the CIO had material non-public information about the securities he purchased.

We identified a number of improvements that can be made to demonstrate compliance with the rule. Our analysis reviewed the program in place at OST to ensure that staff understand and comply with federal securities law. Chapter eight of the federal sentencing guidelines sets forth seven requirements for demonstrating an effective compliance and ethics program. As the following table shows, there are opportunities to improve practices for five of the seven requirements. While the sentencing guidelines help provide a framework, it should be noted that even compliance with the sentencing guidelines might be of limited value in reducing the culpability of OST. The US Sentencing Commission reviewed organizational sentencing practices for 325 cases from 2009 and 2010 in which they received full sentencing information on those who were subject to chapter eight of the federal sentencing guidelines. None of the organizations sentenced received a reduction in culpability for having an

effective compliance and ethics program, while 86% received reductions for self-reporting, cooperating, or accepting responsibility.

Federal Requirement	OST Practice	Opportunity for Improvement
Establish procedures to prevent and detect criminal conduct	OST has established a policy to ensure that personnel are avoiding conflicts of interest.	Review the current policy to ensure that it is sufficiently broad in scope and detailed in requirements to prevent and detect violations of 10b-5
Assign high-level personnel to oversee the compliance effort	Currently the Chief Investment Officer and the Information Assurance Officer are responsible for reviewing trading disclosures.	No opportunity for improvement identified: the staffs currently assigned are at a sufficiently high level.
Use reasonable efforts to ensure that no individual with substantial authority has previously engaged in illegal activities.	Prior to employment OST conducts background checks of all employees	Develop a list of individuals with substantial authority. For those individuals require disclosure to OST of any alleged or actual illegal activity. Also, develop a process to conduct periodic criminal background checks on individuals.
Take reasonable steps to communicate periodically its standards and procedures	The current policy is posted on the intranet and annually staff signs a professional conduct policy.	Develop an annual training program to ensure everyone understands their individual and the entities responsibilities in relation to 10b5-1 requirements.
Take reasonable steps to ensure compliance through monitoring and auditing, evaluating the effectiveness of the program, and maintaining an anonymous reporting system.	OST staff review the staff disclosure forms. The Secretary of State also conducts a review. The Secretary of State also maintains an anonymous reporting system.	Design a system to periodically evaluate the effectiveness of the compliance and ethics program. Establish an anonymous reporting system for the reporting of potential violations or other criminal conduct.
Promote and enforce the compliance and ethics program through appropriate incentives and disciplinary measures.	Incentive measures do not exist for staff. Disciplinary measures for violating policy include actions up to and including dismissal.	No opportunities for improvement identified.
After detecting criminal conduct, management must take reasonable steps to respond appropriately.	No criminal conduct has been detected	Develop a process outlining the steps to take in responding to potential or known violations of the compliance and ethics program.

In addition to the potential improvements noted in the table, we identified three other potential areas of improvement to help ensure that the compliance and ethics program is sufficient to allow a reasonable ability to prevent and detect violations of Rule 10b-5. They are as follows:

- Better identifying what constitutes a non-allowed trade. Oregon's current ethics policy states that its purpose is to prevent conflicts of interest. While this high-level statement is appropriate for policy, additional procedural guidance would help define specific disallowed activities. For example, other funds use a restricted securities list, front-running guidelines, holding periods, and disclosure to the compliance program when staff obtains material non-public information (MNPI).

- Strengthening disclosure requirements. Current policy requires the disclosure of all trading activity and debt forgiveness for the individual and any member of their household. The disclosure requirement should be expanded to include any account over which the individual has influence. Under current policy, it is not clear if disclosure is required for accounts where the individual is not the account holder but may possess trading authority. The policy does not specifically require the disclosure of non-security investments, such as partnership interests. The policy should also include language prohibiting employees from passing along MNPI. At the same time, there are some types of investments that could be removed from the list of disclosures to help balance the disclosure requirements. Accounts that are unlikely to be able to act on MNPI could be removed from disclosure, such as treasury direct accounts, mutual fund-only accounts, 401(k) accounts at a previous employer or other managed accounts.

- Expanding the requirement for disclosing trading information. The current policy requires disclosure by those most likely to encounter material non-public information. There are many others in the agency who may come across MNPI, such as the investment compliance unit, and investment accounting. Even those whose job roles do not have a reason to have MNPI might come across it. For example, agency administrative assistants may come across documentation in their support of other individuals. For this reason, we suggest that all employees be required to submit trading disclosures and comply with the compliance and ethics program as it relates to securities laws. Sufficient segregation of duties and oversight is essential to ensuring that no one individual has control over the entire process. Best practices would suggest a redundant reporting and enforcement process.

  Recommendation: OST staff should review the current Conflict of Interest and Code of Ethics statement to ensure that it is sufficient to allow OST and the OIC to prevent and detect violations of federal securities laws.

Staffing Levels Are Low Relative to Recommended Levels and Peer Funds

The OIC is reliant on OST to effectively execute the directives it lays out. While OST has fared well historically, we noted that it has been done with significantly less staff than peer funds and current research would suggest are necessary. A portion of this variance is a result of an above-average

reliance on outside investment consultants compared to peers. A recent study in the Rotman International Journal of Pension Management found a significant correlation between assets under management (AUM) and FTE (MacIntosh & Scheibelhut, 2012). The study found that funds used 0.8 FTE for every $1 billion in AUM. By comparison, OST currently has 0.25 FTE per $1 billion in AUM. In reviewing six peer investment boards, the average FTE per $1 billion in AUM was 0.44. The OST level was the second lowest staffing rate in our peer group.

To further assess whether OST's staffing level was low relative to other states, we conducted additional staffing research, covering 18 peer public pension plans with staffing levels, as shown below. The table compares the staffing at OST to peer funds at three ranges of assets under management. The table does not include administrative and executive support positions. As the table shows, OST staffing is low relative to even funds that are much smaller. This significant lack of staffing poses increased operational risks to the fund. It also limits the OST's ability to respond adequately to many of the issues outlined in this report.

Functional Area	Small < 30B USD	Medium 30B – 100B USD	Large > 100B	OST
Investments • Research • Portfolio Management • Trading	21.5	30.2	69	15
Investment Risk Management	1.3	2.9	10.3	0
Accounting & Operations	17.6	36.1	43.2	6
Business Analysts	3.0	4.2	11	0
Information Services	10.2	23	62.7	4

Recommendation: OST staff should work with the OIC to determine the staffing and resource levels necessary to adequately manage the investment funds going forward and seek legislative authorization for the necessary FTE and other expenditures.

Current Staffing Allocations Hamper Proper Segregation of Duties

During a recent review of leading pension funds from across the globe, research firm CEM found a strong correlation between the number of front-office FTE and the number of governance and operational support staff. CEM's analysis found that a baseline of 8 FTE plus an additional 1.7 FTE per

investment staff FTE was necessary for governance and operational support activities. OST currently has 15 front-office FTE. Applying CEM's analysis, this front-office staffing level would lead to a baseline of about 34 governance and operational support staff for OST. With the six operational positions, four administrative and executive support positions, and four information technology staff, OST has 14 FTE in governance and operational support positions. This is fewer than half of what the expected number would be. While the exact number of positions would be affected by many factors, including operational, portfolio allocation, and outsourcing levels, the significant variance that exists between Oregon's staffing and the recommended level merits attention.

The apparent lack of governance and operational support positions may significantly limit the ability of OST to adequately segregate responsibilities and provide timely reviews. As an example, currently fixed income trading staff regularly handle trades, trade confirmations, trade settlements, and the wiring of cash to the custodian. Without proper segregation of duties, one staff person can have sole responsibility for the accuracy of information. Staff are also at an increased risk as there is no secondary check of their work to refute allegations of impropriety or errors (SEI, 2012, p. 28).

> Recommendation: OST should review the functions performed by governance and operational staff to determine what functions currently performed by investment staff, or not adequately performed, should be assigned to other units, to allow proper segregation of duties. This review should also determine the additional resources necessary to allow for this.

Limited Staffing Levels Heighten Need for Succession Planning

Another issue presented by the limited staffing is an increased risk posed when key individuals leave, change positions, or are absent for extended periods. In many operational areas, highly specialized teams are in place to focus on a single asset class or function, and these teams are often only one or two people deep. For example, the Opportunity Portfolio has a single investment officer, the Real Estate portfolio has two positions, and the compliance unit has two positions. When one of these individuals leaves the position or the entity even temporarily, significant institutional knowledge is lost and can leave the operational unit reacting, trying to figure out how to fill the missing work. During the last year, both of the compliance positions became vacant for an overlapping period. Effective succession planning is necessary to help limit the impacts of individuals transferring positions and leaving the agency. Even within units that have more staffing than others, many processes, and historical information is not retained in an organized, documented manner. Without this detail, processes currently in place, and background information regarding previous decisions, can easily be lost.

> Recommendation: OST staff should develop a succession plan for all key positions.

> Recommendation: OST staff should develop documentation standards for key operating processes as well as for all significant decisions. This should include an operations wide process for where the documents are stored so that future staff can find information as needed.

Oregon Could Potentially Reduce Costs through Greater In-House Management of Assets

Recent research of pension plans has found that larger plans outperform smaller plans by up to 50 basis points per year. This is attributed to an increased use of alternative investments and decreased costs from the internal management of assets. A high allocation to alternatives is more common among larger plans that can gain efficiency through economies of scale, achieving about 24 basis points in returns above smaller plans (Dyck & Pomorski, 2011). Over the last ten years, the OIC's above-average allocation to private equity returned more than any other asset class and helped fuel the growth of Oregon's investments.

