
Oregon Investment Council

June 1, 2016

9:00 AM

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

Katy Durant
Chair

John Skjervem
Chief Investment Officer

Ted Wheeler
State Treasurer





OREGON INVESTMENT COUNCIL

Agenda

June 1, 2016
9:00 AM

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

<u>Time</u>	<u>A. Action Items</u>	<u>Presenter</u>	<u>Tab</u>
9:00-9:05	1. Review & Approval of Meeting Minutes April 20, 2016 Committee Reports	Katy Durant <i>OIC Chair</i> John Skjervem <i>Chief Investment Officer</i>	1
9:05-9:45	2. Permira VI, L.P. <i>OPERF Private Equity Portfolio</i>	Michael Langdon <i>Senior Investment Officer, Private Equity</i> Sam Green <i>Investment Officer, Private Equity</i> Jeffrey Goldberger <i>TorreyCove Capital Partners</i> Tom Lister <i>Co-Managing Partner, Permira</i>	2
9:45-9:55	3. OIC Real Estate Consultant Recommendation	Anthony Breault <i>Senior Investment Officer, Real Estate</i>	3
9:55-10:15	4. Oregon Savings Growth Plan <i>Annual Review and Update</i>	Karl Cheng <i>Investment Officer, Portfolio Risk and Research</i> Roger Smith <i>OSGP Manager</i> Kathy Gannon <i>OSGP Program Coordinator</i>	4

TAB 1 – REVIEW & APPROVAL OF MINUTES

April 20, 2016 Regular Meeting

OST Committee Reports – Verbal



STATE OF OREGON
OFFICE OF THE STATE TREASURER
16290 SW UPPER BOONES FERRY ROAD
TIGARD, OREGON 97224

OREGON INVESTMENT COUNCIL

APRIL 20, 2016

MEETING SUMMARY

Members Present: Rukaiyah Adams, Katy Durant, Rex Kim, Steve Rodeman, John Russell, Ted Wheeler

Staff Present: Darren Bond, Deena Bothello, Karl Cheng, May Fanning, Karl Hausafus, John Hershey, Aliese Jacobsen, Michael Langdon, Carmen Leiva, Perrin Lim, Ben Mahon, Paola Nealon, Jen Plett, David Randall, Angela Schaffers, Priyanka Shukla, James Sinks, John Skjervem, Michael Viteri, Lisa Massena, Kim Olson and Garrett Cudahey

Consultants Present: Tom Martin (TorreyCove); Allan Emkin, John Linder and David Glickman (PCA); Janet Becker-Wold and James Callahan (Callan)

Legal Counsel Present: Dee Carlson, Oregon Department of Justice

The April 20, 2016 OIC meeting was called to order at 9:01 am by Rukaiyah Adams, Vice Chair.

I. **9:01 am Review and Approval of Minutes**

MOTION: Mr. Russell moved approval of the March 9, 2016 regular meeting minutes. Mr. Kim seconded the motion, which then passed by a 3/0 vote. Ms. Adams moved approval of the March 29, 2016 special meeting minutes. Mr. Russell seconded that motion, which then passed by a 3/0 vote.

COMMITTEE REPORTS

John Skjervem, OST Chief Investment Officer gave an update on the following committee actions taken since the regular March 9, 2016 OIC meeting:

Private Equity Committee:

April 13, 2016 Mayfield XV and Mayfield Select Fund \$60 million

Alternatives Committee:

None

Opportunity Portfolio Committee:

None

Real Estate Committee:

April 11, 2016 DivcoWest Real Estate Fund V \$250 million

Mr. Skjervem then described the recent exercise of staff discretion in the form of additional commitments made to existing mandates in the OPERF Alternatives and Opportunity portfolios, respectively:

Alternatives Portfolio SailingStone Capital Partners \$50 million
Global Natural Resources

Opportunity Portfolio SailingStone Capital Partners \$25 million
Natural Gas

II. 9:05 am Centerbridge Special Credit Partners III, L.P. & Centerbridge Special Credit Partners III-Flex, L.P. – OPERF Private Equity Portfolio

Subject to satisfactory negotiation of terms and conditions with Staff working in concert with legal counsel, Staff recommended a combined \$500 million commitment to Centerbridge Special Credit Partners III, L.P. (“Fund III”) and Centerbridge Special Credit Partners III-Flex, L.P. (“Fund III-Flex”) for the OPERF Private Equity Portfolio. Centerbridge (“the Firm”) is raising these two funds (the “Funds”) as a stapled offering with limited partner commitments allocated 25% to Fund III and 75% to Fund III-Flex. Accordingly, the specific recommendation offered for OIC consideration was a \$125 million commitment to Fund III and \$375 million commitment to Fund III-Flex. These proposed commitments to these Funds represent the planned continuation of an existing general partner relationship in the OPERF Private Equity Program that dates back to 2006 and includes aggregate commitments of \$435 million across three previous Centerbridge Capital Partners funds.

9:30 am Treasurer Wheeler arrived.

9:33 am Chair Durant arrived.

Centerbridge currently manages \$25 billion in total assets across two investment complexes. The Capital Partners platform has raised \$14 billion across three previous funds focused on private equity, distressed for control, and structured transactions. The Credit Funds platform focuses on non-control distressed debt investing and includes roughly \$7 billion of aggregate net asset value in the Credit Partners hedge funds and \$4 billion of total capital commitments across two previous Special Credit Partners funds. Centerbridge is now targeting \$5 billion of total capital commitments for Fund III and Fund III-Flex as a continuation of the non-control distressed strategy the Firm has successfully managed since the 1990s.

The Funds offer OPERF an opportunity to participate in a differentiated portfolio of private equity investments with relatively attractive overall terms. Staff and TorreyCove’s review of the Firm and proposed fund commitments indicates that the potential returns available to OPERF justify the corresponding investment risks.

MOTION: Ms. Adams moved approval of the staff recommendation. Mr. Russell seconded the motion which then passed by a 5/0 vote.

III. 9:46 am OPERF Alternatives Portfolio Review - Annual Update

Ben Mahon, Senior Investment Officer provided an annual review and update on the OPERF Alternatives Portfolio. Highlights of Mr. Mahon’s presentation included the following:

- Alternatives Portfolio commitments authorized in 2015 comprised \$2.15 billion across 7 separate investments;
 - In the past two years, authorized commitments have totaled \$3.4 billion across 16 investments
 - Since Alternatives Portfolio program inception, authorized commitments total \$5.2 billion cumulatively and comprise 32 investments with 21 firms
- Current Alternatives Portfolio exposures are balanced and within target ranges;
- Staff continues to refine Alternatives Portfolio strategy and develop anchor positions complemented by specialists and next generation relationships; and
- Staff finds no shortage of deal flow – rather, challenge has been discriminating among myriad opportunities.

Other 2015 Alternatives Portfolio highlights include the following:

- First strategic relationship (AQR);
- First joint venture (Twin Creeks);
- First land-based agriculture investment (Brookfield Ag Fund II); and
- First private open-ended investment (Teays River).

IV. 10:03 am OPERF Overlay Review – Annual Update

Karl Cheng, Investment Officer, Portfolio risk and Research, provided an update on the OPERF overlay program, currently managed by Russell Investments. This program, initiated in September of 2005, is used to both equitize cash balances and regularly rebalance OPERF’s actual asset allocation back to its strategic targets. Russell monitors and, if necessary, equitizes both excess cash held by external public equity and REIT managers as well as all internal OPERF cash held to fund benefit payments and capital calls. These overlay activities are implemented through highly-liquid futures contracts with margin requirements much

smaller than the contracts' "face" or "notional" values. As of March 31, 2016, the OPERF overlay program was long \$353 million in fixed income contracts and long \$1.1 billion in global equity contracts for a total notional exposure of \$1.45 billion.

V. **10:30 am OPERF, OSTF and Common School Fund - Policy Updates**

Investment Officers Paola Nealon and Garrett Cudahey and Senior Investment Officer Michael Viteri presented the next installment of staff's policy update initiative. This effort includes a comprehensive review and update of all relevant investment, fiduciary and governance policies as well as conforms policy document format with OST's new PolicyStat application. Specifically, the following individual policies were presented for Council review and approval:

- INV 301: Staff to the Oregon Short Term Fund Board (OSTFB);
- INV 602: Equity Investments: Selecting and Terminating Managements Firms;
- INV 605: Exercise of Voting Rights Accompanying Equity Securities;
- INV 606: Equity Investments: Commission Recapture;
- INV 607: Equity Investments: Manager Monitoring;
- INV 901: Common School Fund: Asset Classes, Asset Allocation and Reporting Requirements;
- INV 903: Common School Fund: Public Equity Investments;
- INV 904: Common School Fund: Fixed Income Investments; and
- INV 905: Common School Fund: Private Equity Investments.

MOTION: Ms. Durant moved approval of staff's recommendation with the exception of its proposed changes to policy "INV 607: Equity Investments: Manager Monitoring" which Ms. Adams suggested needed both additional staff research and further Council discussion. Mr. Kim seconded the motion which passed by a 4/1 vote with Mr. Russell voting against the qualified motion.

VI. **10:51 am Common School Fund**

Paola Nealon introduced Jim Paul, Director of Department of State Lands (DSL), and, in accordance with OIC Policy 4.08.07, provided a report on the Common School Fund (CSF) including investment performance and asset allocation strategy. Ms. Nealon noted that at year-end 2015, the CSF was valued at \$1.42 billion, and with an 8.1 percent average annual return, CSF investment performance exceeded corresponding benchmark results for the three-year period ended December 31, 2015. Ms. Nealon said historically about 4 percent of CSF market value has been distributed annually to Oregon schools. Mr. Paul then gave an overview of DSL history and purpose, including a description of the DSL/CSF intersection.

VII. **11:17 am Asset Allocation & NAV Updates**

Mr. Skjervem reviewed asset allocations and NAVs across OST-managed accounts for the period ended February 29, 2016.

VIII. **11:18 am Calendar – Future Agenda Items**

Mr. Skjervem presented an updated OIC meeting calendar and related agenda items.

IX. **11:18 am Other Items**

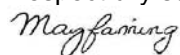
None

11:19 am Public Comments

Representative Rob Sisk from SEIU shared comments in connection with his organization's Equity and Inclusion initiative.

Ms. Durant adjourned the meeting at 11:27 am.

Respectfully submitted,



May Fanning
Executive Support Specialist

TAB 2 – Permira VI, L.P.

Permira VI, L.P.

Purpose

Subject to satisfactory negotiation of terms and conditions with Staff working in concert with legal counsel, Staff recommends approval of a \$250 million commitment to Permira VI, L.P. (the “Fund” or “Fund VI”) for the OPERF Private Equity Portfolio. This proposed commitment would establish a new general partner relationship with Permira.

Background

The Fund is being formed and sponsored by Permira Holdings Limited (“Permira” or the “Firm”), and will continue the successful sector-focused, growth-oriented buyout strategy employed in the Firm’s first five funds. Permira’s history began in 1985, when Schroder Ventures began forming a series of country specific funds in Europe. In 1996, Schroder Ventures merged the existing U.K., French, German, and Italian teams to create Schroder Ventures Europe, a pan-European investment platform, which raised its first pan-European fund in 1997. In 2001, the affiliation with Schrodgers was severed, and the resulting independent, pan-European private equity firm was rebranded as Permira. Since gaining independence, Permira has steadily expanded its geographic coverage and reach, first within Europe, then opening two offices in the United States and four in Asia. While a majority of Fund VI’s investments are expected to be European businesses, the Firm is gradually migrating toward a global investment mandate. Permira is targeting €6.5 billion of commitments for Fund VI and has set a hard-cap of €7.25 billion.

Strategy

Permira’s investment strategy rests on three central pillars: resilient growth; entrepreneurial origination; and real alpha generation.

To target resilient growth, the Firm has a strong bias towards market-leading, high quality companies and brands which have proven more resilient and defensive across economic cycles. The Firm is organized on a sector basis around five teams (technology, consumer, industrials, financial services, and healthcare). This deep sector specialization allows each team to identify structural growth themes, trends, market leaders and global growth opportunities.

Each team’s deep sector knowledge and contact network also support entrepreneurial origination of transactions. Each team leverages its network of vendors, management teams, bankers and service providers to engage early with the businesses they find most attractive. This early identification of, and proactive outreach to, attractive companies can result in proprietary transactions. Even in contested transactions, the Firm believes this proactive approach gives it a competitive advantage via an early understanding of issues and complexity and corresponding development of early investment conviction.

To generate “real alpha”, investment teams have a continuous responsibility, from origination through exit, to ensure management teams have the commitment, tools and clarity of purpose to execute Permira’s business plan. The investment team is empowered to change management, call in Permira’s Portfolio Group or use elements of each sector team’s “toolkit” to accomplish the business plan. This high level of accountability drives Permira’s approach to business growth and transformation.

Team

Permira has a deep bench of approximately 90 investment professionals, operating out of twelve global offices. The team is evenly divided between junior and senior professionals, and includes 26 partners with an average tenure of 13 years at Permira. The Firm is 100 percent owned by its partners, with no partner holding more than a single-digit percentage of the Firm and its economics. Executive leadership of the Firm lies with the Executive Committee, comprised of Co-Managing Partners Tom Lister and Kurt Björklund, John

Coyle, Alex Emery, Cheryl Potter, Jörg Rockenhäuser and Brian Ruder. Permira's Co-Managing Partners, Messrs. Lister and Björklund, have been in place since 2008, following a successful transition of Firm leadership, and have complementary skills and strengths. The pair has been responsible for sharpening Permira's investment strategy and effecting key staffing changes, and have also shifted the Firm's deal origination emphasis from geographic to sector. Both have pledged to remain in place through the life of Fund VI. Permira's functional leadership is provided by the Firm's sector and office heads.

Permira also staffs three specialist functional teams to support its investment teams. The Portfolio Group is a team of four experienced operating specialists, who assist in developing and implementing each investment's Value Creation Plan. Areas of Portfolio Group expertise include marketing, sales, supply chain management, information technology, cost optimization and internationalization. The Financing Group comprises twelve professionals across the U.S., Europe and Asia and assists with portfolio company transaction financings and capital structure optimization. This group has executed more than €40 billion of financing initiatives across the portfolio in recent years. Finally, the Legal & Structuring Group consists of seven investment and legal professionals and provides legal, tax and structuring support at both acquisition and exit.

Issues to Consider

Attributes:

- *Solid investment performance.* Since 1997, five previous Permira funds have invested €21.4 billion. As of December 31, 2015, these investments had generated an aggregate net IRR of 21.5% and a net total value multiple of 1.6x. According to Cambridge Associates data as of December 31, 2015, the five funds' performance metrics (net IRR, TVPI, DPI) rank in the first or second quartile for 13 out of 15 rankings.
- *Strong European franchise.* Permira's sterling reputation and long tenure in the European private equity ecosystem, along with its pan-European approach with multiple offices and "boots on the ground" in major markets, has created a strong franchise and helps generate ample deal flow.
- *Technology expertise.* Permira's Technology Team has generated the best overall returns among the Firm's sector teams and is very strong, which both differentiates the Firm from many competitors, and provides another tool to add value across the portfolio, as technology becomes more important to businesses across all sectors.
- *Portfolio Fit.* One of the objectives arising from the 2016 Private Equity planning session was to increase OPERF's exposure to European buyouts. This commitment presents an opportunity to meaningfully increase exposure to Europe.
- *Partnership Dynamics.* Permira has a reputation for being a transparent and communicative partner. During the global financial crisis, both the Firm and Fund IV faced significant challenges. The Firm suffered from a liquidity crisis of its largest L.P., who could not meet its capital calls, and Fund IV was written down in value to as low as 0.5x at one point. Throughout these challenges, Permira kept a level head, communicated well, and did the right thing for L.P.s ultimately preserving and recovering significant value in Fund IV.

Concerns:

- *Turnover.* Over the past ten years, Permira has had a significant amount of turnover at both the senior and more junior levels. While many of the senior level departures were for planned retirements, some senior, and most of the junior turnover, represented either voluntary or involuntary separations. [Mitigant: Staff discussed both turnover, and the reasons for it, in great depth with the Co-Managing Directors. Based on these discussions, Staff is comfortable that most turnover was attributable to "right-sizing" the Firm in response to reduced revenues from smaller fund size, and a refinement of the Firm's strategy and operating methods.]

- *Unproven Asia and Healthcare Efforts.* Over the past decade, Permira has established a geographic investment practice in Asia and a sector practice focused on healthcare. Both represent new and complex focus areas for the Firm, and both are staffed at the senior level mostly by recent joiners. [Mitigant: While Permira’s Asia and healthcare practices are largely unproven, neither is expected to represent a substantial element of Permira VI portfolio construction. After some early success in Asia a decade ago, Permira has shown impressive discipline having not done a deal in the region in several years as they have refined the strategy and resources. Likewise, Permira has been building healthcare activity at a measured pace around a team that includes a high degree of hands-on, practitioner-level industry experience. As an example, Permira’s Head of Healthcare, Mubasher Sheikh started his career as a transplant physician.]
- *Europe specific risks.* Starting in the 1980s, Europe evolved to become an attractive and proven market for private equity. Advancement of the EU project, including free trade, open borders and a common currency accelerated the development and acceptance of private equity ownership. However, during and after the global financial crisis of 2009, a number of issues emerged which caused doubt about the strength and stability of this union, including weakness of the Euro currency, sovereign debt crises, a refugee crisis and potential country exits from the union. [Mitigant: While the risks in Europe have increased in recent years, purchase price multiples have come down to compensate for increased uncertainty, and on average are lower than in North America. The OPERF private equity portfolio is well diversified, which would help mitigate the negative impacts of an adverse event in Europe.]

Terms

Terms include a market management fee, a standard carry, a European distribution waterfall, an 8% preferred return and a 100% management fee offset. Further detail on terms can be found in the TorreyCove report. Finally, no placement agent had contact with Staff in connection with this offering.

Conclusion

Permira Fund VI, L.P. represents an attractive opportunity to invest with a high-quality global buyout partner, and will increase European exposure within the OPERF private equity portfolio.



MEMORANDUM

TO: Oregon Public Employees Retirement Fund (“OPERF”)
FROM: TorreyCove Capital Partners (“TorreyCove”)
DATE: May 20, 2016
RE: Permira VI, L.P. (the “Fund”)

Strategy:

The primary focus of the Fund will be consistent with that of prior Permira funds, pursuing leveraged buyouts of medium to large sized businesses. Potential acquisitions are expected to be experiencing significant growth and should be able to benefit from outside capital or expertise. The Fund will generally seek equity investments of €250 million to €1 billion per transaction in companies with enterprise values between €500 million and €3 billion. Overall, the Fund is expected to target 20 investments, and no single investment may be greater than 15% of the committed capital of the Fund.

With regard to sectors, the Firm will target investments in the following five areas: Technology, Consumer, Industrials, Financial Services, and Healthcare. As mentioned previously, the Firm maintains dedicated sector teams who monitor and identify long-term growth trends, filtering these potential opportunities and translating them into a focused investment pipeline. There is no targeted level of diversification between these sectors; instead, the Firm will seek to invest in the most promising opportunities sourced by each different sector team.

Geographically, Permira will primarily focus on investing in businesses which have or intend to have significant activities in Europe. Businesses that fit this description are expected to make up 60% or more of the Fund’s invested capital. Of note, however, the Fund may invest up to 40% of its committed capital in businesses without significant activities in Europe. The Firm maintains offices in North America and Asia, the two geographies that are expected to make up the bulk of the investments outside of Europe. Of note, however, the Firm has historically made investments in geographies where they do not maintain a dedicated presence, such as Israel and South Africa.

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 Corporate Finance investment sub-sector and will further be categorized as an International investment. As of the December 31, 2015 report, OPERF’s allocation to 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 December 31, 2015	Target	FMV	FMV + Unfunded
Corporate Finance	65-85%	66%	67%



Conclusion:

The Fund 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 up to \$250 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 – OIC Real Estate Consultant Recommendation

OIC Real Estate Consultant Contract

Purpose

Address the OIC's real estate consultant contract which expires on June 30, 2016.

Background

Under OIC Policy INV 210 (attached), consultant contracts are awarded for three-year periods, can be renewed no more than twice, and are limited to a final expiration date not greater than four years beyond the original expiration. At the end of seven years, contracts shall be re-bid and a new seven-year cycle begins. The current real estate consulting contract with Pension Consulting Alliance (PCA) will reach the end of its first three-year period at June 30, 2016.

Discussion

Given recent revisions to OPERF real estate strategy, and subsequent implementation efforts currently underway, Staff believes it prudent to defer the solicitation process for an OIC real estate consultant until the first two-year extension period expires in 2018.

Recommendation

Staff proposes extending PCA's current contract, subject to existing fees and terms, for an additional two-year period ending June 30, 2018.

TAB 4 – Oregon Savings Growth Plan

Oregon Savings Growth Plan Annual Review & Investment Proposals

Purpose

To provide an annual update on the Oregon Savings Growth Plan. Staff is also submitting the following recommendations for OIC approval:

1. Extend the consulting contract with SageView Advisory Group for an additional, one-year term; and
2. Relax the limitations on the Self-Directed Brokerage Account option.

Background

The Oregon Savings Growth Plan (the “Plan” or “OSGP”) is the State of Oregon’s 457 Deferred Compensation plan. OSGP is a voluntary supplemental retirement plan that provides eligible state and local government employees the opportunity to defer a portion of their current salary on a pre-tax or after-tax (Roth) basis. These deferrals are invested in various investment options until participants draw funds at retirement. The Plan offers an array of equity and fixed income investment options, a suite of target-date retirement funds (which in aggregate constitute a single investment option) and a self-directed brokerage option (the “SDBO”). The plan has over 26,000 participants and assets totaling approximately \$1.68 billion as of March 31, 2016.

Oversight of the Plan’s **administrative operation** is the responsibility of the Oregon Public Employees Retirement System Board (the “PERS Board”) with support from OSGP staff. Additional oversight is provided by a seven-member Deferred Compensation Advisory Committee (the “Advisory Committee”) established under ORS 243.505. The Advisory Committee studies and advises the PERS Board on various Plan issues, such as:

- State and federal legislation related to the administration of a deferred compensation plan;
- Catch-up and financial hardship provisions in Section 457 of the IRS Code;
- OSGP administrative and operating fees;
- Plan procedures and participant and actuarial statistics;
- Education efforts on behalf of eligible employees; and
- Plan participants’ feedback and requests.

OSGP Structure

Plan options include a mix of passive and active investment strategies using both institutional commingled trusts and mutual funds. OSGP also includes several managers currently retained by OIC as part of its OPERF oversight responsibilities. The benefits of this structure include: 1) lower overall investment management fees; 2) more effective monitoring of funds/managers by OST staff; 3) diversified and complementary portfolio management styles within each option; and 4) efficient management of participant-directed cash flows between and among options. This structure also enables account holders to focus on the all-important asset allocation decision rather than relatively inconsequential active manager selections. The Plan’s target-date retirement funds are institutional commingled trusts managed by BlackRock, and these trusts comprise indexed implementations of ten unique strategic asset allocation plans specifically designed for participants according to their individual, anticipated retirement year.

See Appendix for OSGP investment menu options, these options’ underlying mandates, and the options’ associated management fees as of March 31, 2016. Beyond management fees, OSGP participants also incur a 10 basis point trustee fee and a 7 basis point administration fee.

Discussion

1. Extend Existing Consulting Contract with SageView Advisory Group

In August 2009, Arnerich Massena (“AM”) was retained as the OSGP investment consultant. In March 2016, Jake O’Shaughnessy and Stuart Payment, the investment consultants leading the OSGP engagement, left AM to join SageView Advisory Group (“SageView”) as part of a transition the two firms agreed to earlier in the year. Given that Messrs. O’Shaughnessy and Payment would continue to work with OSGP, staff assigned the investment consulting contract, set to expire in August 2016, over to SageView. Since then, PERS has initiated a strategic review of OSGP. Therefore, staff will postpone the previously-scheduled investment consultant RFP, and recommends the OIC approve a one-year contract extension with SageView.

2. Relax the Restrictions on the Self-Directed Brokerage Option (“SDBO”)

OSGP participants are currently able to invest in other funds through a Schwab self-directed brokerage account (“SDBA”). At present, there are three OIC-set limitations on this option:

- SDBA investments are limited to U.S.-listed securities, mutual funds, and exchange-traded funds;
- To open a SDBA, Plan participants must have a minimum OSGP balance of \$10,000; and
- In a Plan participant’s OSGP account, the maximum percentage allocation to the SDBO is set at 50%.

As of March 31, 2016, the SDBO had 117 participants and 0.40% of total plan assets. Almost all OSGP participants are vested with Oregon PERS and can expect a relatively stable income stream at retirement. At their February 2016 meeting, the Advisory Committee considered relaxing both the minimum balance and maximum percentage allocation limitations. The Advisory Committee ultimately agreed to recommend raising the maximum percentage allocation to 75%, but deferred its review on lowering the minimum balance requirement.

Staff recommends relaxing two of the constraints beyond the Advisory Committee’s recommendation, with the expectation that the Advisory Committee’s more conservative guidelines would set limitations. The proposed changes are:

- Reduce the required minimum OSGP balance to \$5,000; and
- Maintain the maximum SDBO allocation at 90%.

Participation in OSGP is elective for PERS-eligible members and the SDBO provides an alternative for participants wanting greater flexibility than what they can accomplish with the other options. One motivation for this proposal is that it affects only a small group of participants. In fact, since the OIC approved the SDBO in February 2011, SDBO participation has never exceeded 0.50% by assets. Another motivation is that the Advisory Committee is still reviewing the SDBO limitations. Providing the Advisory Committee greater flexibility will allow it to make further small changes without requiring another decision by the OIC.

Appendix

OPTION / FUND	ENDING FUND MARKET VALUE	% OF OPTION MKT VALUE	NET FEE
OREGON SAVINGS GROWTH PLAN	1,683,771,214		18.3
SHORT-TERM FIXED INCOME OPTION	43,042,042	100.0%	5.0
SSGA GSTIF	43,042,042	100.0%	5.0
STABLE VALUE OPTION	204,253,229	100.0%	41.9
Galliard Capital Management	204,253,229	100.0%	41.9
ACTIVE FIXED INCOME OPTION	105,295,553	100.0%	18.4
BlackRock US Debt	36,170,741	34.4%	5.0
DoubleLine Total Return Bond	34,334,072	32.6%	43.0
Wellington Capital Bond Core Plus	34,790,740	33.0%	8.0
LARGE CAP VALUE EQUITY OPTION	156,292,231	100.0%	3.2
BlackRock Russell 1000 Value	156,292,231	100.0%	3.2
TOTAL MARKET EQUITY INDEX OPTION	190,874,776	100.0%	4.5
BlackRock Russell 3000 Fund	190,874,776	100.0%	4.5
ENVIRONMENTAL SOCIAL GOVERNANCE OPTION	2,341,091	100.0%	18.0
TIAA-CREF Social Choice Equity	2,341,091	100.0%	18.0
LARGE CAP GROWTH EQUITY OPTION	172,885,388	100.0%	3.2
BlackRock Russell 1000 Growth	172,885,388	100.0%	3.2
INTERNATIONAL EQUITY OPTION	94,498,839	100.0%	37.5
AQR International Equity	23,574,120	24.9%	60.0
BlackRock ACWI ex-US	23,608,382	25.0%	12.0
DFA Emerging Markets Core I	9,901,398	10.5%	62.0
DFA International Core Equity	14,137,801	15.0%	38.0
Lazard ACWI ex-US	23,277,138	24.6%	30.0
REAL RETURN OPTION	1,453,679	100.0%	63.7
GMO Benchmark Free Allocation F	482,492	33.2%	91.0
SSgA Real Assets Strategy	522,703	36.0%	22.0
Wellington Real Total Return	448,483	30.9%	83.0
SMALL CAP EQUITY OPTION	212,986,038	100.0%	40.5
BlackRock Russell 2000	63,980,718	30.0%	4.5
Callan Dividend Trust	74,413,352	34.9%	75.0
DFA Small Cap Equity	74,591,968	35.0%	37.0
TARGET-DATE FUND OPTION	493,119,246	100.0%	12.0
BlackRock LifePath 2020	116,559,152	23.6%	12.0
BlackRock LifePath 2025	69,268,198	14.0%	12.0
BlackRock LifePath 2030	48,248,679	9.8%	12.0
BlackRock LifePath 2035	33,784,329	6.9%	12.0
BlackRock LifePath 2040	20,622,609	4.2%	12.0
BlackRock LifePath 2045	12,623,944	2.6%	12.0
BlackRock LifePath 2050	13,055,103	2.6%	12.0
BlackRock LifePath 2055	4,926,300	1.0%	12.0
BlackRock LifePath 2060	1,214,961	0.2%	12.0
BlackRock LifePath Retirement	172,815,972	35.0%	12.0
SELF-DIRECTED BROKERAGE OPTION	6,729,102	100.0%	0.0
Charles Schwab SDBA	6,729,102	100.0%	0.0

OREGON INVESTMENT COUNCIL POLICY

INTRODUCTION & OVERVIEW

Summary Policy Statement

The Oregon Investment Council (OIC) will maintain a program for the investment of moneys in the Deferred Compensation Fund (the "Deferred Compensation Investment Program" or "Program") providing an array of investment options with varying levels of risk and return for eligible participating employees.

Purpose and Goals

The goal of this policy is to describe in greater detail the manner of implementing and reporting applicable investment options for eligible participating employees.

Applicability

Classified represented, management service, unclassified executive service

Authority

The Deferred Compensation Fund maintained by the State Treasurer and the OIC's obligation to maintain a Deferred Compensation Investment Program for investment of Fund assets is set forth in ORS chapter 243. The statutory standards by which the OIC guides Program investment are set forth in ORS chapter 293.

POLICY PROVISIONS

Definitions

None.

Policy Statements

GENERAL POLICY STATEMENTS

1. **Investment Option Approval.** The OIC approves Program investment options consistent with ORS 293.721, "to make the moneys as productive as possible" consistent with the "standard of prudence" requirement in ORS 293.726 and other applicable fiduciary standards.
2. **Program Description and Review.** The OIC will provide a description of Program investment options to the Public Employees Retirement Board ("PERB"), including the applicable benchmark for each option and a description of the characteristics of each benchmark. The OIC will undertake a comprehensive review of Program options and managers at the recommendation of OST investment staff and no less frequently than once every four years.

