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# **Oregon Investment Council**

June 6, 2018

9:00 AM

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**Oregon State Treasury  
16290 SW Upper Boones Ferry Road  
Tigard, OR 97224**

**Rukaiyah Adams**  
Chair

**John Skjervem**  
Chief Investment Officer

**Tobias Read**  
State Treasurer



# OREGON INVESTMENT COUNCIL



## Agenda

**June 6, 2018**  
**9:00 AM**

Oregon State Treasury  
Investment Division  
16290 SW Upper Boones Ferry Road  
Tigard, OR 97224

<u>Time</u>	<u>A. Action Items</u>	<u>Presenter</u>	<u>Tab</u>
9:00-9:05	1. <b>Review &amp; Approval of Minutes</b> April 25 & April 27, 2018	<b>Rukaiyah Adams</b> <i>OIC Chair</i>	1
9:05-9:10	2. <b>Committee Reports and CIO Remarks</b>	<b>John Skjervem</b> <i>Chief Investment Officer</i>	2
9:10-10:00	3. <b>TPG Partners VIII, L.P. &amp; TPG Healthcare Partners, L.P.</b> <i>OPERF Private Equity Portfolio</i>	<b>Michael Langdon</b> <i>Senior Investment Officer, Private Equity</i> <b>Tom Martin</b> <i>Managing Director, TorreyCove Capital Partners</i> <b>Jim Coulter</b> <i>Founder and Co-CEO, TPG</i>	3
10:00-10:30	4. <b>Statement of Investment and Management Beliefs</b>	<b>Allan Emkin</b> <i>Managing Director, Pension Consulting Alliance</i>	4
10:30-10:45	----- <b>BREAK</b> -----		
	<b><u>B. Information Items</u></b>		
10:45-11:05	5. <b>Q1 2018 Performance &amp; Risk Report</b> <i>OPERF</i>	<b>Karl Cheng</b> <i>Senior Investment Officer, Portfolio Risk &amp; Research</i> <b>Janet Becker-Wold</b> <i>Senior Vice President, Callan Associates</i>	5

- 11:05-11:35 6. OST Investment Operations Update** **David Randall** **6**  
*OPERF & Other OST-managed Accounts* *Director of Investment Operations*  
**Perrin Lim**  
*Director of Capital Markets*  
**Debra Day**  
*Investment Reporting Manager*  
**Ron Allen**  
*Managing Director, Blackrock Solutions*
- 11:35-12:05 7. Common School Fund** **Michael Viteri** **7**  
*Annual Review* *Senior Investment Officer, Public Equity*  
**Bill Ryan**  
*Deputy Director for Operations, Department of State Lands*  
**Jim Callahan**  
*President, Callan Associates*
- 12:05-12:10 8. Asset Allocations & NAV Updates** **John Skjervem** **8**  
a. Oregon Public Employees Retirement Fund  
b. SAIF Corporation  
c. Common School Fund  
d. Southern Oregon University Endowment Fund
- 9. Calendar — Future Agenda Items** **9**
- 12:10 10. Open Discussion** **Council Members**  
**Staff**  
**Consultants**

**C. Public Comment Invited**

5 Minutes

**TAB 1 – REVIEW & APPROVAL OF MINUTES**

April 25, 2018 Regular Meeting

April 27, 2018 Special Meeting



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

OREGON INVESTMENT COUNCIL  
APRIL 25, 2018  
MEETING MINUTES

Members Present: Rukaiyah Adams, Tobias Read, John Russell, Rex Kim, Rick Miller and Steve Rodeman

Staff Present: John Skjervem, Darren Bond, Perrin Lim, David Randall, John Hershey, Deena Bothello, Karl Cheng, Tony Breault, May Fanning, Jen Plett, Michael Viteri, Austin Carmichael, Dana Millican, Ben Mahon, Andy Coutu, Angela Schaffers, Eric Messer, Mark Selfridge, Michael Mueller, Tom Lofton, Jennifer Peet, Aliese Jacobsen, Paul Koch, Tim Baumert, Ryan Mann, Dmitri Palmateer, James Sinks, Kelly Cook, Kim Olson, and Amy Wojcicki

Consultants Present: Tom Martin and David Fann, (TorreyCove); Allan Emkin and Brandon Ross (PCA); Janet Becker-Wold, Uvan Tseng and Jim Callahan (Callan)

Legal Counsel Present: Steven Marlowe, Department of Justice

The April 25<sup>th</sup>, 2018 OIC meeting was called to order at 8:58 am by Rukaiyah Adams, OIC Chair.

Before the official agenda items were discussed, Treasurer Read led a conversation in which he and the other Council members acknowledged Steve Rodeman's forthcoming retirement and thanked him for his many years of service at PERS and multiple contributions to the Council and its mission.

**I. 9: 00am Review and Approval of Minutes**

Chair Adams recommended amending some wording in the OIC Policy Updates section to reflect approved changes to the following policies:

1. INV 605: Exercise of Voting Rights Accompanying Equity Securities; and
2. Alternative Assets Investments Committee Series (INV 501 & 701)

**MOTION:** Treasurer Read moved approval of the proposed changes to the March 14<sup>th</sup>, 2018 OIC meeting minutes, and Mr. Russell seconded the motion which then passed by a 5/0 vote.

**II. 09:00 am 2018 and 2019 OIC Meeting Schedules**

Chair Adams presented the final 2018 and 2019 OIC meeting dates. Chief Investment Officer, John Skjervem mentioned that the 2019 dates had already been informally approved, but that consensus on a specific date for the August 2018 meeting remained outstanding. Chair Adams announced that despite her planned absence, the Council would convene on August 8<sup>th</sup>, 2018 and Vice Chair Russell would serve as Chair for that particular meeting.

**MOTION:** Treasurer Read moved approval of the revised 2018 and final 2019 OIC meeting dates. Mr. Kim seconded the motion which then passed by a 5/0 vote.

**III. 9:06 am Committee Reports and CIO Update**

**Committee Reports:** Mr. Skjervem gave an update on the following committee actions taken since the March 14, 2018 OIC meeting:

**Private Equity Committee**

March 22, 2018

KSL Capital Partners V

\$200 million

**Alternatives Portfolio Committee**

None

**Opportunity Portfolio Committee**

None

**Real Estate Committee**

None

Mr. Skjervem then delivered opening remarks which included a summary of proposed policy updates, a brief description of the Alternatives Portfolio and SAIF Annual reviews, and a preview of the planned Strategic Asset Allocation & CMA Update discussion.

**IV. 9:15 am OIC Policy Updates**

Mr. Skjervem and Jennifer Peet, Corporate Governance Director, recommended Council approval of proposed updates to the following policies:

1. INV 702 & 703: Alternative Investment and Opportunity Portfolio, Standards and Procedures; and
2. A new policy on continuing education for OIC members. Specifically, ORS 293.712 requires the OIC Chair to consult with the Treasurer and prescribe continuing education requirements for OIC members. The goal of the policy proposed by staff is to provide OIC members with guidance on and opportunities for meeting that statutory requirement.

**MOTION:** Mr. Miller moved approval of staff's recommended changes to INV 702 & 703, changes identical to those approved last month for the Private Equity and Real Estate committees, namely 1) increase the committee approval ceiling for new relationships from \$150M to \$250M, and 2) increase the committee approval ceiling for re-ups from \$250M to \$350M. Treasurer Read seconded the motion which then passed by a 5/0 vote.

**MOTION:** Treasurer Read moved approval of staff's recommended policy for meeting OIC members' continuing education requirements. Mr. Kim seconded which then passed by a 5/0 vote.

**V. 10:17 am Strategic Asset Allocation & Capital Markets Assumptions – OPERF**

Karl Cheng, Senior Investment Officer, Portfolio Risk & Research, Janet Becker-Wold, Callan Associates and Allan Emkin, Pension Consulting Alliance, provided updated Capital Market Assumptions, and revised estimates of OPERF's long-term, forward-looking risk and return.

Staff recommended the approval of minor changes to OIC Policies INV 215 (OPERF Asset Allocation and Rebalancing Policy) and INV 1203 (Statement of Investment Objectives and Policy Framework for OPERF).

**MOTION:** Treasurer Read moved approval of staff's recommendation, and Mr. Kim seconded the motion which then passed by a 5/0 vote.

- VI. 11:05 am Alternatives Portfolio Review – OPERF**  
Ben Mahon, Senior Investment Officer, Alternatives along with Tom Martin, TorreyCove and Jim Callahan, Callan Associates, presented the Alternatives Portfolio 2017 Annual Review and 2018 Plan. This presentation included a discussion of the Alternatives Portfolio's background/objectives, a 2017 review of portfolio performance and investment activity as well as an update on staff's portfolio construction and 2018 investment plans.
- VII. 11:38 am State Accident Insurance Fund – Annual Review**  
Perrin Lim, Director of Capital Markets introduced the SAIF Annual Update and presenters Kerry Barnett, President & CEO and Gina Manley, Vice President, Finance & CFO of the State Accident Insurance Fund (SAIF). This presentation covered annual investment performance as well as provided an update on SAIF's business activity and operating trends.
- VIII. 11:39 am Asset Allocation & NAV Updates**  
Mr. Skjervem reviewed asset allocations and NAVs across OST-managed accounts for the period ended March 31, 2018.
- IX. 11:39 am Calendar — Future Agenda Items**  
A calendar listing of future OIC meetings and scheduled agenda topics was included in the Council's meeting material.
- X. 11:40 am Open Discussion**  
Chair Adams reminded the audience that funds for which the OIC has oversight responsibility include pension, endowment and liability-matching assets. She added that the strategic issues discussion planned for Friday, April 27 was timely given the Council's broad scope of fiduciary oversight. Chair Adams asked if there were any additional forms of investment management for which the Council had responsibility. Mr. Skjervem responded by noting the Council's purview over several separate accounts managed on behalf of other state agencies.
- 11: 44 am Public Comments**
1. Diane Freaney of Rooted Investing shared her thoughts on several investment matters including a suggestion to implement a more simplified approach of informing PERS members regarding the investment of their retirement funds.

Ms. Adams adjourned the meeting at 11:45 am.

Respectfully submitted,



May Fanning  
Executive Support Specialist



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OREGON INVESTMENT COUNCIL  
APRIL 27, 2018  
MEETING MINUTES

Members Present: Rukaiyah Adams, Tobias Read, John Russell, Rex Kim, and Rick Miller

Staff Present: John Skjervem, Darren Bond, Perrin Lim, David Randall, John Hershey, Deena Bothello, Karl Cheng, Ricardo Lopez, Garrett Cudahey, Tony Breault, May Fanning, Michael Langdon, Jen Plett, Michael Viteri, Austin Carmichael, Dana Millican, Ben Mahon, Andy Coutu, Angela Schaffers, Eric Messer, Amanda Kingsbury, Mark Selfridge, Michael Mueller, Tom Lofton, Jennifer Peet, Aliese Jacobsen, Paul Koch, Tim Baumert, Ryan Mann, Dmitri Palmateer, James Sinks, Ahman Dirks, William Hiles, and Kim Olson

Consultants Present: Allan Emkin (PCA); Janet Becker-Wold, Uvan Tseng and Jim Callahan (Callan); David Fann, (TorreyCove)

Legal Counsel Present: Steven Marlowe, Department of Justice

The April 27<sup>th</sup>, 2018 Special OIC meeting was called to order at 1:00 pm by Rukaiyah Adams, OIC Chair.

- I. **1: 00 pm Introduction**  
Chair Adams encouraged staff, consultants and her Council peers to engage in an open, candid conversation on strategic issues unencumbered by the routine and transactional responsibilities associated with regular Council meetings.
  - II. **1:01 pm Asset Allocation Discussion**  
Jim Callahan, Callan Associates, and Allan Emkin, Pension Consulting Alliance (PCA), lead a discussion summarizing the various forms of institutional investment management with particular emphasis on the differences and attributes among these various forms.
  - III. **2:05 pm Statement of Investment & Management Beliefs**  
Mr. Emkin provided the Council with an update on its Statement of Investment and Management Beliefs (the "Beliefs"). He described the Beliefs as foundational to the OIC/OST investment program, designed primarily to facilitate continuity at both the Council and staff levels. Given this foundational role, Mr. Emkin suggested that revisions to the Beliefs should occur sparingly, and the frequency at (or circumstances under) which revisions occur should be discussed deliberately and judiciously.
- 3: 21 pm Public Comments**  
None

Ms. Adams adjourned the meeting at 3:21 pm.

Respectfully submitted,  
*May Fanning*  
May Fanning  
Executive Support Specialist



## TAB 2 – Committee Reports and CIO Remarks

# Opening Remarks

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John D. Skjervem, Chief Investment Officer

June 6, 2018



Oregon State Treasury

# June 6, 2018 OIC Meeting

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## **Private Equity Proposal**

- TPG: second longest-tenured, active PE relationship
- Relationship includes PE, growth equity and credit investments

## **Statement of Investment and Management Beliefs**

- Good discussion at the April 27 Special Meeting
- Allan Emkin to present a further refinement of potential revisions

## **Annual Operations Update**

- Lots of good news here!

## **Common School Fund**

- “Harmonization” is nearly complete

## **Another New Face**

- Anna Totdahl, Investment Officer

TAB 3 – Private Equity Manager Recommendation  
OPERF Private Equity Portfolio

## TPG Partners VIII, L.P. & TPG Healthcare Partners, L.P.

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### Purpose

Subject to the satisfactory negotiation of all terms and conditions with Staff working in concert with legal counsel, Staff recommends approval of an, up to, \$500 million capital commitment split *pro rata* between TPG Partners VIII, L.P. (“TPG VIII”, “Fund VIII”, or the “Fund”) and TPG Healthcare Partners, L.P. (the “Healthcare Fund”) as part of the OPERF private equity portfolio. Approval of the proposed commitment would represent the continuation of an existing relationship with TPG which dates back more than 20 years and represents approximately \$4 billion in cumulative commitments across 15 previous investment vehicles.

### Background

TPG (the “Firm” or the “GP”) was founded in 1993 by David Bonderman and James Coulter, who had worked together at the Bass Family Office, and Bill Price who joined from GE Capital. The Firm opened its first office in Mill Valley, California and invested its first fund – Air Partners – in 1993. TPG has since grown substantially across strategy, size, and geography to now oversee \$83 billion of assets under management. Today, the GP’s platform consists of Private Equity, Private Credit, Real Estate and Public Equities, and the Firm is led by co-CEOs Jim Coulter and Jon Winkleried, with David Bonderman continuing to provide strategic direction for the Firm.

The Firm employs a team of over 1,000 employees and advisors, of which 500 are investment and operating professionals in San Francisco (headquarters), Fort Worth, New York, London, Hong Kong, Austin, Boston, Beijing, Dallas, Houston, Luxembourg, Melbourne, Moscow, Mumbai, Seoul and Singapore. The Firm’s current fundraising targets for TPG VIII and the Healthcare Fund are \$12 billion and \$2.5 billion, respectively, and daily investment efforts supporting both funds will be led by co-Managing Partners Todd Sisitsky and Jack Weingart.

### Strategy

TPG will continue to implement the same strategy in TPG VIII as was used for TPG VII, namely a bias toward upper middle-market companies in which the Firm believes more value can be unlocked relative to larger companies. TPG looks to uncover value through varying forms of operational intervention by leveraging the strengths and experience of its captive, in-house bench of operating professionals. Moreover, the GP’s strategic approach will continue to comprise meaningful investments primarily in North American-based operating companies via acquisitions and financings in Traditional Buyout, Transformational and Off-the-Beaten-Path transaction strategies. Capital deployment in each of these strategies will use a sector-focused and thematically-driven approach across six target areas: Healthcare; Technology; Internet Digital Media and Communications (“IDMC”); Consumer; Industrials; and Energy. The Firm will invest TPG Healthcare Partners alongside Fund VIII on healthcare-related investments where the GP’s track record and deal flow is both robust and differentiated.

### Issues to Consider

#### Attributes:

- Re-Focused Strategy – Historically, TPG’s primary strategic focus was investing in portfolio companies with operating and/or transactional complexity, followed closely by uncovering opportunities utilizing the Firm’s deep sector expertise. This framework has, over the last several years, been modified, and TPG’s sector teams now lead the Firm’s investment activities by developing and pursuing thematic ideas within their respective target areas. The Firm has also changed the way it integrates its operating professionals who are now engaged and embedded within the sector teams as opposed to previously working as a separate, standalone unit. The Firm believes this integration has improved its overall effectiveness in its traditional focus on complex, operationally-intensive transactions.
- Close Existing Relationship – OST and the OIC have partnered with TPG since 1993, and Staff sits on the advisory boards for all TPG funds in which OPERF is invested. Because of this long-tenured relationship, Staff has had the opportunity to form a more granular understanding of TPG’s inner workings and evolution. This

understanding informs Staff's current view that it puts the Firm on a positive trajectory, and allows for more active monitoring of TPG's execution against its strategic plans.

- Performance – TPG has generated strong overall performance post-GFC (“Global Financial Crisis”) after deploying a re-focused strategy that targeted smaller, more idiosyncratic transactions sourced and led by the Firm's sector teams and predicated on thematic ideas. From 2009 onward, investment performance has improved and the GP's loss ratio has plummeted relative to the preceding four years. Furthermore, the TPG healthcare team has generated, since inception, especially strong returns. Due to this success, specific sector expertise, and the rich opportunity set TPG observes in the healthcare market, the Firm is now offering (with TPG Healthcare Partners Fund) a conduit through which investors can gain additional healthcare exposure, an opportunity Staff finds both attractive and timely.

#### Concerns:

- Turnover – Turnover at TPG since 2014 has been high with 14 investment team departures at the Principal level and above, including nine Partners. [Mitigant: While elevated, this turnover level is not wholly unexpected at a large platform like TPG and within the context of the Firm's above-described strategic repositioning. Staff believes that TPG management has been adept and thoughtful in restructuring the Firm's sector teams and respective coverage areas, and early results appear to affirm that such efforts have been positive. The current sector teams, while somewhat less experienced, are led by a younger and more empowered generation of investment professionals, and Staff is comfortable with their collective investment acumen and sector-level expertise. Staff also well appreciates the attendant continuity and succession-planning benefits this restructuring provides.]
- Performance of TPG Partners V and TPG Partners VI – The returns for TPG Partners V (2006 vintage) and TPG Partners VI (2008 vintage) continue to trail the benchmark. [Mitigant: From 2005-2008 (TPG V and the first half of TPG VII), the GP focused heavily on take-private transactions involving very large and mature businesses. In that period, TPG saw what was believed to be a cost of capital arbitrage between public and private markets, and the GP hoped that a combination of leverage and operating expertise would lead to compelling results. The Firm deployed considerable capital over a short period of time, and, with the benefit of hindsight, we now know that was an imperfect strategy. As noted already, TPG has re-focused its strategy since the GFC to instead emphasize sector-led, thematic investments in primarily upper middle-market companies. The GP is now looking to invest behind sector trends that are more secular in nature and in specific situations where the Firm's operating capabilities can be engaged to generate sustainable excess earnings growth. As noted above, the Firm's post-GFC results are promising.]
- Potential Conflicts – TPG has a large platform with a number of additional business lines (e.g., growth equity, credit, real estate, public equities, etc.) which have the potential to introduce possible conflicts of interest as it relates to any one or more of the following: the allocation of investment professionals' time to specific products or vehicles; the allocation of investment opportunities to specific products or vehicles; and/or, the continued expansion of additional products or vehicles. [Mitigant: This concern is not unique among large, multi-product alternative investment firms. In Staff's view, TPG has been open and transparent with respect to potential conflicts as the demands of LPs like Oregon have increased with time. OST's long-term partnership and regular dialogue with the GP helps manage this concern on a go-forward basis].

#### Terms

Legal negotiations are not final, but Staff views the proposed terms as in-line with the market. Further information on the proposed terms can be found in the TorreyCove materials. Please note that Staff has not had contact with a placement agent regarding this opportunity.

#### Conclusion

Staff recommends a capital commitment of up to \$500 million split *pro rata* between TPG Partners VIII, L.P. and TPG Healthcare Partners, L.P., which represents, in Staff's opinion, an attractive and timely core investment opportunity for the buyout segment of the OPERF Private Equity portfolio.



## MEMORANDUM

**TO:** Oregon Public Employees Retirement Fund (“OPERF”)  
**FROM:** TorreyCove Capital Partners (“TorreyCove”)  
**DATE:** May 29, 2018  
**RE:** TPG Partners VIII (the “Fund”)

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### Strategy:

The Firm targets equity and equity-related investments in mid-market and large-cap businesses. TPG seeks a balanced portfolio, diversified across transaction types, geographies, and sectors. TPG will typically participate in control-oriented opportunities and will leverage a team of in-house operations professionals to help drive earnings growth, cash flow generation, and multiple expansion.