Oregon's investment management costs are significantly higher than its peers. Oregon pays about 69.1 basis points for investment management and other fees. This is above the peer average of 56.6 basis points, and places Oregon in the 94th percentile for total costs. The high cost structure is primarily driven by a higher-than-average allocation to private market investments and a significant use of external active management. For example, 100% of Oregon's $10 billion in US fixed income investments are actively managed by external managers, compared to 53% for its peers. Although Oregon pays its external manager a lower fee than its peers (11.1 basis points for external active US fixed income management, compared to a peer average of 19.8 basis points), its peers pay an average of 5.0 basis points for internally managed active or 2.3 basis points for internally managed passive US fixed income strategies. By reducing the allocation to external active management, benchmarks would suggest potential annual savings for Oregon of approximately $6 million. Additional savings are likely available in other investment strategies as well. However, given the staffing constraints noted above, an investment in staffing and systems would be required to adequately execute this strategy.

> Recommendation: The OIC and OST staff should consider if increasing internally managed assets would reduce costs without sacrificing returns or increasing risks unnecessarily.

Performance Measurement and Attribution tool could be used by OIC to gain additional confidence over fund performance and data quality

Performance measurement and attribution serves a variety of roles in the portfolio. For some managers, the performance results of their funds are a component of their compensation. For the investment staff, the performance of the asset class affects their compensation. The returns, especially compared with the benchmarks, serve as a useful tool for the Council and interested parties to gauge the performance of the funds. Performance attribution at the manager levels allows OST staff to help differentiate between skill and chance, to ensure the State is getting expected results. Total fund performance attribution can be a powerful tool to allow the Council to determine what drives its investment returns. For example, what impact does deviating from policy weightings have versus the actual selection of managers in each asset class?

Robust performance measurement and attribution across all asset classes presents a number of challenges due to the methodologies, data, and limitations of systems. During our review of the topic, we found that while asset managers extensively use performance measurement and attribution, its use was limited at the fund sponsor level due to the nature of their operations. Currently the custodian primarily handles performance measurement, with reporting done by the general consultant. Because of the importance of the data, assigning OST staff separate from those charged with managing the fund, would help to ensure the quality and consistency of the data. At a minimum, this would add an additional layer of segregation of duties and oversight of the performance results separate from the investment staff. Having this team independently validate, or oversee the validation performed by outside service providers, would provide additional assurance to the Council that the numbers they rely on are as accurate and consistent as possible.

Another area we reviewed was the timing of performance and attribution data. Many large private firms are providing intra-day performance results. While this may be helpful to those actively trading, the Council does not need this level of detail. Currently, portfolio wide performance is calculated on a monthly basis. For certain areas, daily data is available to staff. However, if the internal management of funds increases in volume and complexity, this area will need to be revisited to ensure investment staff has sufficient data to perform at optimal levels.

> Recommendation: The OIC should instruct OST staff to develop a performance measurement and attribution team outside of the investment function.

Lack of Data Management Reduces Operational Efficiency

As the portfolio grows in complexity and size, effective data management becomes increasingly necessary. Access to accurate information that is up to date is essential to allowing the Council and OST staff to manage the portfolio. Currently OST relies on State Street Bank to manage portfolio data. OST does not have a formal data governance or data management program. One of the goals of a formal data management program is to promptly identify errors in the underlying data. As additional assets are managed internally, traders have an increasing need to access start-of-day position information in order to have a complete picture of the portfolio in which they are trading. The data is also necessary for accurate compliance reporting. Ensuring that all units are operating off the same securities master file minimizes data errors that occur when teams use slightly different data. During our review, we compared the data management practices at OST compared with other pension plans. A summary of this analysis has been included in Appendix F

> Recommendation: OST staff should develop a formal data management and data governance strategy for investment data.

Appendix A – Summary of Opportunities for Improvement

Observation	Recommendation	Risk Ranking[1]	Full Report Page #
Step 1 -Organize			
The OIC has not established the role and responsibilities of the OIC Chair.	The OIC should add language to existing policies outlining the roles and responsibilities of the OIC Chair.	Medium	8
For the roles that are documented, there is not a formal written acknowledgement by all parties of their duties and responsibilities.	The OIC should establish a formal process to document the acknowledgement of duties and responsibilities by all involved parties on an annual basis.	Medium High	8
Annual training regarding the ethics program is not required.	OIC members should consider attending annual training on current applicable ethics laws and policies.	Medium High	8
Annual written or verbal acknowledgement of the ethics policy and attestation of compliance with the policy is not required.	The OIC should establish a formal process to document the Council's acknowledgement of and compliance with ethics policy on an annual basis.	Medium	8
A process has not been formalized to periodically review the reasonableness of investment fees at the manager level in light of the current market rates for similar services.	The OIC should establish a formal process to periodically evaluate and document the reasonableness of investment fees paid to each manager and service provider.	Low Medium	9
ERISA rule 408(b)(2) requires service providers to provide plan fiduciaries a disclosure that includes a description of services, the status as a fiduciary, direct and indirect compensation, and other relevant information.	The OIC should consider requiring an annual disclosure of compensation arrangements and affiliations for each service provider as well as a formal acknowledgement of their fiduciary status.	Medium	9
Step 2 - Formalize			
Formal liquidity requirements have not been established to ensure minimal disruptive trading.	The OIC should formalize liquidity requirements for each fund.	Medium	10

[1] We evaluated the potential likelihood and impact of each observation to determine the level of risk the entity would be accepting if no action was taken.

Observation	Recommendation	Risk Ranking[1]	Full Report Page #
Formal documentation does not exist for shorter term cash flows that affect OPERF.	OST staff should work to create formal documents outlining the source, timing, distribution and uses of cash flows for each fund.	Low Medium	10
The current risk management framework does not include a formal analysis of the fund's liquidity in a significant loss event, and the impacts of the event on the portfolio.	The OIC should establish a formal process to document the effects on the portfolio and liquidity of the portfolio in a worst-case loss scenario.	Medium	11
Annually staff reviews the asset allocation with SIS and present any necessary updates during the April policy update meeting. However, the amount of information required, and the divisions of responsibility for preparing and documenting this information are not contained in policy.	The OIC should work with OST staff and consultants to establish a policy documenting requirements for the preparation and presentation of the asset allocation study.	High	12
The limited staffing levels significantly impact the ability of staff to handle more internal management of funds, or to appropriately respond too many of the recommendations in this report.	The OIC and OST staff should continue to work with the legislature to obtain additional staffing to allow the fund to continue to effectively manage the funds and to implement best practices and cost saving measures.	High	12
Currently the investment policies approved by the Council include the IPS as well as investment policies. These supplemental investment policies also include many operational procedures.	The OIC should work with staff to separate current Council-level policies from operational policies and practices.	Medium	13
We reviewed the current IPS for OPERF against a list of suggested subject areas and found a number of potential areas for clarification. The results of this analysis are included in Appendix C.	The OIC should work with OST staff and consultants to review the current Investment Policy Statement to ensure it contains all of the elements that would assist a third party in executing the approved strategy.	Medium	13
Step 4 -Monitor			

Observation	Recommendation	Risk Ranking[1]	Full Report Page #
Due to staff vacancies, the on-site visits of public equity and fixed income managers to review their middle and back officer operations are not currently being performed.	The OIC should instruct OST staff to establish an ongoing operational due diligence program that covers all asset classes to review the middle- and back-office support systems of managers.	High	15
A formal monitoring system of investment consultants has not been established.	The OIC should establish a formal review process for work performed by investment consultants.	Medium	15
A process does not exist to review the custodian's internal control report and determine any actions that are necessary as a result of the information found in the report.	The OIC should instruct staff to establish a formal review process for work performed by the custodian, including a process to review the internal control reports from the independent auditors.	Medium	15
The OIC has not established policies regarding best execution.	The OIC should develop a best execution policy consistent with the guidelines in the CFA Institute Trade Management Guidelines.	Medium High	16
The OIC has not established policies regarding soft dollar activity.	The OIC should design control procedures that would periodically review policies for soft dollars at external managers as well as soft dollar practice within the fund that is consistent with the CFA Institute Soft Dollar Guidelines.	Medium High	16
The OIC has established requirements for the review of the investment program an on annual basis by Treasury staff, but the Council does not perform a self-evaluation of its performance.	The OIC should consider developing a process for conducting annual self-evaluations to review the fiduciary practices under which they operate.	Low Medium	17
Practices Related to the Council Structure and Authority			
UMPERSA outlines three exclusive powers of a trustee: 1) to establish a reasonable budget to perform the trustees duties, 2) to contract for the necessary services to perform the trustees duties, and 3) to procure and dispose of goods and property necessary to perform the trustees duties. The OIC does not have the exclusive power in any of these three areas.	Consistent with published guidance and peer practices, the OIC should seek additional autonomy to ensure it has the ability to adequately perform its fiduciary responsibilities. At a minimum, this would include the autonomy and authority to hire and fire key senior staff, establish a reasonable budget, and contract for goods and services including legal counsel, investment custodial services, and the external financial auditor.	High	19

Observation	Recommendation	Risk Ranking[1]	Full Report Page #
The current Council size of five voting and one ex-officio member is smaller than the GFOA guidelines suggest. We compared the Council's size to other public fund investment boards and found this to be the smallest board among the 11 funds reviewed. A larger council would allow additional members to balance the workload.	The OIC should review its membership to determine if additional members would benefit the fund, and propose any necessary changes to the legislature for statutory revisions.	Medium	20
Oregon Statutes require that all Council members be qualified by training and experience in the field of investment or finance. The Clapman report suggests "A governing body should consist of appropriately qualified, experienced individuals dedicated to fulfilling their fiduciary duties to fund beneficiaries…Viewed as a group, the board should be composed of individuals with a portfolio of skills that allows it to make responsible, informed investment and legal decisions, and to discharge its fiduciary obligations to fund beneficiaries." Creating a skills matrix would provide a framework to potentially help guide the selection of new Council members.	The OIC should consider developing a skills matrix to assist the Governor in selecting new Council members and the Council in its oversight role.	Medium High	21
GFOA Governance Guidelines suggest that funds have a new trustee orientation and an ongoing continuing education program.	The OIC should enhance the current education program with an education policy that outlines the requirements for the fiduciary handbook, new trustee education, and additional in-house education focused on topics determined by the Council.	High	21
Practices Related to Investment Policies and Transparency			
Splitting OIC policies from operational procedures will help to allow the Council to focus on its core responsibilities. It was also noted that policies did not clearly identify who approves the policies, as many of the policies are titled "Office of the State Treasurer".	The OIC should work with OST staff to review the current policies and determine which policies should remain OIC policies and change the remainder to operation procedures that do not require OIC approval and oversight.	Medium High	22