3. **Changing Program Options.** The OIC may change Program investment options, including applicable benchmarks and investment managers at any time. Any change in Program options or investment managers will be reported to PERB in advance, whenever practicable.
4. **Program Participation.** The Program is open to qualified public employees on a voluntary basis, and is offered as a means by which eligible participating employees may augment their retirement savings. Eligible employees choose their own level of participation based, *inter alia*, on their assessment of future retirement needs. The level of assets a participating employee accumulates through Program investment is a direct function of that participant's level of earnings deferral and the investment performance of the Program options he or she selects.
5. **Selection of Program Options.** In selecting Program investment options and Program investment managers, the OIC may consider factors including, but not limited to, the population of potential participants and their varying needs, available investment products and strategies, and the qualifications, experience, performance, and cost of actual and potential investment managers. The OIC intends to provide a range of investment options responsive to participant interests and appropriate for this type of retirement savings program. The Council expects participants to make their own assessment of Program investment options relative to their unique risk tolerance and return objectives, as well as their other sources of retirement funding. There is no guarantee of principal or earnings in the Program, and eligible employees participate at their own risk.
6. **Program Management.** The Program will be managed and monitored consistent with the OIC's policies and procedures regarding selecting, managing and terminating Program managers as found in **INV 802: Selecting, Managing, and Terminating Program Firms**.
7. **Participant Disclosure Requirements.** Staff will work with the Public Employees Retirement System ("PERS") Plan Administrator to provide necessary information for compliance with participant disclosure requirements as described in ORS 243.450.
8. **Program Information Requests.** Staff will work with the PERS Plan Administrator to provide any other requested Program information.
9. **Program Population Characteristics.** Staff will periodically provide the OIC with Program population characteristics for use in their evaluation of Program options and investment managers. Staff will request such information from the PERS Plan Administrator.
10. **Communication with PERB.** Staff will periodically present the OIC with information for consideration from PERB regarding the expressed desires of participants related to Program investment options. The duties and powers of PERB and the OIC concerning the Program, while separate and distinct, are also complementary. This dynamic creates a need for coordination and cooperation between the two bodies. At the OIC's request, OST investment staff will facilitate information flow between the OIC and PERB. Moreover, OST investment staff will also report in advance, whenever practicable, any change in Program investment options or investment managers to PERB in a timely manner.
11. **Program Review.** OST investment staff will periodically bring current and potential investment options to the OIC for review and consideration, including as requested by the OIC.

INVESTMENT PROGRAM

The Program currently offers the following investments options:

a. Short Term Fixed Income

i. **Objective:** Preservation of capital with a moderate level of earnings by investing primarily in fixed income instruments issued by the U.S. Government and its agencies. Risk, as measured by volatility of returns, is expected to be very low. However, particularly for long-term investors, participants in this option need to consider the possibility of value erosion due to inflation, as well as possible (if historically remote) liquidity and credit risks. Net of management fees, investment performance is expected to generally meet or exceed benchmark returns.

ii. **Benchmark:** 91-day U.S. Treasury Bills

b. Stable Value

i. **Objective:** Stability of capital while maintaining a stream of income by investing in contracts issued by insurance companies, banks, and other short-term liquidity vehicles. Risk, as measured by volatility of returns, is expected to be very low. However, particularly for long-term investors, participants in this option need to consider the possibility of value erosion due to inflation, as well as possible liquidity and credit risks. Net of management fees, investment performance is expected to generally meet or exceed benchmark returns.

ii. **Benchmark:** Five-year Constant Maturity U.S. Treasury

c. Active Fixed Income

i. **Objective:** Higher levels of current income are expected in this option relative to the Short Term Fixed Income option by investing in a broader range of fixed income securities, including U.S. Treasury notes and bonds, investment-grade corporate bonds, high-yield and foreign fixed-income securities. Risk, as measured by volatility of returns, is expected to be higher in this option than the Short Term Fixed Income option, and negative returns may be realized during periods of rising interest rates. Participants in this option, particularly long-term participants, should also consider the possibility of value erosion due to inflation, as well as possible liquidity and credit risks. Net of management fees, investment performance is expected to generally meet or exceed benchmark returns.

ii. **Benchmark:** Barclays Capital U.S. Aggregate Bond Index

d. Large Cap Value Equity

i. **Objective:** Long-term growth of capital through investment in common stocks, with a focus on buying securities at low valuations either on an absolute or market-relative basis. Large Cap Value Equity portfolios tend to be defensive in nature and typically exhibit below-average price/earnings ratios, below-average price/book ratios, and/or above average dividend yields. Risk, as measured by volatility of returns, is expected to be moderate to high. Net of management fees, investment performance is expected to generally meet or exceed benchmark returns.

ii. **Benchmark:** Russell 1000 Value Index

e. Total Market Equity Index

i. **Objective:** Long-term growth of capital through investment in common stocks with capitalization and valuation characteristics in line with broad market averages. Risk, as measured by volatility of returns, is expected to be moderate to high, and current income is not a primary objective. Net of management fees, investment performance is expected to

generally meet benchmark returns.

ii. **Benchmark:** Russell 3000 Index

f. **Environmental Social Governance (ESG) Option**

i. **Objective:** Long-term growth of capital through investment in common stocks with capitalization and valuation characteristics in line with broad market averages, and strategy implementation guided by additional Environmental Social Governance (ESG) considerations. Risk, as measured by volatility of returns, is expected to be moderate to high, and current income is not a primary objective. Net of management fees, investment performance is expected to generally meet benchmark returns.

ii. **Benchmark:** Russell 3000 Index

g. **Large Cap Growth Equity**

i. **Objective:** Long-term growth of capital through investment in common stocks with above-average growth and profitability prospects. In contrast to the Large Cap Value Equity option, typical characteristics of the Large Cap Growth Equity option are below-market dividend yields and above-average risk, as measured by price volatility relative to the benchmark. Current income is not a primary objective, and risk, as measured by volatility of returns, is expected to be high. Net of management fees, investment performance is expected to generally meet or exceed benchmark returns.

ii. **Benchmark:** Russell 1000 Growth Index

h. **International Equity**

i. **Objective:** Long-term growth of capital through investment, primarily, in common stocks of non-U.S. companies. These funds will experience factors unique to investing in international markets, such as exchange rate volatility and less correlated business cycle effects. Risk, as measured by volatility of returns, is expected to be high. Net of management fees, investment performance is expected to generally meet or exceed benchmark returns.

ii. **Benchmark:** MSCI ACWI ex-U.S. Index

i. **Small Cap Equity**

i. **Objective:** Long-term growth of capital through investment in common stocks of small-capitalization companies with capitalization and valuation characteristics in line with corresponding broad, small capitalization market averages. A typical characteristic of these funds is below-market dividend yields. Risk, as measured by volatility of returns, is expected to be high, and current income is not a primary objective. Net of management fees, investment performance is expected to generally meet or exceed benchmark returns.

ii. **Benchmark:** Russell 2000 Index

j. **Target Date Retirement Funds**

i. **Objective:** Provide participants with an asset allocation that changes dynamically over time. Specifically, a target date fund has a more aggressive asset allocation earlier in its life that becomes more conservative as the target date approaches. Target date funds will be highly diversified and include several asset classes selected by the fund manager. Performance and volatility expectations will vary based on the asset allocation and risk profile of each fund.

ii. **Benchmark:** Each target date fund will have a separate, custom benchmark based on its asset allocation.

iii. **Rebalancing:** The fund manager is responsible for rebalancing each target date fund's asset allocation.

k. **Self-Directed Brokerage Account (SDBA)**

i. **Objective:** Provide participants self-directed access to investments that may not be included in

other Program options, but may be appropriate for a participant based on his or her individual financial situation, risk tolerance, or investment beliefs and preferences. Since this option is self-directed, performance and volatility may vary widely based on each participant's individual investment selections. Only participants with a minimum Oregon Savings Growth Plan (OSGP) balance of \$~~105~~,000 will be allowed access to the SDBA option, and participants will only be allowed to allocate a maximum of ~~50-90~~ percent of their total OSGP balance to the SDBA Option.

1. **Real Return Option**

- i. **Objective:** Provide participants access to a mix of assets that will provide a return that meets or exceeds inflation over a full market cycle. Underlying assets could include real assets, such as direct and indirect commodities or real estate exposure, as well as inflation-linked bonds. A secondary purpose of this option is to provide a return stream potentially less correlated to typical stock or bond funds. Risk, as measured by volatility of returns, is expected to be moderate.
- ii. **Benchmark:** Consumer Price Index (CPI-U) + 3%

Exceptions

None.

Failure to Comply

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

PROCEDURES and FORMS

None.

ADMINISTRATION

Feedback

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



oregon
SAVINGS GROWTH PLAN

Looking forward to new horizons.

Program Overview

Presented By: Roger Smith and Kathy Gannon

Purpose

The Oregon Savings Growth Plan (OSGP) is a 457(b) deferred compensation plan that provides Oregon public employees with a convenient way to save for retirement by allowing them to contribute a portion of their salary on a pre or after tax basis.

Participation

Employers: ORS 243.474 authorizes the state to offer its 457 deferred compensation program to all Oregon public employers including special districts, local governments, and school districts.

Employees: All Oregon state employees are eligible as well as employees of local governments and school districts if their employer has adopted the plan through action of their governing body.

PERS 2015 – 2020 Strategic Plan

Member Services and Communications

For the last decade, PERS' member education and outreach has focused primarily on those who are within two years of their effective retirement date. This just-in-time focus does not provide members with a full understanding of the need to financially prepare for retirement over their entire career.

PERS recognizes that providing members with useful tools, resources, and education earlier, and throughout their careers, will better support our goal of having engaged and educated stakeholders.

A key component of this education will be the need for members to augment their PERS retirement with other means, such as deferred compensation and personal savings.

A little history...

- 1978 - Section 457 of the Internal Revenue Code enacted
- 1981 – First deferrals went in to OSGP
- 1991 – OSGP moved from Executive Department to PERS
- 1996 – Plan and investment line-up restructured
- 1997 – A trust was created and PERS Board named trustee
- 1999 – First local government adopted OSGP

Oversight, Authority and Administration

- Trustee - PERS Board
- Investment Oversight - Treasury and OIC
- Record Keeper - VOYA
- Custodian – State Street
- Administrator – PERS/OSGP
- Consultant - Sageview
- OSGP Advisory Committee



Staffing

- Manager
- Program Coordinator
- Program Analyst
- Program Counselors (3)
- Program Outreach (4)
 - 2 OSGP
 - 2 Voya



Highlights

- 2007 – Loan program added
- 2008 – Target date funds added
- 2008 - Trading restrictions implemented
- 2009 – Self-Directed Brokerage Window added
- 2012 – Roth 457 introduced
- 2015 – Socially responsible fund and real return fund added

What makes the plan attractive?

- Low administrative fees - 17 bps (OSGP 7, TPA 10)
- Portability
- 3-year catch-up provision
- Loans
- Unforeseeable Emergency Withdrawals
- De Minimis Withdrawal
- Exemption from 10% penalty on withdrawals before age 59 ½

Plan Features

- Minimum contribution is \$25 per month
- Maximum regular contribution limit is \$18,000
- Maximum for age 50+ is \$24,000
- Maximum 3-year catch-up is \$36,000 per year
- Roth 457 contribution – conversions during or after employment
- Automatic rebalance feature
- Accept rollovers from other eligible plans, including IAP, and qualifying IRAs

Investment Options

Target Date Funds

LifePath Retirement
LifePath 2020
LifePath 2025
LifePath 2030
LifePath 2035
LifePath 2040
LifePath 2045
LifePath 2050
LifePath 2055
LifePath 2060

Individual Asset Funds

Short-Term Fixed
Stable Value
Active Fixed Income
Large Company Value Stock
Stock Index
Large Company Growth Stock
International Stock
Real Return
Small Company Stock
Socially Responsible Investments

Self-Directed Brokerage Option

Charles Schwab Personal Choice Retirement Account (PCRA)

Statistics as of March 31, 2016

- Assets: \$1.7 billion
- Participants: 26,600
- Actively contributing: 16,404
- Active but not contributing: 3,488
- Terminated/Retired: 6,708
- Roth Participation: 2,247

Plan Growth History

	Plan Assets	Participants	Local Governments	LG Participants
2015	\$1,658,971,202.37	26,610	257	3,835
2014	\$1,662,837,742.88	25,204	247	3,615
2013	\$1,566,280,065.52	24,761	239	3,620
2012	\$1,320,111,877.06	23,464	228	3,559
2011	\$1,169,314,846.84	23,276	221	3,422

Objectives

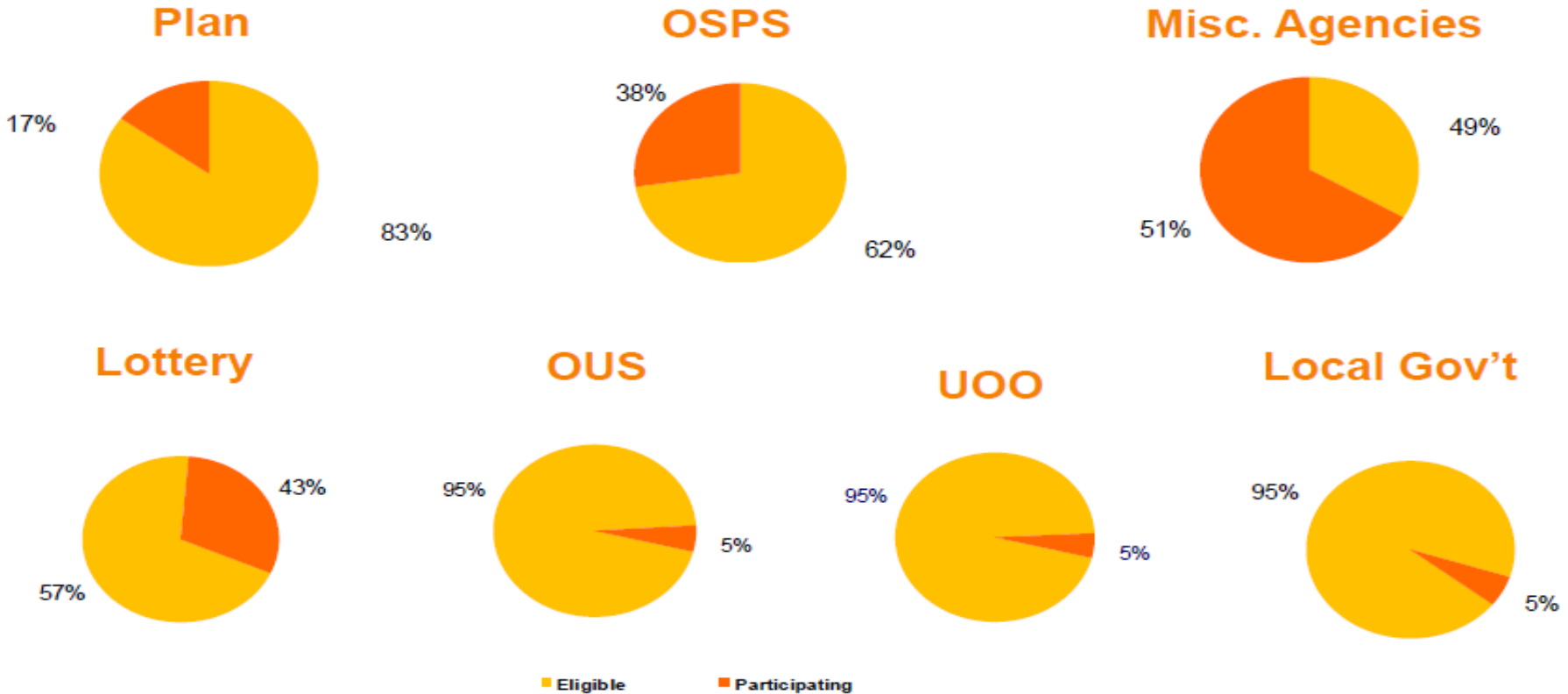
- Increase participation and deferrals
 - Opt-In/ Opt Out Enrollment for new employees
 - On-line Enrollment
 - Participant Engagement
- Education
- Workshops
- One on One
- Marketing



Participation by Payroll Source

Plan participation

March 31, 2016



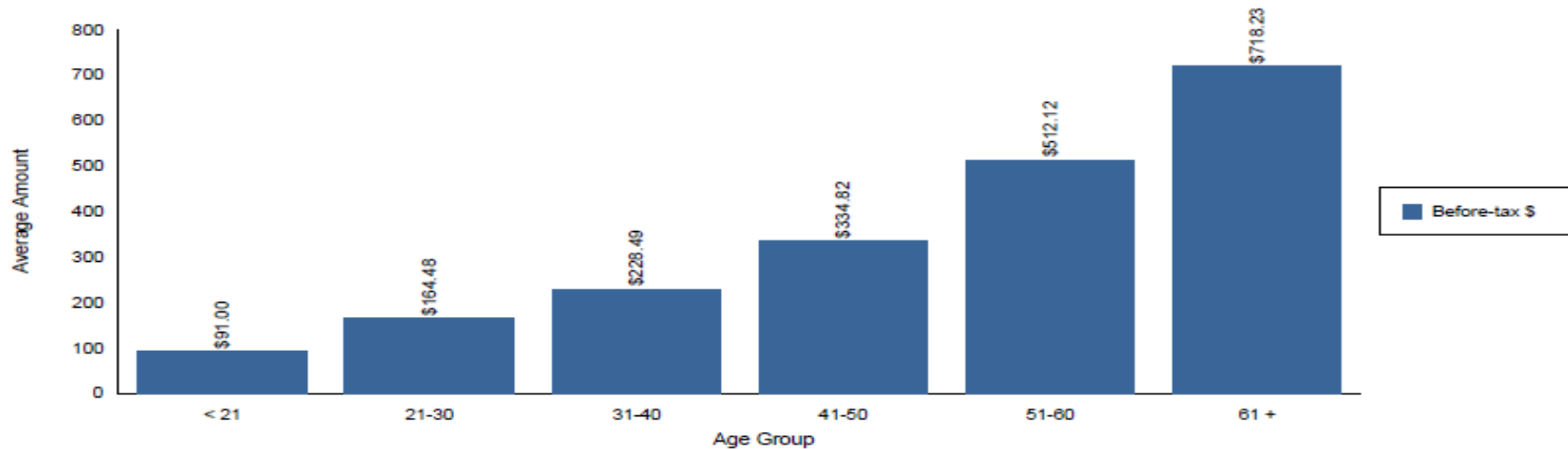
For Plan Sponsor use only

Average Contribution Amount Pre-Tax

Average Contribution Amount

Period Ending March 31, 2016

OREGON SAVINGS GROWTH PLAN



< 21	\$91.00
21-30	\$164.48
31-40	\$228.49
41-50	\$334.82
51-60	\$512.12
61+	\$718.23
Average	\$421.48

For Plan Sponsor use only

[http://www.oregonpension.com/plan/summary/summary.html](#) | [http://www.oregonpension.com/plan/summary/summary.html](#) | [http://www.oregonpension.com/plan/summary/summary.html](#)

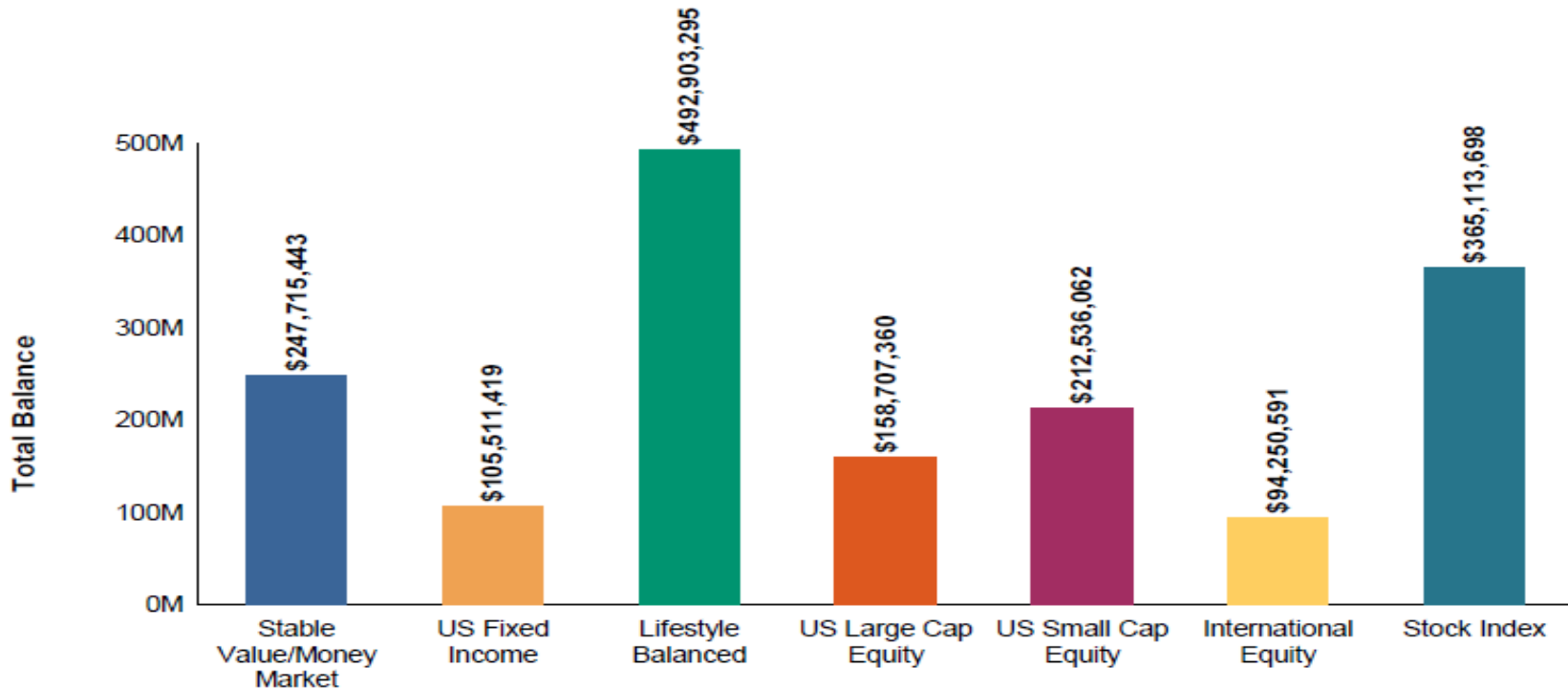
PLAN | INVEST | PROTECT

Current Asset Allocation

Asset Class Summary

Period Ending March 31, 2016

OREGON SAVINGS GROWTH PLAN



For Plan Sponsor use only

PLAN | INVEST | PROTECT



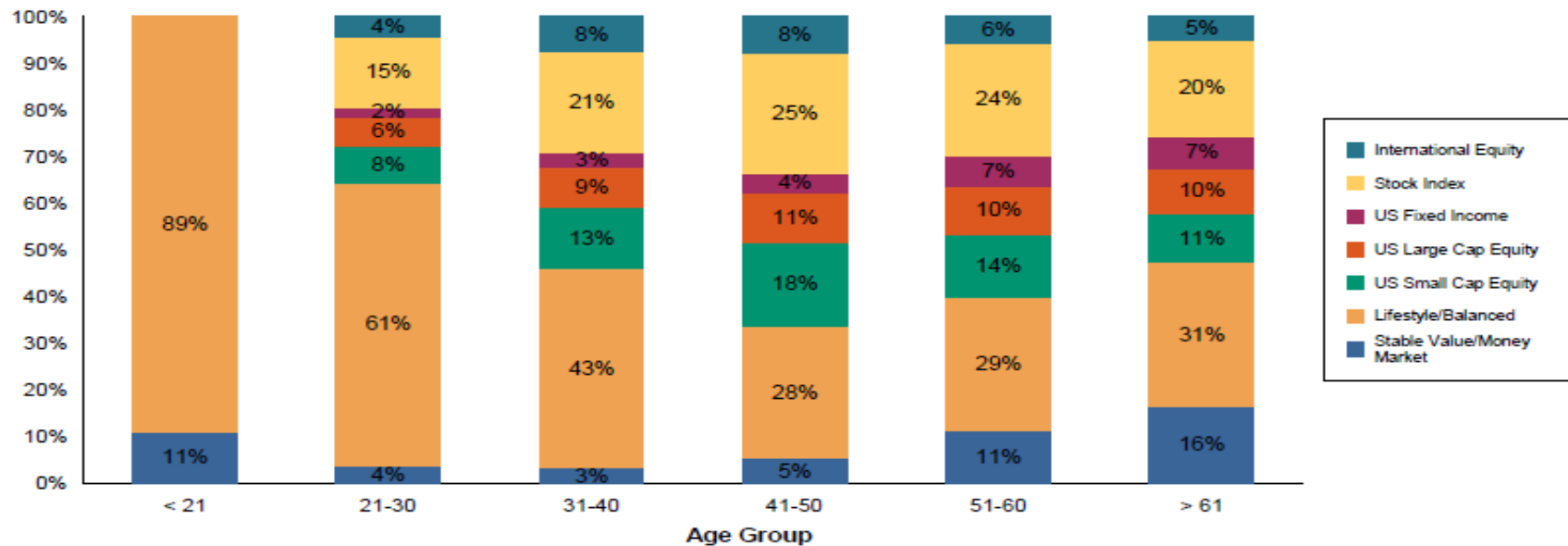
VOYA
FINANCIAL

Asset Class Balances by Age Group

Asset Class Balances by Age Group

Period Ending March 31, 2016

OREGON SAVINGS GROWTH PLAN



Age Range	< 21	21 - 30	31 - 40	41 - 50	51 - 60	> 61
Total Balance	\$8,418	\$4,141,074	\$59,795,560	\$208,016,209	\$444,840,021	\$312,613,698
Total Participants	3	1,030	3,815	5,532	6,497	3,169

For Plan Sponsor use only

TAB 5 – Oregon Intermediate Term Pool

Oregon Investment Council
June 1, 2016

**Oregon Intermediate Term Pool
Update**

Tom Lofton, CFA
Perrin Lim
Garrett Cudahey, CFA, CPA
Angela Schaffers

Purpose

- Informational update on the Oregon Intermediate Term Pool (OITP).

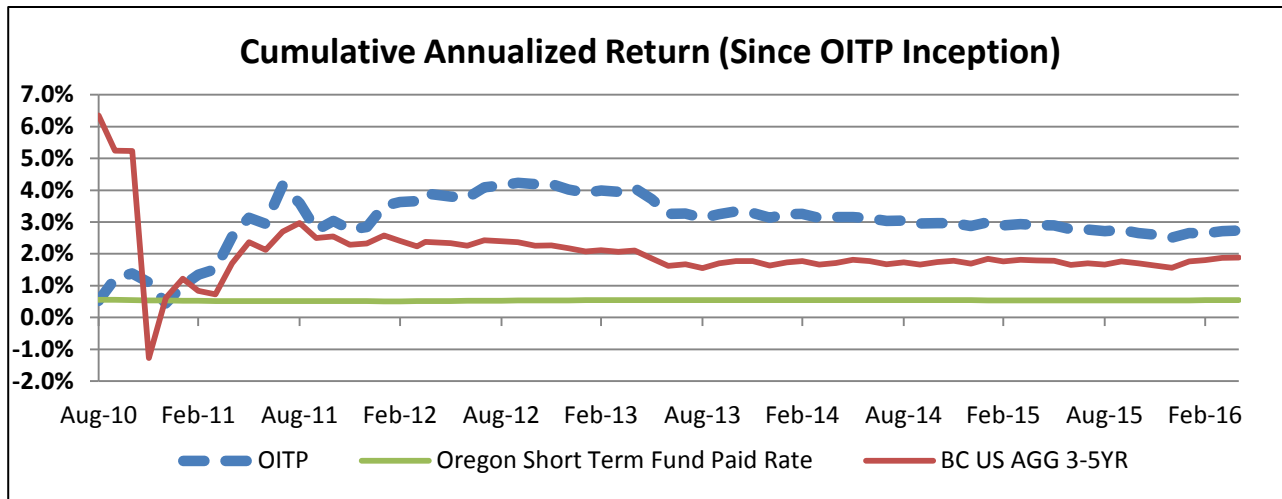
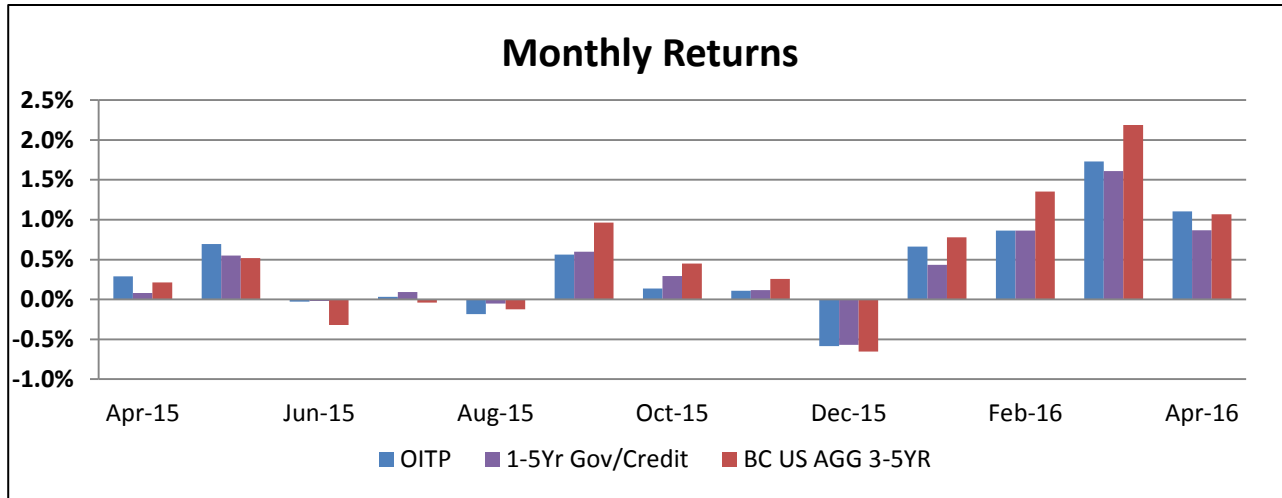
Overview

- OITP launched in 2010 for qualified state agency funds.
- Serves as an investment vehicle for surplus funds with a longer-term investment horizon, and is expected to generate higher returns than available from the Oregon Short Term Fund (OSTF).
- Total return mandate with fluctuating NAV per share.