In parallel to the Fund, the Firm is fundraising TPG Healthcare Partners, L.P. (the “Healthcare Side Car”). During the Commitment Period, the Fund and the Healthcare Side Car will generally invest the same dollar amount, both receiving a 50% allocation to each healthcare investment.

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

### Allocation:

A new commitment to the Fund would be allocated 100% to the Large Corporate Finance investment sub-sector and will further be categorized as a Domestic investment. As of December 31, 2017, 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.

December 31, 2017	Target	FMV	FMV + Unfunded
Corporate Finance	60-85%	76.1%	76.9%

### 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 \$500 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;



**TORREYCOVE**  
CAPITAL PARTNERS

- (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 4 – Statement of Investment and Management Beliefs

**Date:** May 25, 2018

**To:** Oregon Investment Council ("OIC" or "the Council")

**From:** Pension Consulting Alliance, LLC ("PCA")

**CC:** John D. Skjervem, Chief Investment Officer, Oregon State Treasury ("OST")  
Allan Emkin, Managing Director, PCA  
Neil Rue, CFA, Managing Director, PCA

**RE:** Draft Revision of OIC Investment and Management Beliefs

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## Introduction

In December 2017, PCA was retained to work with the OIC and senior OST investment staff to review and possibly revise the OIC's Statement of Investment and Management Beliefs (the "Beliefs"). Over the first quarter of 2018, PCA engaged OIC members and senior OST investment staff in a survey examining the Council's existing Beliefs statements. Survey questions solicited participants' updated views and commentary on the Beliefs as well as their proposed revisions thereto.

Fourteen participants provided thoughtful and informative survey responses which revealed two primary conclusions: 1) most Beliefs continue to reflect broad agreement and consensus; and 2) Beliefs statements 1 & 4 generated significant discussion and revision suggestions. Based on these results and additional input from survey participants, PCA outlined and presented potential Beliefs revisions at the Council's special meeting on April 27, 2018.

PCA then compiled and consolidated feedback from the Council's special meeting discussion, which is included in the attached draft document. For comparative purposes (i.e., relative to previous drafts), the most recent deletion edits are highlighted below in **red** text while the most recent addition edits are highlighted below in **green** text.

# OREGON INVESTMENT COUNCIL

## Statement of Investment and Management Beliefs

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

#### A. Investment management is dichotomous -- part art and part science.

- ~~• Elements represented as art in the institutional investment management community are overstated or inflated in terms of necessity and efficacy.<sup>1</sup>~~
- To **better** calibrate both governance and daily operating activities with **a more the** appropriate balance between art and science, the Beliefs ~~should~~ **will** be anchored where and whenever possible to **industry best practices as illuminated by** academic research and experiential rigor.

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

- ~~• The OIC sets strategic policy and tasks both OST staff and external managers with policy implementation~~
- **The OIC sets strategic policy which includes, but is not limited to, Asset Allocation, Portfolio Construction, Risk Measurement and Performance Monitoring. The OIC's purview also includes establishing and defining its philosophy as manifest in this Statement of Investment and Management Beliefs.<sup>2</sup>**
- **The OIC tasks OST staff, external managers, consultants and other service providers with policy implementation.**

#### C. The OIC is vested with the authority to set and monitor portfolio risk. Both short-term and long-term risks are critical.

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

#### D. To exploit market inefficiencies, the OIC should be long term, contrarian, innovative, and opportunistic in its investment approach.

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

#### ~~E. Internal incentive structures should be carefully evaluated to ensure proper alignment with specific investment objectives.<sup>3</sup>~~

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

#### ~~F. The OIC should advocate for the resources required to successfully compete in global capital markets.<sup>3</sup>~~

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<sup>1</sup> Council members indicated that this qualifying statement was unnecessary.

<sup>2</sup> The Council indicated that there should be more definition in what is within the scope of "policy-setting". Additionally, statement 1.B. was broken into two bullet points to highlight and contrast the Council's role relative to the responsibilities of OST staff and external managers, consultants and other service providers.

<sup>3</sup> There was significant discussion on statements 1.E. & 1.F. as Council members expressed discomfort with being tasked with advocating for OST resources while not having any authority over how those resources are utilized. The discussion exposed the fact that this issue is not a "Beliefs" statement but rather a separate, statutory reality.

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

## 2.) ASSET ALLOCATION DRIVES RISK AND RETURN

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

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

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

- Empirical rigor, coupled with sound judgment, is required in the portfolio construction process to effect true diversification, while discipline is required to maintain diversification through and across successive market cycles.
- Risk is multi-faceted and may include, but is not limited to, the following types of specific risks: principal loss; opportunity cost; concentration risk; leverage and illiquidity risk; volatility and valuation risk; interest rate and inflation risk; and environmental, social and governance (ESG) risks.<sup>4</sup>

## 3.) THE EQUITY RISK PREMIUM WILL BE REWARDED

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

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

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

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

- ~~• Inefficiencies exist in private markets that provide skilled managers with excess return opportunities relative to public market analogues.~~
- ~~• Private markets may also offer an “illiquidity premium” that can be exploited by patient, long-term investors.~~
- **Private markets provide a diversifying risk/return profile relative to public market analogues.**
- **Private markets offer excess return opportunities that may be exploited by patient, long-term investors.**<sup>5</sup>

<sup>4</sup> Concepts of risk and associated measurement techniques are evolving. Heretofore underdeveloped, the identification and measurement of ESG risks is improving which will enable new risk management applications in both security selection and portfolio construction processes. Unlike all the others in this draft, this particular footnote is intended to persist in and become part of the final document.

<sup>5</sup> Council and staff indicated a preference for a) de-emphasizing the notion of an “illiquidity premium” and b) including a reference to private markets’ diversifying characteristics.

- B. Dispersion in private market investment returns is wide; accordingly, top-quartile manager selection, diversification across vintage year, strategy type, and geography, and careful attention to costs are paramount.**
- Private market investment success is predicated on identifying skilled managers and developing long-term investment relationships with those managers that enable the application of skill to manifest in the form of excess returns.
  - Proper investment pacing, including deliberate vintage year diversification is also an integral element of superior private market investment results.
- 5.) CAPITAL MARKETS HAVE INEFFICIENCIES THAT CAN BE EXPLOITED
- A. Inefficiencies that can be exploited by active management may exist in certain segments of the capital markets.**
- While largely efficient, select segments of the capital markets can sometimes be successfully exploited by skilled active management.
  - The nature (i.e., perceived magnitude and likely duration) of such inefficiencies should inform the proposed active management strategy (e.g., discretionary or systematic).
- B. Passive investment management in public markets will outperform the median active manager in those markets over time.**
- Active management should therefore be a deliberate choice and applied only to those public market strategies/managers in which the OIC enjoys a high degree of confidence that such strategies/managers will be sufficiently rewarded on a risk-adjusted basis and net of all fees, factor exposures and related transactions costs.
- 6.) COSTS DIRECTLY IMPACT INVESTMENT RETURNS AND SHOULD BE MONITORED AND MANAGED CAREFULLY
- A. All fees, expenses, commissions, and transaction costs should be diligently monitored and managed in order to maximize net investment returns.**
- While all costs should be monitored and controlled, these costs should also be evaluated relative to both expected and realized **net** returns.
- B. External incentive structures should be carefully evaluated to ensure proper alignment with investment program objectives.**
- Fee and incentive structures drive both individual and organizational behavior.
  - These structures (particularly in private market strategies) should be carefully evaluated and monitored to ensure that the goals and incentives of individual investment professionals and their respective organizations are well aligned with the specific investment objectives established by the OIC and/or OST staff.
- 7.) FAIR AND EFFICIENT CAPITAL MARKETS ARE ESSENTIAL FOR THE LONG-TERM SUCCESS OF OIC/OST INVESTMENT ACTIVITIES
- A. The OIC recognizes that the quality of regulation and corporate governance can affect the long-term value of its investments.**
- The Council promotes competitive and transparent market structures to ensure accurate and timely price discovery/asset valuation.
- B. The OIC also recognizes that voting rights have economic value and therefore must be treated as a fund or beneficiary asset.**
- The ~~OIC~~ **OST** shall vote shares in its capacity as fiduciary and based solely on the economic merits of specific proxy proposals.

*DISCLOSURES: This document is provided for informational purposes only. It does not constitute an offer of securities of any of the issuers that may be described herein. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified. The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the investment in question will achieve comparable results or that the Firm will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments (if any) will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which any current unrealized valuations are based.*

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*The information contained in this report may include forward-looking statements. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the Firm, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect PCA's current judgment, which may change in the future.*

*Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate investment performance for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.*

TAB 5 – Q1 2018 Performance & Risk Report  
OPERF

# OPERF Risk Dashboard

## 2018 Q1

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June 6, 2018

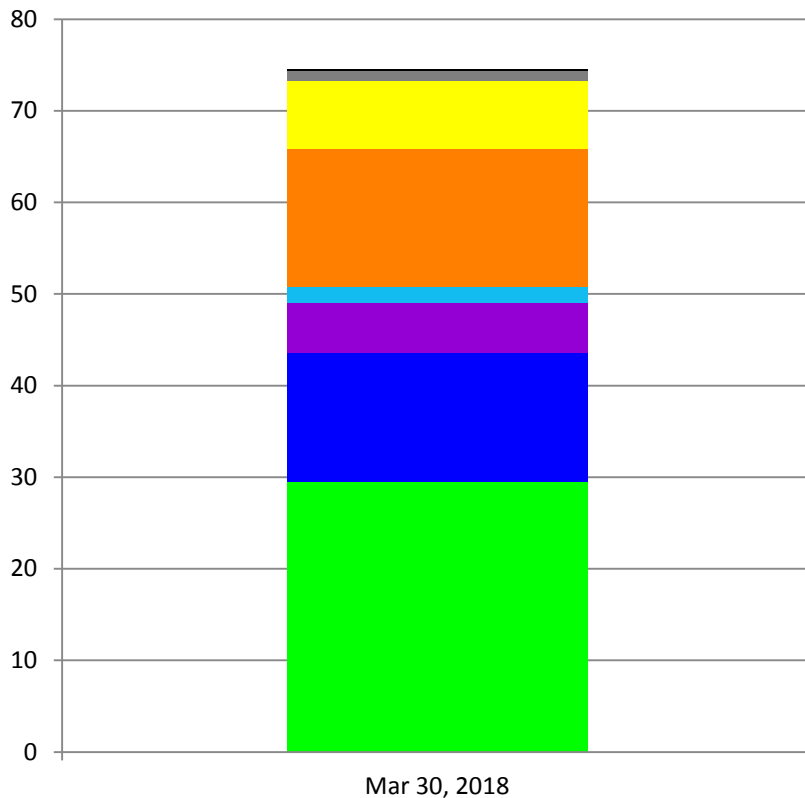


# Oregon State Treasury

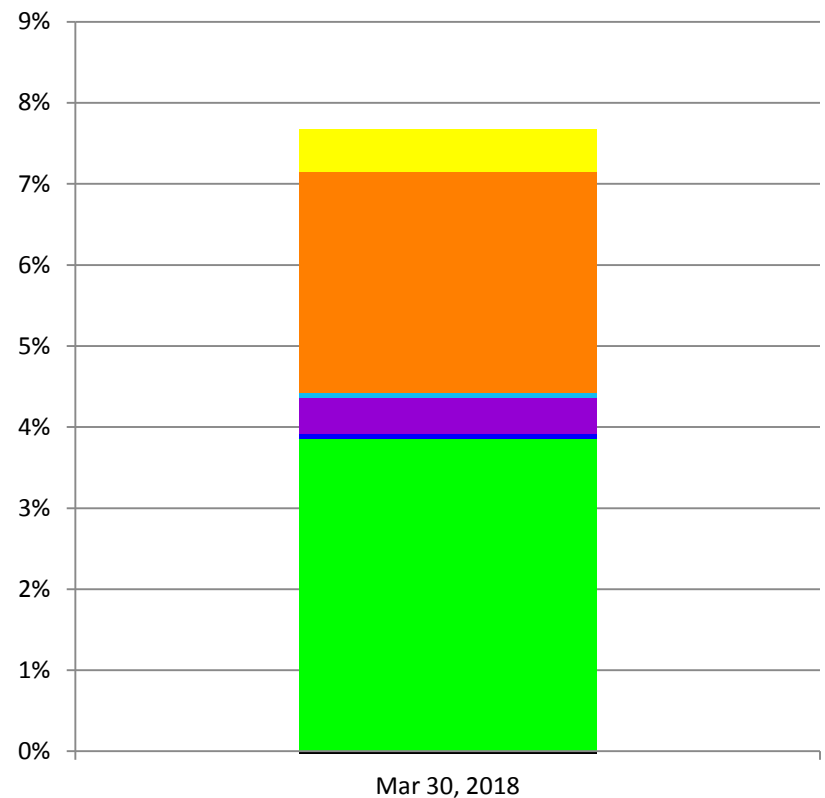


# Allocation & Risk Contribution by Asset Class

## Allocation in \$B

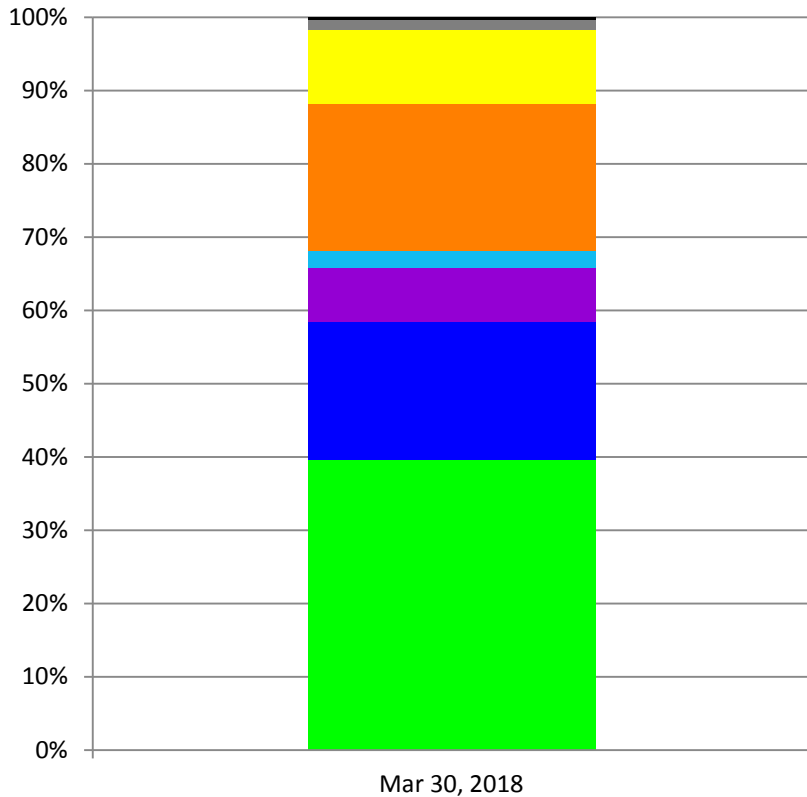


## Risk Contribution

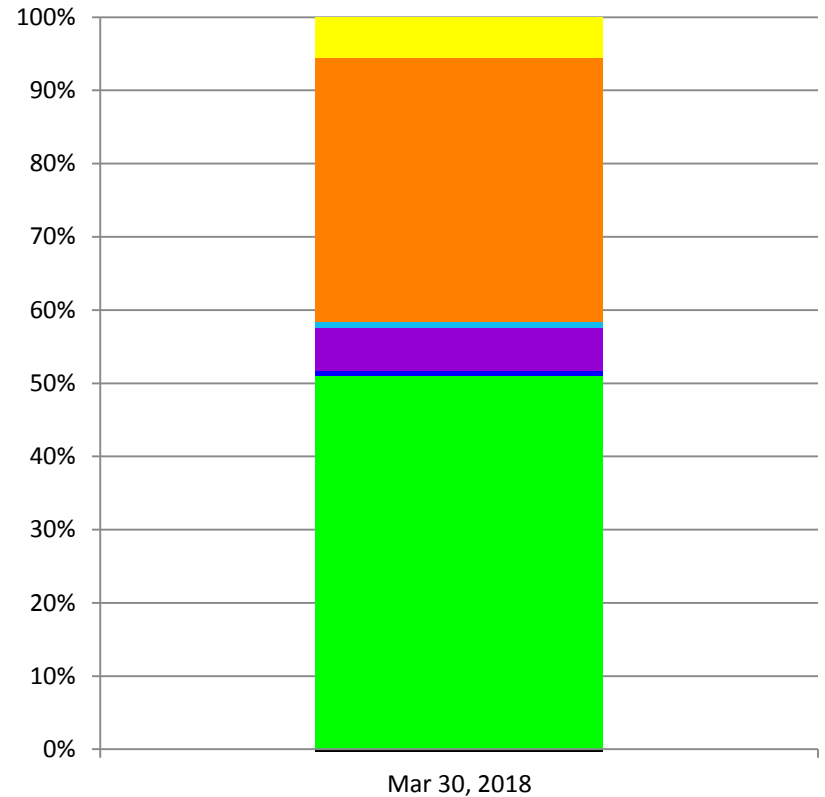


# Allocation & Risk Contribution by Asset Class

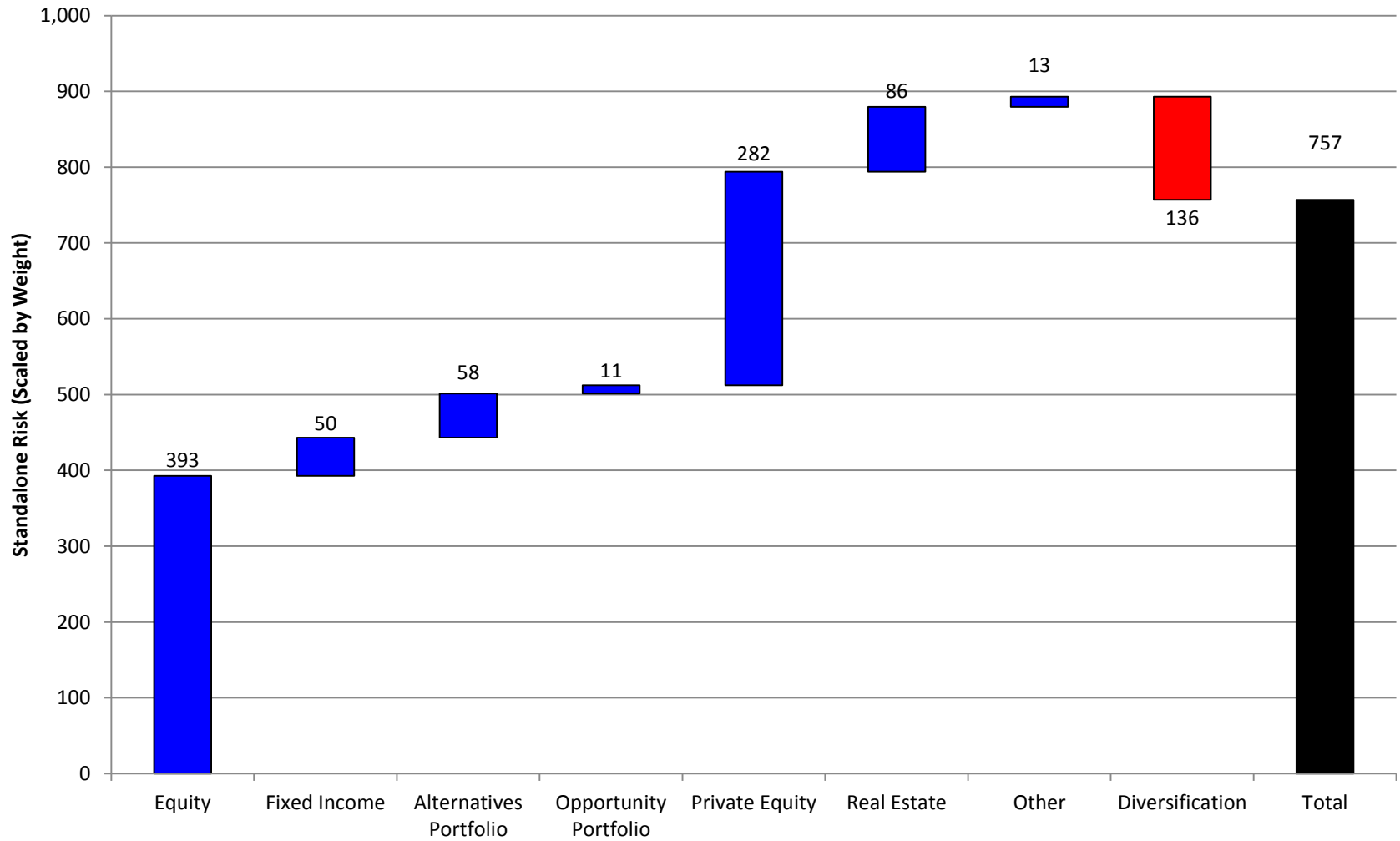
## Allocation % of Total



## Risk Contribution % of Total

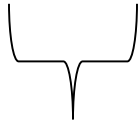


# Stand-alone Risk by Asset Class

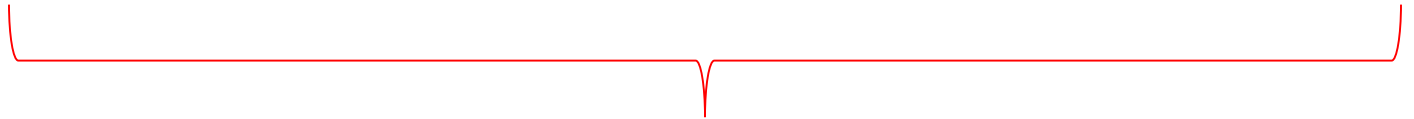


# Correlation Matrix by Asset Class

Expected Return	Expected Risk	Predicted Risk <sup>1</sup>	Mar 30, 2018	Equity	Fixed Income	Alternatives Portfolio	Opportunity Portfolio	Private Equity	Real Estate	OPERF
7.1%	19.5%	10.0%	Equity	1.00	0.03	0.69	0.59	0.94	0.45	0.98
3.0%	3.8%	2.5%	Fixed Income		1.00	0.09	-0.06	-0.04	0.43	0.13
6.8%	10.6%	6.1%	Alternatives Portfolio			1.00	0.47	0.69	0.43	0.75
		4.8%	Opportunity Portfolio				1.00	0.59	0.13	0.58
9.5%	26.3%	14.4%	Private Equity					1.00	0.41	0.96
6.6%	15.0%	9.3%	Real Estate						1.00	0.57
<b>7.1%</b>	<b>14.1%</b>	<b>7.6%</b>	<b>OPERF</b>							<b>1.00</b>