Observation	Recommendation	Risk Ranking[1]	Full Report Page #
There were three policies common among peer fund that are not currently in place at OST. The first was Council Education that would define elements of the education program including training requirements and available resources. The second was a Policy Monitoring and Reporting policy that would outline what reports the Council should receive from staff, consultants, and managers and the timeframes for receiving them. The third topic was a Council Communication policy that would establish guidelines for communications among the Council, staff, service providers, and interested stakeholders.	The OIC should consider establishing one or more policies covering Council education, monitoring and reporting, and Council communications.	Medium	22
Currently the OIC reviews every policy every year.	The frequency with which the OIC reviews its policies should be specified in the policies themselves and may vary depending on the criticality of the policy (e.g., every one to three years). The OIC should refrain from reviewing policies more frequently unless circumstances warrant. Finally, all policies and procedures should clearly identify which party has approved them.	Medium	22
The current review process does not include a process to ensure compliance with the policy, it merely determines if the policy is up to date.	The OIC should ensure each policy has a required method for staff to confirm compliance with policies and key procedures that allows the OIC to verify compliance.	Medium	23
The current trustee reporting process does not provide information to the Council as a whole to verify compliance.	The OIC should consider requiring all members of the Council to annually sign an attestation stating compliance with the ethics policy and disclosing any violations.	Medium	24
While the current ethics policy contained many of the provisions suggested by guidance and found in peer funds, additional elements were identified that could help provide additional clarity to the policy.	The OIC should consider adding sections to the ethics policy to cover elements suggested by guidelines and found in other plans.	Medium	24

Observation	Recommendation	Risk Ranking[1]	Full Report Page #
Having all trustees attend an annual ethics training will help to ensure that all Council members fully understand their responsibilities.	The OIC should develop an annual fiduciary and ethics training program for all Council members and investment staff.	Medium High	24
Currently trading restrictions are in place for OST staff, but the disclosure guidelines are not extended to the OIC.	The OIC should establish trading rules for Council members to clearly define and document prohibited transactions.	High	24
Three of the eleven funds in the survey extended their ethics statements to consultants and investment managers. The Clapman report suggests that all material advisors comply with the fiduciaries ethics and conflict of interest policies. This allows the Council to determine if there exists an appearance of a conflict of interest or to an actual conflict.	The OIC should consider extending the conflict of interest policy to any consultants who provide material advice or who have been delegated significant responsibility.	Medium High	24
The Clapman report outlines several areas that ideally would be placed on the funds public website (see list on page 25).	The OIC should review the list of disclosures suggested in the Clapman Report and consider adding those that are not currently disclosed on the website.	Medium	25
The Clapman report also outlines several areas that Trustees and staff should annually verify and publicly report on (see list on page 25).	The OIC should review the list of annual verifications suggested by the Clapman Report to be publicly disclosed and develop a process for staff to affirm and verify the information.	Medium	26
In today's investment environment, ORS293.726(6) does not provide any risk reduction above the diversification already required in subsection 3 of that same section.	The OIC should request legislative action to remove the requirements contained in ORS 293.726(6).	Low Medium	26
Practices Related to Investment Risk Management			
Separating the current quarterly performance report into two would allow for a more structured discussion , first the performance results, and then a discussion of the risk management information.	The OIC should consider splitting the quarterly performance report into two separate reports, one highlighting performance results, and one specific to investment risk.	Medium High	27

Observation	Recommendation	Risk Ranking[1]	Full Report Page #
Adding a risk summary to the front of the risk report would allow the OIC to have a quick visual reference point to identify where additional inquiry and potentially action is needed.	The OIC should consider adding an investment risk summary to the quarterly report that visually outlines key risks that the Council has identified.	Medium	27
We compared the current IPS to the current reports provided to the Council to analyze if the current reports covered all items in the IPS (see table on page 27).	The OIC should review the risks outlined in the IPS to determine if additional risk metrics should be added. For all risks, OST staff should ensure that report elements clearly link to the IPS requirements.	Medium	28
By creating a centralized risk management unit, the Council would help provide additional segregation of duties as well as a group focused exclusively on investment risk management. The head of this group should report to the Council on a regular basis regarding the investment risks the Council faces.	The OIC should instruct OST staff to develop a centralized investment risk management unit independent of the investment function.	High	29
Practices Related to Investment Operations Management			
Currently a formal enterprise risk management (ERM) framework does not exist for the investment program. In our review of peer funds seven of ten funds had an ERM framework in place or in development.	OST staff should develop an ERM framework that is established program-wide with dedicated staffing.	High	30
In reviewing the current OST policy we noted several potential areas of improvement to help ensure that the compliance and ethics program is sufficient to allow a reasonable ability to prevent and detect violations of Rule 10b-5 (see table on page 27).	OST staff should review the current Conflict of Interest and Code of Ethics statement to ensure that it is sufficient to allow OST and the OIC to prevent and detect violations of federal securities laws.	High	32
The OST staffing level was the second lowest staffing rate in our peer group at .25 FTE per $1 billion in AUM versus an average of .44 FTE per $1 billion in AUM.	OST staff should work with the OIC to determine the staffing and resource levels necessary to adequately manage the investment funds going forward and seek legislative authorization for the necessary FTE and other expenditures.	High	33

Observation	Recommendation	Risk Ranking[1]	Full Report Page #
The lack of governance and operational support positions significantly limits the ability of OST to adequately segregate responsibilities and provide timely reviews.	OST should review the functions performed by governance and operational staff to determine what functions currently performed by investment staff, or not adequately performed, should be assigned to other units, to allow proper segregation of duties. This review should also determine the additional resources necessary to allow for this.	High	34
Effective succession planning is necessary to help limit the impacts of individuals transferring positions and leaving the agency.	OST staff should develop a succession plan for all key positions.	Medium	34
Within units that have more staffing than others, many processes, and historical information is not retained in an organized documented manner. Without this detail, processes currently in place can easily be lost and background information on why decisions were made is gone.	OST staff should develop documentation standards for key operating processes as well as for all significant decisions. This should include an operations wide process for where the documents are stored so that future staff can find information as needed.	Medium High	34
The fund has an above average cost structure due to high levels of external active management.	The OIC and OST staff should consider if increasing internally managed assets would reduce costs without sacrificing returns or increasing risks unnecessarily.	Medium	35
Because of the importance of the performance data, assigning OST staff, separate from those charged with managing the fund would help to ensure the quality and consistency of the data.	The OIC should instruct OST staff to develop a performance measurement and attribution team outside of the investment function.	High	36
OST does not have a formal data governance or data management program.	OST staff should develop a formal data management and data governance strategy for investment data.	Medium High	36

Appendix B – The Periodic Table of Global Fiduciary Practices

The following table is a summary of the 22 practices outlined in the book "Prudent Practices for Investment Stewards", written by Fi360, that were used as the basis of evaluation in determining if the funds are being managed prudently.

The Periodic Table of Global Fiduciary Practices

Practice M-1.1 Senior management demonstrates expertise in their field, and there is a clear succession plan in place.	**Practice M-1.2** There are clear lines of authority and accountability, and the mission, operations, and resources operate in a coherent manner.			**Practice SA-2.1** An investment time horizon has been identified.	**Practice SA-2.2** A risk level has been identified.	**Practice M-2.1** The organization provides disclosures which demonstrate there are adequate resources to sustain operations.	**Practice M-2.2** The organization has a defined business strategy which supports their competitive positioning.
Practice M-1.3 The organization has the capacity to service its client base.	**Practice M-1.4** Administrative operations are structured to provide accurate and timely support services and are conducted in an independent manner.	**Practice SA-1.1** Investments are managed in accordance with applicable laws, trust documents, and written investment policy statements (IPS).	**Practice SA-1.2** The roles and responsibilities of all involved parties (fiduciaries and non-fiduciaries) are defined, documented, and acknowledged.	**Practice SA-2.3** An expected, modeled return to meet investment objectives has been identified.	**Practice SA-2.4** Selected asset classes are consistent with the identified risk, return, and time horizon.	**Practice M-2.3** There is an effective process for allocating and managing both internal and external resources and vendors.	**Practice M-2.4** There are effective and appropriate external management controls.
Practice M-1.5 Information systems and technology are sufficient to support administration, trading, and risk management needs.	**Practice M-1.6** The organization has developed programs to attract, retain, and motivate key employees.	**Practice SA-1.3** Fiduciaries and parties in interest are not involved in self-dealing.	**Practice SA-1.4** Service agreements and contracts are in writing, and do not contain provisions that conflict with fiduciary standards of care.	**Practice SA-2.5** Selected asset classes are consistent with implementation and monitoring constraints.	**Practice SA-2.6** There is an IPS which contains the detail to define, implement, and manage a specific investment strategy.	**Practice M-2.5** The organization has a defined process to control its flow of funds and asset variation.	**Practice M-2.6** Remuneration of the company and compensation of key decision-makers is aligned with client interests.
	Practice M-1.7 There is a formal structure supporting effective compliance.	**Practice SA-1.5** Assets are within the jurisdiction of courts, and are protected from theft and embezzlement.	**1 ORGANIZE**	**2 FORMALIZE**	**Practice SA-2.7** The IPS defines appropriately structured, socially responsible investment (SRI) strategies (where applicable).	**Practice M-2.7** The organization has responsible and ethical reporting, marketing, and sales practices.	**Practice M-2.8** There is an effective risk-management process to evaluate both the organization's business and investment risk.
Practice M-4.1 There is a defined process for the attribution and reporting of costs, performance, and risk.	**Practice M-4.2** All aspects of the investment system are monitored and are consistent with assigned mandates.	**Practice SA-4.1** Periodic reports compare investment performance against appropriate index, peer group, and IPS objectives.	**4 MONITOR**	**3 IMPLEMENT**	**Practice SA-3.1** The investment strategy is implemented in compliance with the required level of prudence.	**Practice M-3.1** The asset management team operates in a sustainable, balanced, and cohesive manner.	**Practice M-3.2** The investment system is defined, focused, and consistently adds value.
Practice M-4.3 Control procedures are in place to periodically review policies for best execution, "soft dollars," and proxy voting.	**Practice M-4.4** There is a process to periodically review the organization's effectiveness in meeting its fiduciary responsibilities.	**Practice SA-4.2** Periodic reviews are made of qualitative and/or organizational changes of investment decision-makers.	**Practice SA-4.3** Control procedures are in place to periodically review policies for best execution, "soft dollars," and proxy voting.	**Practice SA-3.2** Applicable "safe harbor" provisions are followed (when elected).	**Practice SA-3.3** Investment vehicles are appropriate for the portfolio size.	**Practice M-3.3** The investment research process is defined, focused, and documented.	**Practice M-3.4** The portfolio management process for each distinct strategy is clearly defined, focused, and documented.
		Practice SA-4.4 Fees for investment management are consistent with agreements and with all applicable laws.	**Practice SA-4.5** "Finder's fees" or other forms of compensation that may have been paid for asset placement are appropriately applied, utilized, and documented.	**Practice SA-3.4** A due diligence process is followed in selecting service providers, including the custodian.		**Practice M-3.5** The trade execution process is defined, focused, and documented.	
			Practice SA-4.6 There is a process to periodically review the organization's effectiveness in meeting its fiduciary responsibilities.				