Developments

- AUM increased 28% year-over-year as of April 30, 2016 to \$299.5 million.
- As of April 30, 2016, there were 9 state agency fund participants.

Performance



Sources of Return (Year-to-Date)

Sectors	Market Value	Total Return (bp)	Market Factors						Accounting Factors			
			Roll Down (bp)	OAS Change (bp)	OAS Level (bp)	Duration (bp)	Curve (bp)	Convexity (bp)	Price (bp)	Paydown (bp)	Income (bp)	Trade (bp)
Total	100.0%	204.2	42.6	11.9	28.2	139.7	-33.2	0.9	122.7	0.2	80.8	0.5
Treasuries	21.6%	50.2	12.9	0.0	0.1	42.5	-8.5	0.3	33.6	0.0	16.7	0.0
Government Related	5.8%	11.7	2.8	0.9	0.7	8.8	-2.2	0.1	6.3	0.0	5.6	-0.2
Corporates	39.9%	95.0	15.8	7.8	20.6	55.6	-10.4	0.5	56.5	0.0	39.9	-1.4
Securitized	29.7%	47.2	11.0	3.3	6.8	32.4	-11.9	0.1	26.4	0.2	18.6	2.0
Cash Securities	3.0%	0.0	0.0	0.0	0.0	0.5	-0.1	0.0	0.0	0.0	0.0	0.0

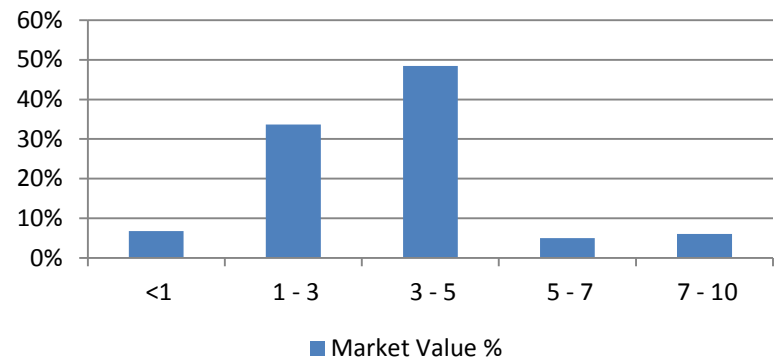
Top Contributors	Market Value	Contribution to Return						Bottom Contributors	Market Value	Contribution to Return					
		Total Return (bp)	OAS Change (bp)	OAS Level (bp)	Duration (bp)	Curve (bp)	Roll Down (bp)			Total Return (bp)	OAS Change (bp)	OAS Level (bp)	Duration (bp)	Curve (bp)	Roll Down (bp)
TOTAL	12.6%	54.4	16.9	5.0	25.5	-3.9	7.8	TOTAL	5.6%	-8.8	-16.3	3.1	5.4	-0.7	0.7
HOSPITALITY PROP 4.25 2/15/21	1.7%	8.3	5.4	1.4	1.5	-1.1	0.9	CONOCOPHILLIPS FLT 5/15/22	1.3%	-5.8	-8.2	0.9	0.0	0.0	0.0
CITIGROUP 4.6 3/9/26	1.4%	7.8	6.1	0.7	1.1	-0.1	0.6	TRANSALTA 6.65 5/15/18	-	-1.8	-4.1	1.3	0.9	-0.5	0.2
LOCKHEED MARTIN 2.5 11/23/20	0.9%	5.5	0.7	0.4	3.7	-0.4	0.9	MORGAN STANLEY FLT 7/15/20	0.7%	-0.5	0.0	0.0	0.1	-0.1	0.0
MSC_2015_UBS8 3.324 12/15/48	1.9%	5.3	0.8	0.3	1.7	-0.3	0.6	WELLS FARGO FLT 12/7/20	-	-0.5	-2.5	0.0	3.8	0.1	0.4
UST 3.5 05/15/20	1.8%	5.1	0.0	0.0	4.1	-0.7	1.2	FORD MTR CREDIT FLT 6/15/18	-	-0.2	-0.7	0.4	0.1	-0.1	0.0
PUBLIC SVC ELEC 3.0 5/15/25	0.7%	4.9	1.0	0.2	3.0	-0.1	0.6	FHLMC MBS 3.5 3/1/46	0.2%	0.0	0.0	0.0	0.0	0.0	0.0
TENN VALLEY 2.875 9/15/24	0.7%	4.7	1.0	0.2	2.9	-0.1	0.6	GOLDMAN SACHS FLT 11/29/23	0.8%	0.0	-0.7	0.5	0.0	0.0	0.0
DANAHER 2.4 9/15/20	1.0%	4.5	1.2	0.2	2.5	-0.3	0.7	CASH HELD IN 592W	2.6%	0.0	0.0	0.0	0.5	-0.1	0.0
ROPER TECH 3.0 12/15/2020	1.0%	4.4	0.7	0.5	2.6	-0.2	0.7	DOMTAR 10.75 6/1/17	0.0%	0.0	0.0	0.0	0.0	0.0	0.0
GOVT PROPERTIES 3.75 8/15/19	1.4%	4.1	0.1	1.1	2.5	-0.6	0.8	UBSBB_12-C4-A1 0.6728 12/10/45	0.0%	0.0	0.0	0.0	0.0	0.0	0.0

Current Snapshot (as of 5/17/16)

Sector/Industry	Market Value %	Duration	Spread Duration	Duration Contribution	Spread Duration Contribution	Gain / (Loss) %	Book Yield (GAAP)
Total	100.0%	2.6	2.5	2.6	2.5	1.5	1.9
Treasuries	22.3%	3.5	0.0	0.8	0.0	0.2	1.4
Government Related	6.7%	3.0	3.0	0.2	0.2	0.3	1.8
Agency	4.5%	3.2	3.3	0.1	0.1	0.1	1.5
Municipal	2.2%	2.6	2.6	0.1	0.1	0.2	2.4
Corporates	37.8%	2.8	4.3	1.1	1.6	0.9	2.6
Industrial	20.4%	2.6	4.3	0.5	0.9	0.4	2.3
Utility	0.7%	7.8	7.9	0.1	0.1	0.0	3.0
Financial Institutions	16.7%	2.8	4.0	0.5	0.7	0.5	3.0
Securitized	30.5%	2.0	2.2	0.6	0.7	0.1	1.6
MBS Pass-Through	0.3%	2.8	4.6	0.0	0.0	0.0	1.6
ABS	17.6%	1.5	1.8	0.3	0.3	0.0	1.3
CMBS	11.7%	2.7	2.7	0.3	0.3	0.1	1.8
CMO	1.0%	1.8	2.0	0.0	0.0	0.0	1.5
Cash Securities	2.6%	0.4	0.9	0.0	0.0	0.0	0.9

Rating	Market Value %	Duration Contribution	Spread Duration Contribution	Gain / (Loss) %
Total	100.0%	2.6	2.5	1.5
AAA	57.7%	1.5	0.8	0.5
AA+	1.9%	0.0	0.1	0.0
AA	3.0%	0.0	0.0	0.0
AA-	2.5%	0.0	0.1	0.0
A+	4.2%	0.1	0.2	0.1
A	5.3%	0.1	0.2	0.2
A-	6.3%	0.0	0.3	0.0
BBB+	5.8%	0.2	0.2	0.2
BBB	8.1%	0.4	0.4	0.4
BBB-	5.2%	0.2	0.2	0.1

Weighted Average Maturity Distribution



TAB 6 – OST Compliance Program

OST Investment Compliance Update

Purpose

The Oregon Investment Council (OIC or the “Council”) authorized funding for BlackRock Solutions’ Aladdin platform (“Aladdin”) in August 2014 to (1) automate and improve operating processes, (2) add contemporary investment risk management capabilities and (3) enhance the Investment Division’s compliance protocols and effectiveness. Implementation began in March 2015 and Aladdin was successfully activated on September 21, 2015.

Investment Belief 1 states that “The OIC Sets Policy and is Ultimately Responsible for the Investment Program”¹. OST’s Investment Compliance program, working with investment staff and external partners, seeks to ensure that staff discharges its regular responsibilities consistent with OIC policy. The purpose of this memo is to inform the OIC of both Aladdin’s enhanced investment compliance capabilities and staff’s use thereof, especially with respect to information that can help the Council obtain a more complete picture of the Investment Program and its governance.

Background

Cutter Associates conducted a peer-benchmarking survey² in 2013, in which Oregon tied for last-place on compliance. The Aladdin implementation was the first step in the Investment Division’s response to addressing this issue. Described below are the following three key areas of Aladdin-enabled compliance improvement: 1) reduced compliance risks through more proactive, automated processes; 2) better governance through robust compliance capabilities; and 3) improved compliance effectiveness through an integrated platform.

Reduced compliance risks through automated processes. Aladdin has reduced compliance risk by automating select work flows that heretofore left OST prone to human error (e.g. “fat-finger” mistakes). For example, and prior to Aladdin, the process for material non-public information (MNPI) notification and related trade monitoring was entirely manual. Today, that process is automated through Aladdin for more effective enforcement at both the individual portfolio and aggregate fund levels. OST’s new Aladdin-enabled process automatically stops restricted security trades before they can be executed, greatly reducing the possibility of human error in the high-risk MNPI area, producing a much more effective and reliable compliance outcome. Figure 1 in the Appendix shows a screen shot of Galileo lists used to automate the trade monitoring process for MNPI-restricted securities.

Internal fixed income trading is another area of Aladdin-enabled automation improvement. The previous compliance system was unable to account for “expected” credit ratings of newly issued fixed income securities, a flaw that necessitated cumbersome manual compliance checks and time-consuming interventions by the fixed income and compliance teams. With Aladdin, expected ratings are automatically incorporated when available, obviating the need for manual interventions and saving valuable time for both compliance and fixed income team members.

Better governance through robust compliance. Aladdin provides robust and expanded compliance capabilities by providing an integrated view of positions and risk exposures for all OST-managed (both internally and externally) assets. Figure 2 in the Appendix is a screen shot of an interactive Prism view at this broad, “enterprise” level. Pre-Aladdin, OST compliance relied primarily on quarterly or annual manager attestations for the entire, externally-managed fixed income portfolio, which for the Oregon Public Employees Retirement Fund (OPERF) totaled \$15B. External public equity manager compliance ran monthly on the custodian’s two compliance systems (Charles River Development and MIG21). Moreover,

¹ OIC Statement of Investment and Management Beliefs, adopted October 30, 2013, revised December 3, 2014.

² Cutter Benchmarking Fixed Income Portfolio Management and Trading Survey, August, 2013.

staff received monthly compliance reports a full 22 days after the end of each month. These “parceled” public equity and fixed income monitoring results, coupled with reporting lags and limited external systems visibility, resulted in a shallow value proposition for the overall compliance function.

Post-Aladdin, compliance coverage measured by AUM has increased from 0% to 30% for external fixed income managers with an accompanying increase in monitoring frequency from quarterly to daily. At initial Aladdin activation, full (i.e., 100%) compliance coverage of all externally-managed fixed income and equity portfolios was not feasible given then-prevailing time and budget constraints; however, OST will expand to full coverage when a currently open compliance position is filled and/or additional consultant resources are secured as achieving full coverage is critical to a complete understanding of the Investment Program’s compliance risks (e.g., unanticipated and unsought leverage at the manager level).

Improved compliance effectiveness through an integrated platform. The Aladdin platform’s full integration improves compliance effectiveness and coordination by introducing improved, electronic hand-offs between trading, operations and compliance. For example, checks and balances are enhanced by the creation of separate permissions for compliance, operations and the Data Integrity Group. The platform also enables the integration of performance metrics into compliance rules and practices as needed.

Aladdin offers a Dashboard that monitors compliance violations, communicates with investment and operations teams, and documents violation resolutions. Prior to Aladdin, no such tool was available to the OST compliance, operations or trading teams. A screen shot of the Aladdin Compliance Dashboard is included as Figure 3 in the Appendix. Trading and operations teams use the same Dashboard tool, customized to their respective needs.

Prior to Aladdin, staff also could not integrate performance or risk metrics into compliance rules and practices. Instead, staff had to use a combination of three systems – BarraOne, MyStateStreet and Bloomberg – to gather relevant information into Excel and manually compile tracking error trends for internally-managed public equity portfolios on a daily basis. Today, Aladdin’s compliance module calculates performance data, replacing OST’s reliance on manual data management across three separate, external systems. Aladdin provides easy, immediate and integrated access to portfolio composition and tracking error which provides yet another view from which to better monitor and evaluate performance and risk attributes.

Conclusion and Next Steps

With Aladdin, staff now has much better capabilities to view and analyze risks as well as establish and enforce compliance protocols. These enhanced capabilities ensure staff’s regular investment management activities comport with applicable laws, regulations and OIC policy guidelines.

Next steps in OST’s compliance program build-out include the following:

- I. Advance staff’s utilization of the Aladdin platform’s compliance and risk management capabilities;
- II. Expand Aladdin’s reporting capabilities by including daily compliance and trading data from externally-managed portfolios; and
- III. Determine and refine presentation format and frequency for maximum benefit and insight.

Recommendation

None, informational only.

Appendix

Figure 1: Galileo lists used to automate compliance processes

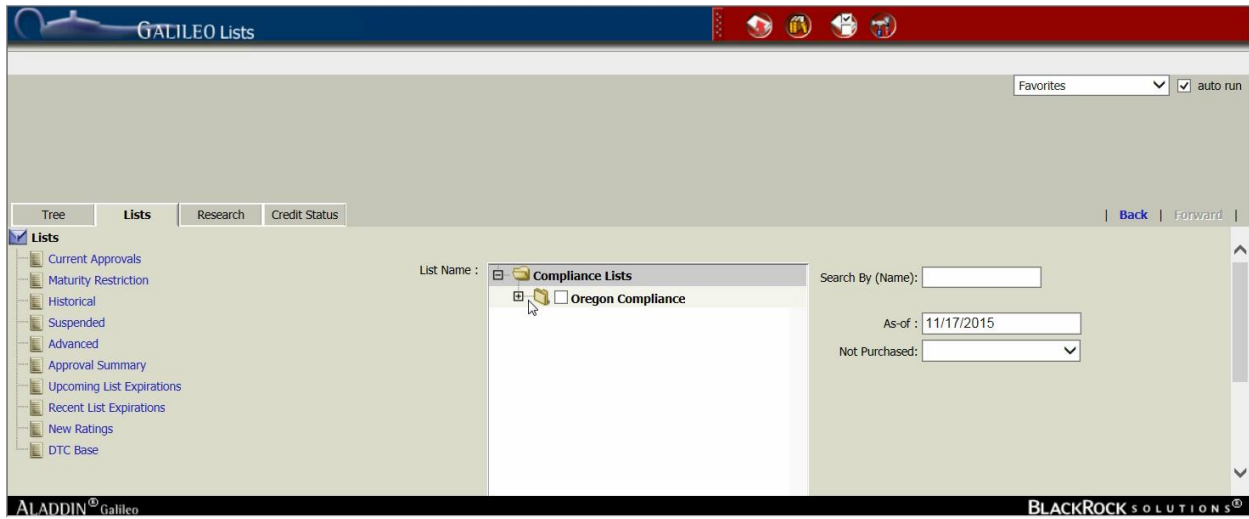


Figure 2: Prism report providing interactive views of enterprise positions and risk exposures

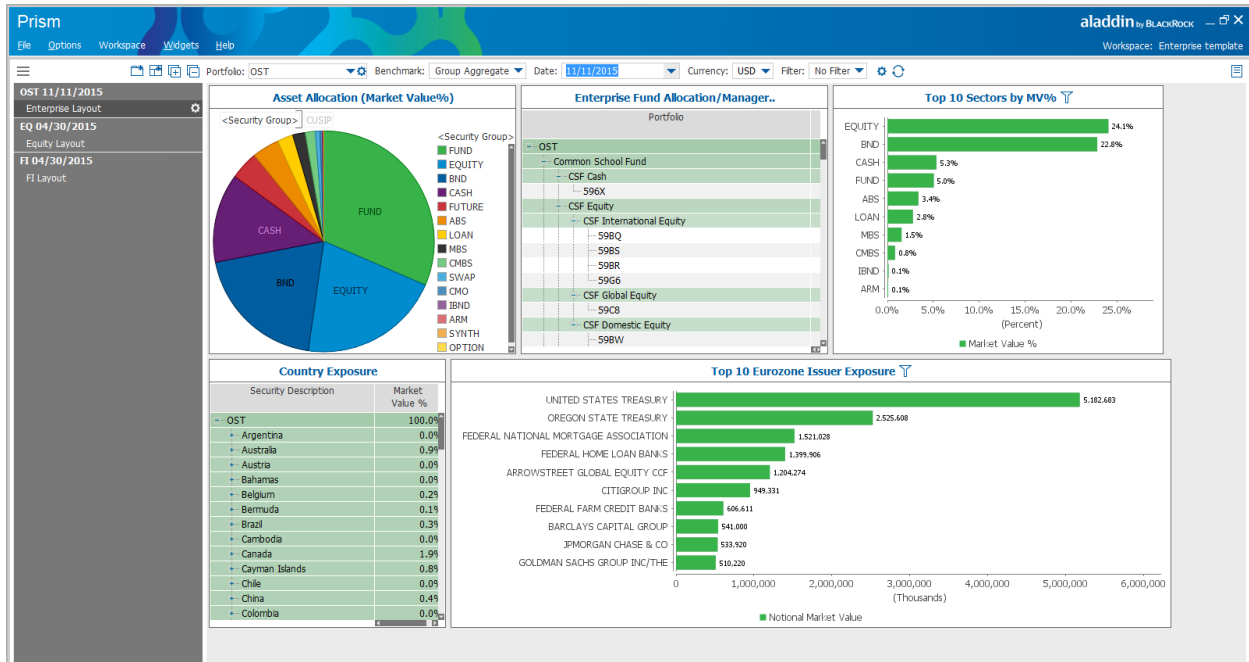


Figure 3: Dashboard as integrated compliance monitoring and work-flow tool

The dashboard displays compliance monitoring and workflow tools. It features a sidebar with navigation menus, a top navigation bar, and several data tables for 'Order Action Required', 'Working', and 'Resolved' items.

Order Action Required (5/4)

Portfolio / Rule	Rule	Portfolio Name	Offender	Action Status	Owner	Compl Date	Modified By	Purpose
59CA	No CMBS with long term ratings unless rated AAA/Aaa/AAA by (M/S...	OPUF-PUF LONG ...	FHLMC_K006 (31398V398)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra
59CA	(3/3)							
	Only invest in MB Only invest in MBS with a weighted average life of 5 years or less; ...	MANY-OR INTER ...	FHLMC_K006 (31398V398)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra
	Only invest in CM Only invest in CMBS with a weighted average life of 5 years or less; ...	MANY-OR INTER ...	FHLMC_K006 (31398V398)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra
	No CMBS with lo No CMBS with long term ratings unless rated AAA/Aaa/AAA by (M/S...	MANY-OR INTER ...	FHLMC_K006 (31398V398)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra

Working (0/0)

[Offender]	Portfolio	Rule	Compl Date	Owner	Modified Time	Modified By	Action Status	Severity	Offender	Compl Tag	QA Status (Old)	Details
------------	-----------	------	------------	-------	---------------	-------------	---------------	----------	----------	-----------	-----------------	---------

Resolved (20)

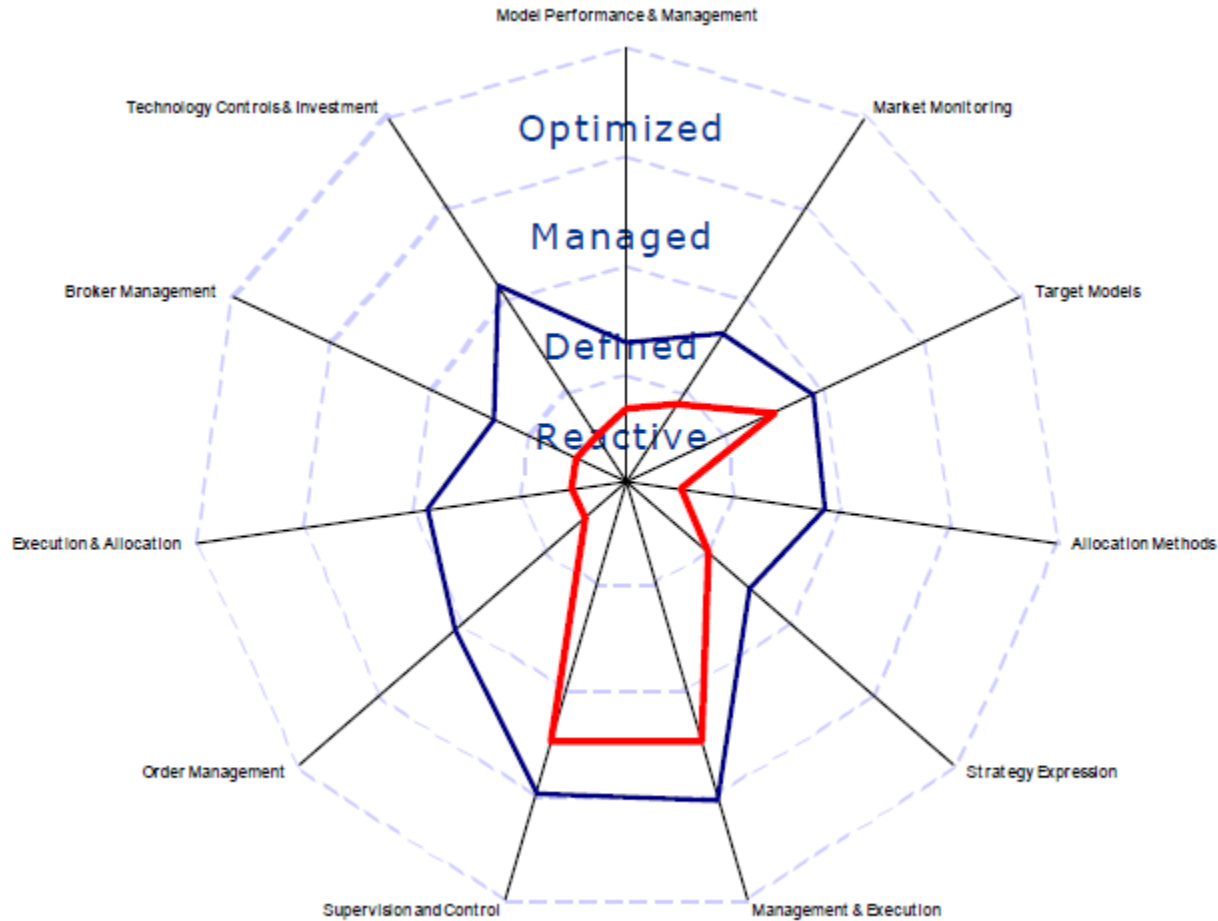
QA Status (Old)	Owner	Compl Date	Modified Time	Modified By	Action Status	Severity	Portfolio	Compl Date	Offender	Compl Tag	Rule
Closed	Compliance	11/17/15	11/17/15 13:1...	Tom Lofton	Closed	Restriction	59CA	11/17/15		AI_Yrs_Dur_3_125	Portfolio modified dura
Closed		11/17/15	11/17/15 12:3...	Michael Viteri		Silent Alarm	59GA	11/17/15		AI_No_Leverage_90	No leverage, margin of
Closed		11/17/15	11/17/15 11:4...	Michael Viteri		Silent Alarm	59DY	11/17/15		AI_No_Leverage_90	No leverage, margin of
Closed		11/17/15	11/17/15 11:4...	Michael Viteri		Silent Alarm	59DY	11/17/15		AI_No_Leverage_90	No leverage, margin of
Closed	Compliance	11/17/15	11/17/15 07:5...	Norma Harvey	Closed	Restriction	59CA	11/17/15		AI_Yrs_Dur_3_125	Portfolio modified dura
Closed	Compliance	11/17/15	11/17/15 02:3...	N/A	Closed	Restriction	GENTRADE	11/17/15	TREASURY NOTE (912828M56)	GEN_TR_INITIALS_CHK	Trader initials do not c
Closed	Compliance	11/17/15	11/17/15 02:2...	N/A	Closed	Restriction	GENTRADE	11/17/15	INTERNATIONAL BUSINESS MA...	GEN_TR_INITIALS_CHK	Trader initials do not c
Closed	Compliance	11/17/15	11/17/15 02:2...	N/A	Closed	Silent Alarm	GENTRADE	11/17/15	INTERNATIONAL BUSINESS MA...	handle_check_equity	Is the price entered co
Closed	Compliance	11/17/15	11/17/15 02:2...	N/A	Closed	Restriction	GENTRADE	11/17/15	INTERNATIONAL BUSINESS MA...	GEN_TR_INITIALS_CHK	Trader initials do not c
Closed	Compliance	11/16/15	11/16/15 16:2...	Priyanka Shu...	Closed	Restriction	59AG	11/16/15	LOCKHEED MARTIN CORPORA...	Corp_RateMin_BBB-223	No Corporate Indebte
Closed	Compliance	11/16/15	11/16/15 16:2...	Priyanka Shu...	Closed	Restriction	59SM	11/16/15	LOCKHEED MARTIN CORPORA...	Corp_RateMin_BBB-223	No Corporate Indebte



OST Investment Compliance Update

June 1, 2016

2013: Oregon (red) vs. Pension Peers (blue)



Monitoring a MNPI-Restricted Trading List

The screenshot displays the GALILEO Lists application interface. At the top, there is a dark blue header with the GALILEO logo and the text "GALILEO Lists". To the right of the header, there are several icons representing different functions. Below the header, there is a navigation bar with tabs for "Tree", "Lists", "Research", and "Credit Status". The "Lists" tab is currently selected. On the right side of the navigation bar, there are links for "Back" and "Forward".

The main content area is divided into several sections. On the left, there is a tree view under the heading "Lists" with the following items: Current Approvals, Maturity Restriction, Historical, Suspended, Advanced, Approval Summary, Upcoming List Expirations, Recent List Expirations, New Ratings, and DTC Base. In the center, there is a "List Name:" field with a dropdown menu showing "Compliance Lists" and "Oregon Compliance". To the right of this field, there is a search box labeled "Search By (Name):" and a date field labeled "As-of:" with the value "11/17/2015". Below the date field, there is a "Not Purchased:" dropdown menu.

At the bottom of the interface, there is a black footer with the text "ALADDIN Galileo" on the left and "BLACKROCK SOLUTIONS" on the right.