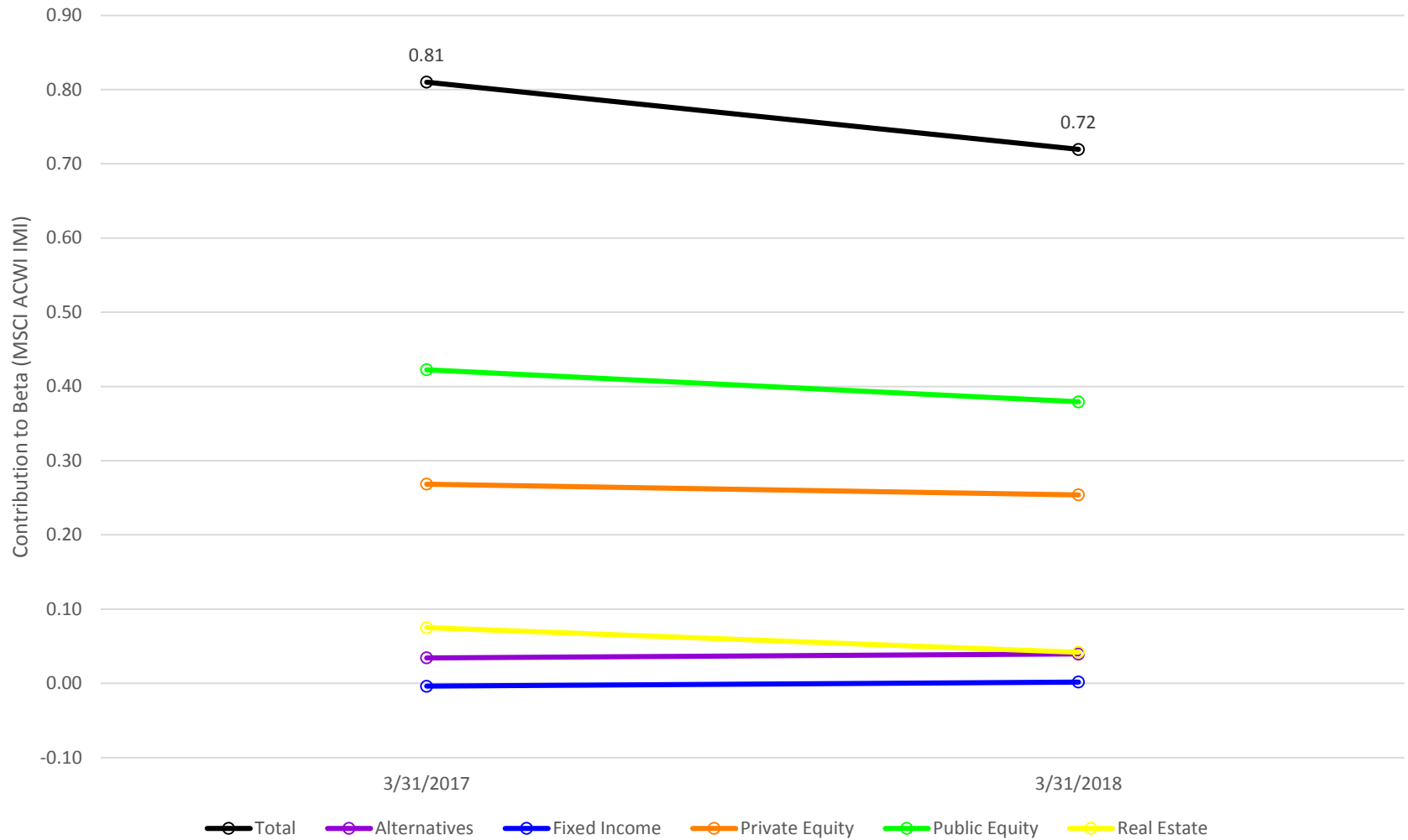


Capital Market Assumptions from Callan

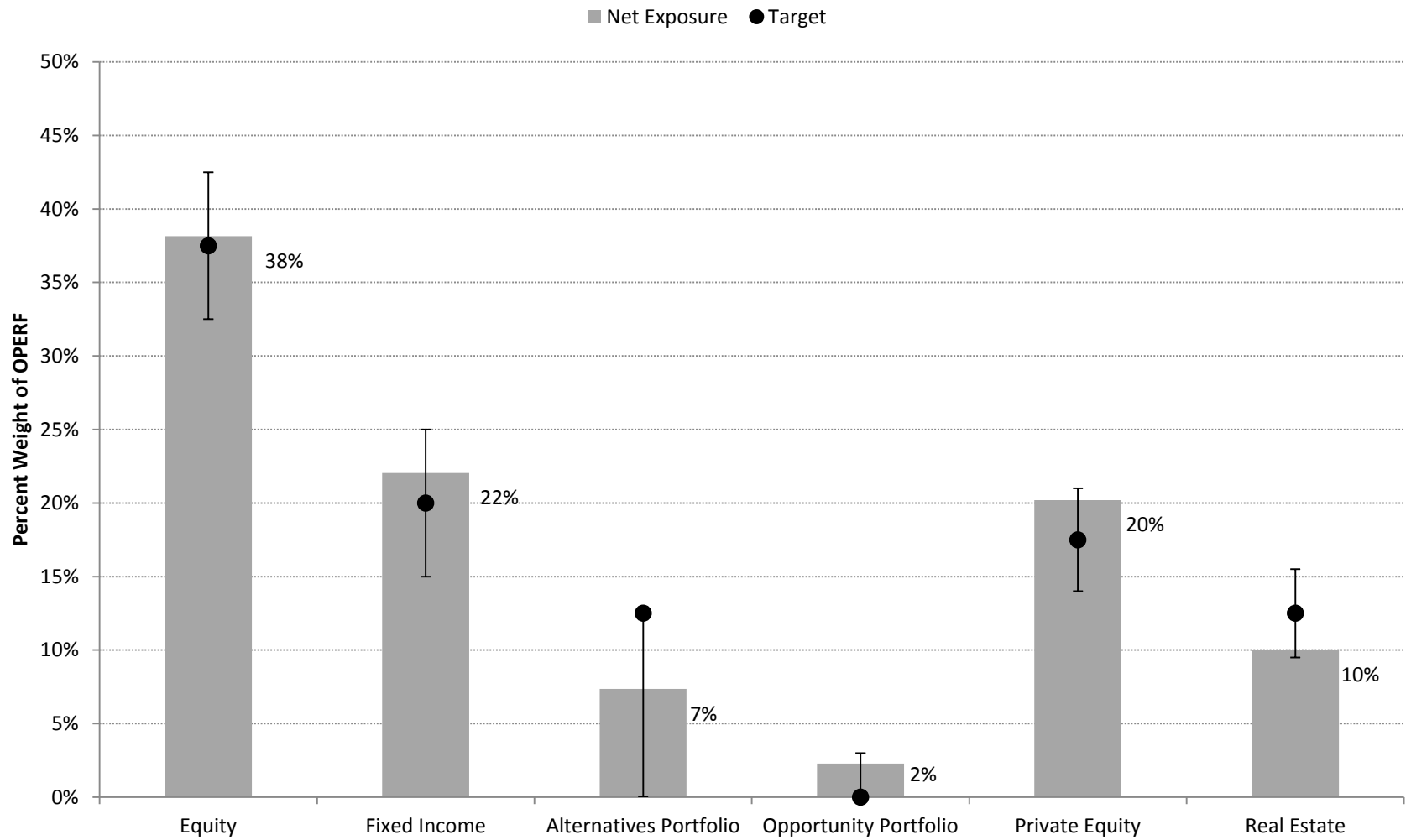


<sup>1</sup>Ex-Ante, holdings-based correlations between asset classes as estimated by Aladdin

# OPERF's Beta to MSCI ACWI IMI



# OPERF Allocations



# Liquidity Report

Asset Class	Liquidity (\$M)				∞	Uncalled Commitment	Next 12 Months
	1 Week	1 Month	1 Quarter				
Cash & Overlay	997						
Public Equity	25,957	2,171	1,418				
Fixed Income	11,627	2,443					
Private Equity				15,166	-10,693		
Real Estate	538			6,959	-2,575		
Alternatives	196	634		4,633	-3,215		
Opportunity				1,713	-710		
Proj PERS Cash Flow							-3,600
<b>Total</b>	<b>39,317</b>	<b>5,248</b>	<b>1,418</b>	<b>28,472</b>	<b>-17,192</b>		<b>-3,600</b>

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

*Public Equity - 1 Quarter = Lazard Closed-End Fund portfolio*

*Fixed Income - 1 Month = Below Investment Grade*

*Real Estate - 1 Week = REIT composite*

*Alternatives - 1 Week = SailingStone*

*Alternatives - 1 Month = AQR, JP Morgan*

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

# Top 10 Exposures by Investment Firm

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Rank	Asset Manager	Mkt Val (\$mm)	Mkt Val Weight	Asset Class
1	Internally-Managed	13,269	17.8%	Cash, Fixed Income, Public Equity
2	Dimensional Fund Advisors	5,031	6.7%	Public Equity
3	AQR	3,597	4.8%	Alternatives, Public Equity
4	Arrowstreet Capital	3,286	4.4%	Public Equity
5	KKR	3,175	4.3%	Fixed Income, Private Equity
6	Lazard	2,453	3.3%	Public Equity
7	AllianceBernstein	2,453	3.3%	Fixed Income, Public Equity
8	Wellington	2,105	2.8%	Fixed Income, Public Equity
9	BlackRock	1,911	2.6%	Alternatives, Fixed Income
10	Acadian	1,829	2.5%	Public Equity





June 6, 2018



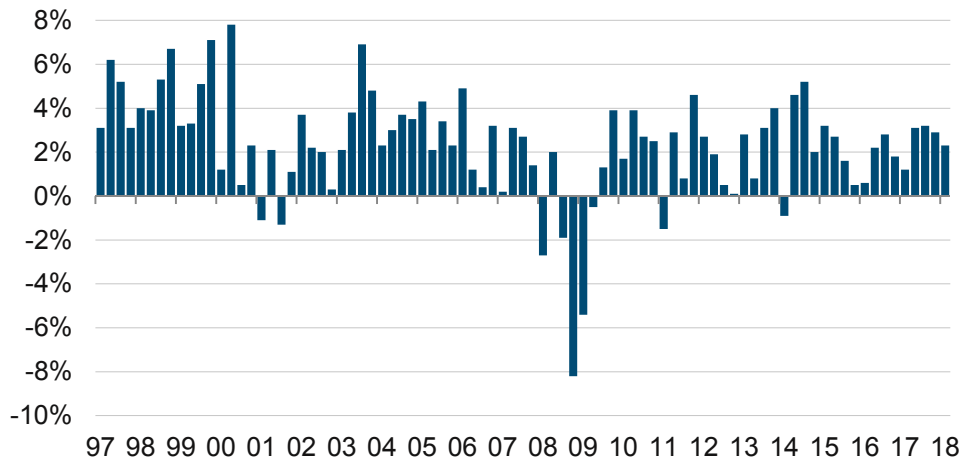
**Oregon Investment Council**

First Quarter 2018  
Performance Review

# Economic Commentary

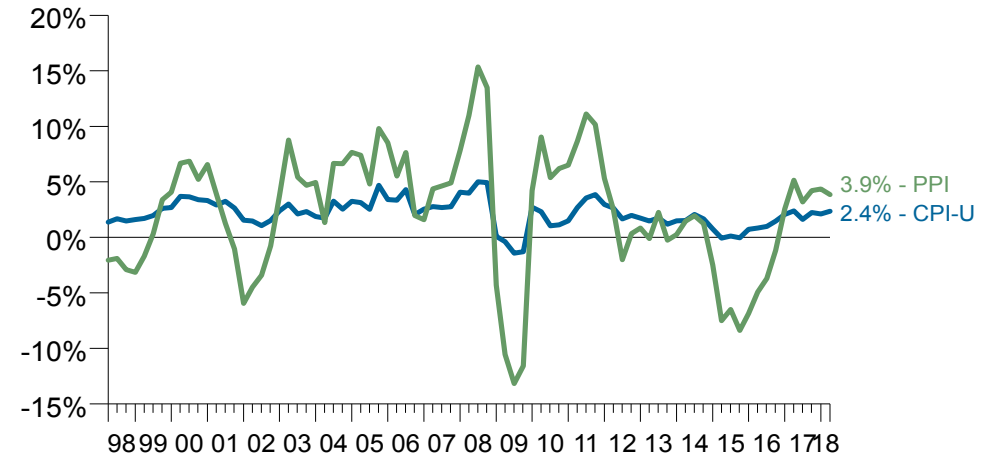
## First Quarter 2018

### Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

### Inflation Year-Over-Year



Source: Bureau of Labor Statistics

- The U.S. economy remained healthy during the 1Q18 as 4Q17 GDP was revised upward by 40bps, to 2.9%, supported by consumer & gov't spending, exports, and nonresidential fixed investment. The unemployment rate is at its lowest level since 2000 and inflation pressures remain modest given the length of the economic expansion & tight labor markets. Geopolitical issues continue to drive uncertainty about future economic growth, including President Trump's actions relating to trade negotiations and potential conflict with Russia & N. Korea.
- Job growth reverted in March (103,000) after an exceptionally strong start to 2018 (January 176,000; February 326,000). Nonetheless, this represents an average of 202,000 per month, versus an average of 182,000 per month in 2017. The unemployment rate held steady at 4.1%. The labor-force participation rate rose marginally, 0.2%, to 62.9%. Average hourly earnings showed signs of life, up 0.3% in March and 2.7% year-over-year.
- Inflation notched higher. For the trailing 12 months ended March, Headline CPI was +2.4%, and Core CPI (excluding food and energy) was +2.1%.

# Performance By Asset Class

Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
NCREIF ODCE 2.2%	MSCI Emerging Markets 25.4%	S&P 500 10.8%	S&P 500 13.3%	Russell 2000 9.8%
MSCI Emerging Markets 1.5%	MSCI ACWI ex-US 16.5%	Russell 3000 10.2%	Russell 3000 13.0%	Russell 3000 9.6%
90 Day T-Bill 0.4%	S&P 500 14.0%	NCREIF ODCE 10.0%	Russell 2000 11.5%	S&P 500 9.5%
Russell 2000 (0.1%)	Russell 3000 13.8%	MSCI Emerging Markets 9.2%	NCREIF ODCE 11.4%	Merrill Lynch High Yield 8.0%
Russell 3000 (0.6%)	Russell 2000 11.8%	Russell 2000 8.4%	MSCI ACWI ex-US 5.9%	NCREIF ODCE 5.1%
S&P 500 (0.8%)	NCREIF ODCE 8.1%	MSCI ACWI ex-US 6.2%	MSCI Emerging Markets 5.4%	Bloomberg Aggregate 3.6%
Merrill Lynch High Yield (0.9%)	Merrill Lynch High Yield 3.7%	Merrill Lynch High Yield 5.2%	Merrill Lynch High Yield 5.0%	MSCI Emerging Markets 3.4%
MSCI ACWI ex-US (1.2%)	Bloomberg Aggregate 1.2%	Bloomberg Aggregate 1.2%	Bloomberg Aggregate 1.8%	MSCI ACWI ex-US 2.7%
Bloomberg Aggregate (1.5%)	90 Day T-Bill 1.1%	90 Day T-Bill 0.5%	90 Day T-Bill 0.3%	90 Day T-Bill 0.3%

# OPERF Total Regular Account

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## Performance Summary for the First Quarter 2018

### Total Fund:

In the first quarter of 2018, the Total Regular Account added 0.77% (+0.62% net of fees), underperforming the 1.22% return of the Policy Benchmark, and ranked at the 13<sup>th</sup> percentile of Callan's \$10B+ public fund peer group. For the 12 months ended March 31, 2018, the Total Regular Account increased 12.34% (+11.82% net of fees) versus 12.29% for the Policy Target, and ranked in the 20<sup>th</sup> percentile of Callan's \$10B+ public fund peer group. Longer term results trail the Policy Target but rank in the top third of the peer group.

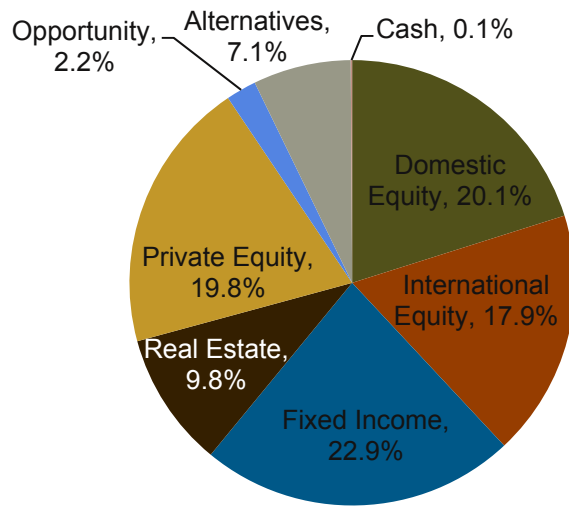
### Asset Classes:

- **Total Fixed Income:** The Fixed Income Portfolio decreased 0.80% (-0.86% net of fees) for the quarter versus a decline of 0.96% for the Custom Fixed Income Benchmark, and ranked in the 16<sup>th</sup> percentile of Callan's Public Funds \$10+B US Fixed income (Gross) peer group. For the trailing year, the Portfolio returned 1.75% (+1.57% net of fees), beating the benchmark return of 1.43%, and ranked in the 67<sup>th</sup> percentile of the peer group. 10 year results remain comfortably ahead of the benchmark and rank in the top quartile of the peer group.
- **Total Public Equity:** Total Public Equity decreased 0.39% (-0.53% net of fees) for the quarter versus a decline of 0.89% for the MSCI ACWI IMI Net benchmark, and ranked in the 46<sup>th</sup> percentile of its peer group. For the trailing year, the portfolio grew 16.69% (+16.33% net of fees), easily beating the 15.03% return of the benchmark and ranked near the median of the peer group.
  - **U.S. Equity:** The U.S. Equity Portfolio decreased 1.02% (-1.07% net of fees) for the quarter, trailing the 0.64% decline in the Russell 3000 Index, and ranked in the 85<sup>th</sup> percentile of Callan's Public Fund: \$10B+ Domestic Equity (gross) peer group. On a trailing 12 month basis, the Portfolio grew 13.89% (+13.75% net of fees) versus a gain of 13.81% for the benchmark and ranked in the 64<sup>th</sup> percentile of the peer group. 10 year results are slightly behind those of the benchmark (+9.46% net of fees versus +9.62%) and rank slightly below median.
  - **International Equity:** The International Equity Portfolio rose 0.33% (+0.10% net of fees) for the quarter, beating the 1.06% loss in the MSCI ACWI ex-U.S. IMI Index, and ranked in the top decile of Callan's Public Fund: \$10B+ International Equity (gross) peer group. For the trailing year, the Portfolio soared 20.92% (+20.29% net of fees) versus 17.10% for the benchmark, and ranked 9<sup>th</sup> in the peer group. 10 year results remain well ahead of the benchmark (+4.68% net of fees versus 3.12%) and continue to rank in the top quartile of the peer group.
- **Total Real Estate:** The Real Estate Portfolio continues to show competitive absolute results over the last decade with an annualized return of 5.32% net of fees.
- **Opportunity Portfolio:** The Opportunity Portfolio's results over the last ten years continue to be favorable with an annualized return of 7.76% net of fees.
- **Alternative Portfolio:** The Alternative Portfolio has gained an annualized return of 3.91% net of fees over the last five years.
- **Total Private Equity:** The Private Equity Portfolio's returns remain strong with an annualized return of 9.11% net of fees over the last ten years.