LEGEND:
Practices in gold that begin with an "SA" define a fiduciary standard of excellence for Investment Stewards and Investment Advisors.
Practices in blue that begin with an "M" define a fiduciary standard of excellence for Investment Managers.
"SA" Practices highlighted are best reviewed in conjunction with Investment Managers Practices.

fi360® global fiduciary insights

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Appendix C – Investment Policy Statement Checklist

The Investment Policy Statement provides the framework that allows the OIC to coordinate the management of the investment funds. As part of the review of the IPS in practice 2.6 (page x), the chart below was used to compare the Statement of Investment Objectives and Policy Framework for OPERF against a best practice checklist for a comprehensive IPS. A check (✔) indicates the subject is addressed. An "X" indicates it is not and/or there is no reference to another document. Best practices do not require that a standard phrase or specific language be included in an IPS, but rather that processes or definitions are clear and unambiguous to the readers and users of the IPS. The checklist serves to signal those areas that potentially need clarification after further review by the OIC and/or OST.

Best Practice Investment Policy Statement Subject Areas		
Introduction		**Examples of where the subject is addressed**
Reference to the Committee's right to set policy.	X	There is no citation to the OIC's legal right to set policy. See, Duties of the OIC - IM 04.00.00 - Procedures Section 3
Description of intended beneficiaries of the plan (e.g., the plan is created for certain employees and their dependents).	X	
Scope (e.g., limited in application to pension fund assets or may include other assets).	✔	IPS Section 1.1
Statement of Purpose		
Description of the sole or fundamental purpose of the plan.	X	
Language describing that plan fiduciaries must act in the sole interest of members and beneficiaries and for the exclusive purpose of providing benefits.	X	Duties of the OIC IM4.00.00 - Procedures Sections 1 and 2
Listing of investment goals that could include:		
Preserving the actuarial soundness of the plan in order to meet benefit obligations.	X	
Obtaining a long-term rate of return (one or two market cycles), net of fees, equal to or in excess of the policy benchmark.	✔	
Clarification of how investment risks will be managed.	✔	
Establishment of the risks that may be taken to achieve return goals.	✔	
Definition of the total fund benchmark and asset allocation benchmarks.	X	Not directly addressed – referenced in document.
Reference of the duty to incur only reasonable expenses.	X	
Liquidity requirements.	X	Not directly addressed – referenced in Section 3

Identification of Roles and Responsibilities		
Investment Committee – general and investment related duties.	X	Duties of the OIC - IM4.00.00
Staff – general and investment related duties, reporting lines, and expectations.	X	Referenced in various other documents in the Investment Manual (e.g. Sections 2 and 4 - Statement of Fund Governance for the OPERF) – See IM 4.05.03 (regarding internal equity management)
External Investment Advisor – duties, reporting lines, expectations regarding the frequency of communications, and acknowledgement of fiduciary responsibilities.	X	
Fund managers – duties, acknowledgement of fiduciary responsibilities, and frequency of communication; could incorporate their contractual mandates.	X	
Custodian bank – role as custodian or trustee, and role regarding cash management, performance calculations, etc.	X	
Description of other service providers' duties, such as securities lending and brokerage.	X	Securities lending is not mentioned in the IPS, but is set forth in a separate document - IM4.01.20 - establishing policy and procedures for the OPERF, SAIF, CSF, and the S/T Fund and other Funds under the purview of the IOC Trading is not mentioned in the IPS, but is set forth in a separate document – IM 4.01.20
Asset Allocation		
Acknowledgement of its importance.	X	
Recognition of the allocation's purpose, such as to provide an optimal mix of investments to produce desired returns and meet current and future liabilities, with minimized volatility.	✔	Generally in Section 2 of the IPS
Description of frequency and methodology of asset liability modeling and allocation resetting.	X	
Minimum, maximum, and target allocation ranges.	✔	IPS Section 3 – Exhibit 1
Standards regarding diversification, including limits to a single issuer, single asset class, economic sector, or country.	X	

Asset Class Guidelines and Benchmarks		
Definition of each asset class, permissible strategies, and the rationale for inclusion in the portfolio.	✔	IPS Sections 5, 6, 7, 8, and 9. See also: (a) IM 4.01.01, (b) IM4.01.19, (c) IM 4.03.01 (ranges conflict with the IPS), (d) IM 4.04.01, (e) IM 4.05.01, (f) IM 4.05.03, and (g) IM 4.06.01.
Selected benchmarks, who sets them, and how often they are revisited.	✔ /X	The benchmarks are identified in the IPS and it is implicit that the OIC sets them. They are also discussed in various other documents regarding the specific asset classes approved by the IOC (See e.g., IM 4.03.01, IM 4.05.01, and IM4.06.02)
Description of any prohibited investments	X	Restricted or prohibited investments are addressed in various other documents contained in the Investment Manual. See the following: (a) IM 4.01.08, (b) IM 4.01.15, (c) IM 4.03.01, (d) IM 4.04.3,and (e) IM 4.04.4
Detailed overview of allowable credit risk in the portfolio (e.g., minimum credit rating for any fixed income investment as determined by a nationally recognized credit rating agency).	X	
Rebalancing Policy		
Statement of the purpose of rebalancing (i.e., to ensure that the investment program adheres to its strategic asset allocation).	X	The OIC's Rebalancing Policy is not mentioned in the IPS. The policy and procedures are set forth in a separate document – IM 4.01.18. Delegation of rebalancing authority is addressed in the Statement of Fund Governance for the OPERF.
Description of the method used to rebalance (e.g., most cost-effective manner, use of excess cash, index strategies as a source, or reduction of over-funded manager portfolios).	X	
Describe how often the portfolio will be reviewed for rebalancing and whether a fixed threshold or proportional threshold will be used.	X	

Monitoring, Reporting, and Manager Selection		
Statement of purpose for monitoring and reporting (e.g. to ensure compliance with the IPS, to manage risk, and to assess manager performance).	✔	Generally addressed in Section 10 of the IPS. Alsoaddressed in IM 4.05.10. Reporting requirements should be consistent with the requirement of the applicable statutory language (e.g. 293.761, 293.766, and 293.771)
Description of reporting for both investment managers and other external investment professionals; can include an outline of current strategy and investments, performance vs. benchmark, and portfolio composition relative to the asset allocation policy.	X	See IM 4.01.05
Manager selection and termination criteria and process.	X	Process is not mentioned in IPS. External manager monitoring, selection, and termination for various asset classes is addressed in the following separate documents: (a) IM 4.01.09, (b) IM 4.01.10, (c) IM 4.01.13, (c) IM 4.01.13, (d) IM 4.03. 03, e) IM 4.04.02, (f) IM 4.05.02
Shareholder Activities		
Description of the proxy voting policy and how votes are cast and recorded.	X	Proxy Voting is not discussed in the IPS nor is a distinct policy referenced. See IM 4.05.06
Statement of the circumstances under which the OIC will sign on to or initiate a shareholder proposal.	X	
Statement of how (or if) a focus list of underperforming companies will be identified and what communication the OIC takes to engage companies in dialogue.	X	
Description of the process of opting in and out of shareholder class actions.	X	
Identification of core principles of corporate governance (board independence, CEO compensation, access to the proxy, audit committee, etc.).	X	
Delegation and Other Practices		
Statement of any delegations to the staff or external parties	X	See Governance Policy
Requirement to annually review the IPS	X	
Description of or reference to other investment-related policies (securities lending, soft dollar, valuation, etc.)	X	See IM Sections 4.01.20 (securities lending), and IM 4.05.07 (commission recapture)
Controlling document in the event of a conflict	X	
Use of internal asset management	X	Equity program mentioned in IM 4.05.03