Today: robust compliance capabilities (example: Dashboard violation resolution)

Dashboard aladdin by BLACKROCK Compliance - Intraday

File View Widgets Help

Navigator Order Action Required (5/4) Trades by Portfolio (5/4) Trades by Rule (4/4) Trades by Portfolio No Ops (5/4)

Compliance **16**

- Compliance - Overnight **157**
- Compliance - Intraday **36** **16****
 - Order Action Required **4**
 - Resolved **20**
 - Trades by Portfolio **4**
 - Trades by Portfolio No... **4**
 - Trades by Rule **4**
 - Working
 - Warning/Silent Alarm **4**
 - Comp Pending Orders/Tr... **2**
 - PM working - blank for n... **5**
 - Trade View **199**
 - Orders/Trades **153**
 - All Orders **59**
 - All Trades **94**
- DIG
 - SM Pending **82**
 - SM Orders/Trades **153**
 - SM Confirms and Notific... **53**
 - SM Compliance
- TSS
 - Cash Recon/Publish Wo... **42**
 - Cash Exceptions **56**
 - Position Exceptions **16**
 - Trades and Confirms **95**
 - Notifications **52**
 - Corporate Actions **363**
- Trader View
 - Orders/Trades **97**
 - Placements
 - Trader Orders **3**
 - Trades **94**
 - EQ Orders/Trades (Copy) **96**
 - Cash Exceptions (1) **67**
 - Asset_EXCEPTIONv1.0 **16**
 - SETTLEMENT WORKFLOW **51**

Order Action Required (5/4) Trades by Portfolio (5/4) Trades by Rule (4/4) Trades by Portfolio No Ops (5/4)

Comments Intraday Order Adjusted (Violation) Intraday Order Adjusted (Portfolio) Violation Report Trades Mark as Working +

[Portfolio / Rule]	Rule	Portfolio Name	Offender	Action Status	Owner	Compl Date	Modified By	Purpose
59CA	No CMBS with long term ratings unless rated AAA/Aaa/AAA by (M/S...	OPUF-PUF LONG ...	FHLMC_K006 (31398VJ98)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra
59C4	(3/3)	MANY-OR INTER ...	FHLMC_K006 (31398VJ98)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra
	Only invest in MB Only invest in MBS with a weighted average life of 5 years or less; ...	MANY-OR INTER ...	FHLMC_K006 (31398VJ98)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra
	Only invest in CM Only invest in CMBS with a weighted average life of 5 years or less; ...	MANY-OR INTER ...	FHLMC_K006 (31398VJ98)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra
	No CMBS with lor No CMBS with long term ratings unless rated AAA/Aaa/AAA by (M/S...	MANY-OR INTER ...	FHLMC_K006 (31398VJ98)	Action Re...	Complan...	11/17/15	Tom Lofton	Intraday Tra

Working (0/0)

Comments Intraday Order Adjusted (Violation) Intraday Order Adjusted (Portfolio) Violation Report Trades Mark as Working +

[Offender]	Portfolio	Rule	Compl Date	Owner	Modified Time	Modified By	Action Status	Severity	Offender	Compl Tag	QA Status (Old)	Details
Closed	Compliance	11/17/15	11/17/15 13:1...	Tom Lofton	Closed	Restriction	59C4	11/17/15	All_Yrs_Dur_3_125	Portfolio modified dura		
Closed	Compliance	11/17/15	11/17/15 12:3...	Michael Viteri	Closed	Silent Alarm	59G4	11/17/15	All_No_Leverage_90	No leverage, margin or		
Closed	Compliance	11/17/15	11/17/15 11:4...	Michael Viteri	Closed	Silent Alarm	59DY	11/17/15	All_No_Leverage_90	No leverage, margin or		
Closed	Compliance	11/17/15	11/17/15 11:4...	Michael Viteri	Closed	Silent Alarm	59DY	11/17/15	All_No_Leverage_90	No leverage, margin or		
Closed	Compliance	11/17/15	11/17/15 07:5...	Norma Harvey	Closed	Restriction	59C4	11/17/15	All_Yrs_Dur_3_125	Portfolio modified dura		
Closed	Compliance	11/17/15	11/17/15 02:3...	N/A	Closed	Restriction	GENTRADE	11/17/15	TREASURY NOTE (912828M56)	GEN_TR_INITIALS_CHK	Trader initials do not co	
Closed	Compliance	11/17/15	11/17/15 02:2...	N/A	Closed	Restriction	GENTRADE	11/17/15	INTERNATIONAL BUSINESS MA...	GEN_TR_INITIALS_CHK	Trader initials do not co	
Closed	Compliance	11/17/15	11/17/15 02:2...	N/A	Closed	Silent Alarm	GENTRADE	11/17/15	INTERNATIONAL BUSINESS MA...	handle_check_equity	Is the price entered co	
Closed	Compliance	11/17/15	11/17/15 02:2...	N/A	Closed	Restriction	GENTRADE	11/17/15	INTERNATIONAL BUSINESS MA...	GEN_TR_INITIALS_CHK	Trader initials do not co	
Closed	Compliance	11/16/15	11/16/15 16:2...	Priyanka Shu...	Closed	Restriction	594G	11/16/15	LOCKHEED MARTIN CORPORA...	Corp_RateMin_BBB-223	No Corporate Indebte	
Closed	Compliance	11/16/15	11/16/15 16:2...	Priyanka Shu...	Closed	Restriction	595M	11/16/15	LOCKHEED MARTIN CORPORA...	Corp_RateMin_BBB-223	No Corporate Indebte	
Closed	Compliance	11/16/15	11/16/15 16:2...	Priyanka Shu...	Closed	Restriction	59C4	11/16/15	LOCKHEED MARTIN CORPORA...	All_Yrs_Dur_3_125	No Corporate Indebte	

Previous (i.e., manual) Tracking Error Calculation Process

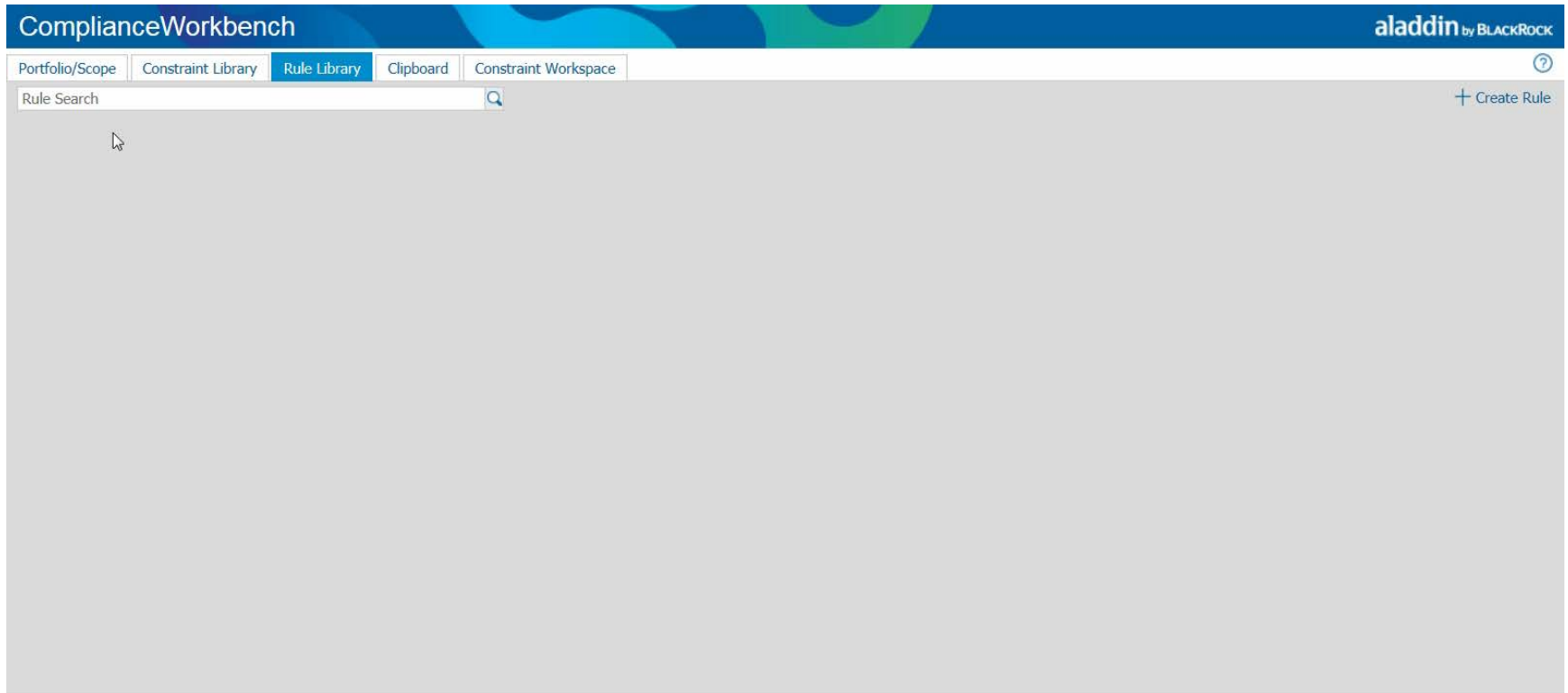
The screenshot displays a Microsoft Excel spreadsheet with three worksheets open, illustrating a manual tracking error calculation process. The active worksheet is '59DZ tracking error data.xlsx', which shows a table with columns A, B, and C. The table lists various financial items and their values for two dates: 9/30/2015 and 9/29/2015. The 'Total' row shows a net value of -662,416.67. Other worksheets include 'Internal Equity Deriv Tracker Data STT v2.xlsm' and 'Internal Equity Daily v2.xlsm [Read-Only]', which provide additional data points for the calculation.

	A	B	C
1			
2	Tracking Error calculation date ==>	9/30/2015	9/29/2015
3	RECEIVABLE FOR INVESTMENTS SOLD		11,422.07
4	DIVIDENDS RECEIVABLE		552,557.45
5	INTEREST RECEIVABLE		774
6	OTHER RECEIVABLES (do not input figure)		
7	Total	-	564,754
8			
9	PAYABLE FOR INVESTMENTS PURCHASED		1,227,170.50
10	ACCRUED EXPENSES		
11	OTHER LIABILITIES		
12	OTHER PAYABLES (do not input figure)		
13	Total	-	1,227,171
14			
15	Net	0.00	-662,416.67
16			
17	Open Trades	-	(1,215,748)
18			
19			
20			
21			
22	UST Floating rate note 912828WK2 (from Internal Eq...STT v2/ sheet1)		
23			

	B	C	D	E
7	B/E AEROSPACE INC	073302101	33,132.000	1,188,5
8	HANCOCK HOLDING CO	410120109	24,410.000	791,6
9	KENNAMETAL INC	489170100	24,828.000	840,3
10	LENNOX INTERNATIONAL INC	526107107	12,538.000	736,7
11	ANSYS INC	03662Q105	28,103.000	1,628,8
12	CHICO S FAS INC	168615102	44,644.000	637,1
13	CHURCH + DWIGHT CO INC	171340102	40,952.000	1,909,7
14	ARTHUR J GALLAGHER + CO	363576109	54,739.000	2,082,5
15	IDEXX LABORATORIES INC	45168D104	28,776.000	1,140,6

	C	D	E	F	G	H
1	Starting Balance	Debits	Credits	Net Activity	Ending Balance	
7	11,422.070	1,075,762.760	1,075,762.760	0.000	11,422.070	
9	552,557.450	35,401.430	151,407.730	-116,006.300	436,551.150	
10	774.310	20.580	0.000	20.580	794.890	
19	1,227,170.500	1,227,170.500	0.000	-1,227,170.500	0.000	
112						
113						
114						
115						

Automated Tracking Error Calculation and Monitoring Process

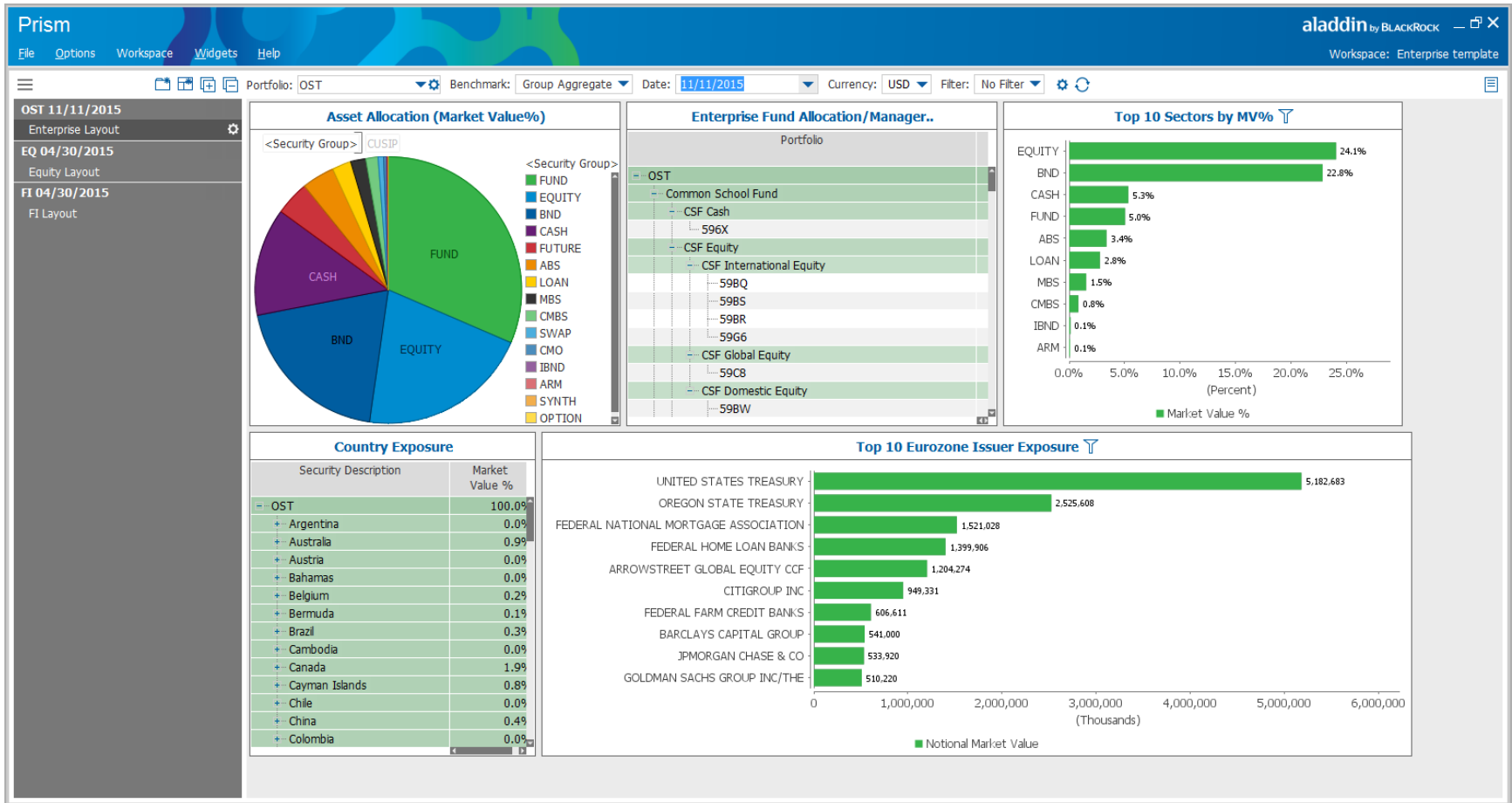


Holistic View: drill-down to, within and among entire portfolio

The screenshot displays the Aladdin Green Package interface. The top navigation bar is blue and contains the text "Green Package" on the left and the "aladdin by BLACKROCK" logo on the right. A row of icons for navigation and analytics is positioned between the text and the logo. Below the navigation bar, the interface is split into two main sections. On the left is a sidebar with a tree view showing a folder structure: "myAladdin" and "Oregon State Treasury". On the right is the main content area, which has a light gray background. At the top of this area is a home icon and the text "Green Package Inquiries" with a help icon. Below this, the word "OREGON" is displayed in bold. Underneath "OREGON", there is a list of folders: "myAladdin" and "Oregon State Treasury".



Risk Exposures: improved interactive views



TAB 7 – OPERF Performance & Risk Update

June 1, 2016



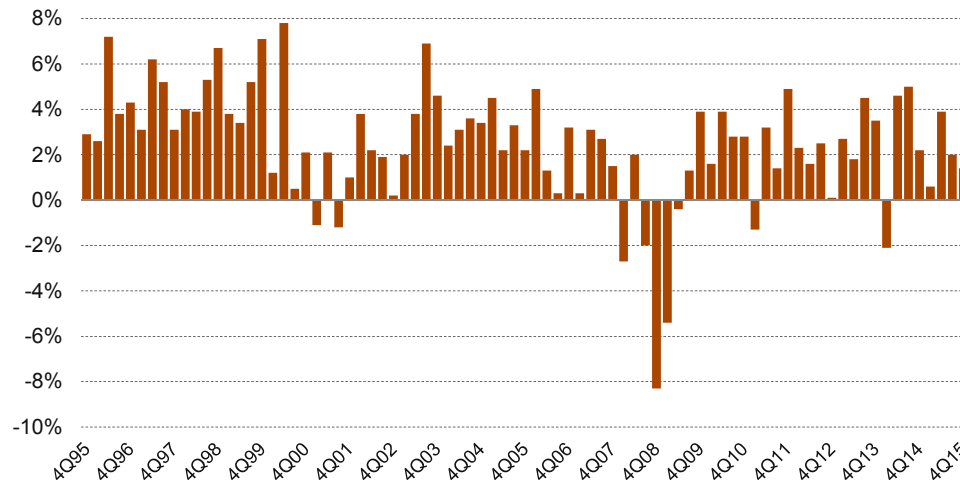
Oregon Investment Council

First Quarter 2016
Performance Review

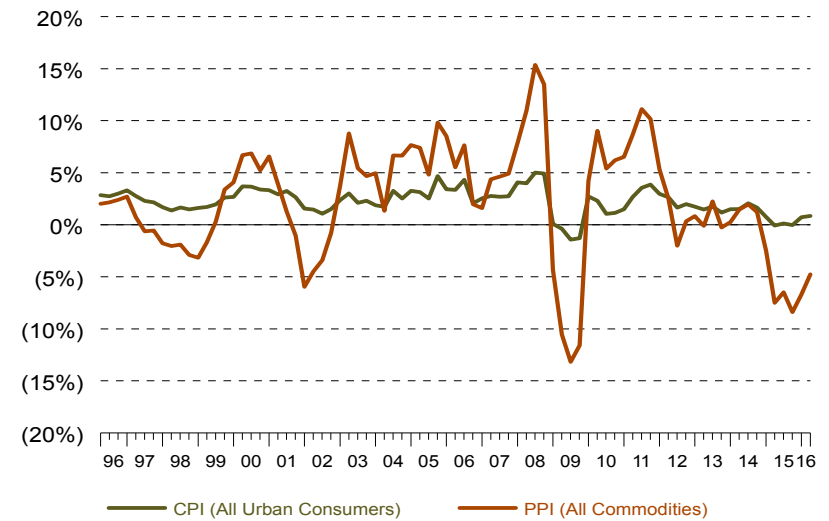
Economic Commentary

First Quarter 2016

Quarterly Real GDP Growth (20 Years)



Inflation Year-Over-Year



Source: Bureau of Economic Analysis, Bureau of Labor Statistics

- In spite of volatility in financial markets, US economy continues to chug along. Fourth quarter U.S. GDP was revised upward to 1.4% from an initial estimate of 0.7%, bolstered by consumer spending. On a forward basis, real GDP forecasts from the Fed have been declining. Fed trimmed down its expectations for growth in 2016 to 2.2% from 2.4%.
- The labor market also continued to improve with robust job growth and an improvement in the labor force participation rate to 63%, the highest level in two years. Unemployment ticked up slightly to 5% given the increase in the labor force. Wages rose an encouraging 2.3% from a year earlier.
- Inflation continued to remain tepid. For the trailing 12 months ended March, headline CPI was muted at 0.9%, while Core CPI (excluding food and energy) climbed 2.2%.

Market Summary – First Quarter 2016

Index	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
U.S. Equity:						
Russell:3000 Index	0.97	(0.34)	11.15	11.01	6.90	6.38
S&P:500	1.35	1.78	11.82	11.58	7.01	5.99
Russell:1000 Index	1.17	0.50	11.52	11.35	7.06	6.28
Russell:1000 Growth	0.74	2.52	13.61	12.38	8.28	6.03
Russell:1000 Value	1.64	(1.54)	9.38	10.25	5.72	6.41
Russell:Midcap Index	2.24	(4.04)	10.45	10.30	7.45	9.11
Russell:Midcap Growth	0.58	(4.75)	10.99	9.99	7.43	7.95
Russell:Midcap Value	3.92	(3.39)	9.88	10.52	7.23	9.66
Russell:2000 Index	(1.52)	(9.76)	6.84	7.20	5.26	7.65
Russell:2000 Growth	(4.68)	(11.84)	7.91	7.70	6.00	6.86
Russell:2000 Value	1.70	(7.72)	5.73	6.67	4.42	8.22
U.S. Fixed Income:						
Barclays:Aggregate Index	3.03	1.96	2.50	3.78	4.90	4.97
Barclays:Gov/Credit Bond	3.47	1.75	2.42	4.04	4.93	5.03
Barclays:Gov/Credit Long	7.30	0.39	4.81	8.51	7.57	7.38
Barclays:Gov/Credit 1-3	0.98	1.04	0.95	1.14	2.80	3.07
Barclays:Credit	3.92	0.93	2.86	5.00	5.70	5.79
Barclays:Mortgage Idx	1.98	2.43	2.70	3.24	4.85	4.85
Barclays:High Yld Corp	3.35	(3.69)	1.84	4.93	7.01	7.38
Barclays:US Universal Idx	3.07	1.75	2.51	3.95	5.03	5.19
Real Estate:						
NCREIF:Total Index	2.21	11.84	11.91	11.93	7.61	8.95
FTSE:NAREIT Composite Idx	5.75	3.91	8.80	11.03	5.86	10.92
Global Equity:						
MSCI:ACWI Gross	0.38	(3.81)	6.10	5.80	4.63	5.63
MSCI:ACWI IMI	0.30	(4.36)	5.59	5.24	4.26	5.67
Non-U.S. Equity:						
MSCI:EAFE	(3.01)	(8.27)	2.23	2.29	1.80	4.35
MSCI:EAFE LC	(6.52)	(11.17)	6.47	6.20	1.72	2.76
MSCI:ACWIxUS Gross	(0.26)	(8.78)	0.76	0.76	2.39	5.43
MSCI:ACWI ex US LC	(4.05)	(10.29)	5.27	4.66	2.35	3.75
MSCI:ACWI ex US Small Cap	0.68	(0.60)	3.67	2.39	3.87	8.91
MSCI:EM Gross	5.75	(11.70)	(4.15)	(3.80)	3.34	9.69
Other:						
3 Month T-Bill	0.07	0.12	0.07	0.08	1.15	1.51
US DOL:CPI All Urban Cons	0.68	0.85	0.76	1.28	1.77	2.03

- The first quarter revealed a dramatic tale of two halves, split nearly evenly between "risk off" and "risk on" sentiment. Falling commodity prices and broad-based concerns over global economic growth contributed to poor performance in both the equity and corporate bond markets, as well as a sharp rally in US Treasuries through mid-quarter.
- The S&P 500 suffered its worst start to a year ever, falling over 10% through February 11th only to rally 12% and close the quarter up 1.3%.
- Citing concerns over global growth as well as less supportive conditions in the US, the FOMC elected to keep rates unchanged at the two meetings held during the quarter. Comments made by Fed Chair Yellen were construed as dovish with markets quickly adjusting to a reduction in the number of anticipated rate hikes in 2016.
- Fourth quarter GDP was revised upward to 1.4% from an initial estimate of 0.7%, bolstered by consumer spending. The labor market also continued to improve with robust job growth and an improvement in the labor force participation rate to 63%, the highest level in two years. Even the manufacturing sector showed signs of improvement at the end of the quarter with March's Institute for Supply Management Index, which measures US manufacturing activity, expanding for the first time since last summer.
- Outside of the US, the news was bleaker. In January, the Bank of Japan shocked investors by cutting its benchmark rate to -0.1% in a continuation of its efforts to spur growth and inflation. And later in the quarter, Japan sold a 10-year bond with a negative yield (-0.02%) for the first time ever.
- Sweden's central bank, the Riksbank, cut its main rate by 15 bps to -0.5% citing "weakening confidence" in achieving its 2% inflation goal. Roughly \$7 trillion of government debt globally now yields less than 0%.
- Financials (both stocks and bonds) were hit especially hard given concerns about the impact of persistently low (or negative) interest rates on banks' earnings.

Market Summary

First Quarter 2016

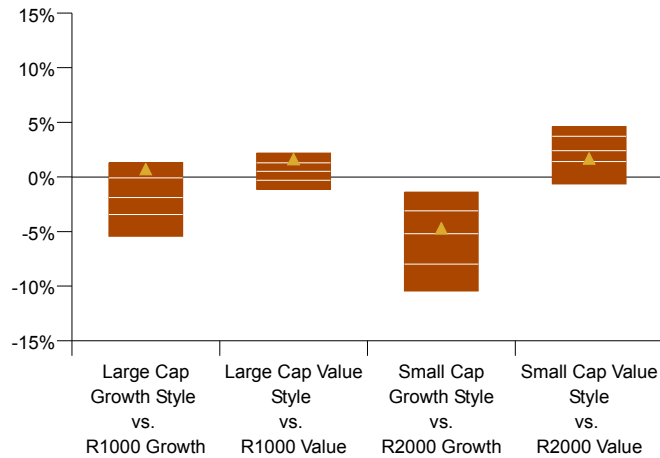
Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI:EM Gross 5.8%	NFI-ODCE Val Gross 13.7%	NFI-ODCE Val Gross 13.6%	NFI-ODCE Val Gross 13.3%	S&P:500 7.0%
ML:High Yield CP Idx 3.2%	Barclays:Aggregate Index 2.0%	S&P:500 11.8%	S&P:500 11.6%	Russell:3000 Index 6.9%
Barclays:Aggregate Index 3.0%	S&P:500 1.8%	Russell:3000 Index 11.1%	Russell:3000 Index 11.0%	ML:High Yield CP Idx 6.8%
NFI-ODCE Val Gross 2.2%	3 Month T-Bill 0.1%	Russell:2000 Index 6.8%	Russell:2000 Index 7.2%	NFI-ODCE Val Gross 6.4%
S&P:500 1.3%	Russell:3000 Index (0.3%)	Barclays:Aggregate Index 2.5%	ML:High Yield CP Idx 4.7%	Russell:2000 Index 5.3%
Russell:3000 Index 1.0%	ML:High Yield CP Idx (3.9%)	ML:High Yield CP Idx 1.8%	Barclays:Aggregate Index 3.8%	Barclays:Aggregate Index 4.9%
3 Month T-Bill 0.1%	MSCI:ACWI ex US (9.2%)	MSCI:ACWI ex US 0.3%	MSCI:ACWI ex US 0.3%	MSCI:EM Gross 3.3%
MSCI:ACWI ex US (0.4%)	Russell:2000 Index (9.8%)	3 Month T-Bill 0.1%	3 Month T-Bill 0.1%	MSCI:ACWI ex US 1.9%
Russell:2000 Index (1.5%)	MSCI:EM Gross (11.7%)	MSCI:EM Gross (4.2%)	MSCI:EM Gross (3.8%)	3 Month T-Bill 1.1%

US Equity

First Quarter 2016

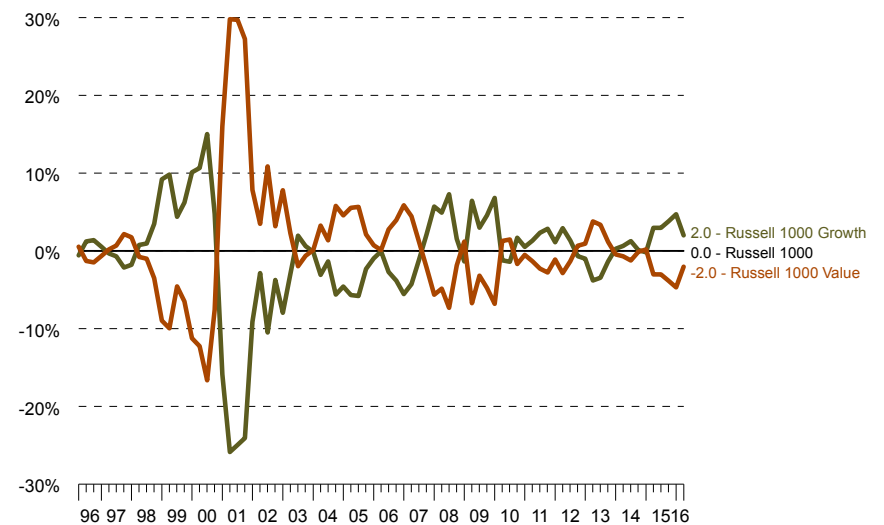
- Equities commenced the quarter on very weak footing with many indices down between 5% and 10% in the month of January. The weakness continued through mid-February at which point the Russell 300 Index staged a strong rally through quarter-end. Despite the weak start, the Russell 3000 rose 1.0% in the first quarter.
- All capitalizations experienced great volatility, and while mid and large caps rose off its lows and advanced (Russell Midcap: +2.2%, Russell 1000: +1.2%), small and micro caps remained in the red at quarter end (Russell 2000: -1.5%; Russell Microcap: -5.4%). Growth lost its lead over Value across capitalizations for the quarter. The difference was most significant within small cap (R2G: -4.7%; R2V: +1.7%).

Callan Style Group Quarterly Returns



	Large Cap Growth Style vs. R1000 Growth	Large Cap Value Style vs. R1000 Value	Small Cap Growth Style vs. R2000 Growth	Small Cap Value Style vs. R2000 Value
10th Percentile	1.32	2.20	-1.38	4.62
25th Percentile	-0.08	1.31	-3.08	3.74
Median	-1.87	0.52	-5.18	2.42
75th Percentile	-3.43	-0.30	-7.98	1.42
90th Percentile	-5.42	-1.12	-10.43	-0.63
Benchmark ▲	0.74	1.64	-4.68	1.70

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



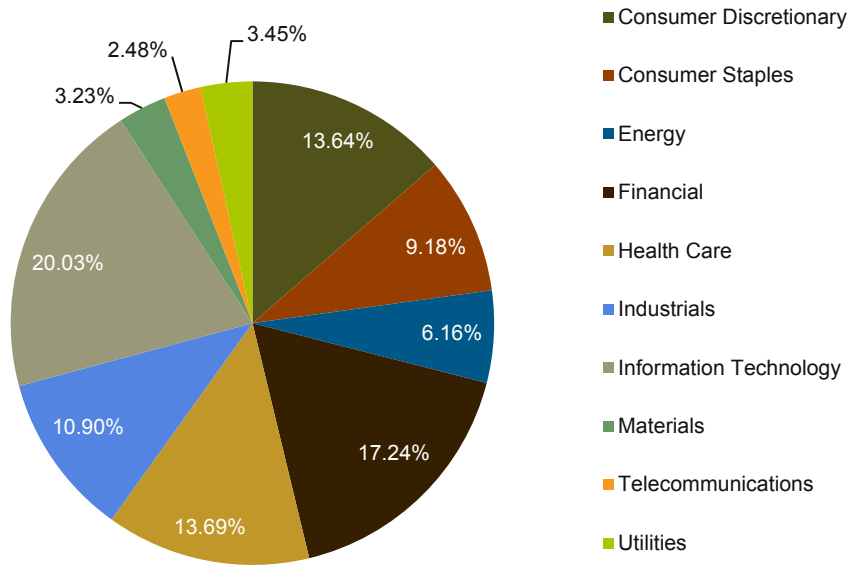
Source: Callan, Russell Investment Group

Source: Russell Investment Group

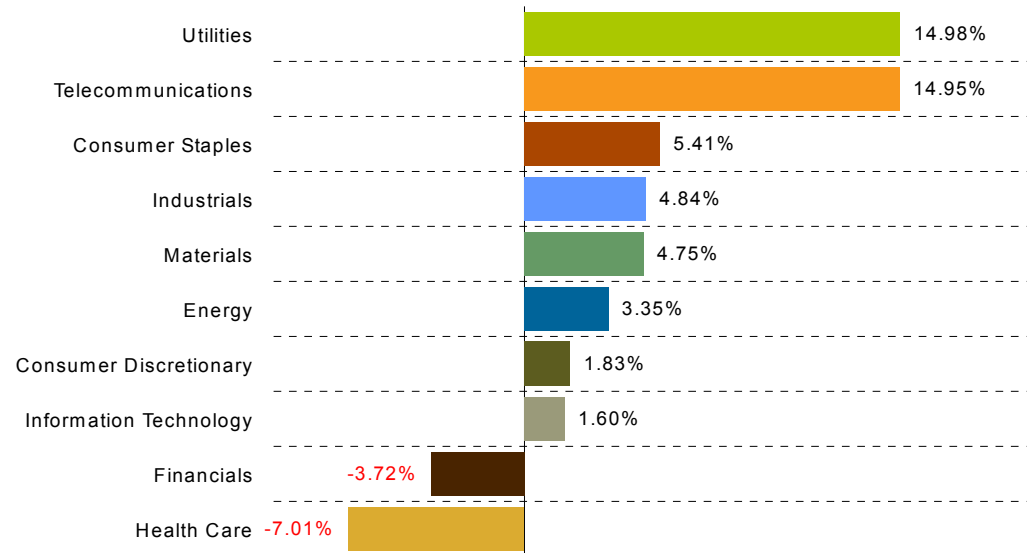
US Equity

First Quarter 2016

Sector Exposure (Russell 3000)



Economic Sector Quarterly Returns (Russell 3000)



Source: Russell Investment Group

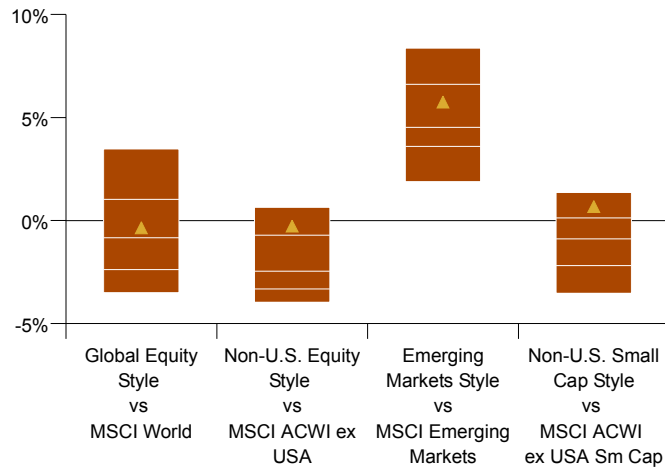
- Sector performance over the quarter also revealed reversals. Cyclical areas like Energy, Industrials, and Materials added value, and the interest rate-sensitive Utilities sector expanded, but typically defensive Health Care trailed.