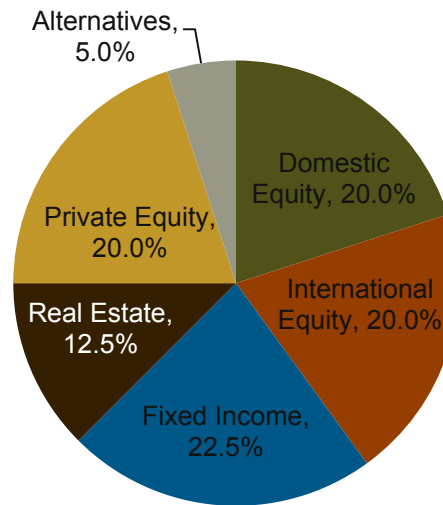
# OPERF Total Regular Account

Asset Allocation as of March 31, 2018

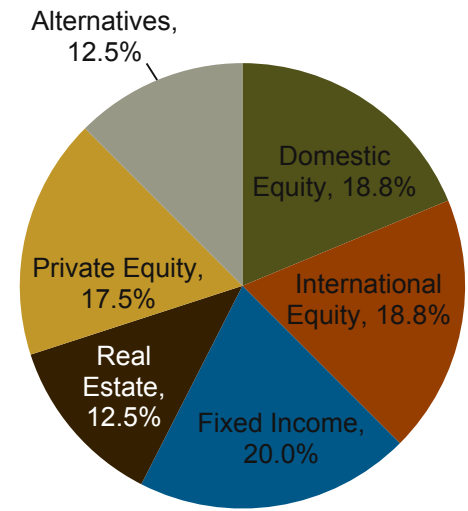
Actual Allocation



Interim Policy Target\*



Strategic Policy Target



Asset Class	\$000s** Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Fixed Income	17,574,440	22.9%	22.5%	0.4%	342,317
U.S. Equity Portfolio	15,360,691	20.1%	20.0%	0.1%	43,248
Non-U.S. Equity Portfolio	13,733,812	17.9%	20.0%	(2.1%)	(1,583,631)
Total Real Estate	7,488,797	9.8%	12.5%	(2.7%)	(2,084,605)
Opportunity Portfolio	1,713,152	2.2%	0.0%	2.2%	1,713,152
Alternative Portfolio	5,463,211	7.1%	5.0%	2.1%	1,633,851
Total Private Equity	15,166,287	19.8%	20.0%	(0.2%)	(151,156)
Cash	86,825	0.1%	0.0%	0.1%	86,825
Total	76,587,215	100.0%	100.0%		

\*As of April 1, 2018, the Interim Policy Target was changed to 19% Russell 3000+300 Bps quarter lag, 22% Oregon Custom FI Benchmark, 12.5% Oregon Custom Real Estate Benchmark, 39% MSCI ACWI IMI Net and 7.5% CPI+4%.

\*\*Totals provided by OST Staff and is inclusive of IAP assets

# OPERF Total Regular Account

## Net Cumulative Performance by Asset Class as of March 31, 2018

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
<b>Total Regular Account</b>	<b>0.62</b>	<b>11.82</b>	<b>7.42</b>	<b>8.54</b>	<b>8.37</b>	<b>6.59</b>
Total Regular Account ex-Overlay	0.68	11.98	7.32	8.48	8.26	6.59
OPERF Policy Benchmark*	1.22	12.29	7.95	9.37	8.91	7.04
<b>Total Fixed Income</b>	<b>-0.86</b>	<b>1.57</b>	<b>1.62</b>	<b>2.03</b>	<b>3.58</b>	<b>5.09</b>
OPERF Total Custom FI Benchmark	-0.96	1.43	1.22	1.55	3.05	3.77
Callan Public Fund \$10bn+ U.S. Fixed	-1.17	2.31	2.15	2.48	3.65	4.45
<b>Total Public Equity</b>	<b>-0.53</b>	<b>16.33</b>	<b>8.98</b>	<b>10.20</b>	<b>8.80</b>	<b>6.63</b>
MSCI ACWI IMI Net	-0.89	15.03	8.27	9.34	7.99	5.91
<b>U.S. Equity</b>	<b>-1.07</b>	<b>13.75</b>	<b>9.92</b>	<b>12.68</b>	<b>11.82</b>	<b>9.46</b>
Russell 3000 Index	-0.64	13.81	10.22	13.03	12.39	9.62
Callan Large Public > \$10bn U.S. Equity	-0.47	13.72	10.21	12.92	12.07	9.68
<b>Non-U.S. Equity</b>	<b>0.10</b>	<b>20.29</b>	<b>8.45</b>	<b>7.94</b>	<b>6.29</b>	<b>4.68</b>
MSCI ACWI ex USA IMI**	-1.06	17.10	6.75	6.24	4.52	3.12
Callan Large Public >\$10bn Non-U.S. Equity	-0.44	17.78	7.69	7.21	5.48	4.05
<b>Total Real Estate</b>	<b>1.93</b>	<b>7.28</b>	<b>8.15</b>	<b>10.26</b>	<b>10.82</b>	<b>5.32</b>
Total Real Estate ex REITs	2.72	8.25	10.34	11.71	11.82	5.07
NCREIF Property Index Qtr Lag	1.85	6.66	9.22	10.09	10.74	6.03
Callan Public Plan - Real Estate	0.50	6.34	8.07	9.83	10.28	4.54
<b>Opportunity Portfolio</b>	<b>0.26</b>	<b>6.13</b>	<b>5.98</b>	<b>7.64</b>	<b>7.61</b>	<b>7.76</b>
Russell 3000 Index	-0.64	13.81	10.22	13.03	12.39	9.62
CPI + 5%	2.41	7.45	6.76	6.21	6.46	6.54
<b>Total Alternative</b>	<b>1.48</b>	<b>6.84</b>	<b>5.60</b>	<b>3.91</b>	--	--
CPI + 4%	2.22	6.45	5.93	5.46	--	--
<b>Total Private Equity</b>	<b>3.74</b>	<b>20.12</b>	<b>11.39</b>	<b>12.76</b>	<b>12.22</b>	<b>9.11</b>
OIC - Russell 3000 + 300 BPS Qtr Lag	7.11	24.71	14.43	19.01	16.87	12.27

\*Policy Benchmark = 22.5% OPERF Total Custom FI Benchmark, 20.0% Russell 3000 Index, 20.0% MSCI ACWI ex US IMI, 20.0% Russell 3000 + 300 bps Qtr Lag, 12.5% Oregon Custom Real Estate Benchmark and 5.0% CPI + 400 bps.

\*\*Non-US Equity Benchmark performance through May 31, 2008, is MSCI ACWI ex US Gross and is linked thereafter with the MSCI ACWI ex-US IMI Net Index.

# OPERF Total Regular Account

## Net Calendar Year Performance by Asset Class

	1 Qtr. 2018	2017	2016	2015	2014	2013
<b>Total Regular Account</b>	<b>0.62</b>	<b>15.39</b>	<b>7.11</b>	<b>2.01</b>	<b>7.29</b>	<b>15.59</b>
Total Regular Account ex-Overlay	0.68	15.38	6.73	2.02	7.28	15.57
OPERF Policy Benchmark*	1.22	15.64	8.95	1.57	8.24	15.61
<b>Total Fixed Income</b>	<b>-0.86</b>	<b>3.70</b>	<b>3.06</b>	<b>0.54</b>	<b>3.52</b>	<b>1.04</b>
OPERF Total Custom FI Benchmark	-0.96	3.32	2.52	0.16	3.04	0.29
Callan Public Fund \$10bn+ U.S. Fixed	-1.17	4.94	5.25	-0.50	6.31	-1.79
<b>Total Public Equity</b>	<b>-0.53</b>	<b>24.41</b>	<b>9.89</b>	<b>-1.75</b>	<b>3.31</b>	<b>26.68</b>
MSCI ACWI IMI Net	-0.89	23.95	8.36	-2.19	3.84	23.55
<b>U.S. Equity</b>	<b>-1.07</b>	<b>20.40</b>	<b>14.90</b>	<b>-0.87</b>	<b>9.85</b>	<b>35.41</b>
Russell 3000 Index	-0.64	21.13	12.74	0.48	12.56	33.55
Callan Large Public > \$10bn U.S. Equity	-0.47	20.70	13.66	0.06	11.78	33.51
<b>Non-U.S. Equity</b>	<b>0.10</b>	<b>30.23</b>	<b>4.67</b>	<b>-2.59</b>	<b>-2.88</b>	<b>18.62</b>
MSCI ACWI ex USA IMI**	-1.06	27.81	4.41	-4.60	-3.89	15.82
Callan Large Public >\$10bn Non-U.S. Equity	-0.44	28.71	4.84	-3.58	-2.81	16.91
<b>Total Real Estate</b>	<b>1.93</b>	<b>10.05</b>	<b>7.88</b>	<b>9.89</b>	<b>14.16</b>	<b>12.83</b>
Total Real Estate ex REITs	2.72	11.19	10.01	12.67	12.01	15.79
NCREIF Property Index Qtr Lag	1.85	6.70	8.88	13.48	11.26	11.00
Callan Public Plan - Real Estate	0.50	7.83	8.24	11.05	13.46	11.35
<b>Opportunity Portfolio</b>	<b>0.26</b>	<b>10.47</b>	<b>6.12</b>	<b>2.14</b>	<b>8.81</b>	<b>15.00</b>
Russell 3000 Index	-0.64	21.13	12.74	0.48	12.56	33.55
CPI + 5%	2.41	7.18	6.99	5.39	5.33	6.46
<b>Total Alternative</b>	<b>1.48</b>	<b>8.30</b>	<b>6.61</b>	<b>-4.32</b>	<b>4.44</b>	<b>6.02</b>
CPI + 4%	2.22	6.19	6.16	4.76	4.78	5.56
<b>Total Private Equity</b>	<b>3.74</b>	<b>17.32</b>	<b>6.26</b>	<b>7.79</b>	<b>15.90</b>	<b>16.19</b>
OIC - Russell 3000 + 300 BPS Qtr Lag	7.11	22.22	18.37	2.49	21.24	25.19

\*Policy Benchmark = 22.5% OPERF Total Custom FI Benchmark, 20.0% Russell 3000 Index, 20.0% MSCI ACWI ex US IMI, 20.0% Russell 3000 + 300 bps Qtr Lag, 12.5% Oregon Custom Real Estate Benchmark and 5.0% CPI + 400 bps.

\*\*Non-US Equity Benchmark performance through May 31, 2008, is MSCI ACWI ex US Gross and is linked thereafter with the MSCI ACWI ex-US IMI Net Index.

# OPERF Total Regular Account

Gross Performance and Peer Group Rankings\* as of March 31, 2018

## Performance vs Large Public Funds (>10B) (Gross)



10th Percentile	1.41	12.99	8.32	9.27	8.88	7.34
25th Percentile	0.36	12.14	7.76	8.99	8.52	6.95
Median	(0.21)	11.11	7.38	8.39	8.13	6.58
75th Percentile	(0.52)	10.40	7.09	7.99	7.71	6.37
90th Percentile	(0.58)	8.87	5.93	6.73	7.29	5.57

<b>Total Regular Account</b> ●	0.77	12.34	7.79	8.87	8.68	6.89
<b>Total Policy Target</b> ▲	1.22	12.29	7.95	9.37	8.91	7.04

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





**Appendix**

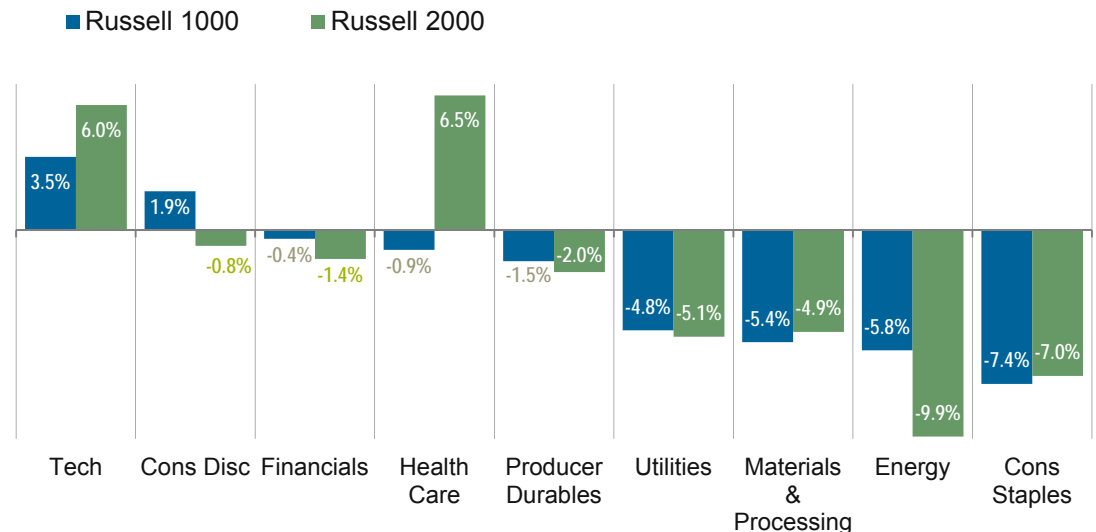
# U.S. Equity Market Environment

- Volatility returned in the first quarter.
- Uncertainty over the pace of interest rate hikes contributed to the decline in markets.
- Potential for China trade war influenced equity market behavior.
  - Large caps negatively impacted given exposure to international markets (S&P 500 aggregate is ~40%).
  - Small caps less impacted given higher U.S. market revenue exposure (~80-90%) and benefit from a more protectionist policy.
- Value trailed growth as the prospect of increased inflation and accelerating interest rates weighed on interest rate-sensitive sectors (Financials, Real Estate, Utilities).
- Technology (+3.5%) and Consumer Discretionary (+1.9%) were the only two sectors to post positive returns in large cap space.

## For Periods ended March 31, 2018

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
<b>Large Cap Equity</b>						
Russell 1000 Growth	1.42	21.25	12.90	15.53	11.34	10.88
Russell 1000 Value	-2.83	6.95	7.88	10.78	7.78	9.71
<b>Mid Cap Equity</b>						
Russell Midcap Growth	2.17	19.74	9.17	13.31	10.61	12.12
Russell Midcap Value	-2.50	6.50	7.23	11.11	9.81	12.08
<b>Small Cap Equity</b>						
Russell 2000 Growth	2.30	18.63	8.77	12.90	10.95	12.04
Russell 2000 Value	-2.64	5.13	7.87	9.96	8.61	10.85

## Economic Sector Quarter Performance as of March 31, 2018



Source: Callan, Russell Investment Group

# Non-U.S. Equity Market Environment

- Geopolitical tension, market volatility, and fears of rising U.S. interest rates and inflation rattle markets.
  - Growth outpaced value; earnings growth and quality factors were in favor given investor fears; conversely high beta cyclical sectors and factors struggled.
- Emerging markets continued to outpace developed fueled by a soft dollar and synchronized global growth.
  - However, fears of inflation and its implication on the trajectory of U.S. monetary policy as well as a potential trade war with China weighed on the market.
- Developed non-U.S. small cap outperformed large cap given the risk-on market environment spurred by synchronized global growth.

## For Periods ended March 31, 2018

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
<b>Non-U.S. Equity</b>						
MSCI ACWI ex USA	-1.18	16.53	6.18	5.89	2.70	9.22
MSCI ACWI ex USA Growth	-0.87	19.92	7.28	6.84	3.26	9.14
MSCI ACWI ex USA Value	-1.50	13.26	5.04	4.88	2.09	9.24
MSCI EAFE	-1.53	14.80	5.55	6.50	2.74	8.62
MSCI EAFE (local)	-4.28	5.34	3.36	8.45	4.53	7.79
<b>Regional Equity</b>						
MSCI Europe	-1.98	14.49	4.79	6.37	2.06	8.59
MSCI Europe (local)	-4.35	2.00	2.91	7.67	4.62	8.07
MSCI Japan	0.83	19.64	8.36	8.92	4.10	7.61
MSCI Japan (local)	-4.81	14.19	4.11	11.64	4.79	6.84
MSCI Pacific ex Japan	-3.73	8.43	5.07	3.25	4.61	11.31
MSCI Pacific ex Japan (loc)	-2.78	7.58	4.88	7.46	5.63	9.76

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
<b>Emerging/Frontier Markets</b>						
MSCI Emerging Markets	1.42	24.93	8.81	4.99	3.02	12.88
MSCI Emerging Markets (loc)	0.72	22.01	9.02	8.24	5.44	13.10
MSCI Frontier Markets	5.10	27.26	7.90	8.64	-0.68	8.71
<b>Non-U.S. Small Cap Equity</b>						
MSCI EAFE Small Cap	0.24	23.49	12.25	11.10	6.48	12.47
MSCI Em Mkts Small Cap	0.17	18.62	7.23	4.58	4.36	13.60

Sources: Callan, MSCI

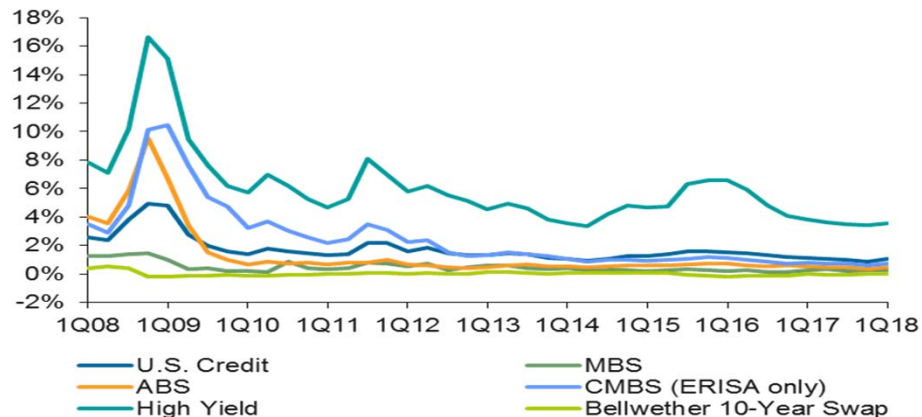
# Fixed Income Overview

- Concerns over rising wage pressures and U.S./China trade war tension
- Volatility picked up as geopolitical uncertainties took center stage
- Market expectations reflect the possibility of four rate hikes, up from three at the end of 2017
  - Interest rates rose ~30bps across the U.S. Treasury yield curve; 10-year U.S. Treasury yield rose from 2.41% to 2.74%
- Investment grade corporates underperformed the U.S. Aggregate Index. Investors reassessed healthy balance sheets juxtaposed with fair/rich valuations.
  - New issuance was down 13% when compared to a year ago, yet demand remained strong with 2-3x oversubscriptions
- High yield corporates outperformed the U.S. Aggregate Index
  - Corporate fundamentals remained healthy as earnings growth supported debt coverage
  - Default rates remained benign