Appendix D – Peer Group Autonomy

	Investment Boards					Investment Councils		Retirement Systems			
Criteria	Alaska PFC	Mass PRIM	Washington SIB	West Virginia IMB	State of Wisconsin IB	New Jersey SIC	Oregon IC	Arizona SRS	Los Angeles County ERS	Texas TRS	Virginia RS
Authority to approve investment policy	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Investment Policy is NOT subject to state imposed investment restrictions	✔		✔						✔		✔
Authority to approve operating budget			For investment expenses	✔	✔			✔		✔	
Authority to establish the human resource policies and set compensation	✔		✔	✔	✔		Limited	✔	✔	✔	✔
Authority to set procurement rules				✔			For Investment Advisors Only		✔		✔
Authority to approve asset allocation	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Authority to select investment managers/funds	✔	✔	✔	✔	✔		Public Markets Only	✔	✔	✔	✔
Authority to retain the following advisors and service providers											
a) Legal Counsel		✔		✔	✔				✔	✔	
b) Financial Auditor	✔	✔	✔	✔		✔		✔	✔		
c) Investment Consultants	✔	✔	✔	✔	✔		✔	✔	✔	✔	✔
d) Custodian	✔	✔		✔	✔			✔	✔	✔	✔

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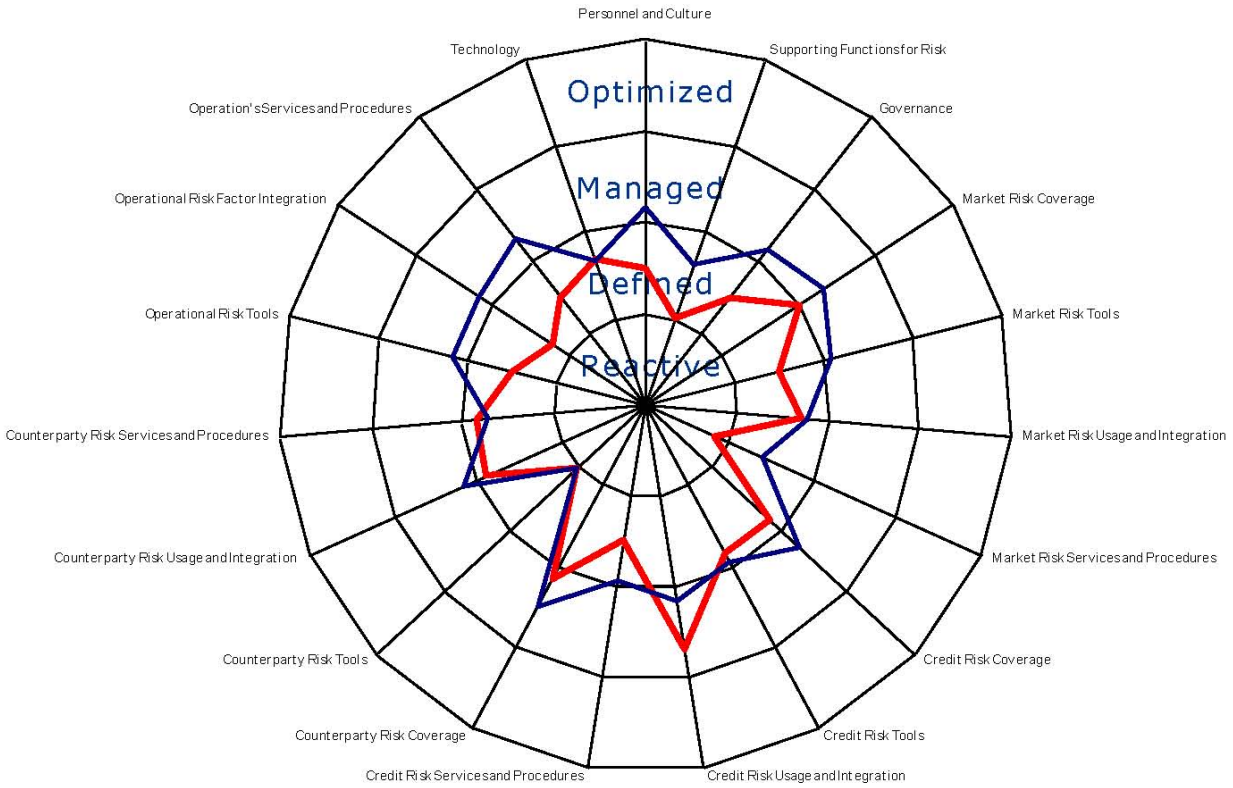
Appendix E - Investment Risk Management

Radar Chart: Firm Type Peer Comparison

Oregon State Treasury vs. Pension Firms

The radar chart below graphically shows the differences in capabilities between Oregon State Treasury as compared to peer pension firms. The chart displays the metrics within each category of capability and makes distinctions between the strengths and weaknesses. Oregon State Treasury's capability is displayed in red, firms classified as pension firms are displayed in dark blue.



Organization		
Personnel and Culture	2.0	2.7
Supporting Functions for Risk	1.5	2.1
Governance	2.0	2.7

Market Risk		
Market Risk Coverage	2.5	2.8
Market Risk Tools	2.0	2.6
Market Risk Usage and Integration	2.2	2.3
Market Risk Services and Procedures	1.3	1.9

Credit Risk		
Credit Risk Coverage	2.3	2.8
Credit Risk Tools	2.3	2.4
Credit Risk Usage and Integration	3.2	2.7
Credit Risk Services and Procedures	2.0	2.4

Counterparty Risk		
Counterparty Risk Coverage	2.7	3.0
Counterparty Risk Tools	1.5	1.5
Counterparty Risk Usage and Integration	2.4	2.7
Counterparty Risk Services and Procedures	2.3	2.2

Operational Risk		
Operational Risk Tools	2.0	2.7
Operational Risk Factor Integration	1.7	2.7
Operation's Services and Procedures	2.0	2.8

Technology		
Technology	2.2	2.2

Legend:

Oregon State Treasury

Firm Type Classification: Pension

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Appendix F - Investment Data Management

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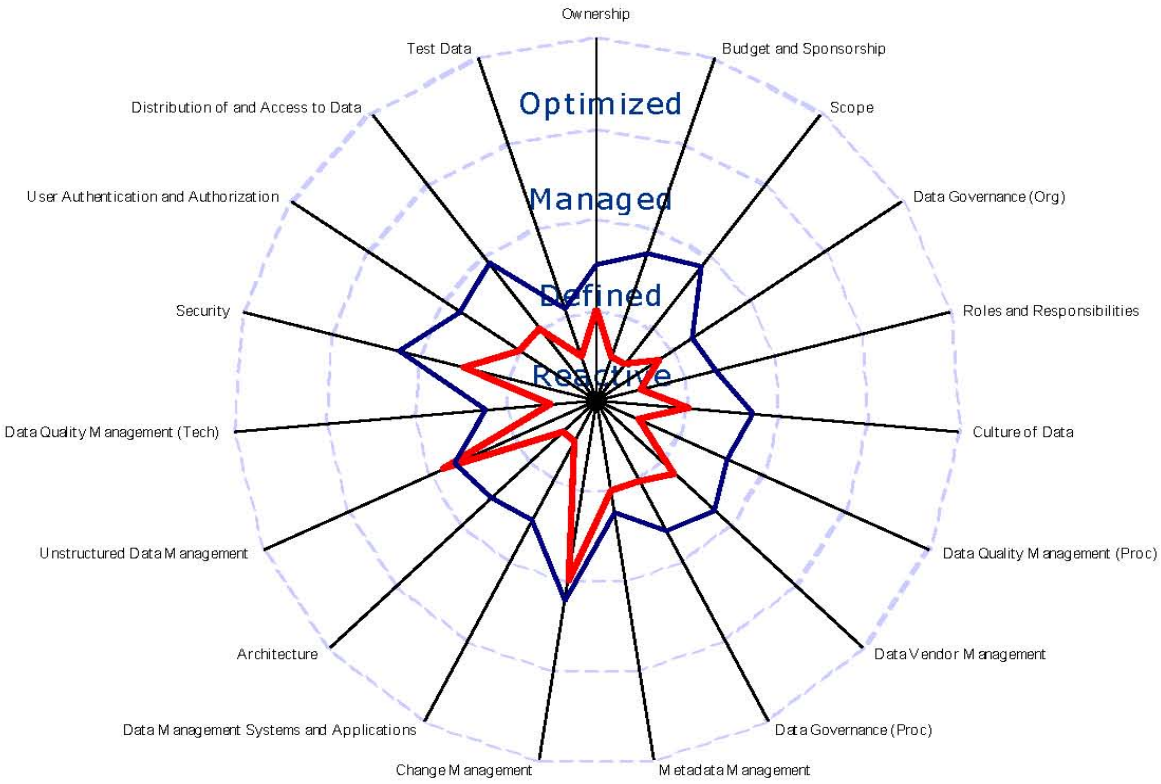
Radar Chart: Firm Type Peer Comparison

Oregon State Treasury vs. Pension Firms

The radar chart below graphically shows the differences in capabilities between Oregon State Treasury as compared to peer pension firms. The chart displays the metrics within each category of capability and makes distinctions between the strengths and weaknesses. Oregon State Treasury's capability is displayed in red, firms classified as pension firms are displayed in dark blue.



Organization		
Ownership	1.5	2.0
Budget and Sponsorship	1.0	2.2
Scope	1.0	2.4
Data Governance	1.3	1.8
Roles and Responsibilities	1.0	1.9
Culture of Data	1.5	2.2

Technology		
Data Management Systems and Applicatio	1.0	2.0
Architecture	1.0	2.1
Unstructured Data Management	2.3	2.2
Data Quality Management	1.0	1.7

Process		
Data Quality Management	1.0	2.1
Data Vendor Management	1.7	2.3
Data Governance	1.5	2.1
Metadata Management	1.5	1.8
Change Management	2.5	2.7

Data Security		
Security	2.0	2.7
User Authentication and Authorization	1.5	2.3
Distribution of and Access to Data	1.5	2.4
Test Data	1.0	1.6

Legend:
- **Oregon State Treasury**
- **Firm Type Classification: Pension**

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Works Cited

Employee Retirement Income Security Act of 1974, 29 U.S.C § (1974).