Non-US Equity

First Quarter 2016

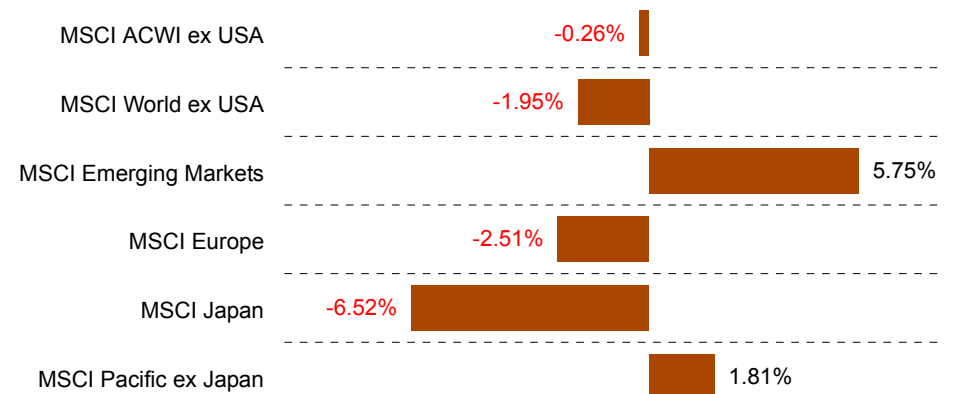
- Developed markets endured a rocky January and February but rallied in March to finish the quarter at a modest loss (MSCI ACWI ex-US: -0.3%). A weaker dollar helped to mitigate the underperformance of developed markets (MSCI ACWI ex-US Local: -3.9%).
- Emerging markets was the notable exception and rallied about 20% from its January nadir to finish with a nearly 6% gain.
- Regionally, European stocks (-2.5%) were unable to complete their rebound despite further rate cuts and bond purchases by the ECB; and Japan (-6.52%) battled with tepid economic growth and large losses in the banking sector.

Callan Style Group Quarterly Returns



10th Percentile	3.47	0.64	8.37	1.36
25th Percentile	1.03	-0.71	6.62	0.14
Median	-0.83	-2.46	4.53	-0.89
75th Percentile	-2.38	-3.32	3.60	-2.19
90th Percentile	-3.50	-3.97	1.89	-3.53
Benchmark ▲	-0.35	-0.26	5.75	0.68

Regional Quarterly Performance (U.S. Dollar)



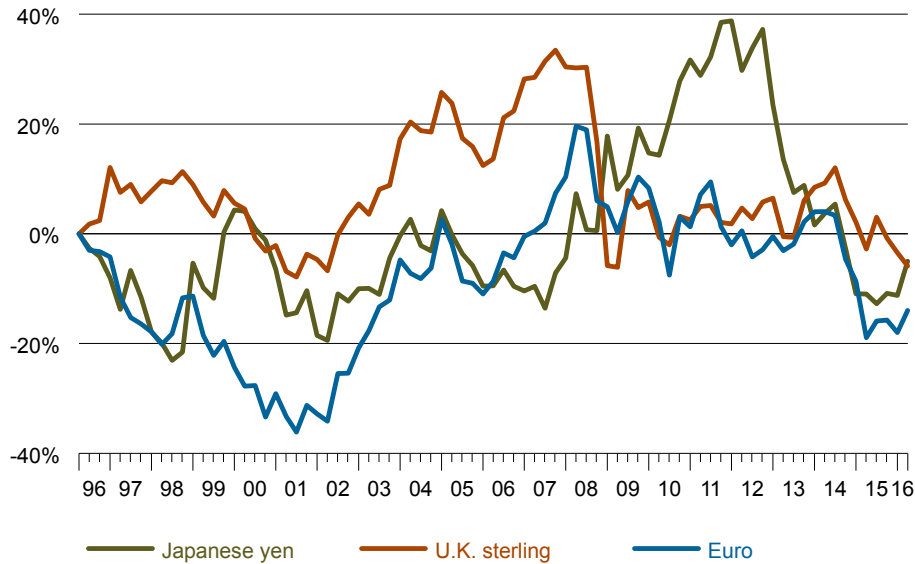
Sources: Callan, MSCI

Source: MSCI

Currency and Yield Curve

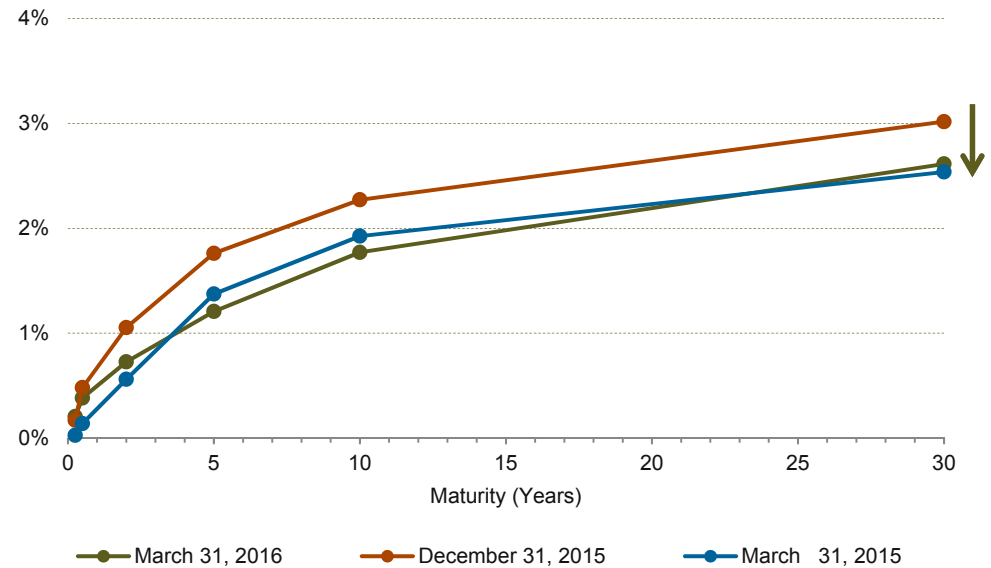
First Quarter 2016

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



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

U.S. Treasury Yield Curves



Source: Bloomberg

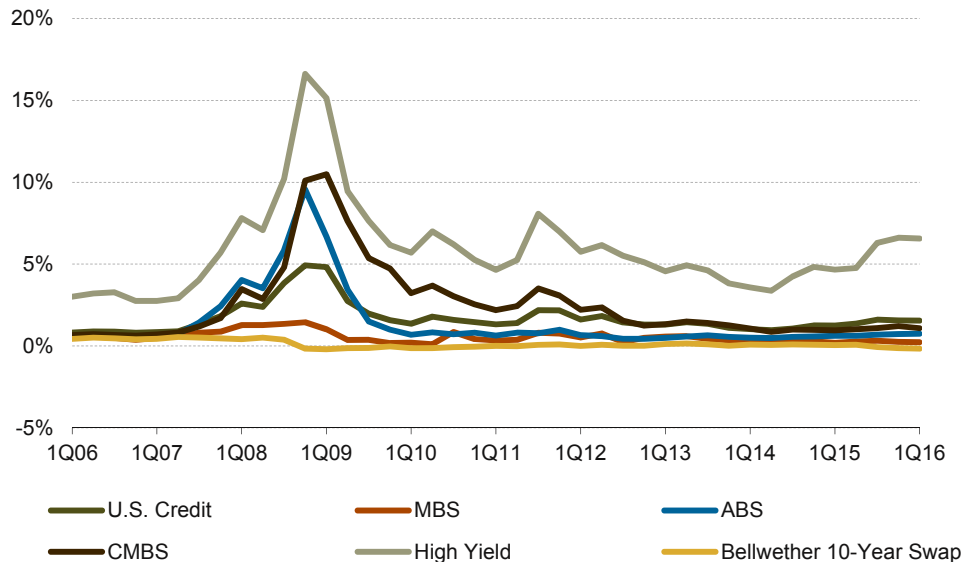
- The US dollar weakened versus most currencies during the quarter, providing a tailwind to unhedged foreign bond returns. The yen gained 7% versus the dollar as investors sought its safe haven status. The euro was also stronger versus the dollar (+5%) on the back of Draghi's comments that rates were unlikely to fall further. The notable exception was the pound (-3%), where worries over a potential Brexit put pressure on the currency. Interest
- U.S. Treasuries posted their best first quarter return since 2008 as yields dropped nearly 50 bps from year-end in a volatile quarter. The yield curve flattened further in markets abundant with uncertainty over global economic growth. The 10-year U.S. Treasury yield tumbled to 1.77% at quarter end, down from 2.27% as of December 31, 2015.

Fixed Income

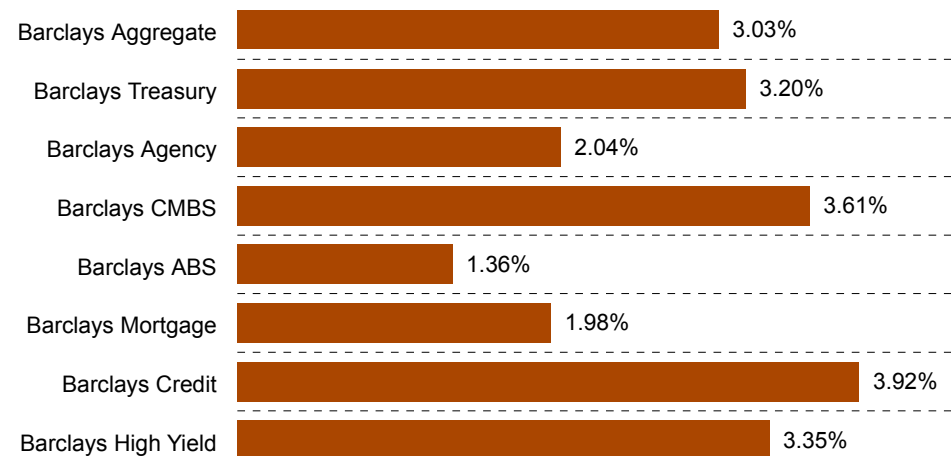
First Quarter 2016

- Investment grade credit, mortgage-backed (MBS), commercial mortgage-backed (CMBS), and high yield spreads all tightened, while asset-backed spreads widened. The Barclays Aggregate Index gained 3.03%.
- High yield corporate bonds rebounded from severe underperformance in January and early February (down 5% through February 11) to finish in the black. The Barclays Corporate High Yield Index was up 3.35%, outpacing Treasuries by 77 bps. Including an upsurge in issuance in the last few weeks of the quarter, new high yield issuance was \$35.9 billion—60% lower than one year ago.

Effective Yield Over Treasuries



Absolute Returns for Quarter ended March 31, 2016



OPERF Total Regular Account

Performance Summary for the First Quarter 2016

Total Fund:

For the first quarter of 2016, the Total Regular Account gained 1.05% (+0.97% net of fees), versus a return of 2.41% for the Policy Target, and ranked in 48th percentile of the \$10B+ public fund peer group. For the 12 months ended March 31, 2016, the Account gained 1.01% (+0.74% net of fees) versus 1.02% for the Policy Target, and ranked in the top 4th percentile of Callan's \$10B+ public fund peer group.

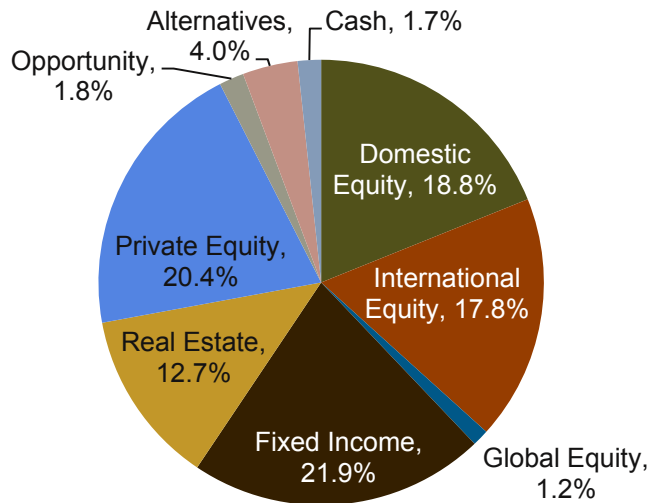
Asset Classes:

- **U.S. Equity:** The U.S. Equity Portfolio advanced 0.96% (+0.92% net of fees) for the quarter, essentially in line with the 0.97% gain in the Russell 3000 Index. This return ranked the Portfolio in the 27th percentile of Callan's Public Fund: \$10B+ Domestic Equity (gross) peer group. On a trailing one year basis, the Portfolio retreated 1.93% (-2.07% net of fees), versus a loss of 0.34% for the benchmark and ranked in the 81st percentile of the peer group. 10 year results are positive on an absolutely basis but just trail the benchmark and rank in the third quartile of the peer group.
- **International Equity:** The International Equity Portfolio lost 0.21% (-0.32% net of fees) for the quarter, coming in essentially in line with the 0.23% decline in the MSCI ACWI ex-U.S. IMI Index, and ranked in the top half of Callan's Public Fund: \$10B+ International Equity (gross) peer group. For the trailing year, the Portfolio lost 6.46% (-6.83% net of fees), protecting against the 8.08% retracement in the benchmark, and ranked in top quartile of the peer group. 10 year results remain well ahead of the benchmark and rank in the top quartile of the peer group.
- **Fixed Income:** The Fixed Income Portfolio returned 1.74% (+1.66% net of fees) for the quarter, slightly trailing the 1.87% gain in the Custom Benchmark. This return ranked the Portfolio in the 99th percentile of Callan's Public Funds \$10+B US Fixed income (Gross) peer group. For the trailing year, the Portfolio rose 0.90% (+0.67 net of fees), beating the 0.70% gain in the benchmark. This return ranked the Portfolio in the 64th percentile of the peer group. 10 year results continue to rank favorably versus both the benchmark and peer group.
- **Private Equity:** The Private Equity Portfolio's returns remain solid on an absolute basis for periods one year and longer; however, relative returns over the longer periods are challenged versus the benchmark. Trailing one year results handily beat the benchmark but lag on a 3 and 5 year basis; 10 year results (+10.67%) slightly trail the benchmark (+10.96%).
- **Real Estate:** The Real Estate Portfolio continues to show solid absolute results over the last decade though as of this quarter, returns one year and longer trail the benchmark, with 10 year returns at 6.25% vs. 7.76% for the benchmark.

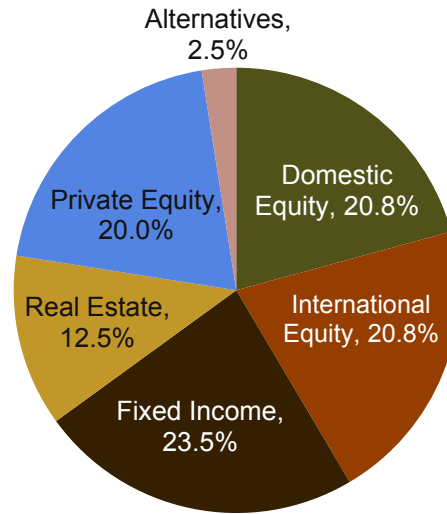
OPERF Total Regular Account

Asset Allocation as of March 31, 2016

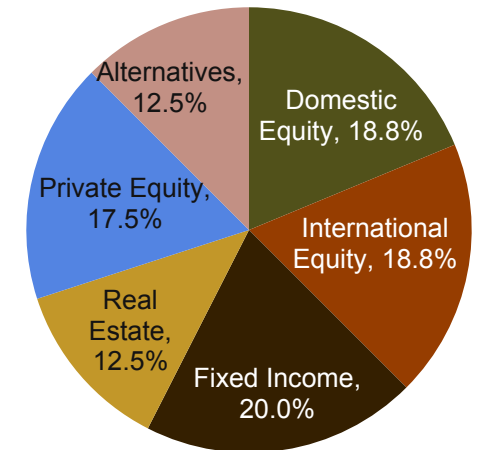
Actual Allocation



Interim Policy Target



Strategic Policy Target*



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equity	12,795,271	18.9%	20.2%	(1.4%)	(939,811)
International Equity	12,081,812	17.8%	20.2%	(2.4%)	(1,653,270)
Global Equity	795,995	1.2%	1.0%	0.2%	117,719
Fixed Income	14,601,943	21.5%	23.5%	(2.0%)	(1,337,535)
Real Estate	8,611,995	12.7%	12.5%	0.2%	133,550
Private Equity	13,812,903	20.4%	20.0%	0.4%	247,390
Opportunity	1,253,592	1.8%	0.0%	1.8%	1,253,592
Alternative	2,737,260	4.0%	2.5%	1.5%	1,041,571
Cash	1,136,793	1.7%	0.0%	1.7%	1,136,793
Total	67,827,566	100.0%	100.0%		

*Targets established in June 2015

OPERF Total Regular Account

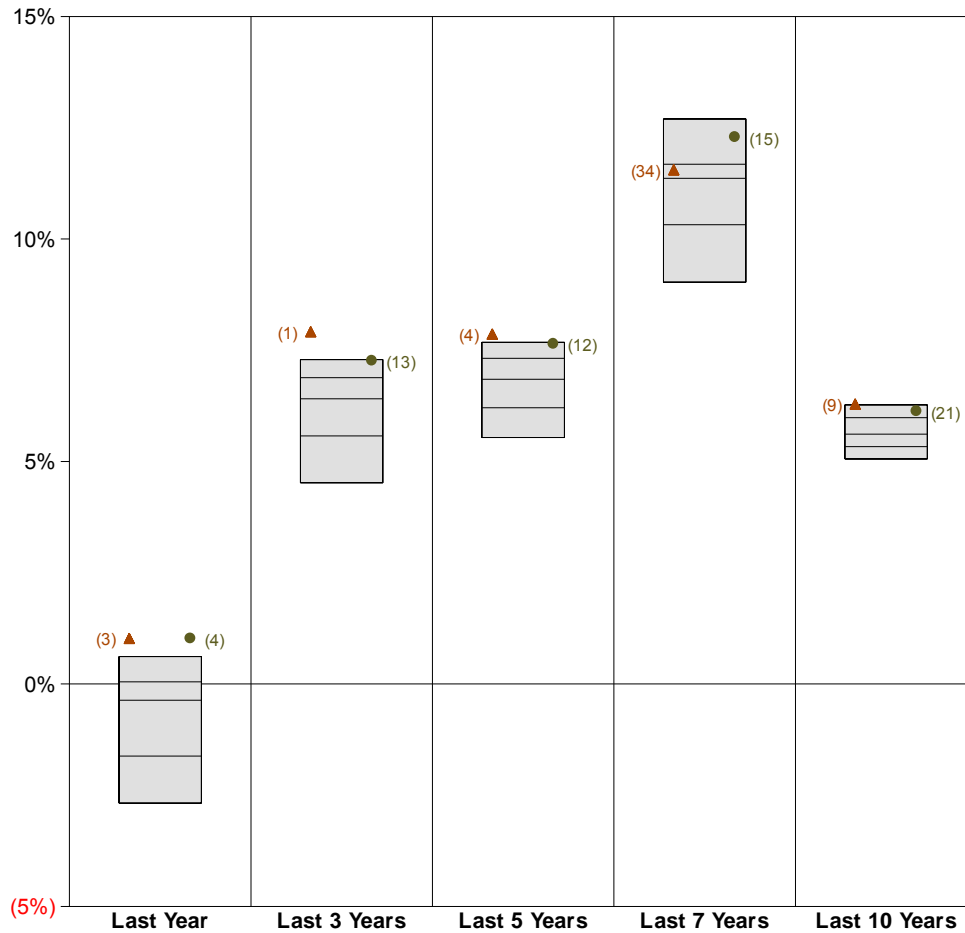
Net Performance by Asset Class as of March 31, 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Public Equity	0.31%	(4.53%)	6.23%	5.88%	4.31%
MSCI ACWI IMI Net	0.30%	(4.36%)	5.59%	5.24%	4.26%
Domestic Equity	0.92%	(2.07%)	10.24%	10.02%	6.40%
Russell 3000 Index	0.97%	(0.34%)	11.15%	11.01%	6.90%
CAI Pub Fund:10+ Dom Eq	0.66%	(1.99%)	10.32%	10.34%	6.74%
International Equity	(0.32%)	(6.83%)	2.29%	2.28%	3.43%
MSCI ACWI ex-US IMI Index	(0.23%)	(8.08%)	0.76%	0.58%	2.40%
CAI Pub Fund:10+ Intl Eq	(0.19%)	(7.34%)	1.49%	1.58%	2.75%
Total Fixed Income	1.66%	0.67%	1.98%	4.18%	5.72%
Custom FI Benchmark	1.87%	0.70%	1.61%	3.68%	4.80%
CAI Pub Fund: 10+ US FI	3.38%	0.93%	2.30%	4.01%	5.29%
Total Real Estate	4.22%	8.85%	11.94%	12.05%	6.25%
Total Real Estate ex REITs	4.20%	11.29%	12.96%	12.61%	6.22%
NCREIF Property Index Qtr Lag	2.91%	13.33%	12.04%	12.18%	7.76%
Public Plan - Real Estate	2.44%	10.19%	11.74%	11.65%	5.50%
Total Private Equity	0.57%	7.48%	12.33%	11.75%	10.37%
Russell 3000 + 300 BPS Qtr Lag	7.04%	3.49%	18.14%	15.51%	10.96%
Total Alternative	(1.76%)	(1.25%)	0.52%	-	-
CPI + 4%	1.67%	4.88%	4.79%	-	-
Opportunity Portfolio	(4.56%)	(3.35%)	5.47%	6.29%	-
Russell 3000 Index	0.97%	(0.34%)	11.15%	11.01%	6.90%
CPI + 5%	1.82%	5.50%	5.42%	6.09%	6.75%
Total Regular Account	0.97%	0.74%	6.99%	7.36%	5.84%
Total Regular Account ex-Overlay	0.96%	0.68%	6.96%	7.26%	5.85%
OPERF Policy Benchmark*	2.41%	1.02%	7.92%	7.86%	6.29%

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

OPERF Total Regular Account

Gross Performance and Peer Group Rankings as of March 31, 2016*



	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	0.62	7.29	7.68	12.70	6.27
25th Percentile	0.05	6.88	7.32	11.68	5.99
Median	(0.36)	6.41	6.85	11.37	5.62
75th Percentile	(1.62)	5.57	6.21	10.32	5.34
90th Percentile	(2.68)	4.52	5.54	9.03	5.06
Total Regular Account ●	1.01	7.25	7.63	12.27	6.12
Policy Target ▲	1.02	7.92	7.86	11.56	6.29

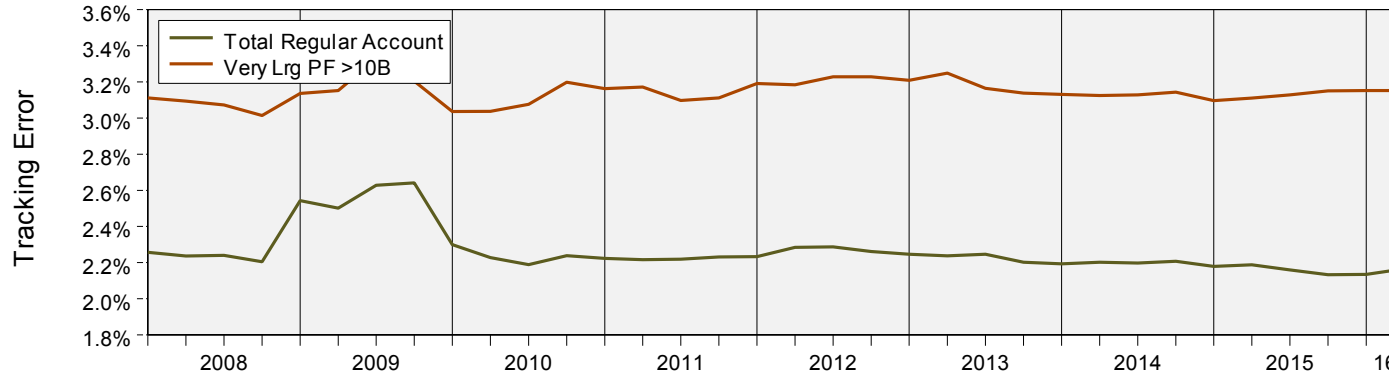
*Versus Callan's Very Large Public Funds (> \$10 billion) Peer Group

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

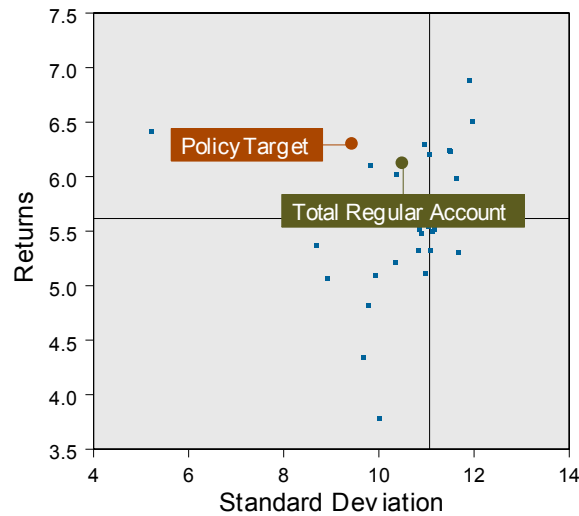
OPERF Total Regular Account

Risk Analysis vs. Very Large Public Funds (>10 billion)
Ten Years ended March 31, 2016

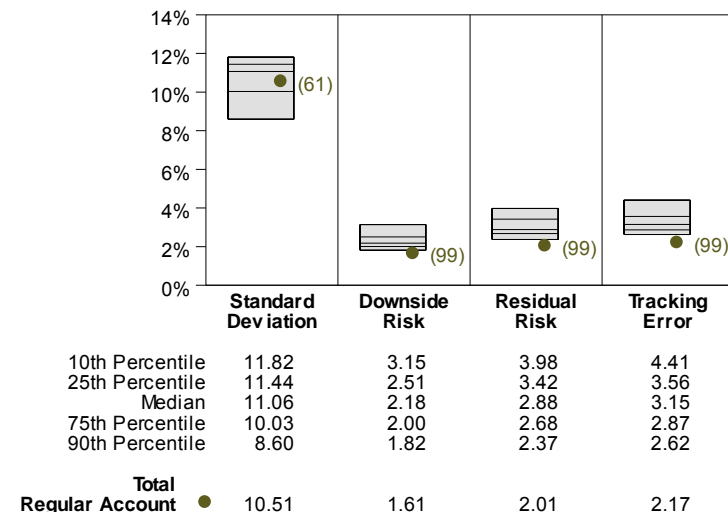
Rolling 40 Quarter Tracking Error vs Policy Target



Risk Analysis vs Very Large Public Funds (>10B) (Gross)
Ten Years Ended March 31, 2016



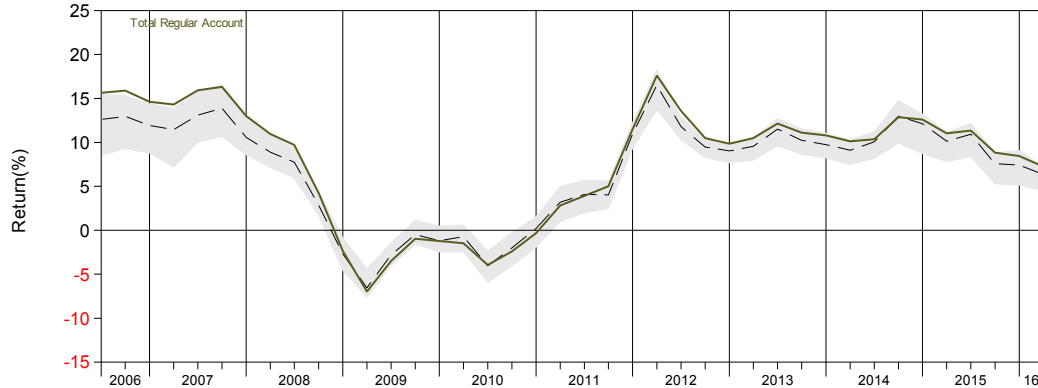
Risk Statistics Rankings vs Policy Target
Rankings Against Very Large Public Funds (>10B) (Gross)
Ten Years Ended March 31, 2016