## For Periods ended March 31, 2018

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
<b>Broad Fixed Income</b>						
Core Bond Style	-1.36	1.65	1.62	2.20	4.32	4.47
Core Bond Plus Style	-1.20	2.31	2.21	2.69	5.07	5.28
BB Barclays Aggregate	-1.46	1.20	1.20	1.82	3.63	3.95
BB Barclays Gov/Credit	-1.58	1.38	1.22	1.84	3.65	3.97
BB Barclays Government	-1.15	0.44	0.48	1.07	2.70	3.37
BB Barclays Credit	-2.13	2.59	2.16	2.83	5.15	4.91
BB Barclays Corporate High Yld	-0.86	3.78	5.17	4.99	8.27	8.39
<b>Long-Term</b>						
BB Barclays Long Gov/Credit	-3.58	5.09	2.13	4.09	6.79	6.36
BB Barclays Long Government	-3.22	3.53	0.45	3.28	5.75	5.90
BB Barclays Long Credit	-3.83	6.16	3.27	4.67	7.52	6.69
Citi Pension Discount Curve	-5.63	7.37	2.79	5.82	10.04	7.83
<b>Intermediate-Term</b>						
BB Barclays Interm Aggregate	-1.05	0.51	1.02	1.45	3.18	3.60
BB Barclays Interm Gov/Credit	-0.98	0.35	0.94	1.25	2.92	3.40
<b>Short-Term</b>						
Money Market Funds (net)	0.26	0.80	0.32	0.19	0.24	1.10
ML Treasury 1-3 Year	-0.13	0.03	0.40	0.52	1.13	1.95
90-Day Treasury Bills	0.35	1.11	0.53	0.34	0.34	1.28

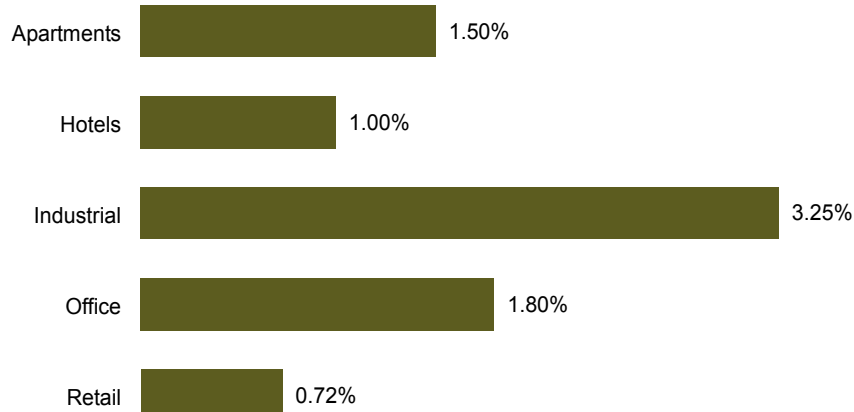
## Effective Yield Over Treasuries



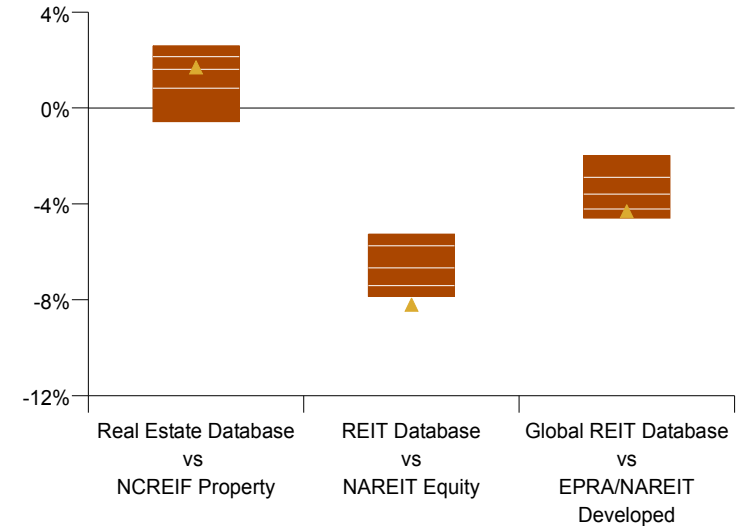
Source: Callan, Bloomberg

# Real Estate Overview

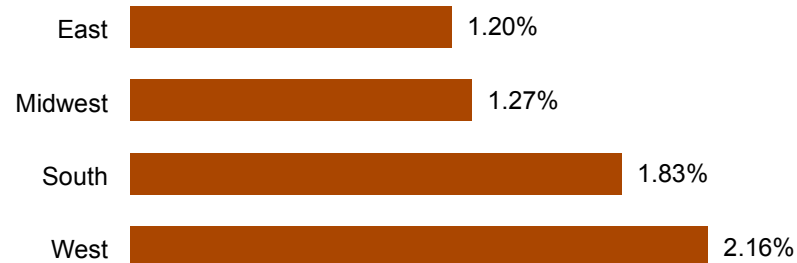
## NCREIF All Equity Sector Quarterly Returns by Property Type



## Callan Style Group Quarterly Returns



## Sector Quarterly Returns by Region



10th Percentile	2.60	-5.26	-1.99
25th Percentile	2.14	-5.75	-2.89
Median	1.61	-6.67	-3.59
75th Percentile	0.82	-7.40	-4.21
90th Percentile	-0.57	-7.85	-4.59
Benchmark ▲	1.70	-8.20	-4.30

- Supply and demand fundamentals are balanced but peaking. Supply is in check and aided by strict commercial real estate lending standards. Demand continues on the back of synchronized domestic growth.
- The NCREIF Property Index advanced 1.7% during the 1st quarter (Income: +1.1%; Appreciation: +0.6%). Global REITs outperformed U.S. REITs, but still lost 4.3%. U.S. REITs ended the quarter with -8.2%.
- The industrial sector is performing the strongest, benefitting as structural shifts in the economy, property markets, and consumer habits continue to dampen demand for traditional retail space. The Western region continues to lead other regions.

# Hedge Fund & Multi-Asset Class (MAC): Is Alpha Back?

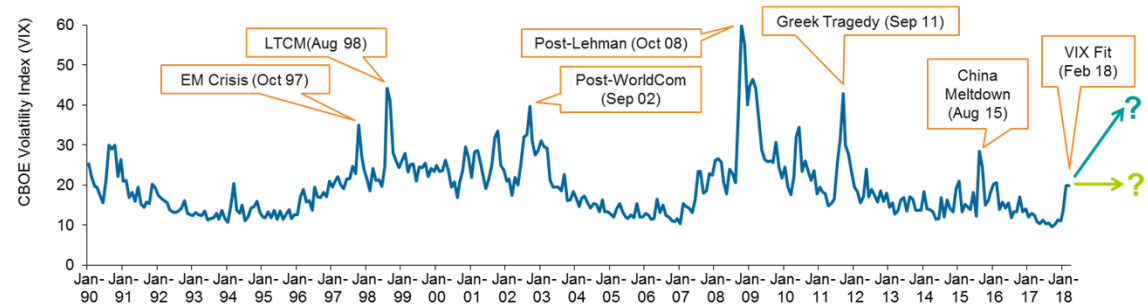
- An improved opportunity set for many types of hedge fund strategies?
  - *Rising short-term rates*
  - *Higher inflation risks*
  - *More volatility*
- During 1Q18, the average hedge fund performed well in a market where stocks and bonds broadly fell
- Even the average Equity Hedge manager, with a long market bias, made enough money from its underlying stock selection to overcome the headwinds of falling stock prices. “Alpha” is back!
- Macro hedge funds suffered from the equity market reversal, giving back some of last year’s gains
- Callan’s Multi-Asset Class (MAC) style groups had a modest report card in 1Q18, reflecting a challenging top-down environment, even for the Risk Premia style group. Value, momentum, and short vol exposures detracted from performance.
- On Feb 5, the VIX’s move from 17% to 38% was a “20 standard deviation” event. Was this early February spike in U.S. equity volatility a prelude to broader market uncertainty?
  - *Likely, given more catalysts ahead from widely diverging economic and geopolitical agendas around the world.*

## Returns for Periods ended March 31, 2018

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
<b>Hedge Fund Universe</b>						
Callan Absolute Return FoF	1.23	4.82	2.67	4.18	3.25	4.76
Callan Core Diversified FoF	0.87	5.12	1.77	3.94	3.25	5.09
Callan Long/Short Equity FoF	1.16	7.76	3.54	5.54	3.78	6.03
HFRI Asset Wtd Composite	0.57	5.17	2.21	4.02	3.66	--
HFRI Fund Weighted Index	0.14	6.08	3.51	4.22	3.60	6.05
.HFRI Equity Hedge	0.59	9.70	5.29	5.70	3.87	6.18
.HFRI Event-Driven	0.15	5.18	4.11	4.73	4.54	7.10
.HFRI Macro	-1.25	1.02	-0.85	0.89	1.42	4.42
.HFRI Relative Value	0.30	3.17	3.60	4.11	5.20	5.88
90 Day T-Bill + 5%	1.57	6.11	5.53	5.34	5.34	6.28
<b>Liquid Alternatives Universe</b>						
Callan Absolute Return MAC*	0.21	2.65	1.92	3.12	--	--
Callan Risk Premia MAC*	-0.74	3.08	1.42	3.02	6.85	--
Callan Long Biased MAC*	-0.50	9.32	3.84	5.37	5.98	8.87
Callan Risk Parity MAC*	-1.33	7.81	4.27	4.61	6.93	--
S&P 500	-0.76	13.99	10.78	13.31	9.50	10.10
Bloomberg Barclays Aggregate	-1.46	1.20	1.20	1.82	3.63	3.95
60% S&P / 40% BB BC Agg	-1.04	8.76	6.95	8.68	7.50	7.92
CS NB MARP Index (5%v)	-0.70	-1.81	1.27	3.10	6.54	--
SG Trend Index	-3.88	-0.91	-5.01	1.80	1.91	3.59

\* Gross of fees

## VIX (S&P 1-Month ATM Implied Volatility – Month-End Closing Values)\*



Source: [www.cboe.com/products/vix-index-volatility/vix-options-and-futures/vix-index/vix-historical-data](http://www.cboe.com/products/vix-index-volatility/vix-options-and-futures/vix-index/vix-historical-data)

TAB 6 – OST Investment Operations Update  
OPERF & Other OST-managed Accounts

# Investment Operations

June 6, 2018

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Dave Randall  
Director of Investment Operations

Debra Day  
Investment Reporting Manager

Perrin Lim  
Director of Capital Markets



## Oregon State Treasury



# Executive Summary

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The bottom line: **Data accuracy, reporting and business intelligence are critical to successful investment decision-making.**

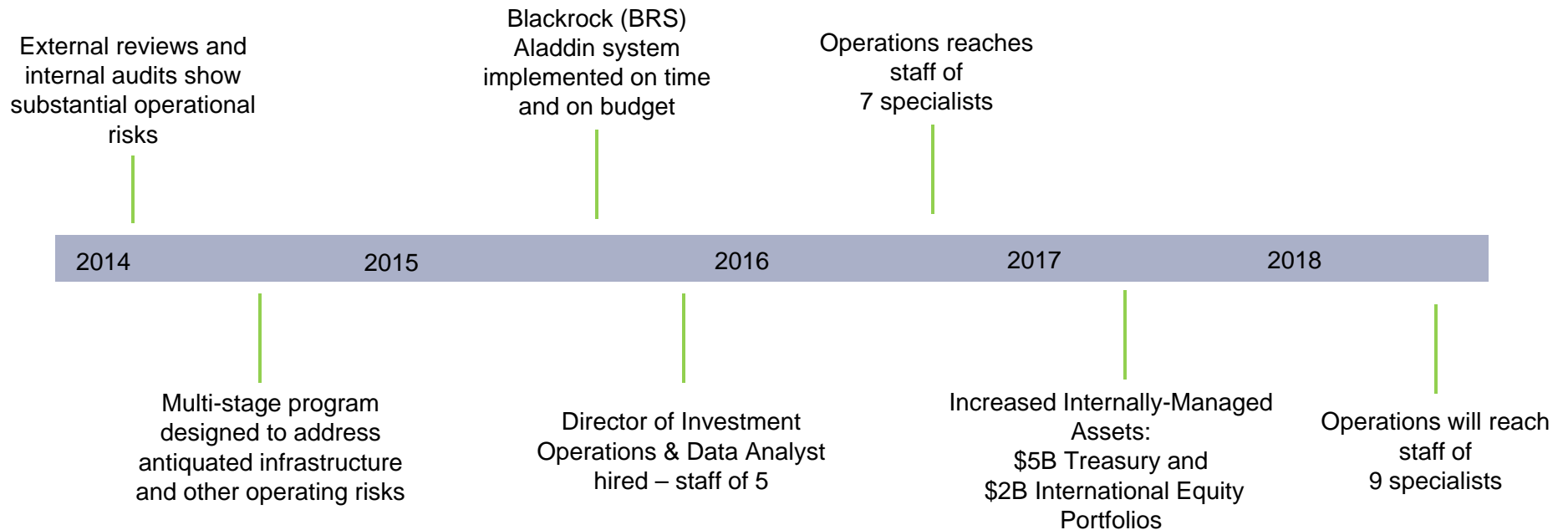
Blackrock's Aladdin tools and services, along with dedicated OST operational staff have enabled Investment Officers to focus more on informed decision-making rather than on trade settlement, compliance, and other non-investment related activities. We estimate the impact of enhanced portfolio management capabilities to exceed **\$225m** for the calendar year 2017.

OST has introduced and applied many operational improvements, including a more detailed reconciliation process that has identified significant reporting discrepancies totaling more **\$1.5B** over the last two years.

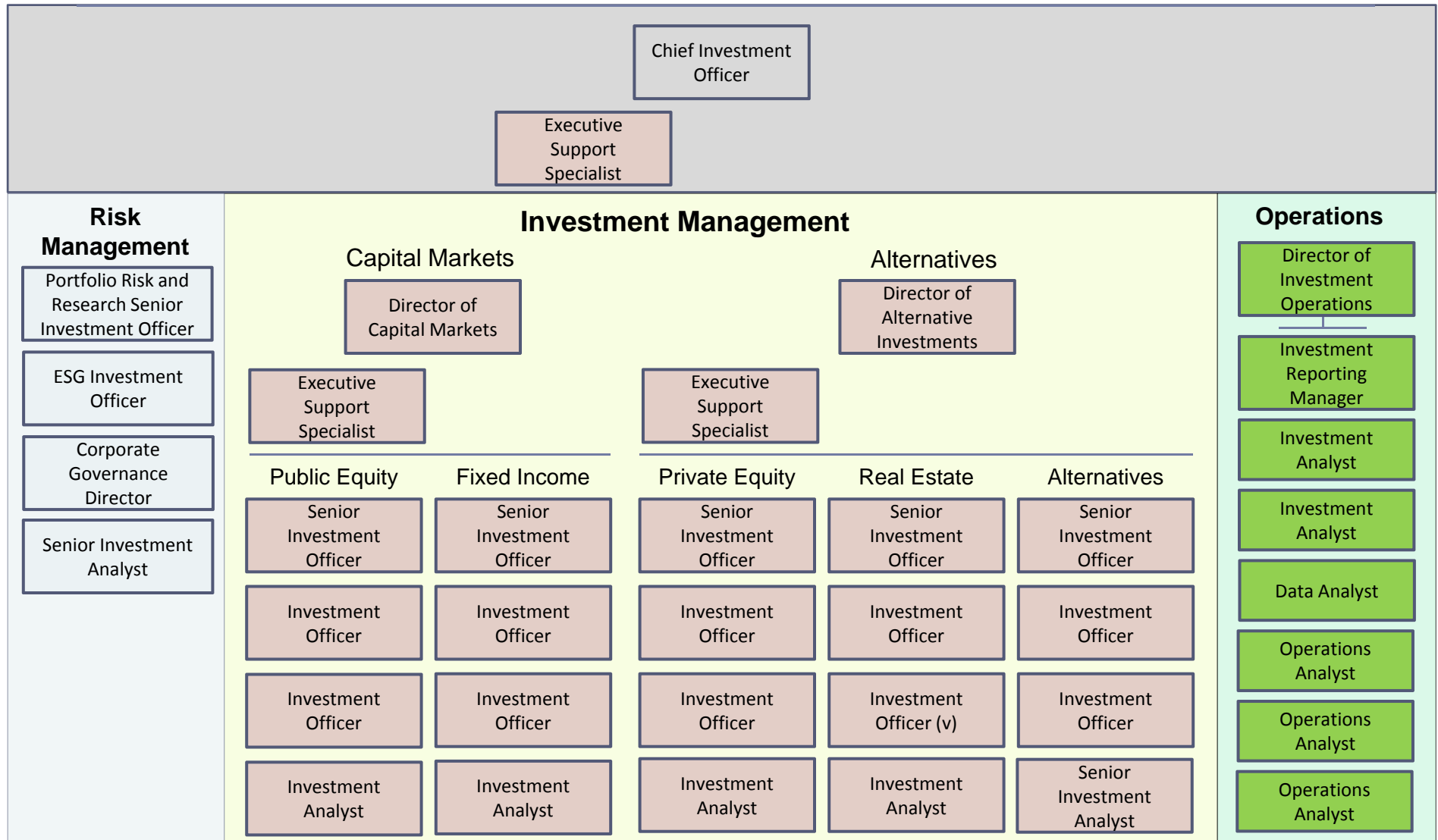
# Background

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A multi-year business transformation that includes dedicated operational resources and utilization of the BlackRock Solutions (BRS) Aladdin platform is well underway. The Investment Operations Unit now comprises 8 FTEs and supports Investment Accounting, Performance, Reporting, Reconciliation and Data Management for the State's \$100B investment program.