ERISA Opinion Letter NO. 98-04A. (1998, May 28). Retrieved from http://www.dol.gov/ebsa/programs/ori/advisory98/98-04a.htm

Uniform Prudent Investors Act, ORS §130.750 et seq. (2011).

Uniform Prudent Management of Institutional Funds Act ORS §128.310 et seq. (2011).

Andonov, A., Bauer, R., & Cremers, M. (2012). *Can Large Pension Funds Beat the Market? Asset Allocaiton, Market Timing, Security SElection, and the Limits of Liquidity.* Retrieved from http://ssrn.com/abstract=1885536

Canadian Association of Pension Supervisory Authorities. (2004). *CAPSA Pension Plan Governance Guidelines.* Retrieved from http://www.capsa-acor.org/en/init/governance_guidelines/Guideline_Self-asses_Questionnaire.pdf

CFA Insitute. (n.d.). *Trade Management Guidelines.* Retrieved from http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2004.n3.4007

CFA Institute. (2008). *Code of Conduct for Members of a Pension Scheme Governing Body.* Retrieved from http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2008.n3.1

CFA Institute. (2011). *Soft Dollar Standards.* Retrieved from http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2004.n3.4007

Clapman, P. (2007). *The Stanford Institutional Investors' Forum Committee on Fund Governance Best Practice Principles.* Retrieved from http://www.directorsandboards.com/DBEBRIEFING/July2007/FundGovernanceReport.pdf

Committee of Sponsoring Organizations of the Treadway Commission (COSO). (2004). *Enterprise Risk Management - Integrated Framework.*

Davis, S., Lukomnik, J., & Pitt-Watson, D. (2006). *The New Capitalists: How Citizen Investors are Reshaping the Corporate Agenda.* Harvard Business Press.

Dyck, I., & Pomorski, L. (2011). *Is Bigger Better? Size and Performance in Pension Plan Manageemnt.* Rotman School of Management Working Paper No. 1690724. Retrieved from http://ssrn.com/abstract=1690724

fi360. (2006). *Prudent Practices for Investment Stewards.* fi360. Retrieved from http://www.fi360.com/main/pdf/handbook_steward.pdf

Government Financial Officers Association. (2010). *Governance of Public Employee Post-Retirement Benefits Systems.* Retrieved from http://www.gfoa.org/downloads/GFOA_governanceretirementbenefitssystemsBP.pdf

MacIntosh, J., & Scheibelhut, T. (2012). How Large Pension Funds Organize Themselves: Findings from a unique 19-Fund Survey. *Rotman International Journal of Pension Management, Volume 5*(Issue 1).

National Conference on Public Employee Retirement Systems. (2012). *Best Governance Practices for Public Retirement Systems.* Retrieved from http://www.ncpers.org/Files/2012_ncpers_best_governance_practices.pdf

Oregon Revised Statute Chapter 293. Retrieved from http://www.leg.state.or.us/ors/293.html

SEI. (2012). *Top 10 Operational Risks A Survival Guide for Investment Management Firms.* Retrieved from http://www.seic.com/docs/IMS/SEI_OppRisk_Book_US.pdf

Senior Supervisors Group. (2008). *Observations on Risk Management Practices during the Recent Market Turbulence.* Retrieved from http://www.newyorkfed.org/newsevents/news/banking/2008/SSG_Risk_Mgt_doc_final.pdf

The Organisation for Economic Co-operation and Development. (2009). *OECD Guidelines for Pension Fund Governance.* Retrieved from http://www.oecd.org/insurance/privatepensions/34799965.pdf

U.S. Government Accountability Office. (2009). *Conflicts of Interest Can Affect Defined Benefit and Defined Contribution Plans.* Retrieved from http://www.gao.gov/assets/130/122042.pdf

U.S. Securities and Exchange Commission. (2005). *Staff Report Concerning Examinations of Select Pension Consultants.* Retrieved from http://www.sec.gov/news/studies/pensionexamstudy.pdf

Uniform Management of Public Employee Retirement Systems Act.

TAB 7 – ANNUAL PLACEMENT AGENT REPORT

Annual Disclosure of Placement Agents
January 23, 2013

Purpose
In accordance with OST Policy 5.03.01, Conflict of Interest and Code of Conduct, OST shall disclose, in all investment recommendations to the Oregon Investment Council, any Placement Agent used by an investment firm *that has had any contact with Treasury investment staff*. Staff shall present to the OIC an annual summary of the foregoing, which will also be made available to the public on the Treasury website.

Summary for Calendar Year 2012

Partnership	OPERF Commitment	Placement Agent
Reservoir Strategic Partners Fund, LP	$50 million	Credit-Suisse Aqueduct Capital Group
RK Mine Finance Fund II, LP	$75 million	Eaton Partners
Stonepeak Infrastructure Fund, LP	$100 million	First Avenue Partners
GGV Capital IV, LP	$50 million	UBS Private Funds Group
A&M Capital Partners, LP	$100 million	Barclays

Note that placement agents are retained by the general partner of the fund, and OPERF does not rely on such firms for access or analysis.

TAB 8 – ASSET ALLOCATIONS & NAV UPDATES

Asset Allocations at December 31, 2012

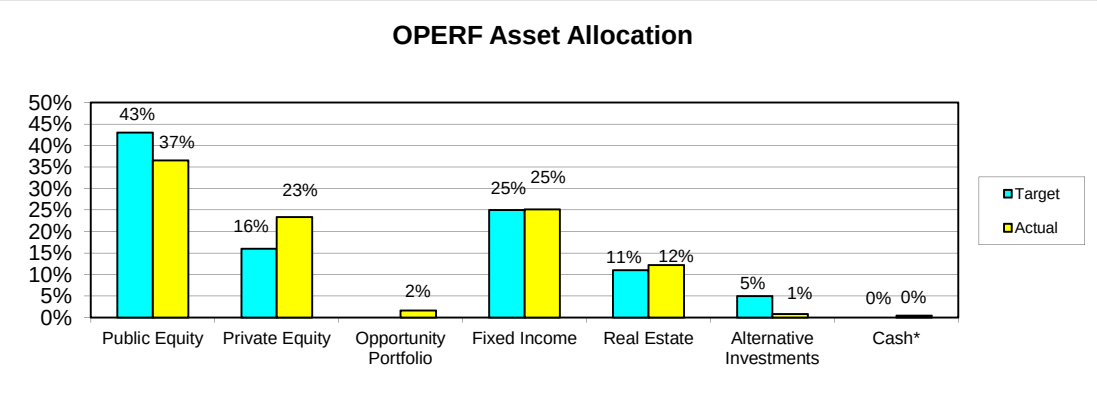
	Regular Account							Variable Fund	Total Fund
OPERF	**Policy**	**Target**	**$ Thousands**	**Pre-Overlay**	**Overlay**	**Net Position**	**Actual**	**$ Thousands**	**$ Thousands**
Public Equity	38-48%	43%	21,605,885	35.9%	395,549	22,001,434	36.5%	800,093	22,801,527
Private Equity	12-20%	16%	14,093,044	23.4%		14,093,044	23.4%		14,093,044
Total Equity	**54-64%**	**59%**	**35,698,929**	**59.2%**	**395,549**	**36,094,478**	**59.9%**		**36,894,571**
Opportunity Portfolio			975,565	1.6%		975,565	1.6%		975,565
Fixed Income	**20-30%**	**25%**	**14,183,485**	**23.5%**	**967,721**	**15,151,206**	25.1%		**15,151,206**
Real Estate	**8-14%**	**11%**	**7,338,211**	**12.2%**	**(7,800)**	**7,330,411**	12.2%		**7,330,411**
Alternative Investments	**0-8%**	**5%**	**459,731**	**0.8%**		**459,731**	0.8%		**459,731**
Cash*	**0-3%**	**0%**	**1,599,318**	**2.7%**	**(1,355,470)**	**243,848**	0.4%	186	**244,034**
TOTAL OPERF		**100%**	**$ 60,255,239**	**100.0%**	**$ -**	**$ 60,255,239**	**100.0%**	**$ 800,279**	**$ 61,055,518**

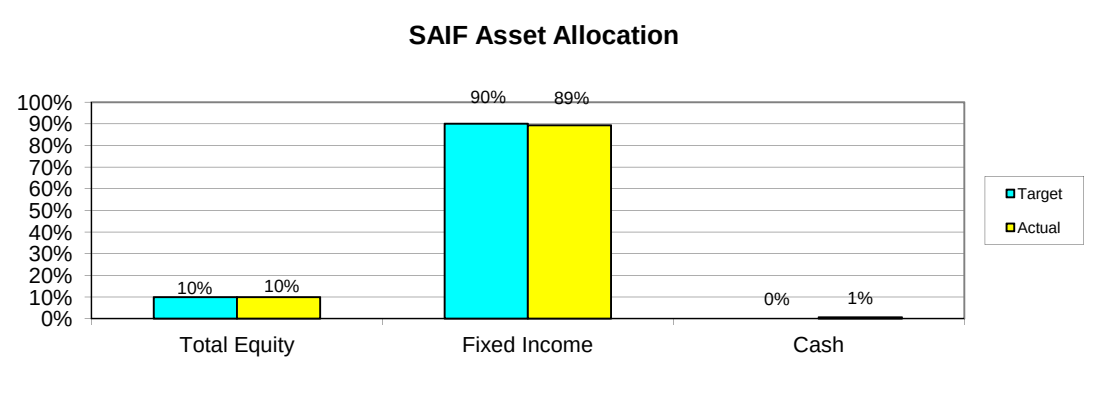
*Includes cash held in the policy implementation overlay program.