OPERF Total Regular Account

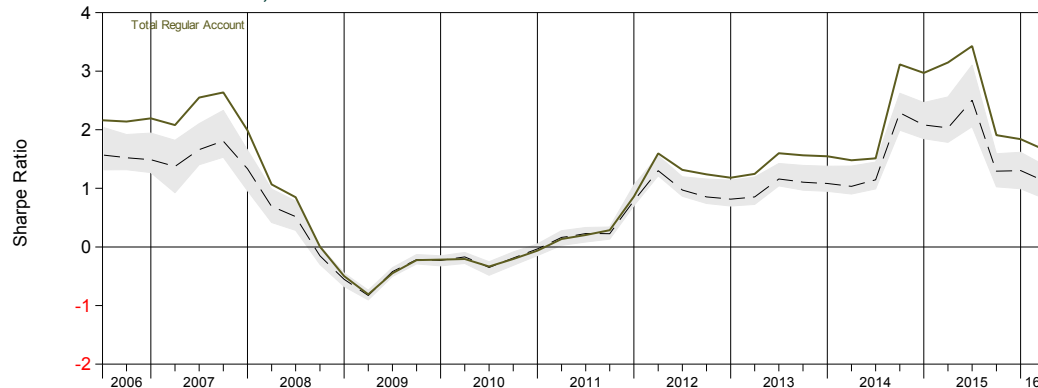
Historical Consistency Analysis vs. Very Large Public Funds (>10 billion)

Rolling Three Year Return(%) Relative to Policy Target
Ten Years Ended March 31, 2016



Rolling Three Year Period Analysis	Median	Portfolio
Average Annual Return(%)	7.07%	7.99%
% Positive Periods	80%	78%
Average Ranking	50	29

Rolling Three Year Sharpe Ratio Relative to Policy Target
Ten Years Ended March 31, 2016



Rolling Three Year Period Analysis	Median	Portfolio
Average Annual Sharpe Ratio	0.83%	1.21%
% Positive Periods	75%	78%
Average Ranking	50	20

OPERF Public Equity

Asset Distribution as of March 31, 2016

	Market Values	% of Total Fund
Total Public Equity	\$ 25,673,078,019	37.50%
Domestic Equity	\$ 12,795,271,148	18.69%
Large Cap Growth	\$ 893,009,097	1.30%
Large Cap Value	\$ 1,818,206,730	2.66%
Small Cap Growth	\$ 113,428,549	0.17%
Small Cap Value	\$ 744,890,585	1.09%
Market Oriented	\$ 9,215,788,398	13.46%
Other	\$ 9,947,789	0.01%
International Equity	\$ 12,081,811,908	17.65%
International Market Oriented (Core)	\$ 6,063,007,869	8.86%
International Value	\$ 1,661,817,186	2.43%
International Growth	\$ 1,366,825,032	2.00%
International Small Cap	\$ 1,318,867,765	1.93%
Emerging Markets	\$ 1,671,294,056	2.44%
Global Equity	\$ 795,994,963	1.16%

OPERF Public Equity

Style Exposure

**Style Exposure Matrix
Holdings as of March 31, 2016**

Large	20.8% (280)	18.8% (268)	20.7% (316)	60.3% (864)
	24.2% (279)	21.8% (263)	24.0% (313)	70.0% (855)
Mid	7.1% (397)	8.7% (559)	9.2% (553)	25.0% (1509)
	5.4% (461)	6.9% (600)	7.2% (650)	19.5% (1711)
Small	3.3% (801)	4.5% (1070)	3.0% (603)	10.8% (2474)
	2.8% (1076)	3.3% (1253)	2.7% (1094)	8.8% (3423)
Micro	1.3% (1360)	1.6% (2501)	0.9% (543)	3.9% (4404)
	0.6% (966)	0.6% (877)	0.4% (724)	1.6% (2567)
Total	32.5% (2838)	33.7% (4398)	33.8% (2015)	100.0% (9251)
	33.0% (2782)	32.6% (2993)	34.4% (2781)	100.0% (8556)
	Value	Core	Growth	Total

**Style Exposure Matrix
Holdings as of March 31, 2016**

Europe/ Mid East	5.9% (430)	5.9% (496)	9.8% (369)	21.6% (1295)
	7.1% (457)	5.6% (472)	9.0% (493)	21.6% (1422)
N. America	20.3% (897)	20.3% (1075)	15.9% (653)	56.5% (2625)
	18.4% (823)	20.0% (1104)	17.5% (913)	55.8% (2840)
Pacific	3.1% (772)	3.4% (598)	4.5% (389)	11.0% (1759)
	4.1% (590)	3.6% (556)	4.3% (519)	12.0% (1665)
Emerging/ FM	3.2% (739)	4.1% (2229)	3.7% (604)	10.9% (3572)
	3.4% (912)	3.4% (861)	3.7% (856)	10.5% (2629)
Total	32.5% (2838)	33.7% (4398)	33.8% (2015)	100.0% (9251)
	33.0% (2782)	32.6% (2993)	34.4% (2781)	100.0% (8556)
	Value	Core	Growth	Total

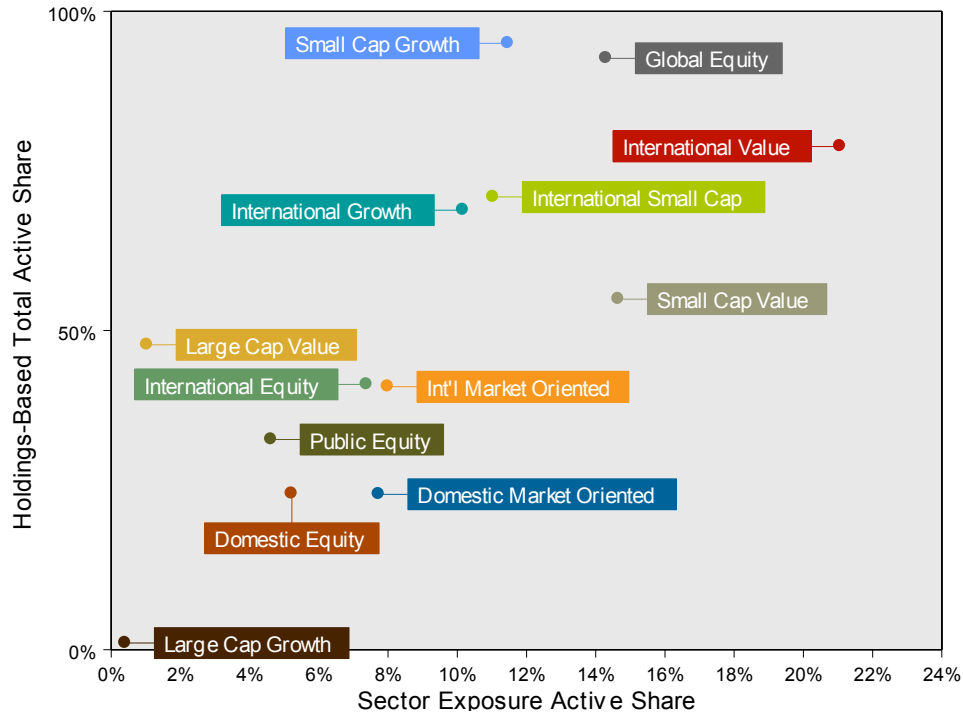
- Public Equity
- MSCI ACWI IMI

Percentages may not sum to 100% due to rounding

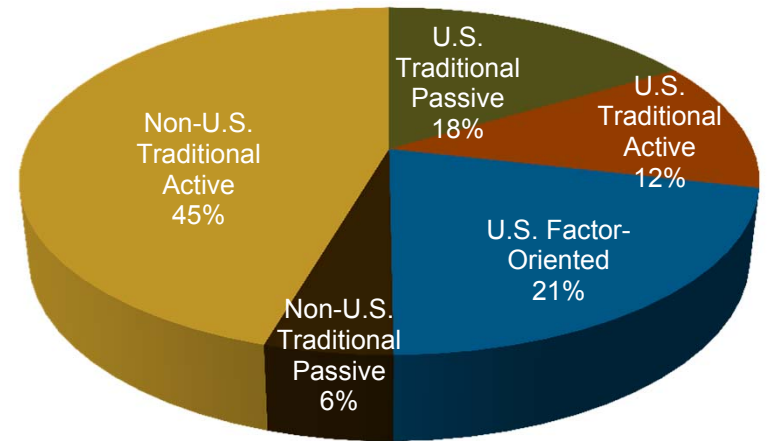
OPERF Public Equity

Public Market Allocation as of March 31, 2016

Active Share Analysis
 Ended March 31, 2016



Active/Passive Split

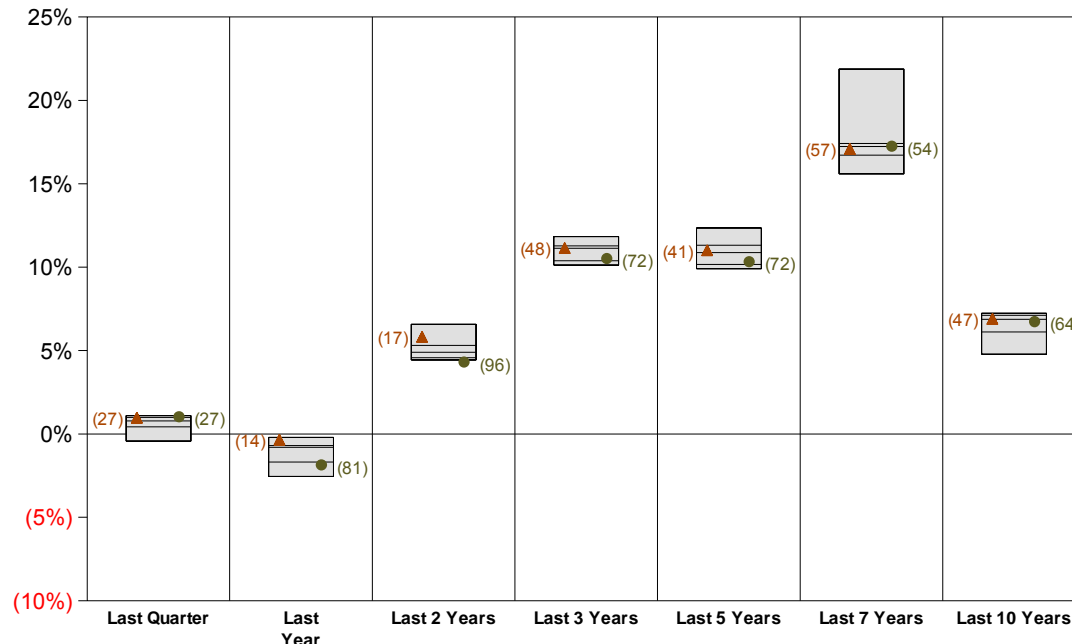


	Weight %	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities
Public Equity	100.00%	MSCI ACWI IMI	32.93%	2.33%	4.63%	9723

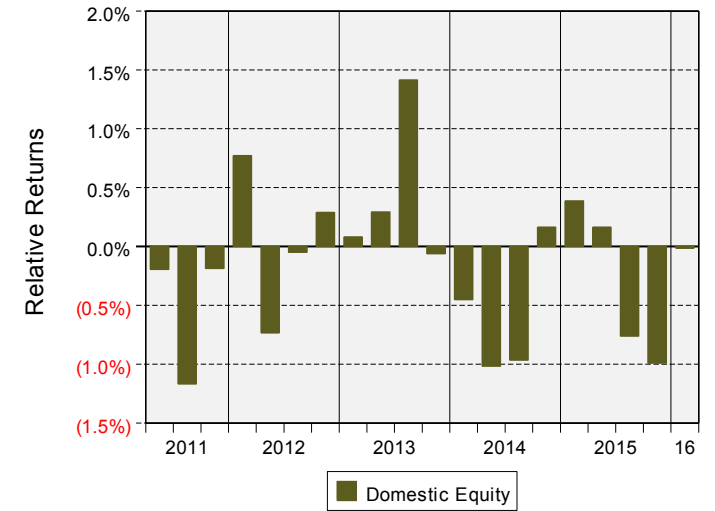
OPERF U.S. Equity

Performance Analysis as of March 31, 2016

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



Relative Return vs Russell 3000 Index

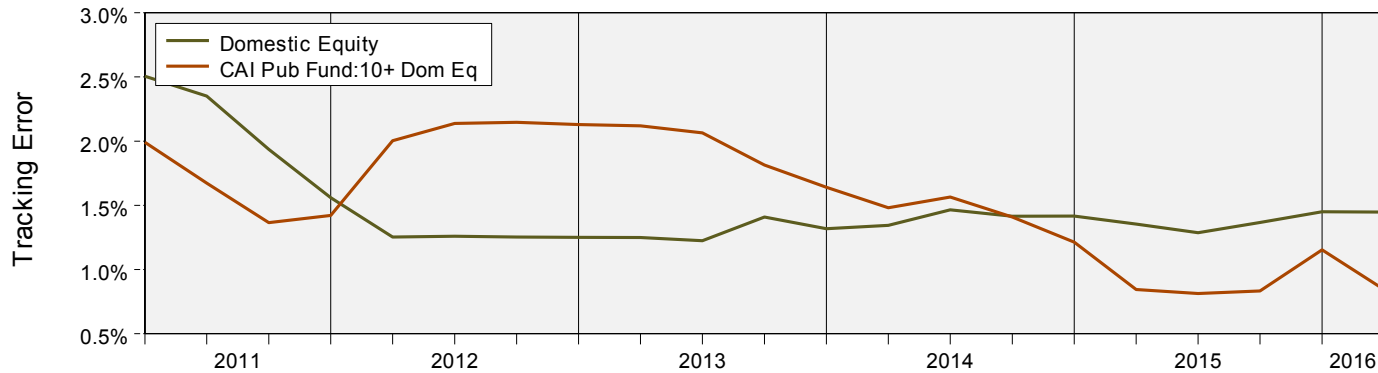


10th Percentile	1.10	(0.20)	6.58	11.83	12.34	21.87	7.24
25th Percentile	1.00	(0.70)	5.31	11.27	11.31	17.42	7.11
Median	0.78	(0.81)	4.90	11.13	10.87	17.23	6.87
75th Percentile	0.43	(1.68)	4.57	10.39	10.17	16.72	6.11
90th Percentile	(0.43)	(2.54)	4.44	10.12	9.91	15.59	4.78
Domestic Equity	● 0.96	(1.93)	4.24	10.44	10.25	17.17	6.66
Russell 3000 Index	▲ 0.97	(0.34)	5.82	11.15	11.01	17.09	6.90

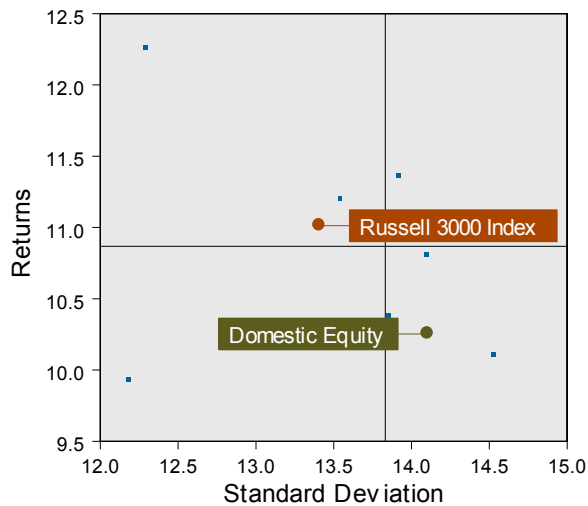
OPERF U.S. Equity

Risk Analysis as of March 31, 2016

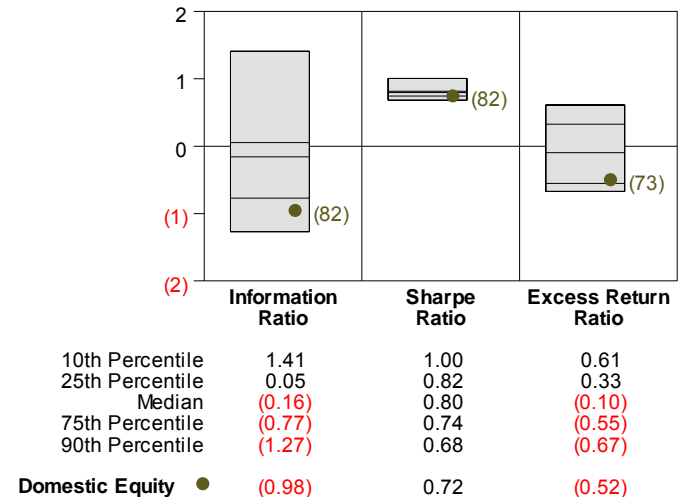
Rolling 12 Quarter Tracking Error vs Russell 3000 Index



Risk Analysis vs CAI Public Funds: \$10B+ Domestic Equity (Gross)
Five Years Ended March 31, 2016



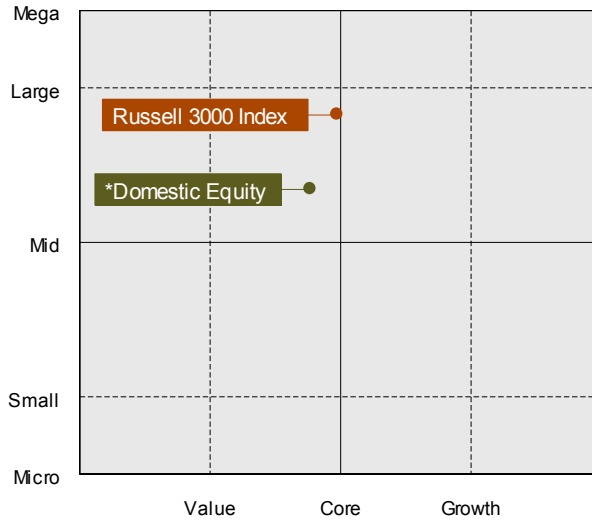
Risk Adjusted Return Measures vs Russell 3000 Index
Rankings Against CAI Public Funds: \$10B+ Domestic Equity (Gross)
Five Years Ended March 31, 2016



OPERF U.S. Equity

Characteristics as of March 31, 2016

Style Map vs CAI Pub Fund:10+ Dom Eq Holdings as of March 31, 2016

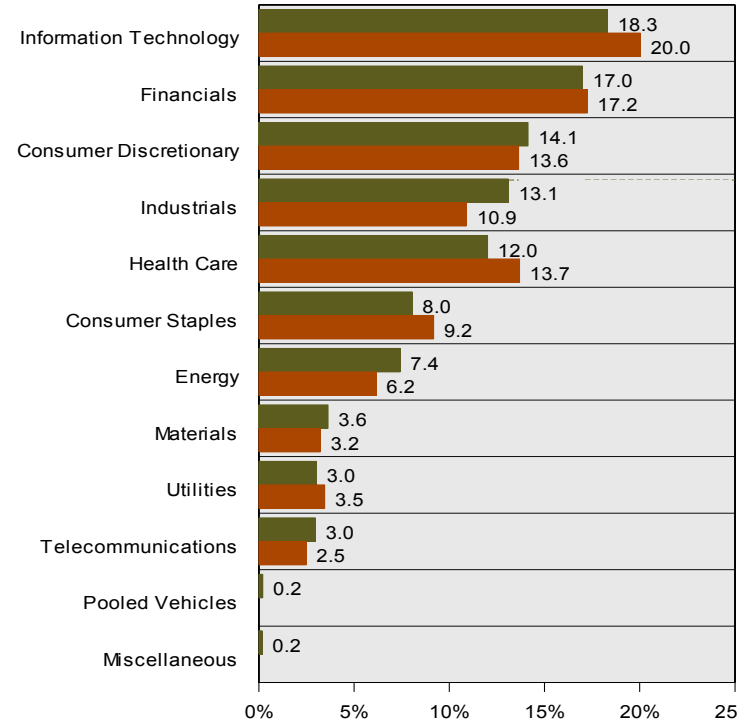


Style Exposure Matrix Holdings as of March 31, 2016

	Value	Core	Growth	Total
Large	24.7% (103)	19.7% (106)	16.0% (88)	60.5% (297)
	26.7% (103)	25.1% (105)	22.4% (86)	74.2% (294)
Mid	7.6% (179)	8.6% (225)	7.9% (193)	24.0% (597)
	5.6% (178)	6.4% (222)	5.7% (190)	17.7% (590)
Small	4.1% (300)	4.9% (362)	2.9% (204)	11.9% (866)
	2.2% (343)	2.8% (464)	2.2% (372)	7.2% (1179)
Micro	1.4% (280)	1.5% (274)	0.7% (107)	3.6% (661)
	0.3% (252)	0.4% (406)	0.3% (226)	0.9% (884)
Total	37.8% (862)	34.7% (967)	27.5% (592)	100.0% (2421)
	34.8% (876)	34.7% (1197)	30.5% (874)	100.0% (2947)

● OPERF US Equity
● Russell 3000

Sector Allocation March 31, 2016

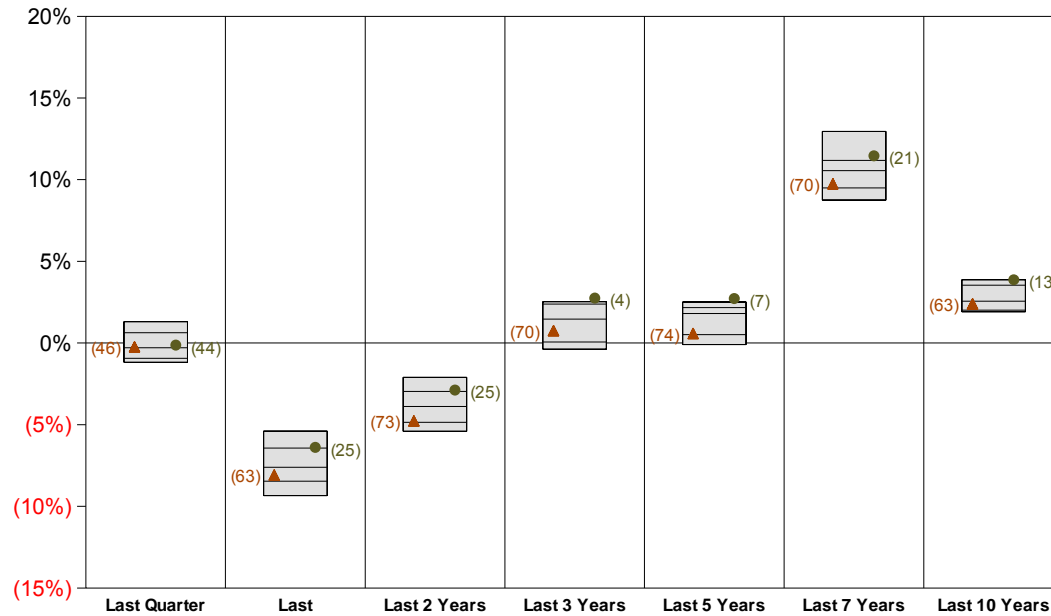


	Wtd. Median Mkt Cap	Price/Earn.	Price/Book	Forecasted Earn. Growth	Div yield	MSCI Combined Z-Score
Domestic Equity	27.26	16.22	2.27	10.02	2.00	-0.16
Russell 3000 Index	52.19	17.39	2.57	10.65	2.07	-0.02

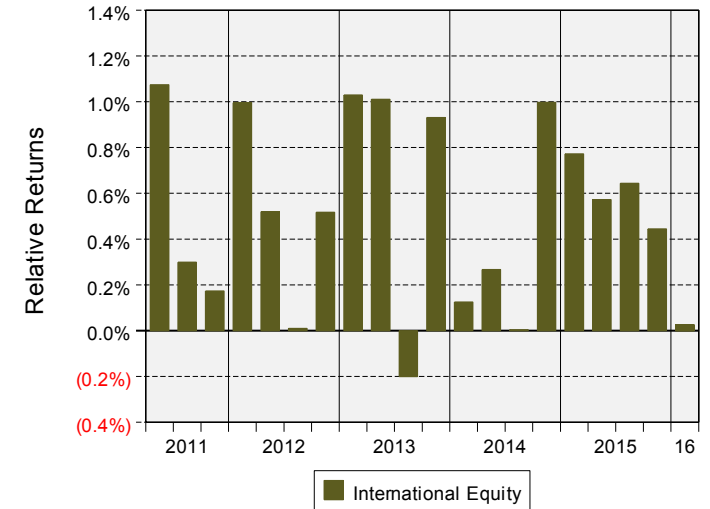
OPERF Non-US Equity

Performance Analysis as of March 31, 2016

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



Relative Returns vs MSCI ACWI ex-US IMI Index*



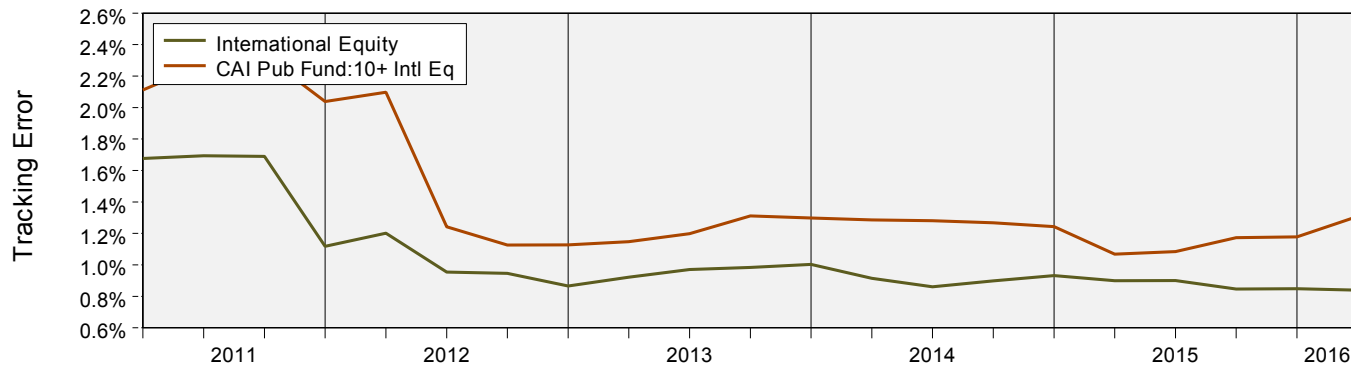
	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	1.31	(5.40)	(2.10)	2.53	2.52	12.95	3.87
25th Percentile	0.63	(6.43)	(2.96)	2.39	2.17	11.18	3.54
Median	(0.29)	(7.61)	(3.89)	1.46	1.80	10.55	2.56
75th Percentile	(0.94)	(8.46)	(4.86)	0.06	0.51	9.50	2.01
90th Percentile	(1.19)	(9.35)	(5.40)	(0.38)	(0.10)	8.75	1.92
International Equity	(0.21)	(6.46)	(2.95)	2.67	2.65	11.39	3.80
MSCI ACWI ex-US IMI Index	(0.23)	(8.08)	(4.77)	0.76	0.58	9.75	2.40

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

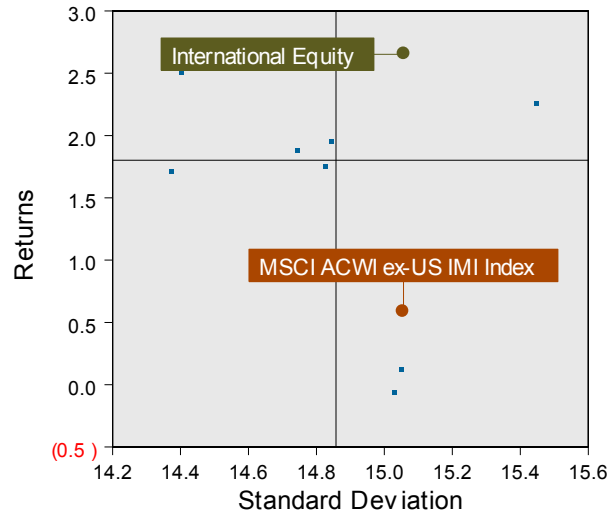
OPERF Non-US Equity

Risk Analysis as of March 31, 2016

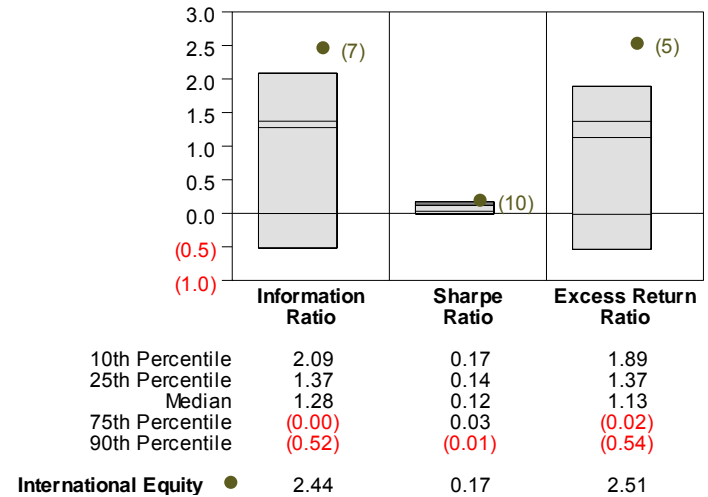
Rolling 12 Quarter Tracking Error vs MSCI ACWI ex-US IMI Index*



Risk Analysis vs CAI Public Funds: \$10B+ Intl Equity (Gross) Five Years Ended March 31, 2016



Risk Adjusted Return Measures vs MSCI ACWI ex-US IMI Index* Rankings Against CAI Public Funds: \$10B+ Intl Equity (Gross) Five Years Ended March 31, 2016

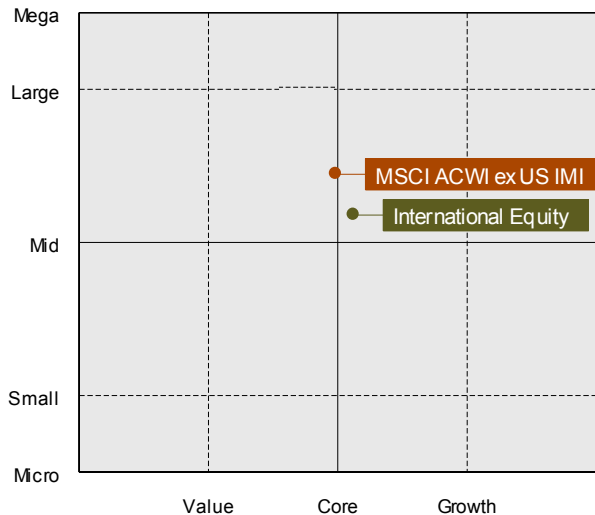


*The benchmark for the International Equity portfolio was the MSCI ACWI ex US Gross Index through May 31, 2008, and the MSCI ACWI ex US IMI Net Index thereafter. Index returns above are linked.