# OST Investment Division Org Chart – Current 2018

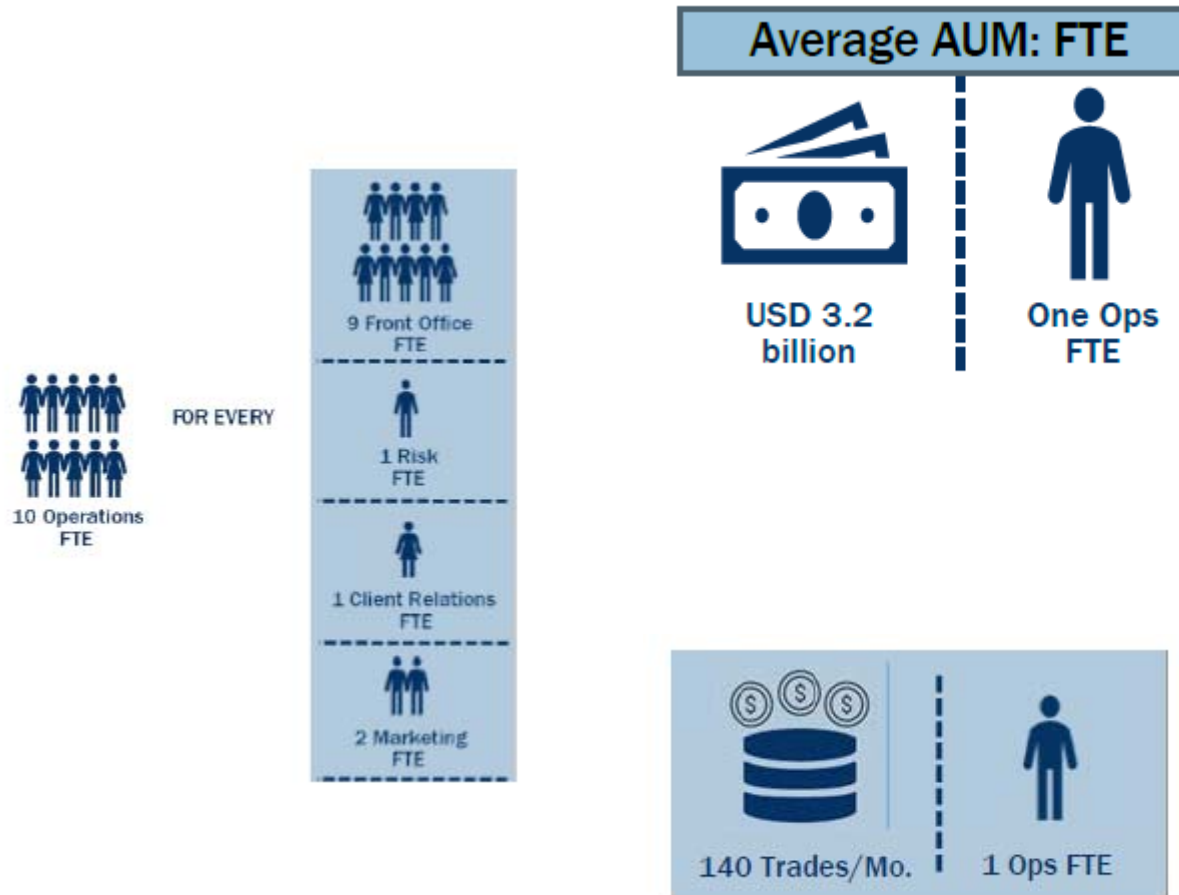


(v) = vacant

# Investment Operations – Core Functions

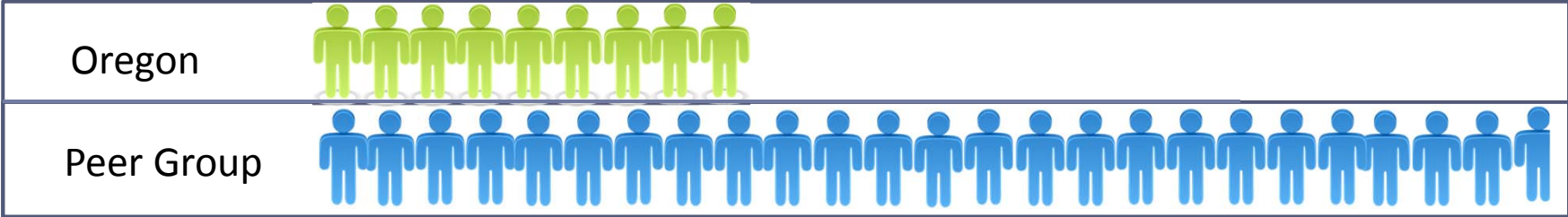
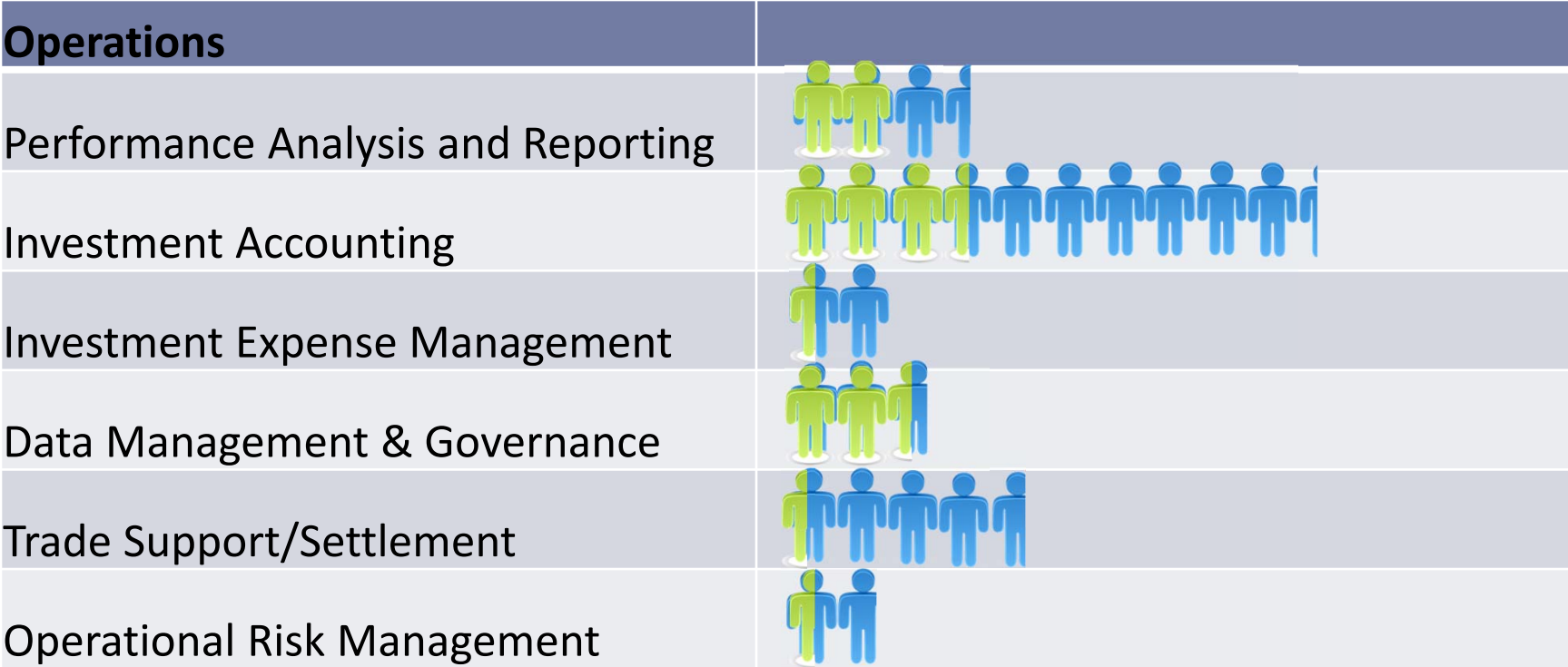


# Industry Metrics



Source: Cutter Associates Public Funds Resource Allocation Peer Group Study.

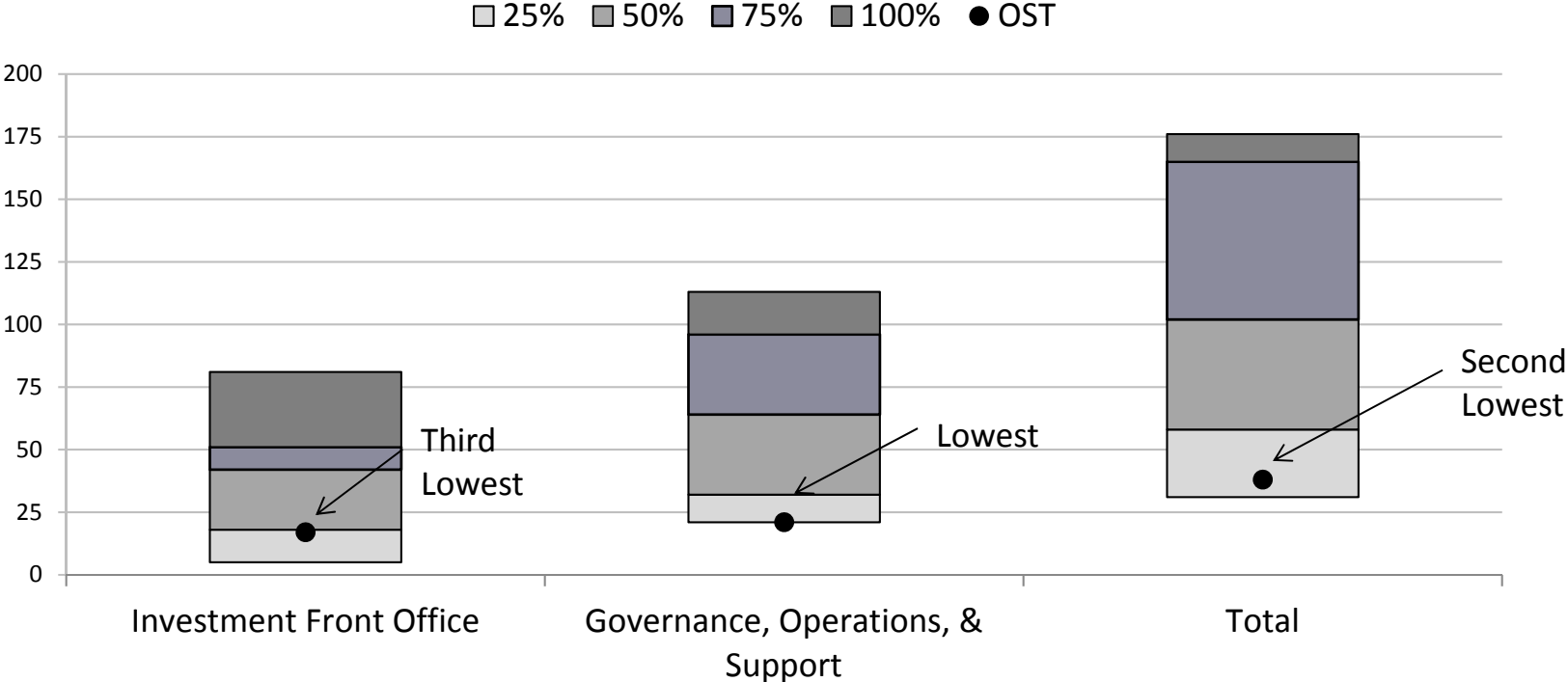
# Building Capacity



Source: Cutter Associates Public Funds Resource Allocation Peer Group Study.  
 Note: Peer group numbers reflect peer group average.

# Building Capacity

## OST staff levels lag, compared to peers - Current

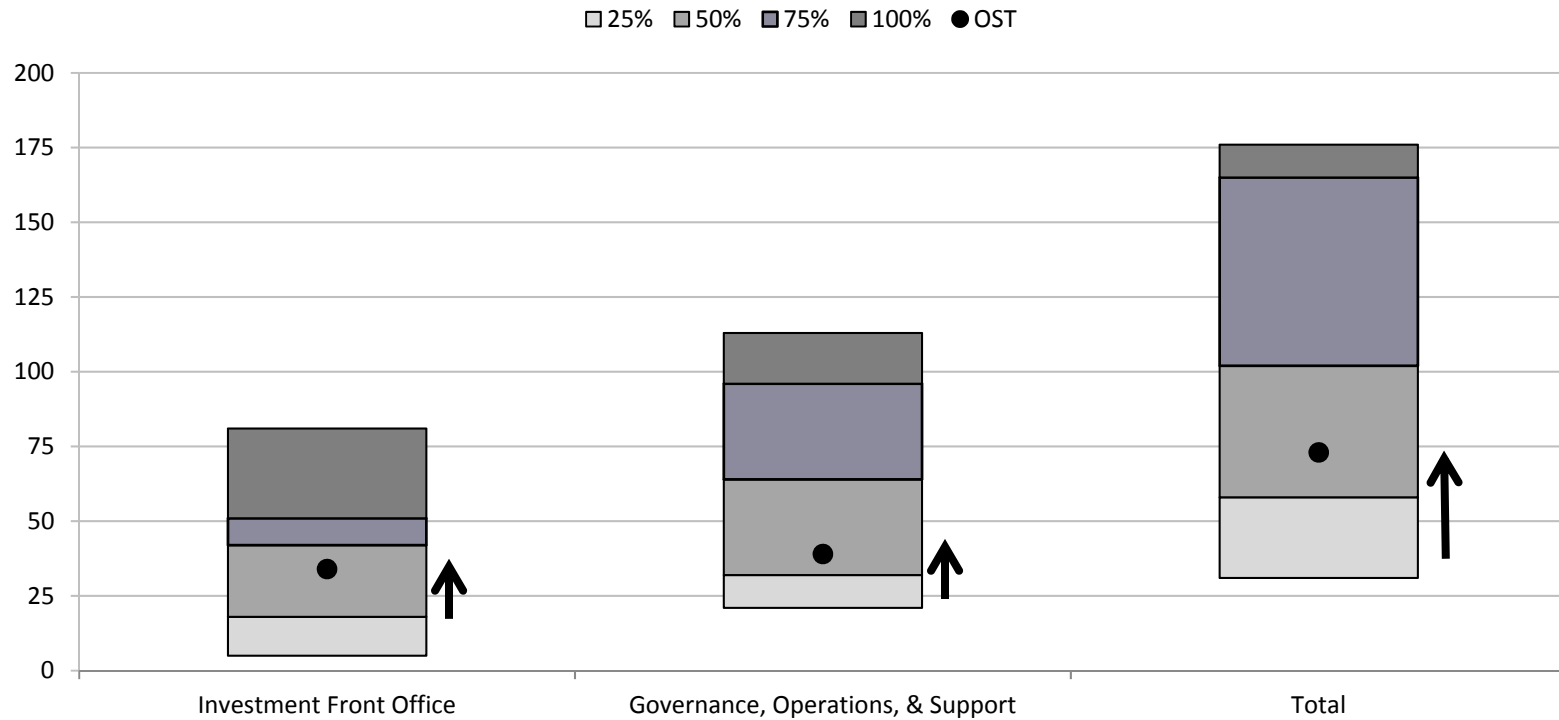


Rankings based on custom peer group of 13 global asset owners of similar size and portfolio composition.

Source: CEM Benchmarking, November 2016 report.

# Building Capacity

## Staffing Comparison – 2019 Projection

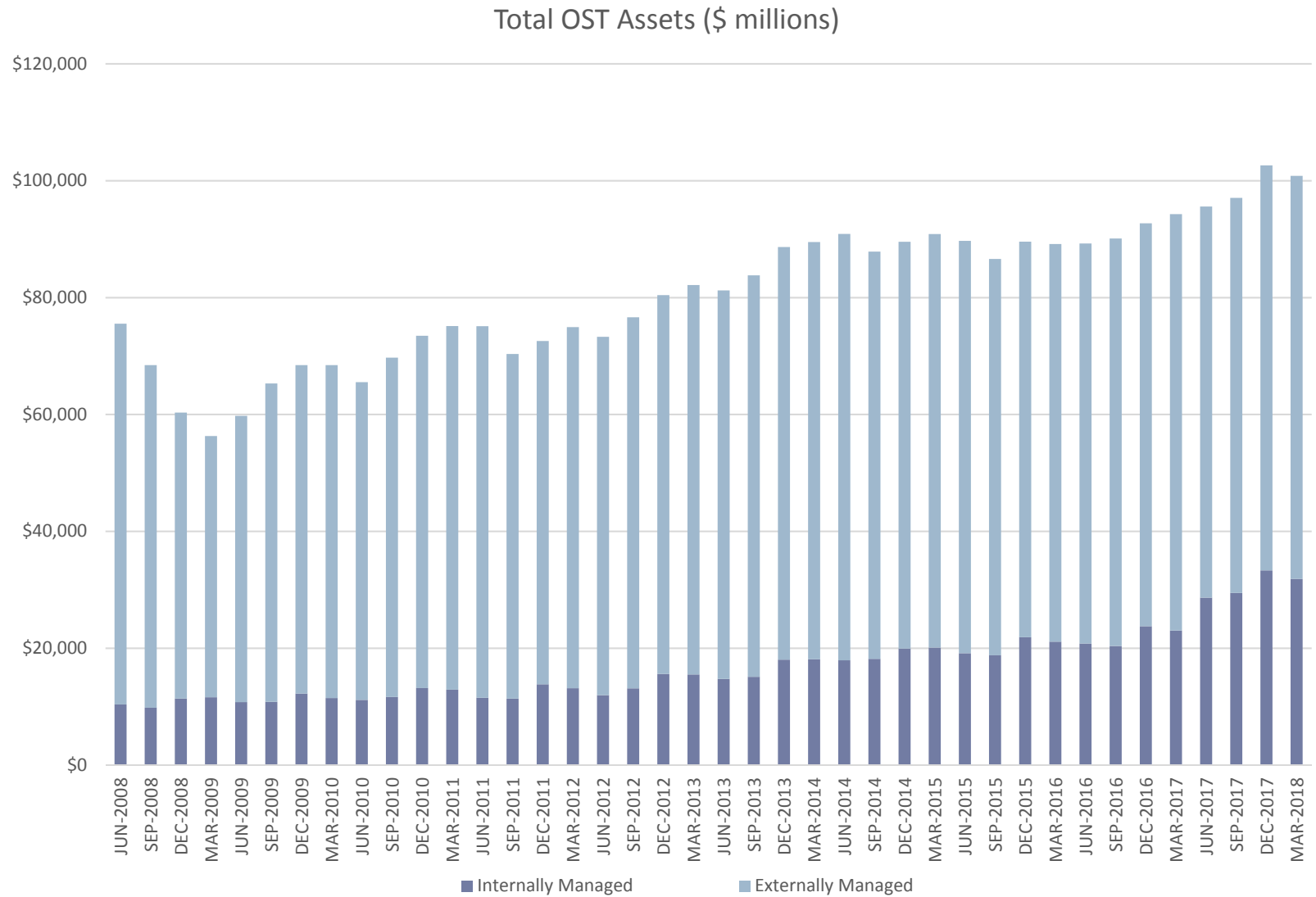


\*Rankings based on custom peer group of 13 global asset owners of similar size and portfolio composition.

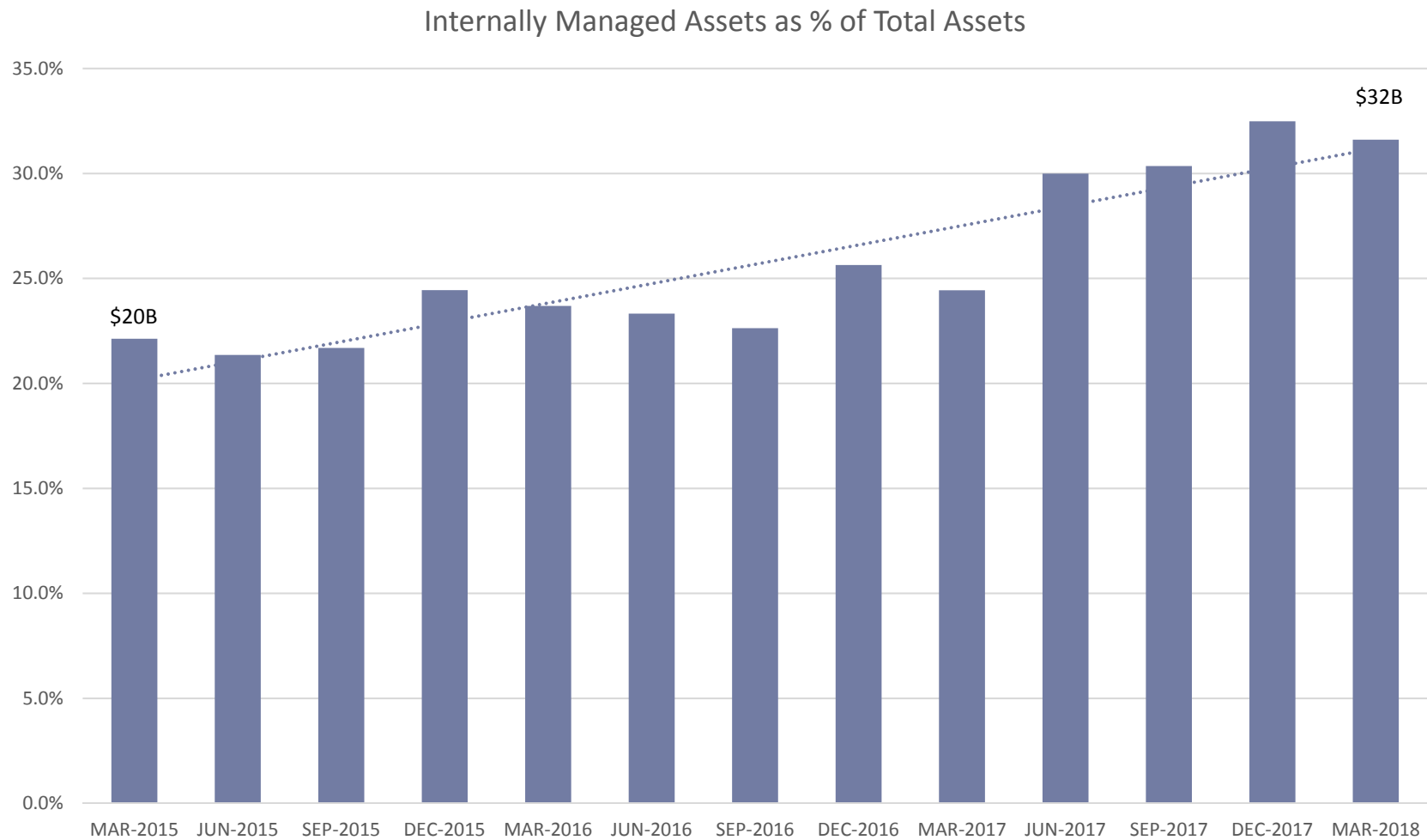
Source: CEM Benchmarking, November 2016 report.