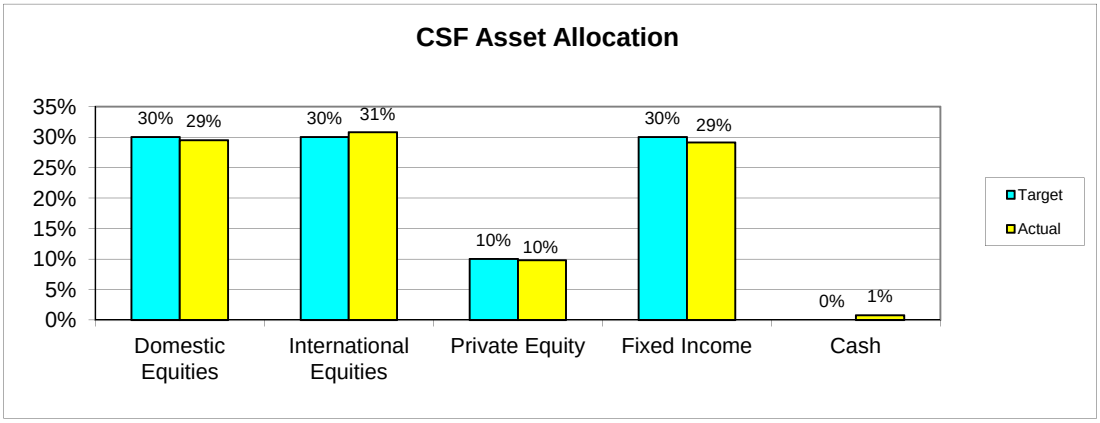
SAIF	**Policy**	**Target**	**$ Thousands**	**Actual**
Total Equity	**7-13%**	**10.0%**	**442,540**	**10.0%**
Fixed Income	**87-93%**	**90.0%**	**3,946,937**	**89.3%**
Cash	**0-3%**	**0%**	**30,866**	**0.7%**
TOTAL SAIF		**100%**	**$4,420,343**	**100.0%**

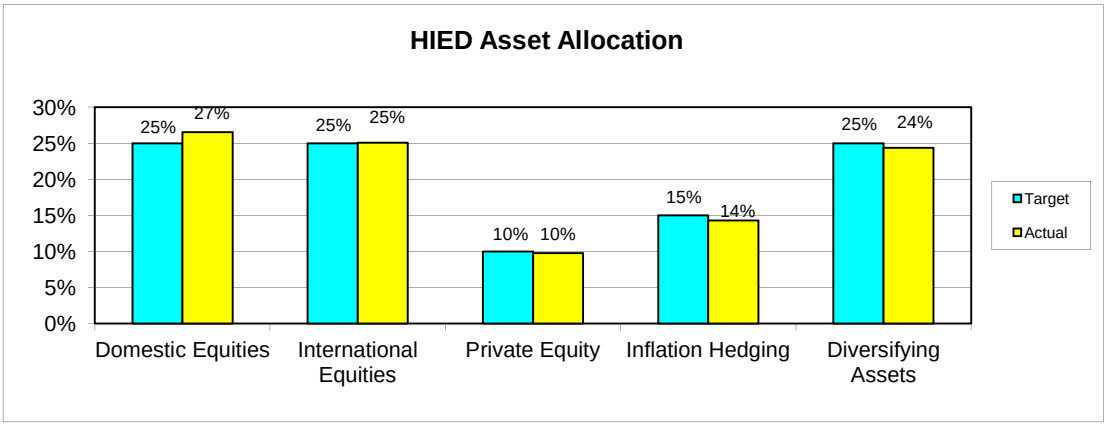
CSF	**Policy**	**Target**	**$ Thousands**	**Actual**
Domestic Equities	25-35%	30%	$347,532	29.5%
International Equities	25-35%	30%	363,187	30.8%
Private Equity	0-12%	10%	115,564	9.8%
Total Equity	**65-75%**	**70%**	**826,283**	**70.1%**
Fixed Income	**25-35%**	**30%**	**343,285**	**29.1%**
Cash	**0-3%**	**0%**	**9,259**	**0.8%**
TOTAL CSF			**$1,178,827**	**100.0%**

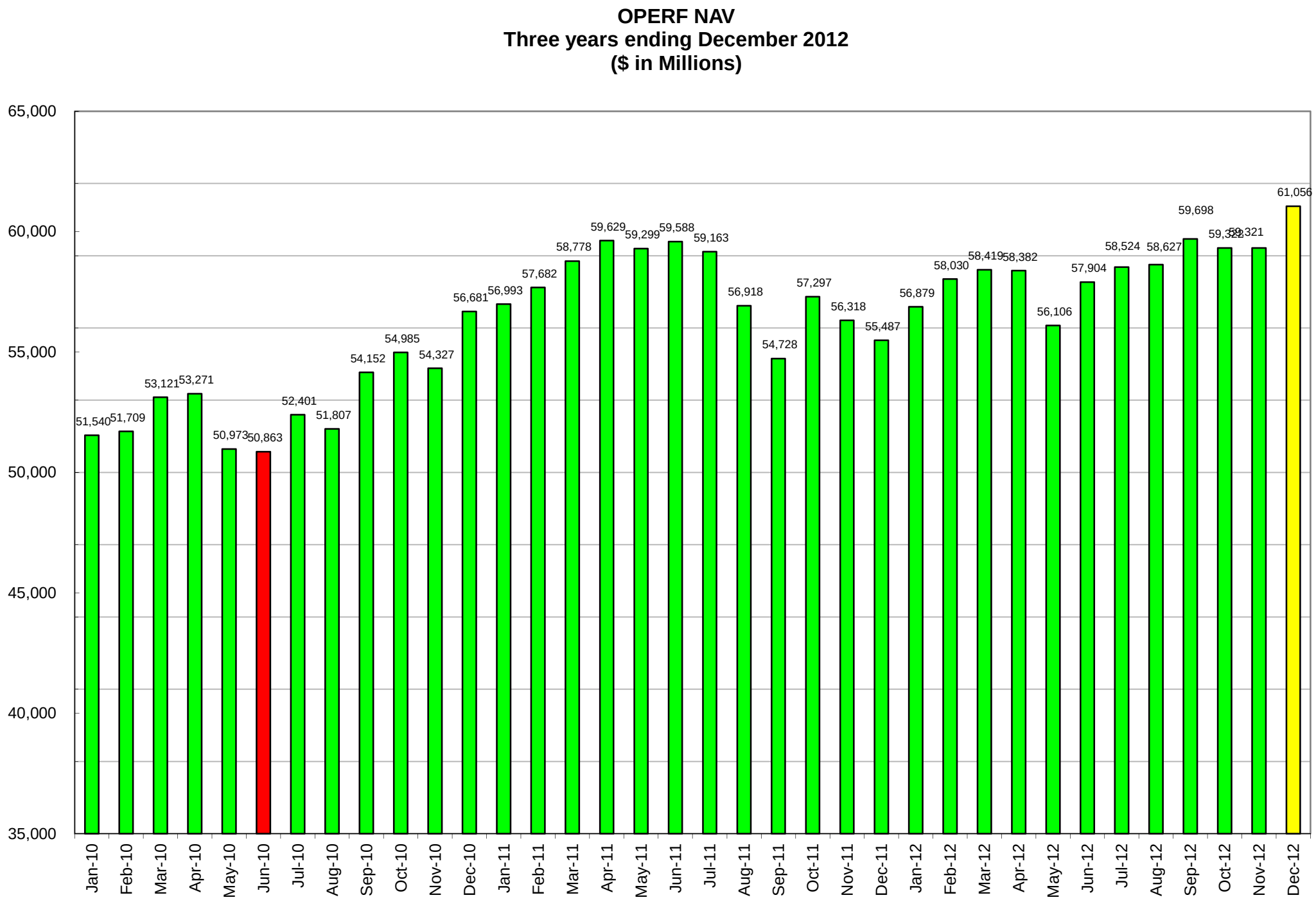
HIED	**Policy**	**Target**	**$ Thousands**	**Actual**
Domestic Equities	20-30%	25%	$17,701	26.5%
International Equities	20-30%	25%	16,707	25.0%
Private Equity	0-15%	10%	6,518	9.8%
Growth Assets	**50-75%**	**60%**	**40,926**	**61.4%**
Real Estate	0-10%	7.5%	4,744	7.1%
TIPS	0-10%	7.5%	4,784	7.2%
Inflation Hedging	**7-20%**	**15%**	**9,528**	**14.3%**
Fixed Income	20-30%	25%	15,655	23.5%
Cash	0-3%	0%	589	0.9%
Diversifying Assets	**20-30`%**	**25%**	**16,244**	**24.4%**
TOTAL HIED			**$66,698**	**100.0%**


OPERF Asset Allocation
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
43%
37%
16%
23%
2%
25%
25%
11%
12%
5%
1%
0%
0%
Public Equity
Private Equity
Opportunity Portfolio
Fixed Income
Real Estate
Alternative Investments
Cash*
Target
Actual