OPERF Non-US Equity

Characteristics as of March 31, 2016

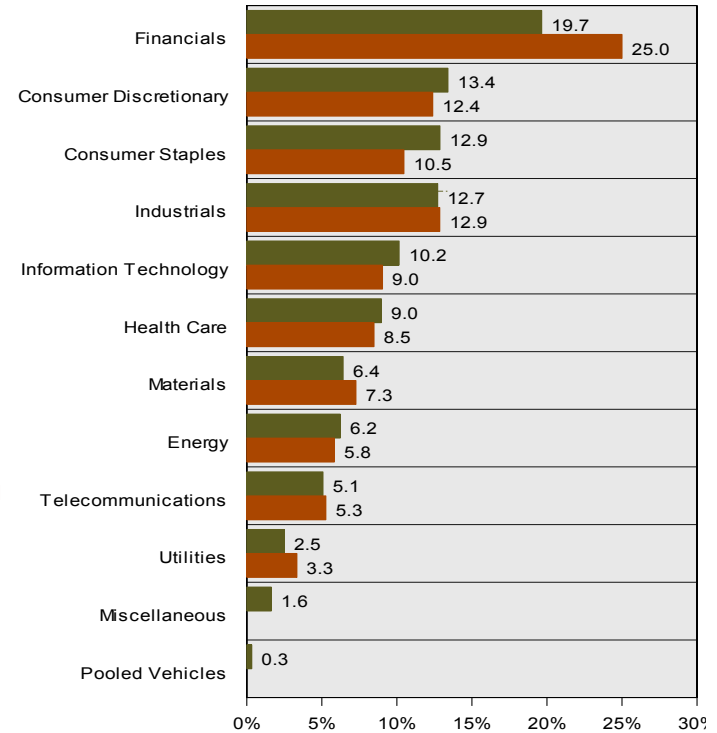
Style Map vs CAI Pub Fund:10+ Intl Eq Holdings as of March 31, 2016



Style Exposure Matrix Holdings as of March 31, 2016

	Value	Core	Growth	Total
Large	15.2% (151)	14.9% (133)	23.3% (185)	53.4% (469)
	21.1% (150)	15.9% (121)	22.4% (175)	59.4% (446)
Mid	6.0% (200)	10.5% (304)	12.2% (350)	28.7% (854)
	5.9% (256)	8.9% (360)	10.3% (431)	25.1% (1047)
Small	3.8% (495)	5.2% (687)	4.5% (413)	13.5% (1595)
	4.0% (701)	4.4% (785)	4.0% (722)	12.4% (2208)
Micro	1.5% (1135)	1.7% (2327)	1.1% (463)	4.4% (3925)
	1.3% (906)	1.1% (806)	0.8% (622)	3.2% (2334)
Total	26.5% (1981)	32.3% (3451)	41.1% (1411)	100.0% (6843)
	32.2% (2013)	30.3% (2072)	37.5% (1950)	100.0% (6035)

Sector Allocation March 31, 2016



- International Equity
- MSCI ACWI ex-U.S. IMI

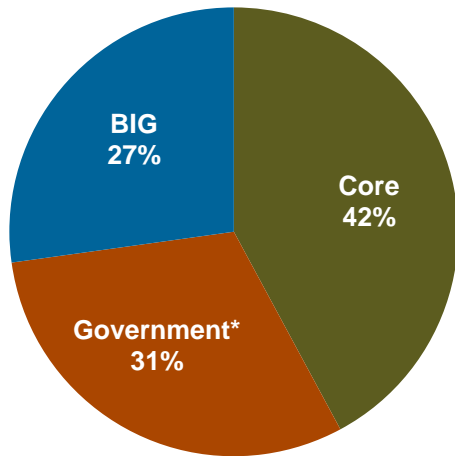
	Wtd. Median Mkt Cap	Price/Earn.	Price/Book	Forecasted Earn. Growth	Div yield	MSCI Combined Z-Score
International Equity	14.84	14.05	1.53	10.66	2.81	0.10
MSCI ACWI ex-US IMI	19.92	14.03	1.49	9.90	3.13	-0.01

OPERF Total Fixed Income

Allocations as of March 31, 2016

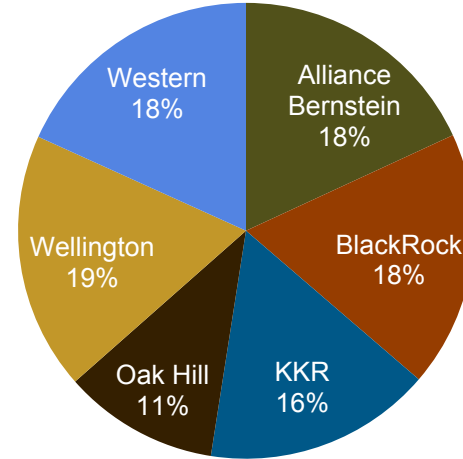
Allocation by Strategy

Managers	% Allocation	% Target
Core	42.1%	46.0%
Government*	30.7%	37.0%
BIG	27.2%	17.0%
Total	100.0%	100.0%



Allocation by Manager

Managers	Core	Government	BIG	Assets (\$M)	% Allocation
AllianceBernstein	\$ 1,534,187	\$ 1,109,748	-	\$ 2,643,935	18.1%
BlackRock	\$ 1,537,147	\$ 1,119,695	-	\$ 2,656,842	18.2%
Wellington	\$ 1,531,316	\$ 1,137,370	-	\$ 2,668,686	18.3%
Western Asset Mgmt	\$ 1,547,664	\$ 1,115,065	-	\$ 2,662,728	18.2%
KKR Asset Mgmt	-	-	\$ 2,359,775	\$ 2,359,775	16.2%
Oak Hill	-	-	\$ 1,609,969	\$ 1,609,969	11.0%
Total	\$ 6,150,314	\$ 4,481,877	\$ 3,969,744	\$ 14,601,935	100.0%



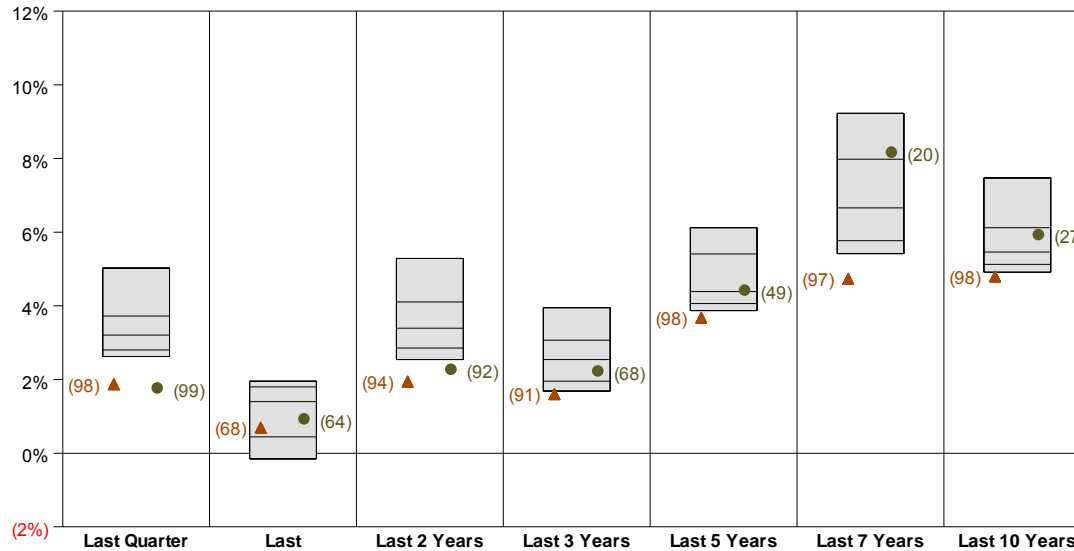
*The short term portfolio was transitioned to a U.S. Treasury mandate during the quarter

Percentages may not sum to 100% due to rounding

OPERF Total Fixed Income

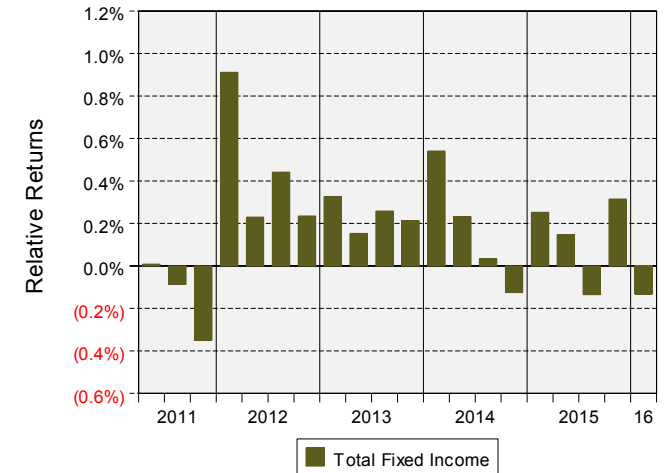
Performance Analysis as of March 31, 2016

Performance vs Public Fund 10+ B US FI (Gross)



	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	5.03	1.95	5.28	3.95	6.12	9.23	7.47
25th Percentile	3.72	1.80	4.10	3.07	5.41	7.98	6.12
Median	3.20	1.40	3.39	2.54	4.39	6.66	5.46
75th Percentile	2.80	0.44	2.86	1.95	4.06	5.77	5.13
90th Percentile	2.62	(0.16)	2.54	1.69	3.87	5.41	4.91
Total Fixed Income	1.74	0.90	2.25	2.20	4.39	8.14	5.90
Oregon Custom FI Benchmark	1.87	0.70	1.95	1.61	3.68	4.73	4.80

Relative Returns vs Oregon Custom FI Benchmark*

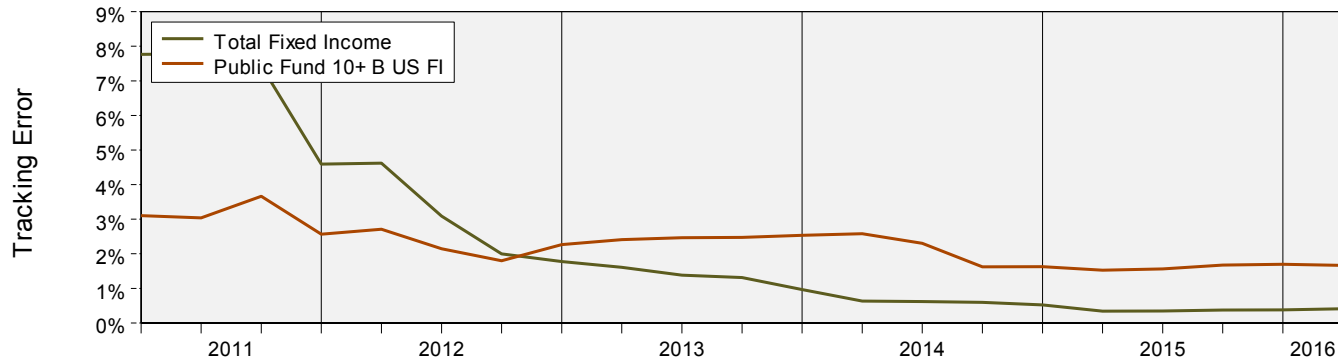


*Prior to February 28, 2011, index is Oregon Custom FI 90/10 Benchmark (90% BC US Universal Index and 10% SSBI Non-US World Gov't Bond Hedged Index). From March 1, 2011 to December 31, 2013, index is Oregon Custom FI Benchmark (60% BC US Universal Index, 20% S&P/LSTA Leveraged Loan Index, 10% JPM EMBI Global Index, and 10% BofA ML High Yield Master II Index). From January 1, 2014 to Current, index is Oregon Custom FI Benchmark (40% Barclays Capital U.S. Aggregate Bond, 40% Barclays Capital U.S. 1-3 Govt/Credit Bond Index, 15% S&P/LSTA Leveraged Loan Index, and 5% BofA ML High Yield Master II Index). From March 1, 2016 to Present, index is 46% Barclays Aggregate Bond, 37% Barclays Treasury, 4% BofAML High Yield Master II, and 13% S&P/LSTA.

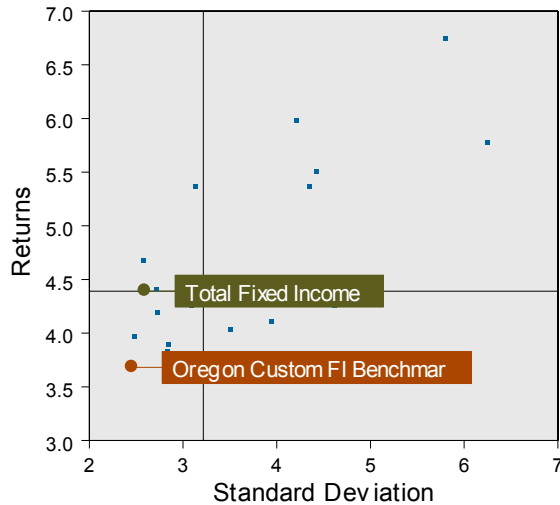
OPERF Total Fixed Income

Risk Analysis as of March 31, 2016

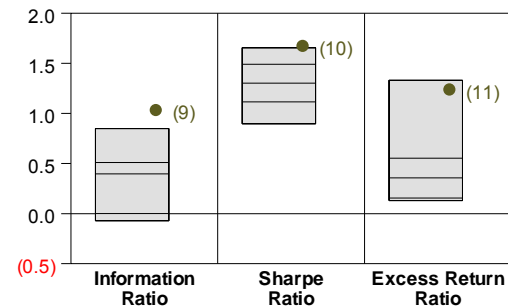
Rolling 12 Quarter Tracking Error vs Oregon Custom FI Benchmark



Risk Analysis vs Public Funds \$10B+ US FI (Gross)
Ten Years Ended March 31, 2016



Risk Statistics Rankings vs Policy Target
Rankings Against Public Funds \$10B+ US FI (Gross)
Five Years Ended March 31, 2016



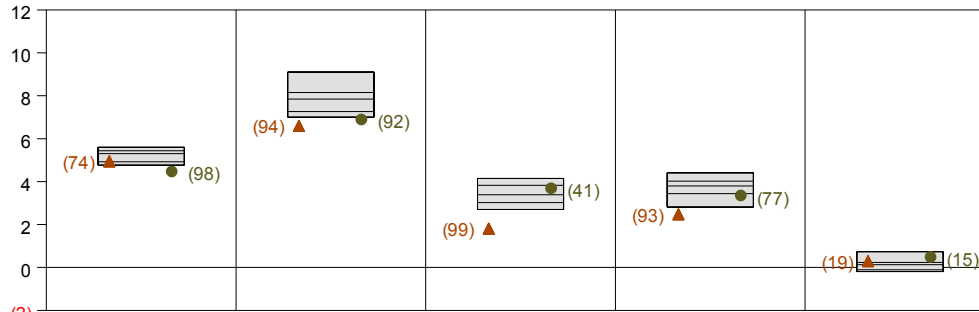
	Information Ratio	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.85	1.66	1.33
25th Percentile	0.51	1.49	0.55
Median	0.40	1.30	0.36
75th Percentile	0.00	1.12	0.16
90th Percentile	(0.07)	0.90	0.13
Total Fixed Income	● 1.02	1.66	1.23

Oregon's custom benchmark was changed on March 1, 2016 and now represents 46% Barclays Aggregate Bond, 37% Barclays Treasury, 4% BofAML High Yield Master II, and 13% S&P/LSTA.

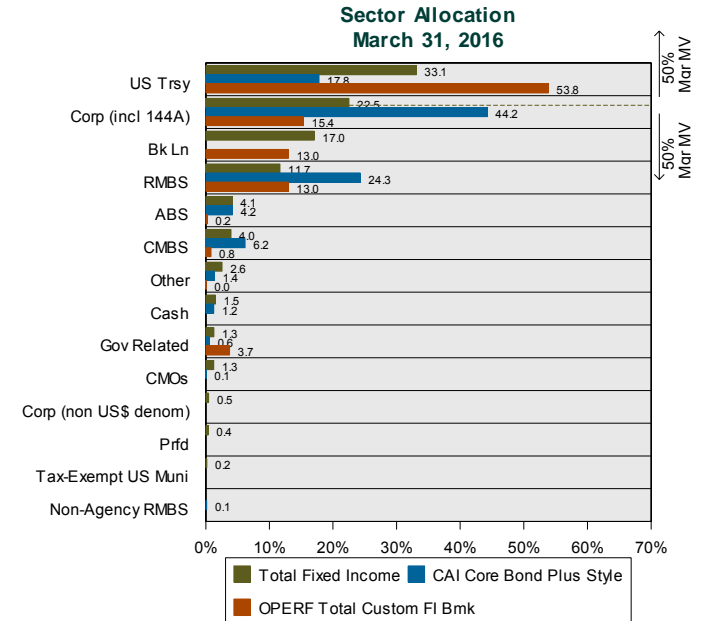
OPERF Total Fixed Income

Characteristics as of March 31, 2016

Fixed Income Portfolio Characteristics Rankings Against CAI Core Bond Plus Style as of March 31, 2016



	Duration	Average Life	Effective Yield	Coupon Rate	OA Convexity
10th Percentile	5.60	9.10	4.14	4.41	0.73
25th Percentile	5.44	8.15	3.83	4.02	0.23
Median	5.31	7.84	3.38	3.80	0.13
75th Percentile	4.92	7.26	3.02	3.44	(0.11)
90th Percentile	4.76	7.00	2.70	2.81	(0.20)
Total Fixed Income	4.41	6.84	3.63	3.29	0.42
OPERF Total Custom FI Bmk	4.95	6.60	1.81	2.48	0.29



	Quality Ratings
Total Fixed Income	A
OPERF Total FI Bench	A+

Oregon's custom benchmark was changed on March 1, 2016 and now represents 46% Barclays Aggregate Bond, 37% Barclays Treasury, 4% BofAML High Yield Master II, and 13% S&P/LSTA.

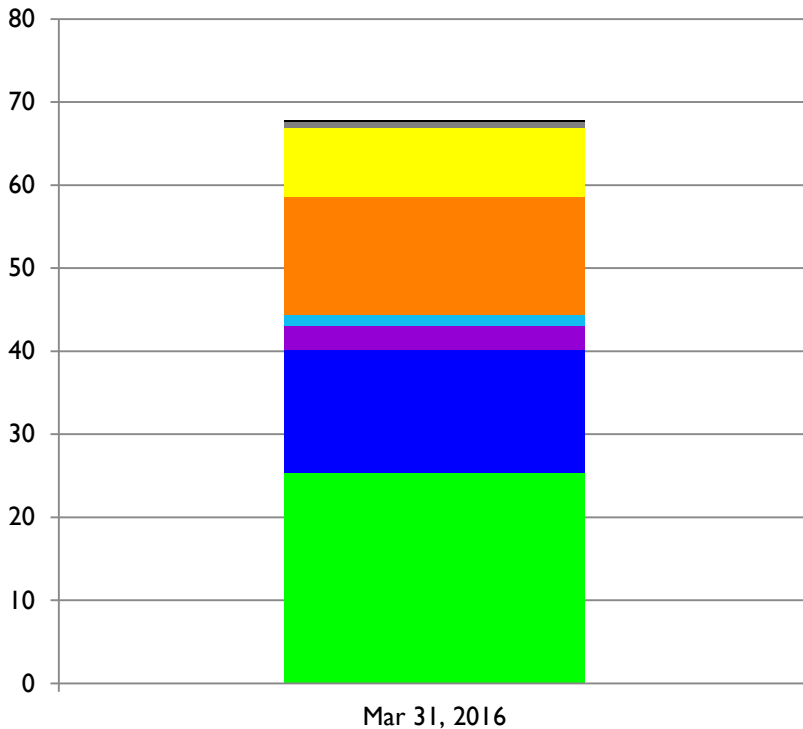


2016 Q1 OPERF Risk Dashboard

June 1, 2016

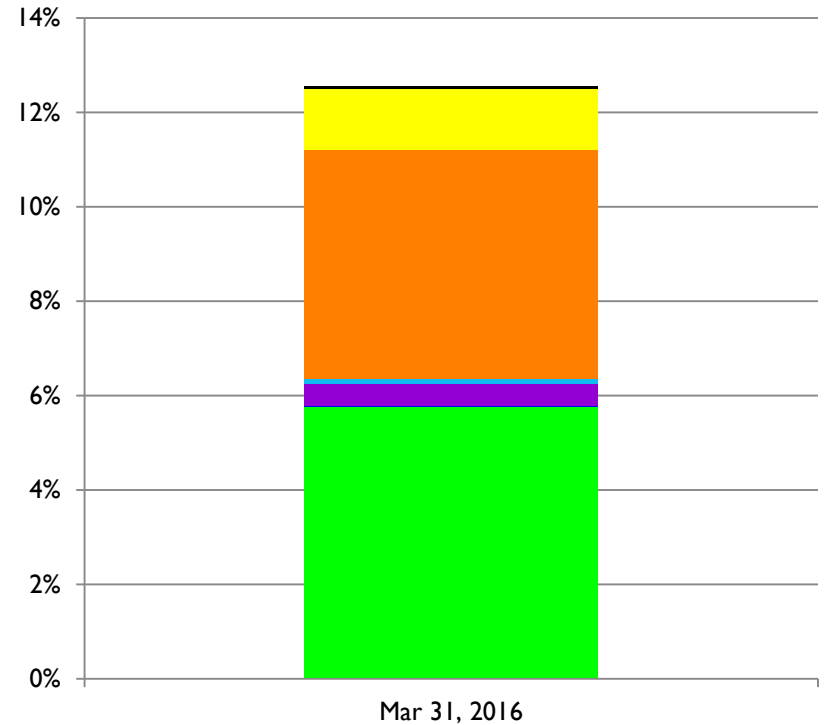
Capital Allocation & Risk Contribution by Asset Class

Allocation in \$B



- Equity
- Fixed Income
- Alternatives Portfolio
- Opportunity Portfolio
- Private Equity
- Real Estate
- Cash
- Overlay

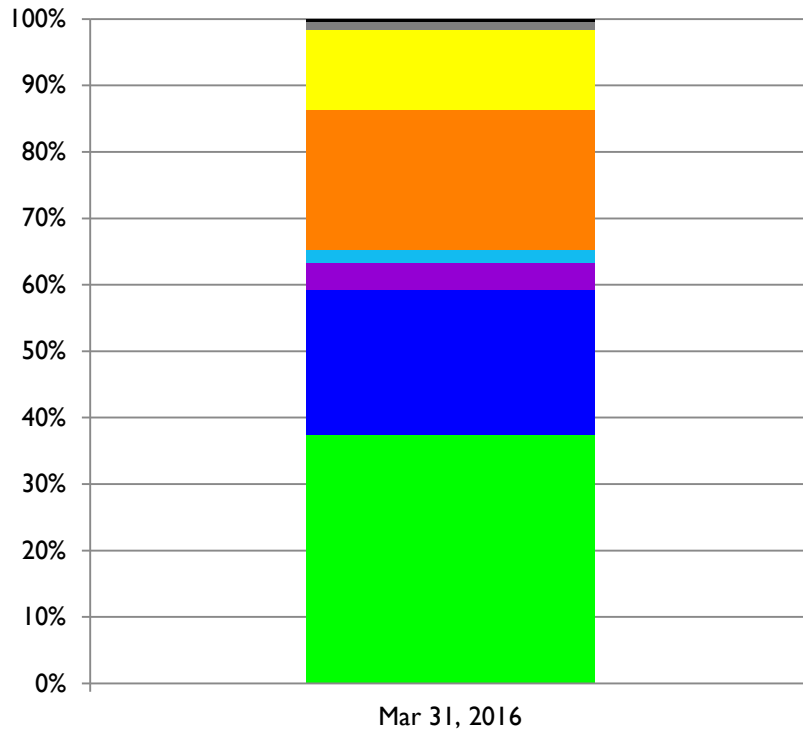
Risk Contribution



- Equity
- Fixed Income
- Alternatives Portfolio
- Opportunity Portfolio
- Private Equity
- Real Estate
- Cash
- Overlay

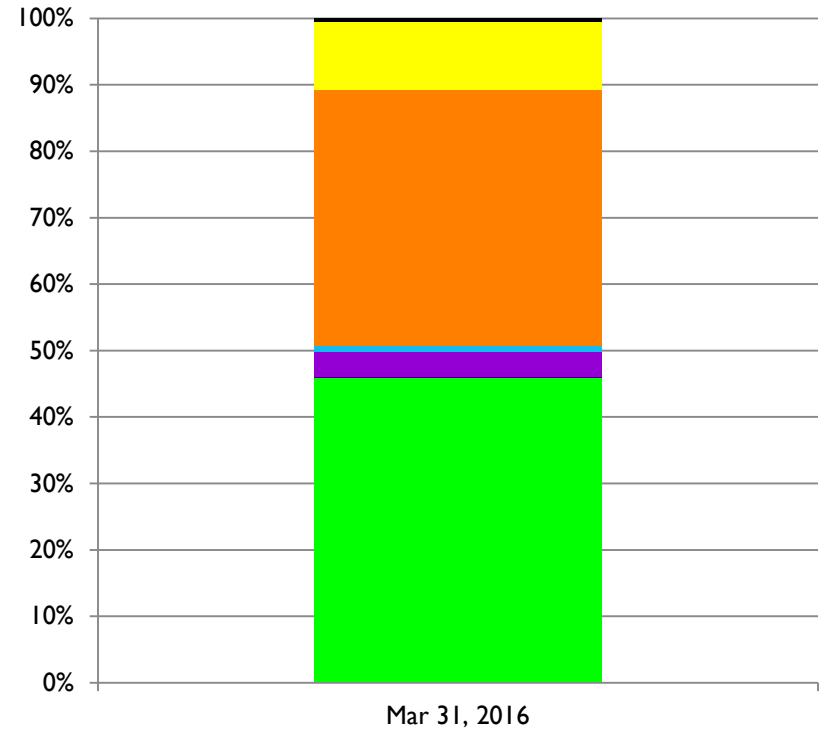
Scaled Capital Allocation & Risk Contribution by Asset Class

Allocation % of Total



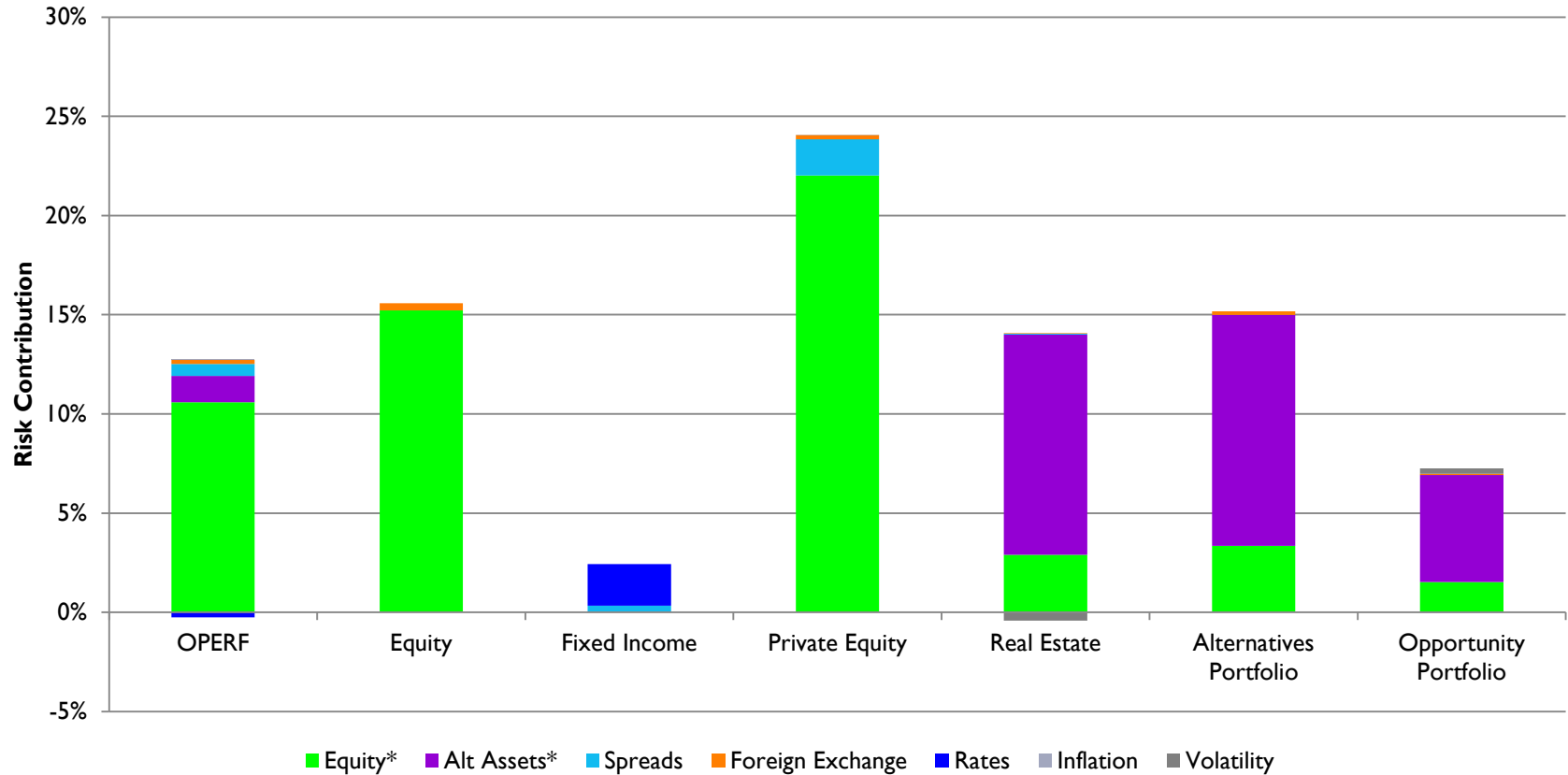
- Equity
- Fixed Income
- Alternatives Portfolio
- Opportunity Portfolio
- Private Equity
- Real Estate
- Cash
- Overlay