# Internally Managed Assets

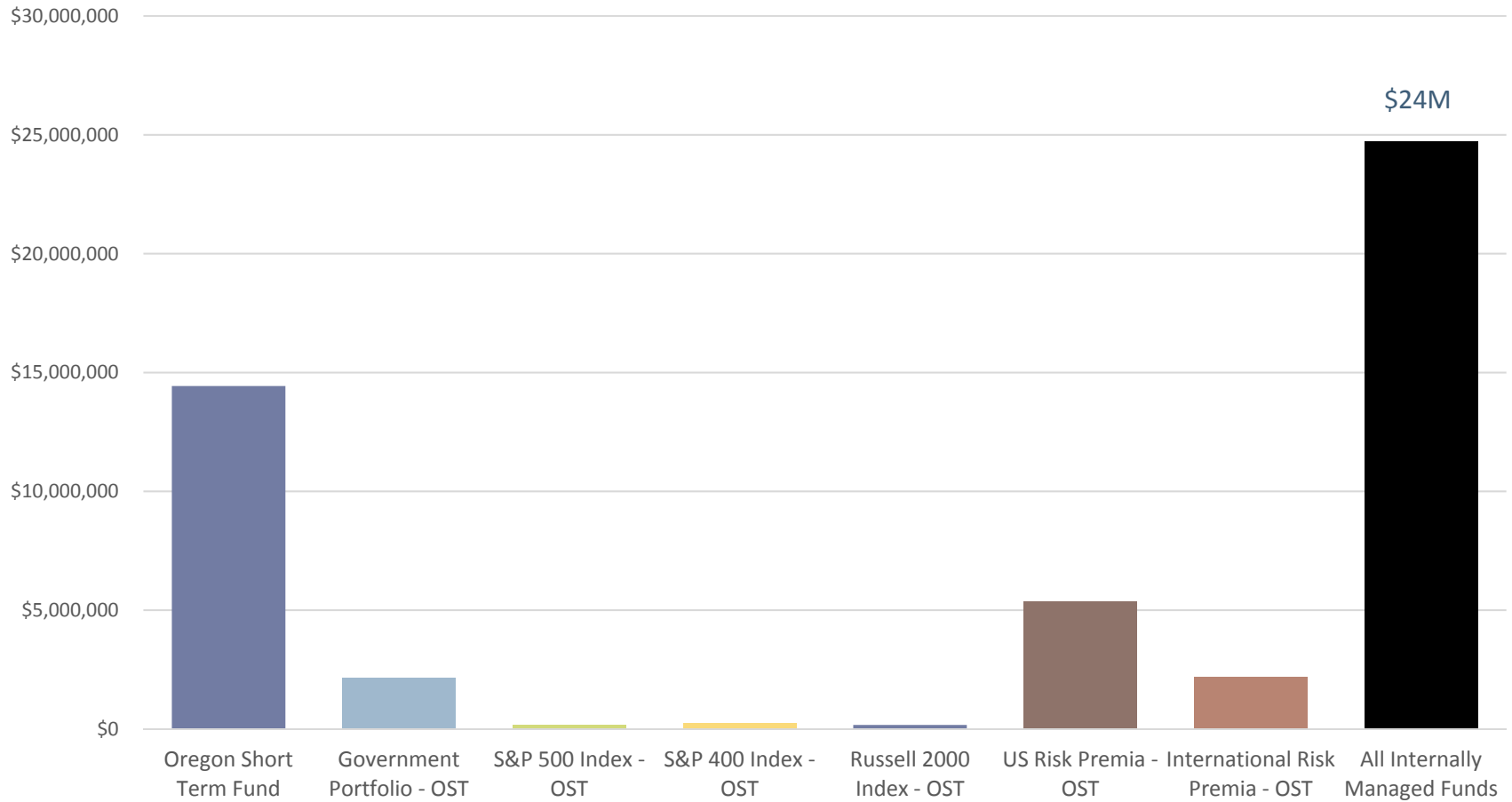


# Internally Managed Assets



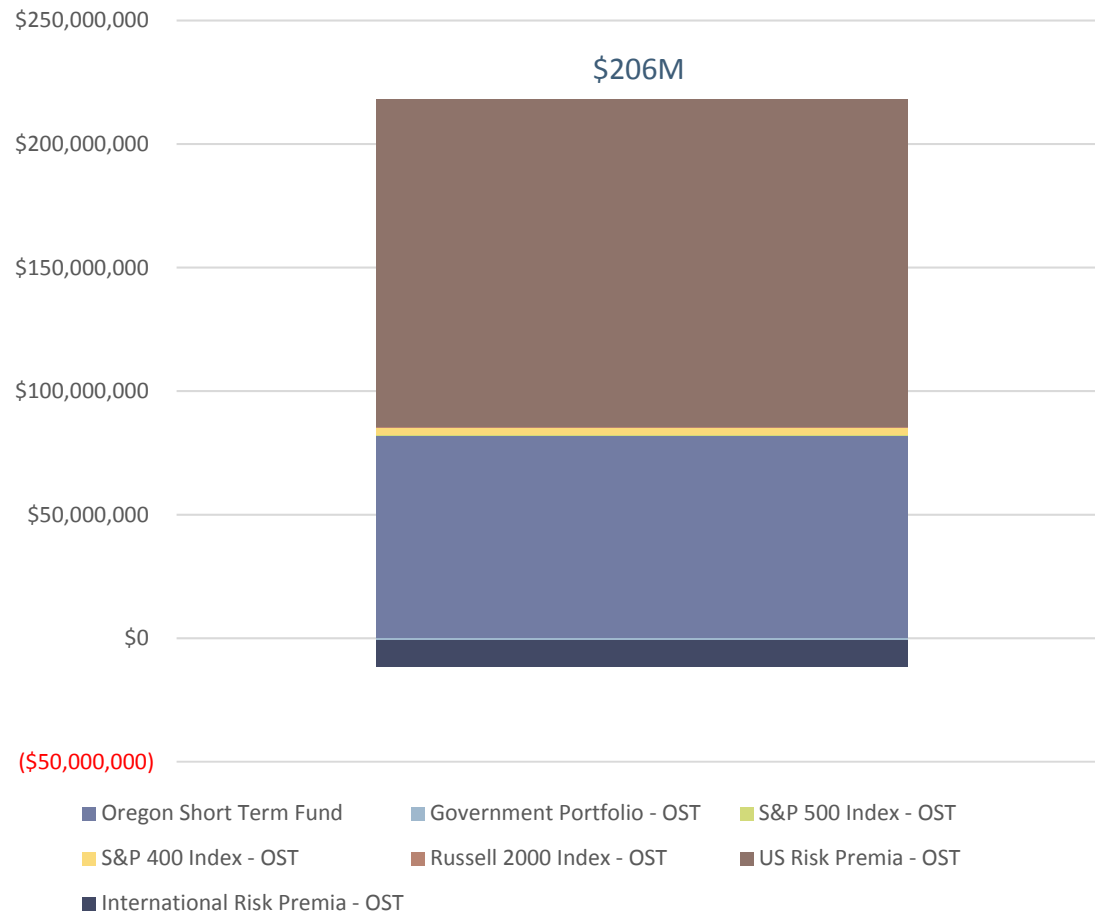
# Cost Savings

Estimated 2017 Cost Savings from Managing Funds Internally



# Investment Value Add

2017 Estimated Dollar Contribution to/Subtraction Versus Benchmark



# Combined Value Add

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# Improving Data Reliability

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Data Recognized as a Strategic Asset Providing Competitive Advantage



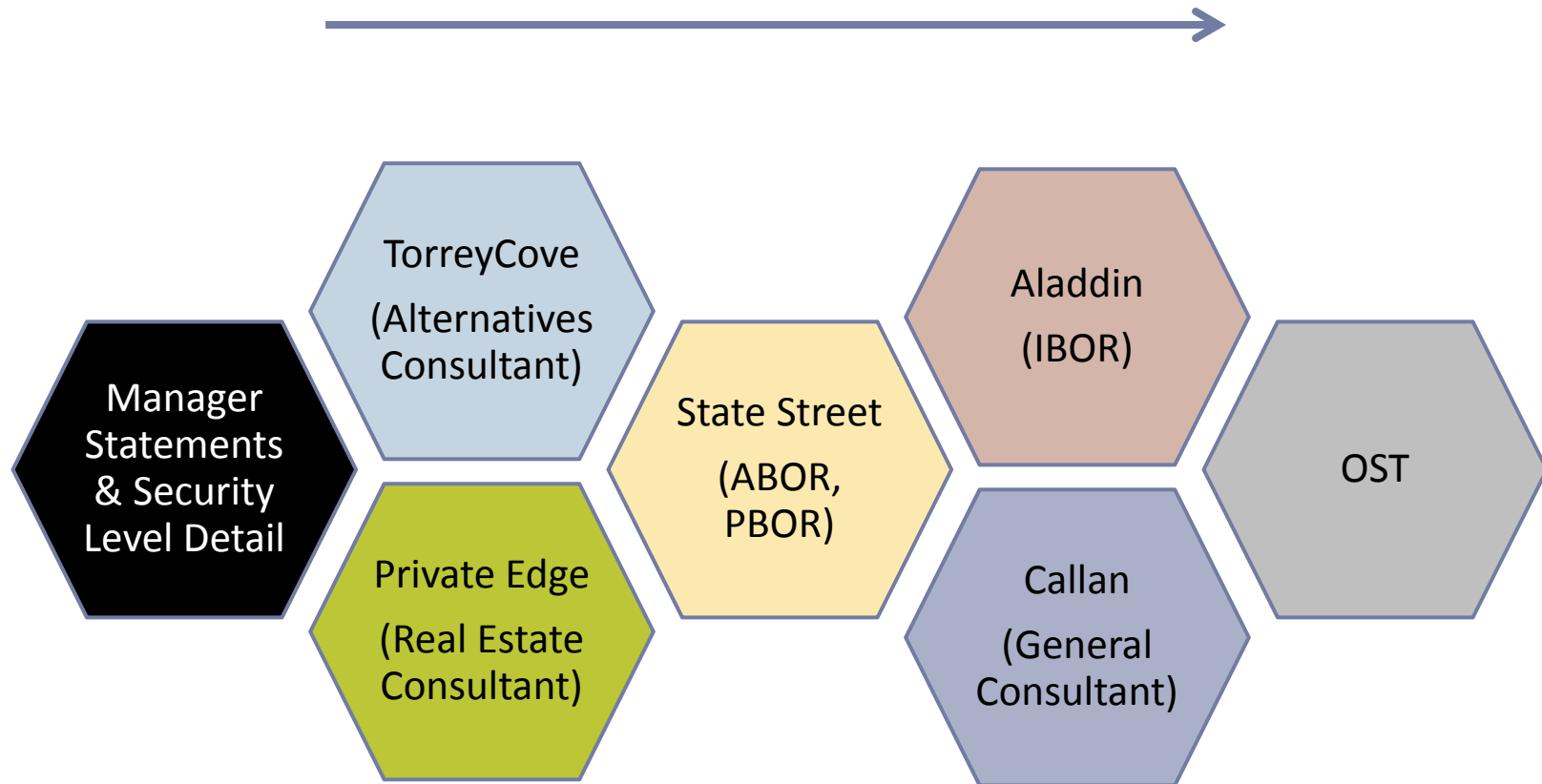
*“We’ve seen more firms adopt solid data management and governance principles, and assign clear roles across more data domains.”*

Source: Cutter Associates Data Management Benchmarking Survey, December 2017

# Improving Data Reliability

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## Valuation and Performance Data Flow



# Improving Data Reliability

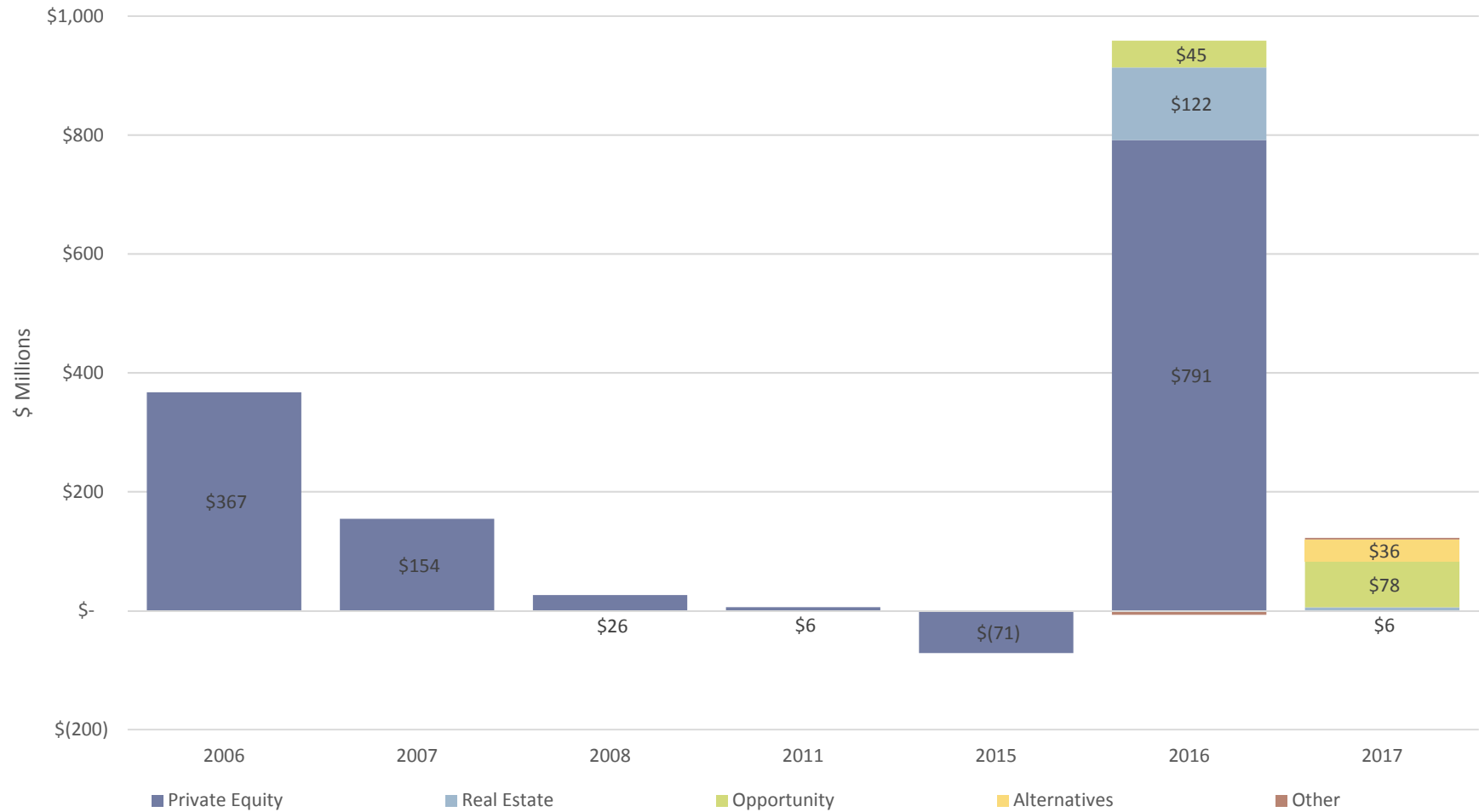
## Issue Reconciliation Log

Date Discovered	Report Date	Effective Dates	Plan/Fund	Summary	Root Cause Memo	Estimated Impact (\$)
1/15/2016	1/1/2016	Jan 2016	OSTF	Cash was not cleared	YES	N/A
4/13/2016	4/18/2016	Mar 2016	OPERF/Alts	Alternatives Portfolio - Stop the Clock Performance not used for a Liquid Alts Fund X	YES	\$19,000,000
7/15/2016	8/5/2016	Jan 2016	OITP	Individual cash security performance was overstated	YES	(\$13,000)
8/2/2016	8/5/2016	August 2016	OPERF/Private Eq	Private Equity Performance - Data Error - Wrong # entered	YES	\$790,000,000
8/26/2016	8/30/2016	Jul 2015, Oct 2015, Jan 2016	OPERF/Real Estate	Real Estate Portfolio - Accounting Value did not match performance value for one of the funds	YES	\$7,000,000
9/7/2016	9/20/2016	Dec 2015, Jun 2016	OPERF/Real Estate	Real Estate Portfolio - Accounting Value did not match performance value for one of the funds	YES	\$7,000,000
1/18/2017	1/20/2017	Dec 2016	OPERF/Equity Index Fund	\$600M Cash flow not accounted for Equity Index Fund A	YES	(\$7,000,000)
1/20/2017	1/31/2017	Dec 2016	OPERF/Alts	Fund XY - used 6/30 instead of 9/30 manager statement	YES	\$17,492,608
2/12/2017	2/14/2017	Calendar Year 2016	OPERF/Private Eq	Incorrect Returns Used for Private Equity Peer rankings	YES	N/A
3/13/2017	3/15/2017	Q2 2011, Q3 2015, Q4 2015, Q1 2016	OPERF/Private Eq	Reported returns did not match the source file and spreadsheet used to calculate private equity performance in four instances.	YES	(\$70,000,000)
5/1/2017	5/25/2017	Q3 2002 to Q3 2008	OPERF/Private Eq	1) By making updates to the opening value for all 8 quarters in 2006 and 2007, the calculated returns were lower than if the prior period reported values were used. 2) Beginning in Q3 2002, the team changed the weighting factor for monthly cash flow activity.	YES	\$550,000,000
8/20/2017	10/20/2017	Q3 2017	OPERF	Understated market value for Fund XYZ	YES	\$298,948
10/23/2017	10/23/2017	Jan 2017 to Apr 2017	OPERF/Real Estate	Fund ABC Q1, 2017 performance error	YES	\$5,500,000
1/9/2018	1/11/2018	Dec 2017	SAIF	Incorrect Paydown Posted	YES	\$1,300,000
1/11/2018	1/12/2018	Dec 2017	CSF	Pricing discrepancy	YES	\$1,700,000
1/12/2018	1/16/2018	Dec 2017	CSF	Fund D return was incorrectly reported.	YES	(\$400,000)
1/18/2018	1/25/2018	Q3 2002 to Q3 2008, Q2 2011, Q3 2015, Q4 2015, Q1	OPERF/Private Eq/Real Estate	Summary of Private Equity and Real Estate revisions.	YES	\$108,000,000
2/6/2018	2/25/2018	Q1 2016 to Q4 2017	OPERF/Opportunities	Fund X1 and Fund Y1 value not reflected since first investment in Q4 2015.	YES	\$106,242,672
4/20/2018	4/26/2018	Q1 2018	OPERF/Opportunities	Incorrect Fund Valuation Reflected	YES	\$20,613,305



# Reconciliation Impact

Estimated Historical Dollar Impact of Discrepancies

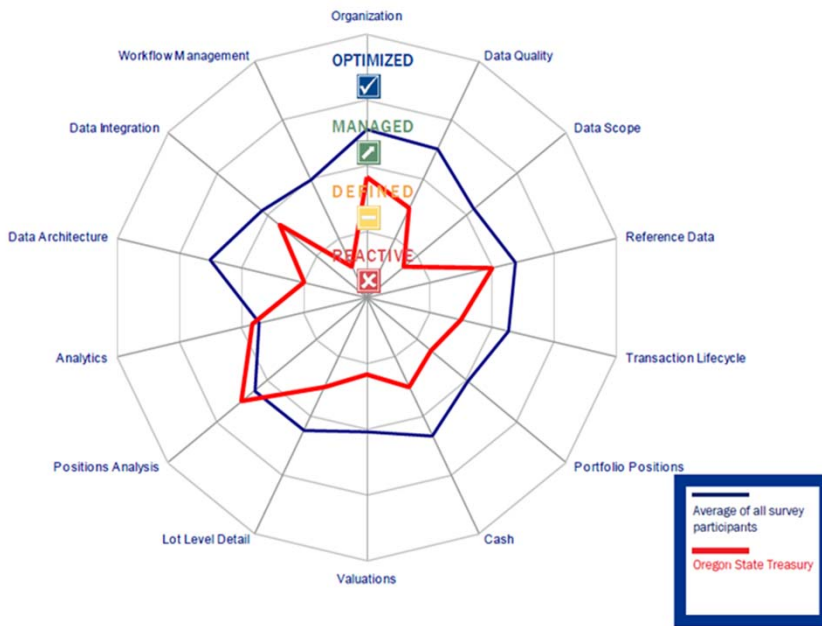


# Score Distribution: IBOR Study

2014



Oregon State Treasury (letter A) scored in the Defined capability range for the overall study.