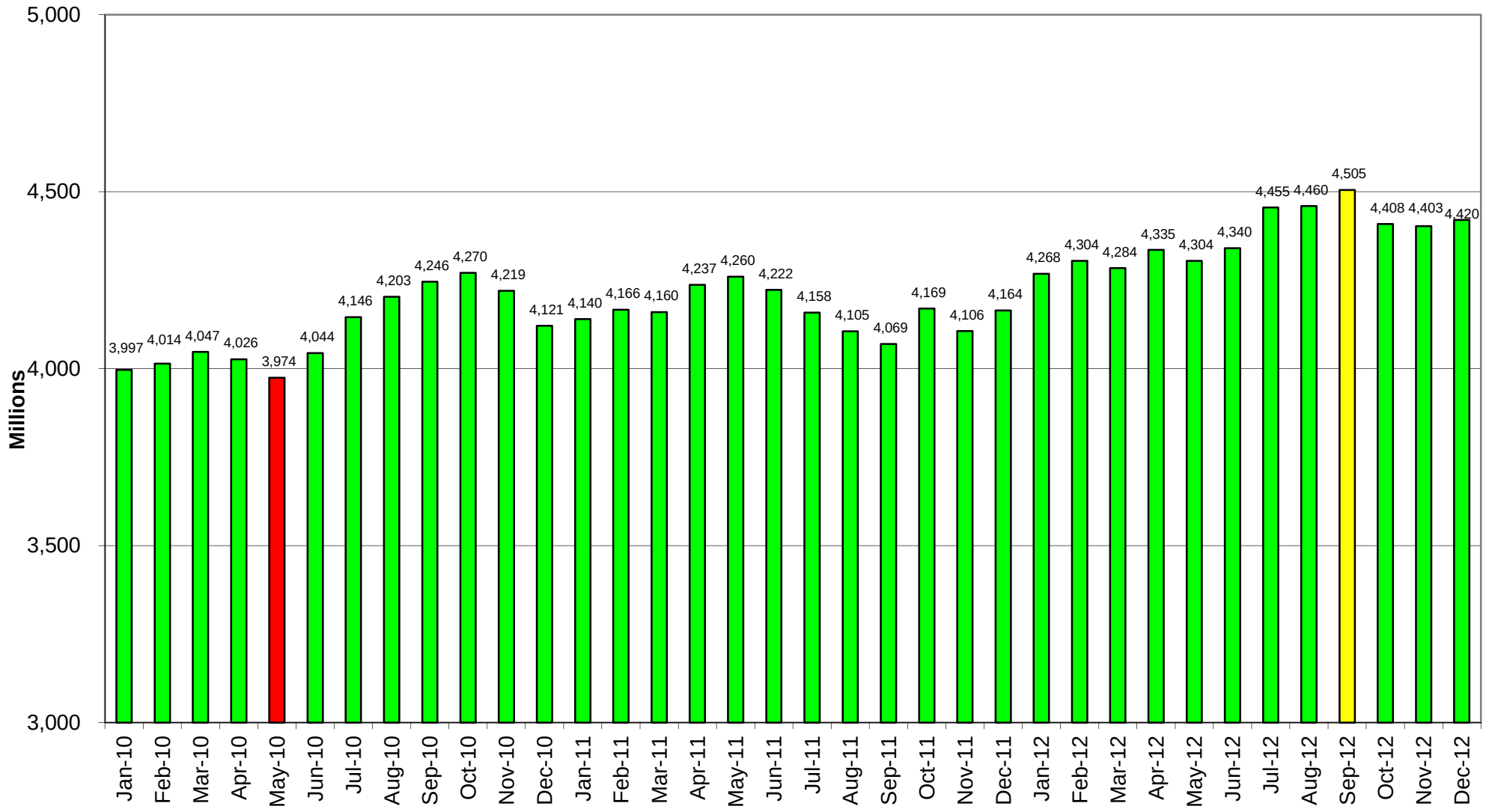

SAIF Asset Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
10%
10%
90%
89%
0%
1%
Total Equity
Fixed Income
Cash
Target
Actual

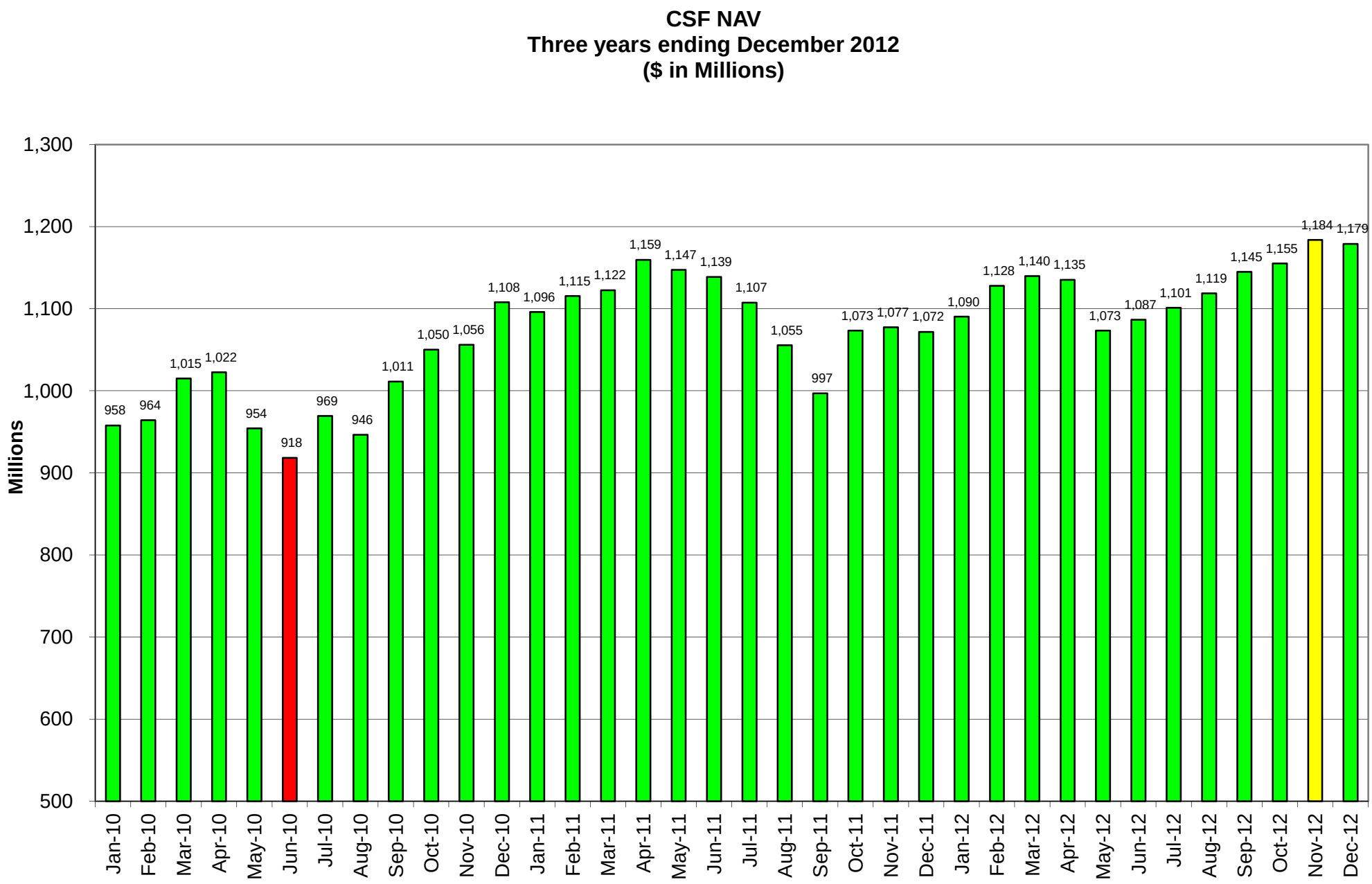

CSF Asset Allocation
35%
30%
25%
20%
15%
10%
5%
0%
30%
29%
30%
31%
10%
10%
30%
29%
0%
1%
Domestic Equities
International Equities
Private Equity
Fixed Income
Cash
Target
Actual


HIED Asset Allocation
30%
25%
20%
15%
10%
5%
0%
25%
27%
25%
25%
10%
10%
15%
14%
25%
24%
Domestic Equities
International Equities
Private Equity
Inflation Hedging
Diversifying Assets
Target
Actual


OPERF NAV
Three years ending December 2012
($ in Millions)
65,000
60,000
55,000
50,000
45,000
40,000
35,000
51,540
51,709
53,121
53,271
50,973
50,863
52,401
51,807
54,152
54,985
54,327
56,681
56,993
57,682
58,778
59,629
59,299
59,588
59,163
56,918
54,728
57,297
56,318
55,487
56,879
58,030
58,419
58,382
56,106
57,904
58,524
58,627
59,698
59,321
61,056
Jan-10
Feb-10
Mar-10
Apr-10
May-10
Jun-10
Jul-10
Aug-10
Sep-10
Oct-10
Nov-10
Dec-10
Jan-11
Feb-11
Mar-11
Apr-11
May-11
Jun-11
Jul-11
Aug-11
Sep-11
Oct-11
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

SAIF NAV
Three years ending December 2012
($ in Millions)




CSF NAV
Three years ending December 2012
($ in Millions)
Millions
1,300
1,200
1,100
1,000
900
800
700
600
500
958
964
1,015
1,022
954
918
969
946
1,011
1,050
1,056
1,108
1,096
1,115
1,122
1,159
1,147
1,139
1,107
1,055
997
1,073
1,077
1,072
1,090
1,128
1,140
1,135
1,073
1,087
1,101
1,119
1,145
1,155
1,184
1,179
Jan-10
Feb-10
Mar-10
Apr-10
May-10
Jun-10
Jul-10
Aug-10
Sep-10
Oct-10
Nov-10
Dec-10
Jan-11
Feb-11
Mar-11
Apr-11
May-11
Jun-11
Jul-11
Aug-11
Sep-11
Oct-11
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

TAB 9 – CALENDAR – FUTURE AGENDA ITEMS

2013 OIC Forward Agenda Topics

February 20:	OPERF Private Equity Review & 2013 Plan OPERF Fixed Income Portfolio Review Securities Lending Review Proxy Voting Annual Review OPERF 4th Quarter Performance Review
April 17:	OPERF Private Equity Investment OPERF Alternative Portfolio Investments (2) OSGP Annual Review Asset/Liability Study Presentation DOJ Litigation Update Investment Beliefs Offsite Discussion
May 29:	OPERF Alternative Portfolio Review OIC Investments Beliefs Adoption Annual OIC Policy Review & Update SAIF Annual Review OPERF Policy Implementation Overlay Review OPERF 1st Quarter Performance Review
July 31:	OPERF Real Estate Portfolio Review OPERF Public Equity Review
September 25:	
October 30:	Common School Fund Review CEM Benchmarking Report Internal Audit Report
December 4:	OPERF Opportunity Portfolio Review HIED Annual Review OPERF 3rd Quarter Performance Review