Risk Contribution % of Total



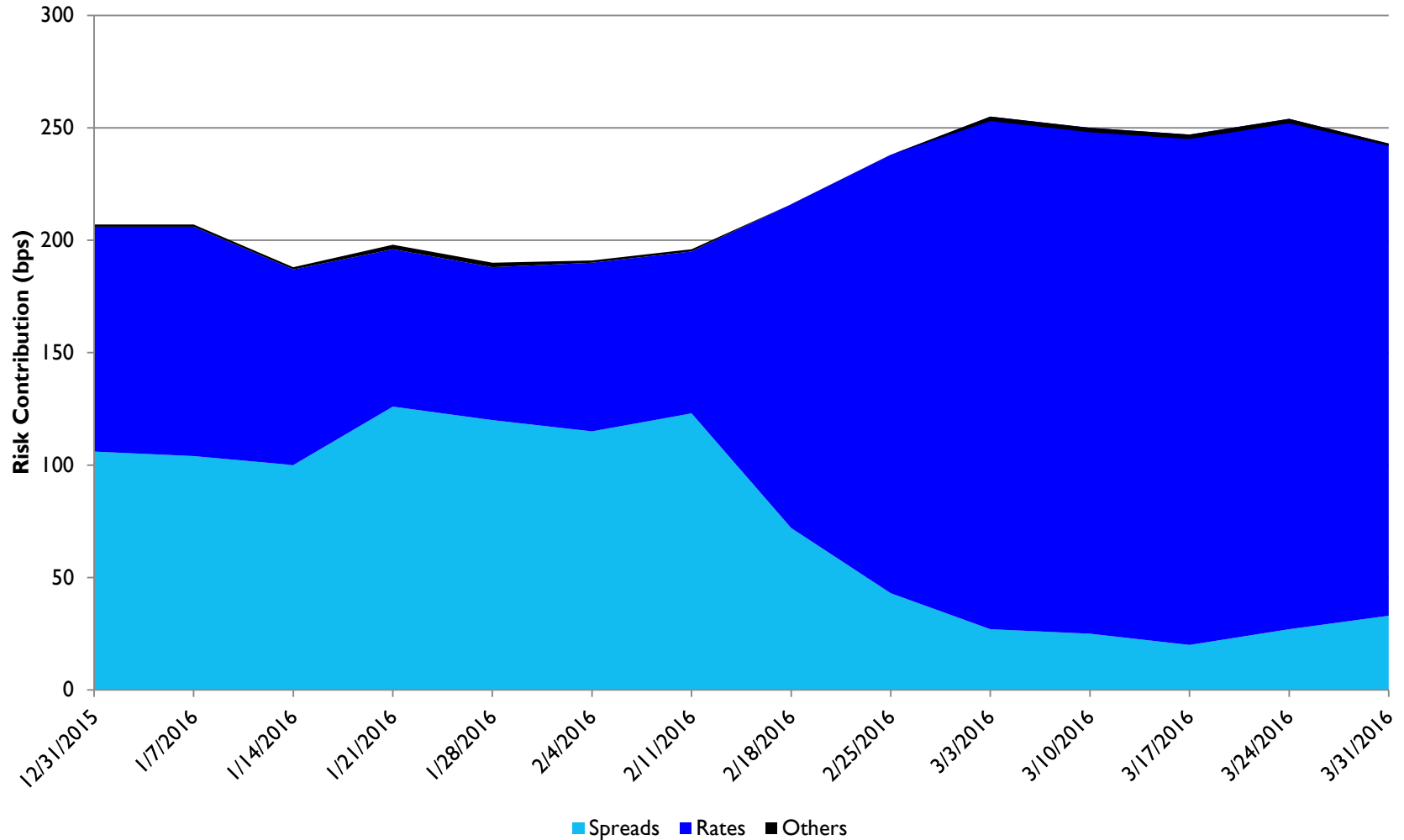
- Equity
- Fixed Income
- Alternatives Portfolio
- Opportunity Portfolio
- Private Equity
- Real Estate
- Cash
- Overlay

Risk Contribution by Factor Group



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

Fixed Income Risk Contribution by Factor Group



Correlation Matrices by Asset Class

Mar 31, 2016	Equity	Fixed Income	Alternatives Portfolio	Opportunity Portfolio	Private Equity	Real Estate	OPERF
Equity	1.00	-0.05	0.65	0.73	0.93	0.71	0.98
Fixed Income		1.00	0.06	0.14	-0.05	0.11	0.02
Alternatives Portfolio			1.00	0.66	0.71	0.44	0.72
Opportunity Portfolio				1.00	0.75	0.46	0.76
Private Equity					1.00	0.64	0.97
Real Estate						1.00	0.76
OPERF							1.00

Dec 31, 2015	Equity	Fixed Income	Alternatives Portfolio	Opportunity Portfolio	Private Equity	Real Estate	OPERF
Equity	1.00	0.35	0.54	0.61	0.90	0.59	0.97
Fixed Income		1.00	0.40	0.59	0.41	0.29	0.45
Alternatives Portfolio			1.00	0.62	0.64	0.27	0.64
Opportunity Portfolio				1.00	0.69	0.21	0.67
Private Equity					1.00	0.49	0.96
Real Estate						1.00	0.64
OPERF							1.00

- ▶ Ex-Ante, holdings-based correlations between asset classes as estimated by Aladdin.
- ▶ From December 2015 to March 2016, the correlation between Fixed Income and OPERF dropped from 0.45 to 0.02. That is, the recent reconstitution of the Fixed Income portfolio (i.e., more duration, less credit) significantly improved OPERF's diversification profile.

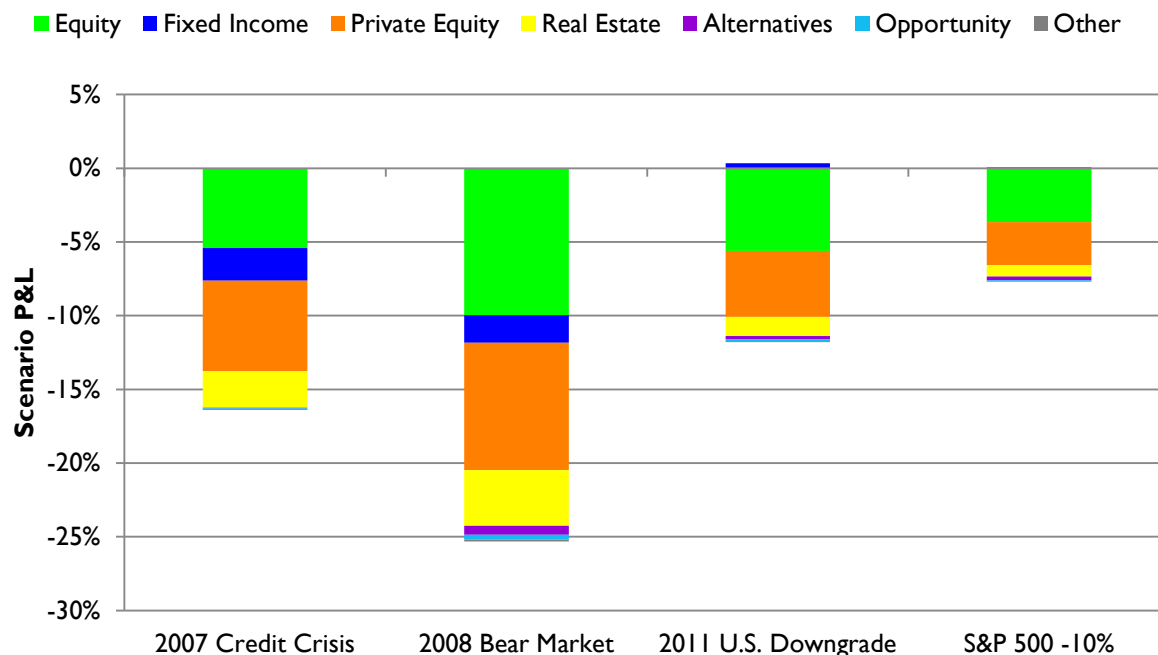
Scenario Analysis by Asset Class

Scenario Definitions

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

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

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



	2007 Credit Crisis	2008 Bear Market	2011 U.S. Downgrade	S&P 500 -10%
Equity	-5.4%	-10.0%	-5.6%	-3.7%
Fixed Income	-2.2%	-1.9%	0.3%	0.1%
Private Equity	-6.1%	-8.7%	-4.5%	-2.9%
Real Estate	-2.5%	-3.8%	-1.3%	-0.8%
Alternatives	0.0%	-0.6%	-0.2%	-0.3%
Opportunity	-0.1%	-0.3%	-0.1%	-0.1%
Other	0.0%	-0.1%	-0.1%	0.0%
Total	-16.4%	-25.3%	-11.5%	-7.6%

Liquidity Report

Asset Class	Liquidity (\$M)				∞	Uncalled Commitments	Next 12 Months
	1 Week	1 Month	1 Quarter				
Cash & Overlay	1,137						
Public Equity	23,178	1,497	984				
Fixed Income	10,632	3,970					
Private Equity				13,813	-7,824		
Real Estate	2,028			6,584	-2,065		
Alternatives	160			2,577	-2,304		
Opportunity				1,254	-729		
Pension Benefits							-3,000
Total	37,135	5,467	984	24,227	-12,921		-3,000

Public Equity - 1 Month = AQR 130/30, Arrowstreet 130/30 & Callan U.S. Micro Cap Value portfolios

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

Fixed Income - 1 Month = Below Investment Grade

Real Estate - 1 Week = REIT composite

Alternatives - 1 Week = SailingStone

- ▶ Chart periods approximate the time required to liquidate different OPERF allocations.
- ▶ Possible future considerations:
 - ▶ What is the appropriate ratio of “liquid” left-hand assets versus right-hand liquidity demands?
 - ▶ Above values taken from quarter-end custody report, but are not adjusted for asset volatility (e.g., EM equities versus U.S. Treasuries). What are the appropriate adjustments or “haircuts” for a hypothetical, stressed market environment?

TAB 8 – Asset Allocations & NAV Updates

Asset Allocations at April 30, 2016

Regular Account								Variable Fund	Total Fund
OPERF	Policy	Target ¹	\$ Thousands	Pre-Overlay	Overlay	Net Position	Actual	\$ Thousands	\$ Thousands
Public Equity	32.5-42.5%	37.5%	26,088,260	38.4%	336,559	26,424,819	38.9%	603,954	27,028,773
Private Equity	13.5-21.5%	17.5%	13,771,064	20.3%		13,771,064	20.3%		13,771,064
Total Equity	50.0-60.0%	55.0%	39,859,324	58.6%	336,559	40,195,883	59.1%		40,799,837
Opportunity Portfolio	0-3%	0.0%	1,351,406	2.0%		1,351,406	2.0%		1,351,406
Fixed Income	15-25%	20.0%	14,157,403	20.8%	862,659	15,020,062	22.1%		15,020,062
Real Estate	9.5-15.5%	12.5%	8,547,347	12.6%	(23,500)	8,523,847	12.5%		8,523,847
Alternative Investments	0-12.5%	12.5%	2,866,087	4.2%		2,866,087	4.2%		2,866,087
Cash ²	0-3%	0.0%	1,181,948	1.7%	(1,175,718)	6,230	0.0%	34,400	40,630
TOTAL OPERF		100%	\$ 67,963,516	100.0%	\$ -	\$ 67,963,516	100.0%	\$ 638,353	\$ 68,601,869

¹Targets established in June 2015. Interim policy benchmark consists of: 41.5% MSCI ACWI Net, 23.5% Custom FI Benchmark, 20% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF ODCE (1 quarter lagged), & 2.5% CPI+400bps.

²Includes cash held in the policy implementation overlay program.

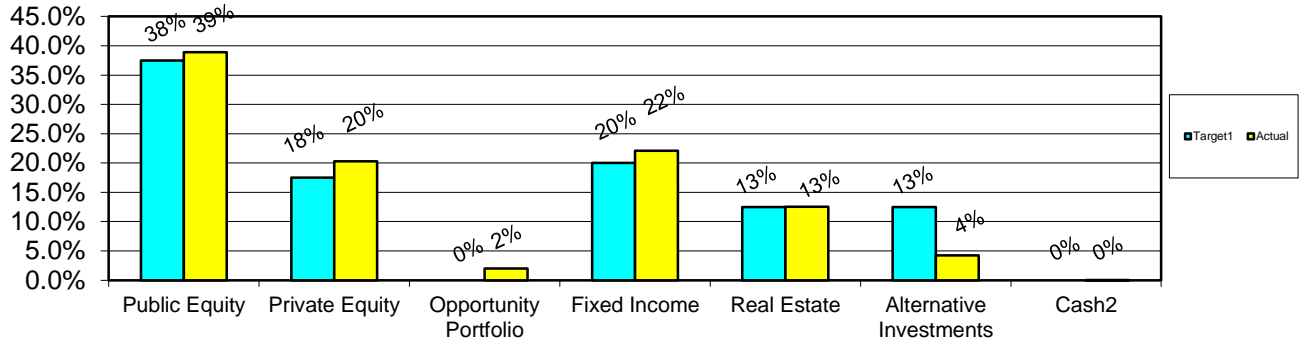
SAIF	Policy	Target	\$ Thousands	Actual
Total Equity	7-13%	10.0%	444,595	9.5%
Fixed Income	80-90%	85.0%	4,205,500	89.5%
Real Estate	0-7%	5.0%	0	0.0%
Cash	0-3%	0%	47,695	1.0%
TOTAL SAIF			\$4,697,790	100.0%

CSF	Policy	Target	\$ Thousands	Actual
Domestic Equities	25-35%	30%	427,813	29.8%
International Equities	25-35%	30%	394,204	27.4%
Private Equity	0-12%	10%	152,988	10.6%
Total Equity	65-75%	70%	975,005	67.8%
Fixed Income	25-35%	30%	433,848	30.2%
Cash	0-3%	0%	28,337	2.0%
TOTAL CSF			\$1,437,191	100.0%

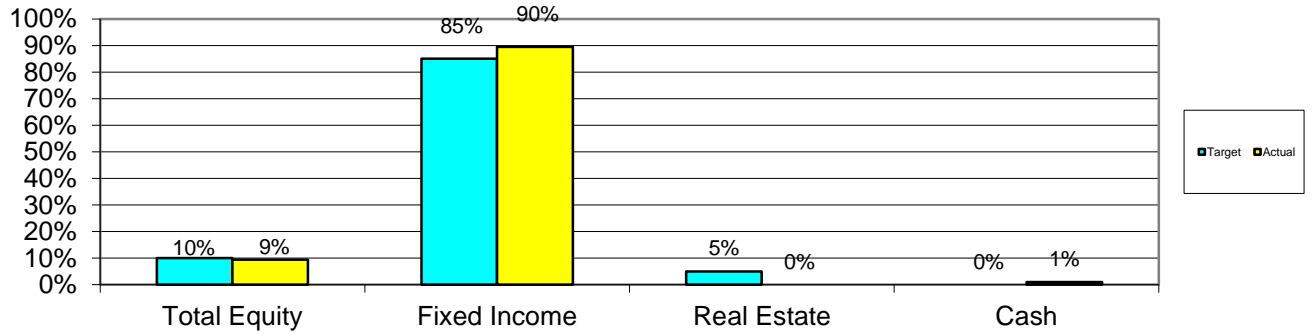
SOUE	Policy	Target ³	\$ Thousands	Actual
Global Equities	65-75%	70%	1,515	71.1%
Growth Assets	65-75%	70%	1,515	71.1%
Fixed Income	25-35%	30%	614	28.8%
Cash	0-3%	0%	3	0.1%
Diversifying Assets	25-35%	30%	617	28.9%
TOTAL SOUE			\$2,131	100.0%

³Revised asset allocation adopted by OIC, March 2015.

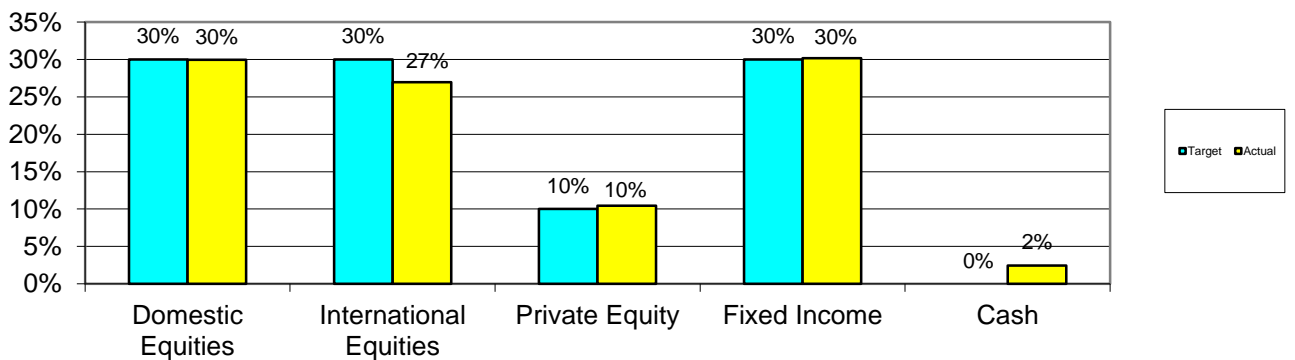
OPERF Asset Allocation



SAIF Asset Allocation



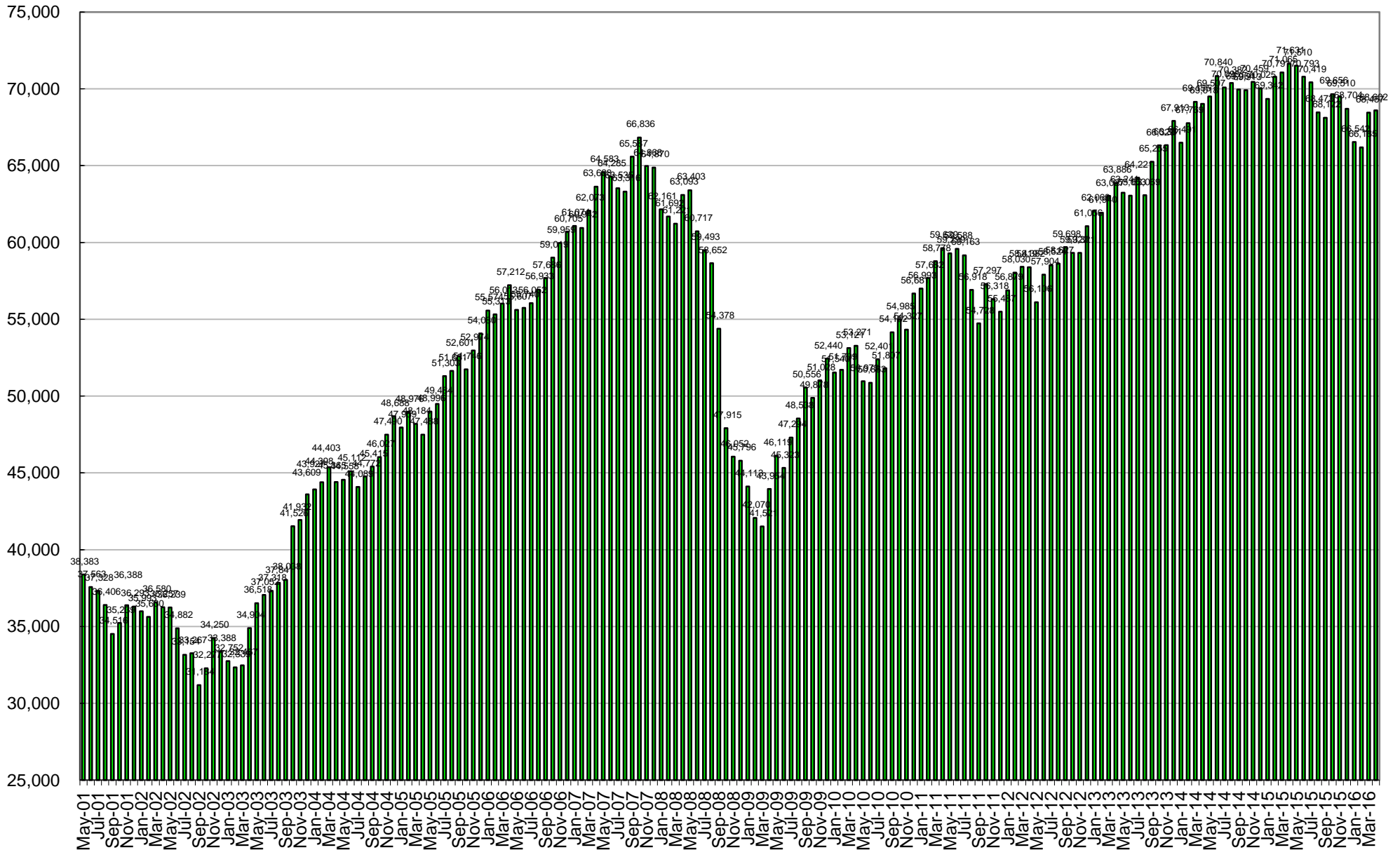
CSF Asset Allocation



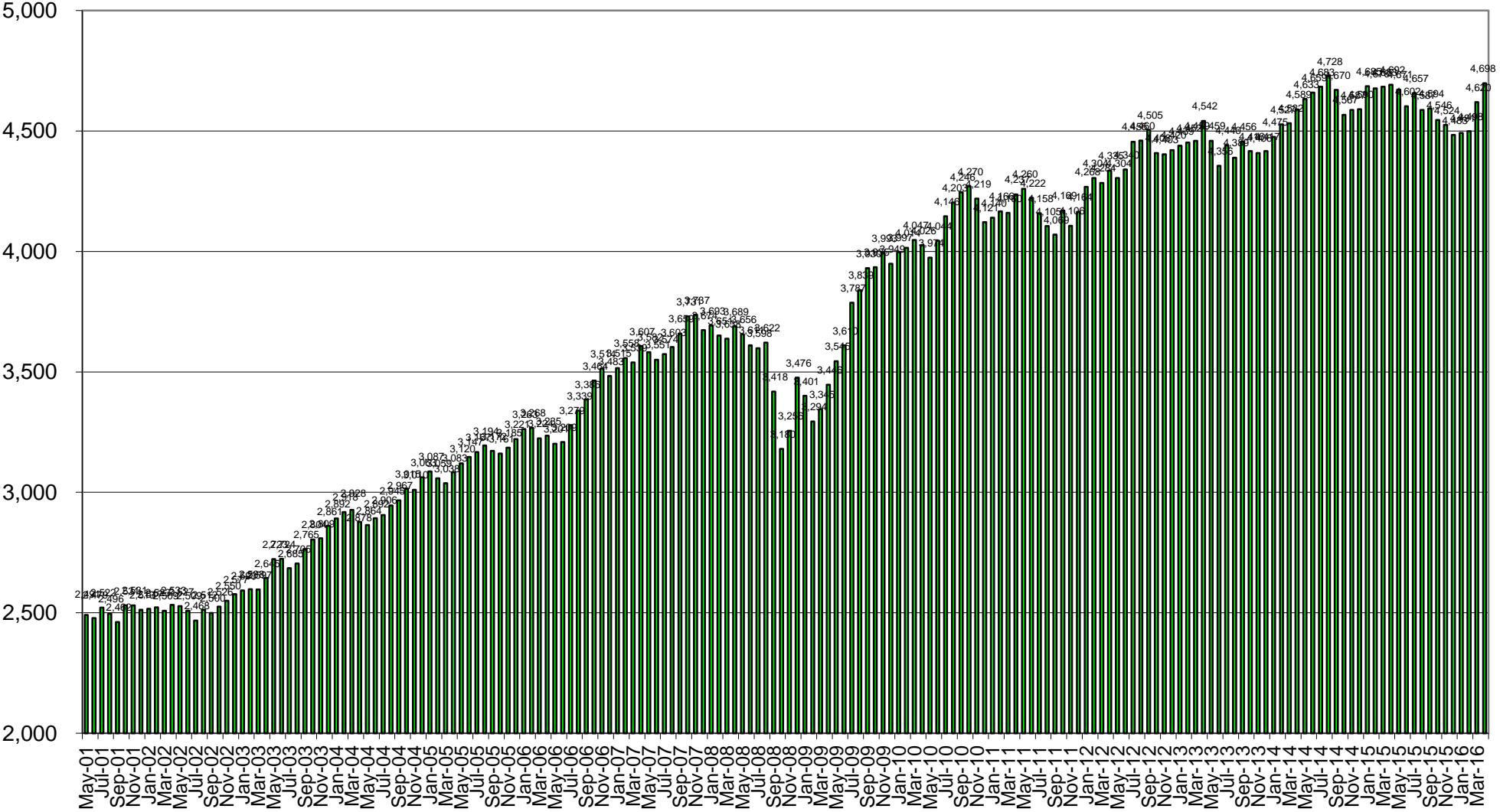
OPERF NAV

15 years ending April 2016

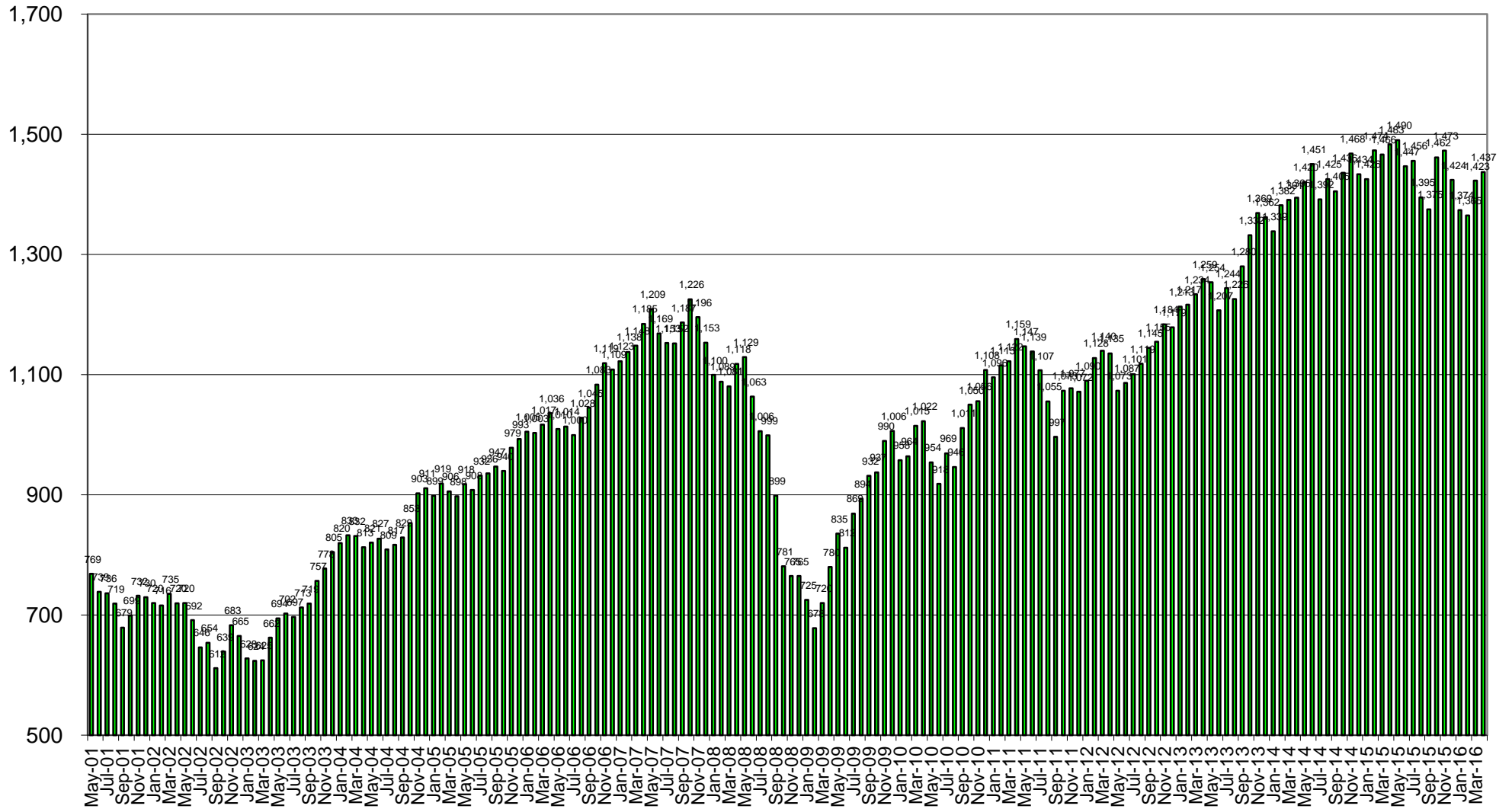
(\$ in Millions)



SAIF NAV
15 years ending April 2016
(\$ in Millions)



CSF NAV
15 years ending April 2016
(\$ in Millions)



TAB 9 – Calendar — Future Agenda Items

2016/17 OIC Forward Calendar and Planned Agenda Topics

- June 1:** Private Equity Manager Recommendation
OITP Review
OSGP Update
OST Compliance Program Update
OIC Real Estate Consultant Recommendation
Q1 2016 OPERF Performance & Risk Report
- August 10:** OPERF Real Estate Manager Recommendation
Corporate Governance Update
OPERF Litigation Update
Alternative & Opportunity Portfolios Consultant Recommendation
OIC Policy Updates
- September 14:** OIC Private Equity Consultant Recommendation
OPERF Q2 2016 Performance & Risk Report
OPERF Real Estate Strategy Update
Operational Review
PERS Presentation and Joint Board Discussion
- October 26:** Public Equity Program Review
OSTF Review
Fixed Income Program Review
CEM Benchmarking Report
OIC General Consultant(s) Recommendation
- December 7:** OPERF Q3 2016 Performance & Risk Report
Real Estate Program Review
OPERF Opportunity Portfolio Review
OIC Policy Updates
- February 1, 2017:** Private Equity Program Review
Placement Agent Report
2018 OIC Calendar Approval