Firm	Score	Rank	Checkmark	Bar Color
N	3.7	1	✓	Dark Blue
S	3.5	2	✓	Dark Blue
I	3.5	3	✓	Green
D	3.4	4	✓	Green
L	3.3	5	✓	Green
J	3.2	6	✓	Green
B	3.1	7	✓	Green
O	3.0	8	✓	Green
C	2.9	9	✓	Green
M	2.8	10	✓	Green
K	2.7	11	✓	Green
R	2.6	12	✓	Green
P	2.6	13	✓	Green
T	2.5	14	✗	Yellow
H	2.3	15	✗	Yellow
Q	2.2	16	✗	Yellow
F	2.0	17	✗	Yellow
<b>A</b>	<b>2.0</b>	<b>18</b>	✗	Yellow
G	1.7	19	✗	Yellow
E	1.6	20	✗	Yellow

Rank 18 of 20

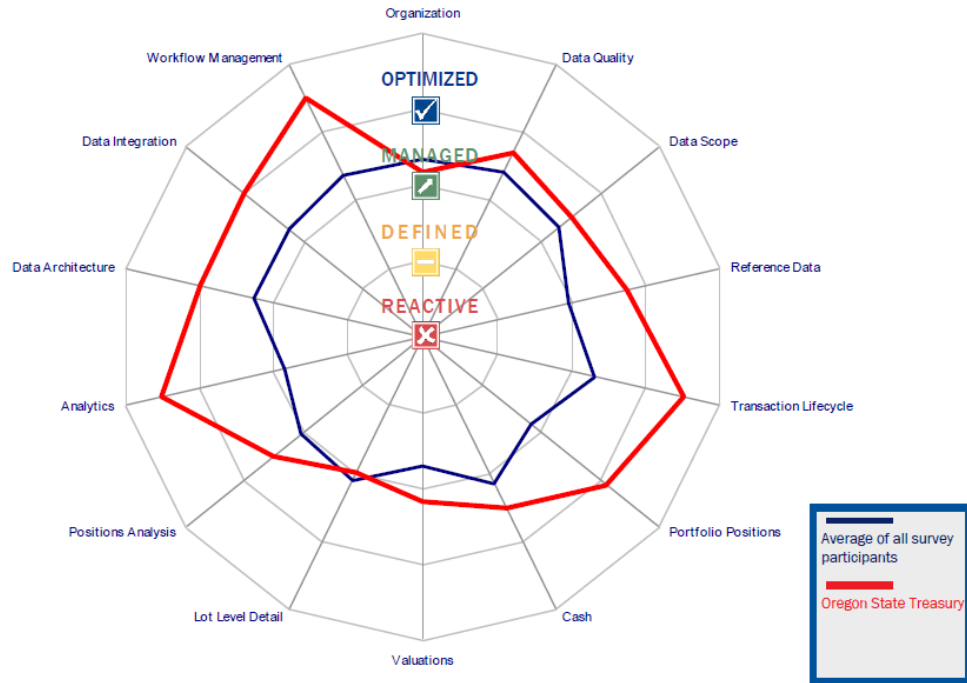
# Score Distribution: IBOR Study

2017



Oregon State Treasury (letter O) scored in the Managed capability range for the overall study.

Firm	Score	Rank	Capability
J	3.8	1	Optimized
H	3.4	2	Managed
I	3.3	3	Managed
<b>O</b>	<b>3.3</b>	<b>4</b>	Managed
AA	3.3	5	Managed
Y	3.2	6	Managed
U	3.2	7	Managed
BB	3.2	8	Managed
V	3.0	9	Managed
N	2.9	10	Managed
P	2.9	11	Managed
R	2.8	12	Managed
Z	2.7	13	Managed
E	2.6	14	Managed
L	2.5	15	Managed
G	2.4	16	Defined
S	2.4	17	Defined
A	2.4	18	Defined
K	2.4	19	Defined
B	2.3	20	Defined
F	2.3	21	Defined
D	2.2	22	Defined
M	2.1	23	Defined
W	2.1	24	Defined
X	2.0	25	Defined
T	2.0	26	Defined
Q	1.9	27	Defined
C	1.7	28	Reactive



Rank 4 of 28

# A Quantifiable Improvement

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## ACCOMPLISHMENTS

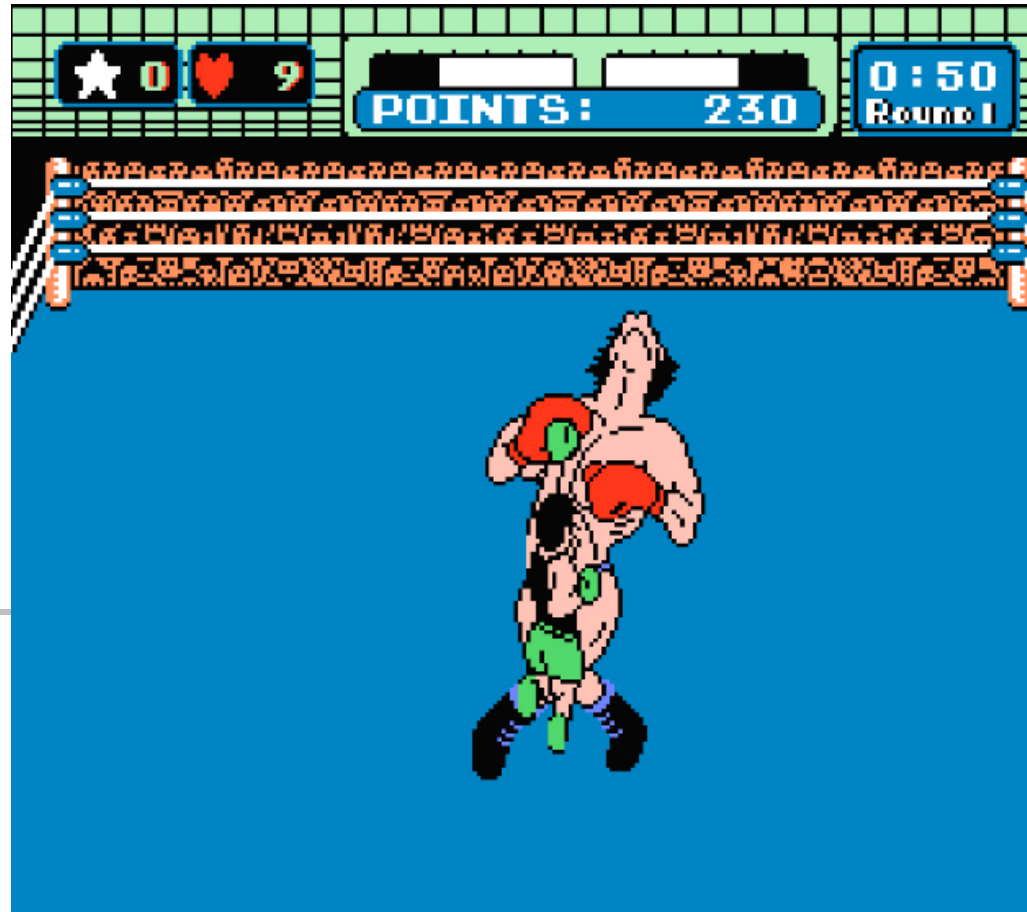
- ▶ Improved Data Integrity
- ▶ Enhanced Resource Optimization
- ▶ Centralized data management, reconciliation and reporting
- ▶ Improved information flow, risk mitigation and accountability
- ▶ Cost Savings
- ▶ State Street Strategic Relationship
  - ▶ Onsite Rep
  - ▶ Automated Reporting
  - ▶ Enhanced Reporting
  - ▶ Revamped KPIs
  - ▶ Process Improvement/Root cause analysis
  - ▶ Service Guarantees

# Looking Forward

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## **FUTURE OPPORTUNITES**

- ▶ Expand Aladdin Use and Expertise – Alternative Investments
- ▶ Specialization and Optimization of Operational Resource Allocation
  - ▶ Reporting
  - ▶ Reconciliation
  - ▶ Data Management & Analytics
  - ▶ Trade Operations
- ▶ Improve Fee Monitoring and Transparency
- ▶ Extend Reconciliation Efforts
- ▶ Enhance Reporting Activities
- ▶ Custodial RFP



# Oregon State Treasury



# Oregon Investment Council

## BlackRock Solutions

June 6, 2018



BLACKROCK®

FOR PROFESSIONAL CLIENTS / QUALIFIED INVESTORS ONLY

## Aladdin: Transformative, data-driven technology

BRS couples our unique perspective on market trends with world-class data and technology into **Aladdin**, our enterprise investment management system that is also available as standalone risk tools

### aladdin by BLACKROCK

- **80+ clients**
- **End-to-end investment platform**
- **IBOR across asset classes**
- **Delivered as a service, not software**
- **User-provider model: the same technology used by BlackRock's own investment teams**

### Aladdin is the common platform at the heart of building a unified firm:

- **One source of quality-controlled data** and standardized workflows
- **Consistent business processes** and common language
- **Effective controls** and robust, integrated compliance process
- Realizes **operational leverage** across the organization
- Clients can **retire systems and interfaces**
- **Business continuity** and “passing the book” across regions
- Support for wide **range of asset classes and geographies**
- Unique user-provider model means **constant innovation** and development to maintain a single operating platform

*Streamlined processes means more time to focus on your core business and greater efficiencies to support growth*

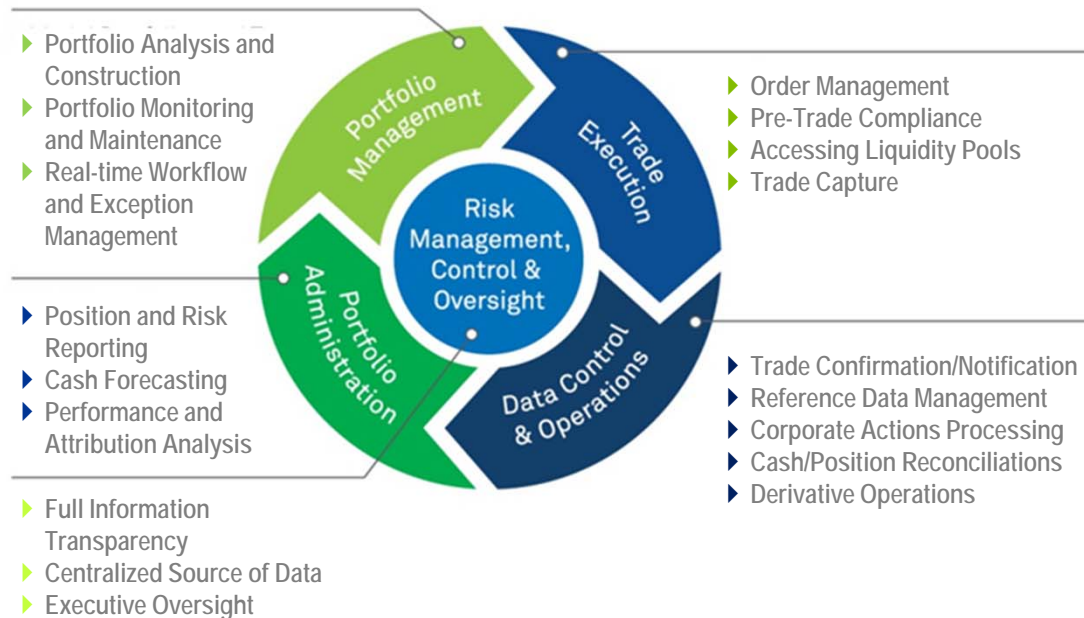


## Aladdin Overview

**Aladdin combines sophisticated risk, exposure and performance analyses with comprehensive portfolio management, trading, compliance and operations tools on a single platform**

- ▶ Single version of Aladdin used by OST staff, BlackRock Trade Support Teams, and BlackRock Client Solutions Team
  - Flexible and configurable to support OST as an organization

**Integration of people, processes and systems through one centralized platform and database**



# BRS has significant experience working with pensions

## Pensions represent a large client segment for the Aladdin Business

- ▶ Currently provide services to over 35 pensions
- ▶ Approximately \$1.7 trillion in pension assets on Aladdin

## Extensive industry knowledge and relationships benefit our team and clients by allowing us to:

- ▶ Stay attuned to key industry trends and management issues
- ▶ Better understand the unique constraints and challenges pensions face
- ▶ “Have a seat at the table” with industry groups
- ▶ Provide practical advice and solutions informed by experience managing and modeling pension portfolios

### How Aladdin helps pension clients

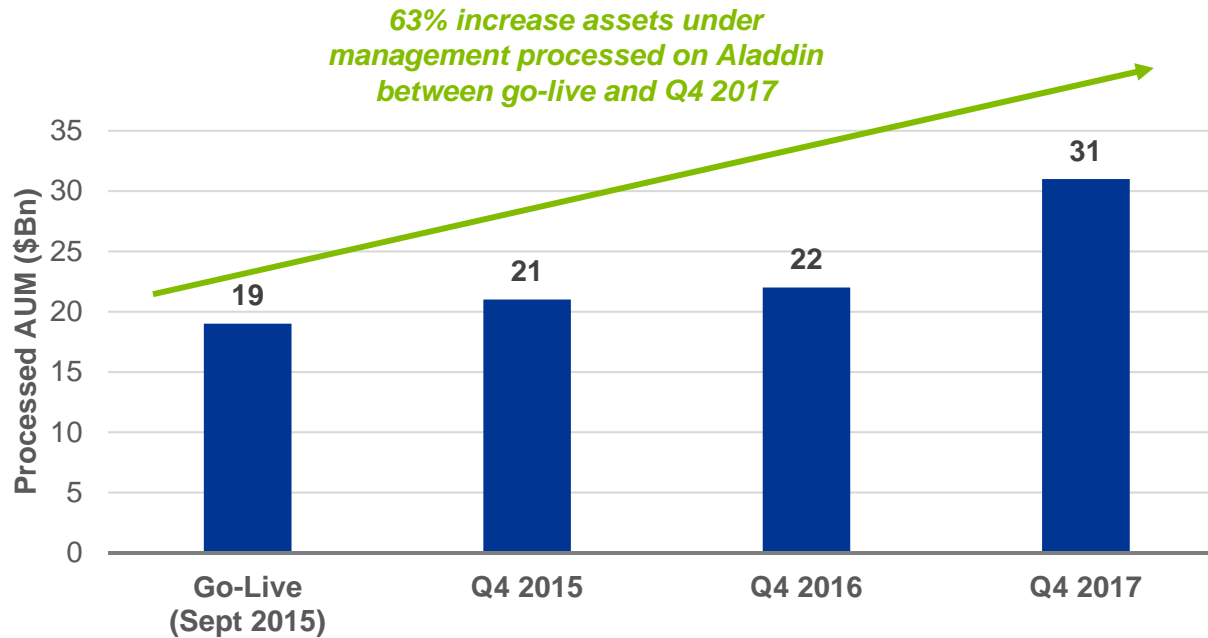
- ▶ **Single platform** with real-time views of exposures, cash, and risk across all assets
- ▶ **Integrated functions** across investments teams
  - All speaking a common language
  - All sharing same data
- ▶ **Simplifies IT** and multi-vendor infrastructures that are complicated and expensive to manage
- ▶ Increases operational efficiency and reduces operational risk
- ▶ **Thought Leadership Events:** Aladdin community forums for pension clients

### Clients

- ▶ Alaska Permanent Fund Corporation
- ▶ CalSTRS
- ▶ Government Pension Investment Fund
- ▶ Illinois Teachers Retirement System
- ▶ NY Common
- ▶ Oregon State Treasury
- ▶ PSERS
- ▶ UC Regents
- ▶ Virginia Retirement System

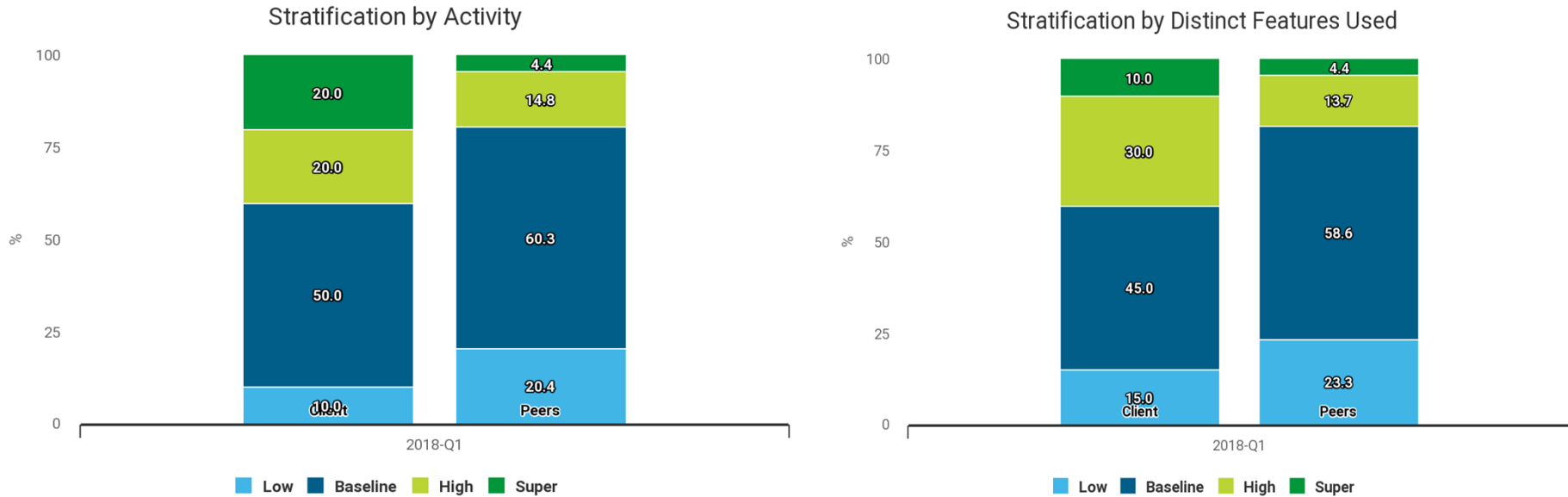
## Oregon State Treasury's 3 year internally managed AUM growth

### Processed Assets under Management (\$Bn)



- ▶ OST has leveraged Aladdin to increase its Internally Managed Assets Under Management
- ▶ OST has approximately 38,000 trades processed on Aladdin (Average of about 3,400 trades a quarter)
- ▶ Over 21,000 Corporate Action Events processed on Aladdin (Mandatory and Voluntary Events)
- ▶ Approximately 41,000 Position and Cash Reconciliations performed since inception on Aladdin
- ▶ Over 500 Compliance rules coded for Compliance monitoring

# Aladdin Client Usage Metrics – All users peer comparison



- ▶ BRS can compare usage against peers to identify who is utilizing the various tools and assign users into example usage profiles
- ▶ Q1 2018 data shows **81,137** total Aladdin actions at OST vs. **51,592** actions at peers
  - Top Aladdin Actions (modeling orders, retrieving portfolio risk analytics, generating returns and attribution, querying trades, security updates, Green Package reports, ATX queries)
- ▶ **40%** of Users at OST fall into the **Super** or **High** User category vs. **19.2%** at peers
- ▶ Average of **19** Aladdin features used per user at OST vs. **13** features used at peers
- ▶ Data shows OST Aladdin Users are highly leveraging Aladdin features and capabilities.
- ▶ Users in the low and baseline bucket represent an opportunity for BRS to reengage and reintroduce tools that could be utilized in their day-to-day usage of Aladdin
  - Increasing Aladdin usage across OST Privates team

# 2018 OST Aladdin Priorities

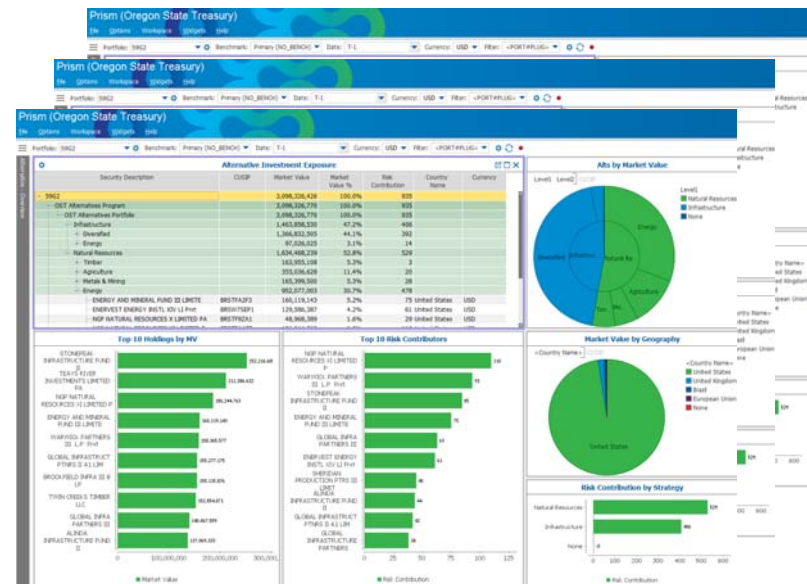
BlackRock Solutions (BRS) is **committed to increasing Aladdin usage** across the Oregon State Treasury Privates team by focusing on quick wins and strategic engagement.

## Approach

- Influence the alternatives platform roadmap
  - Continually engage on functionality key to OST’s alternative investment process
- Increase Privates Aladdin usage through risk reporting
  - Systematically review private holdings, apply appropriate risk model and review proxies

## Risk Reporting Updates

- Accomplishments
  - Provided overview of 2018 modeling objectives and overview of existing functionality
  - Updated alternatives reporting to reflect updated alternative holding sectors and industries
  - Conducted 5 Alternative Risk review meetings
  - Proxied risk for 42 holdings
- Ongoing
  - Map alternatives to sector and industry relevant risk factors with semi-annual review frequency
  - Work with OST as a thought leader to help influence platform development and functionality

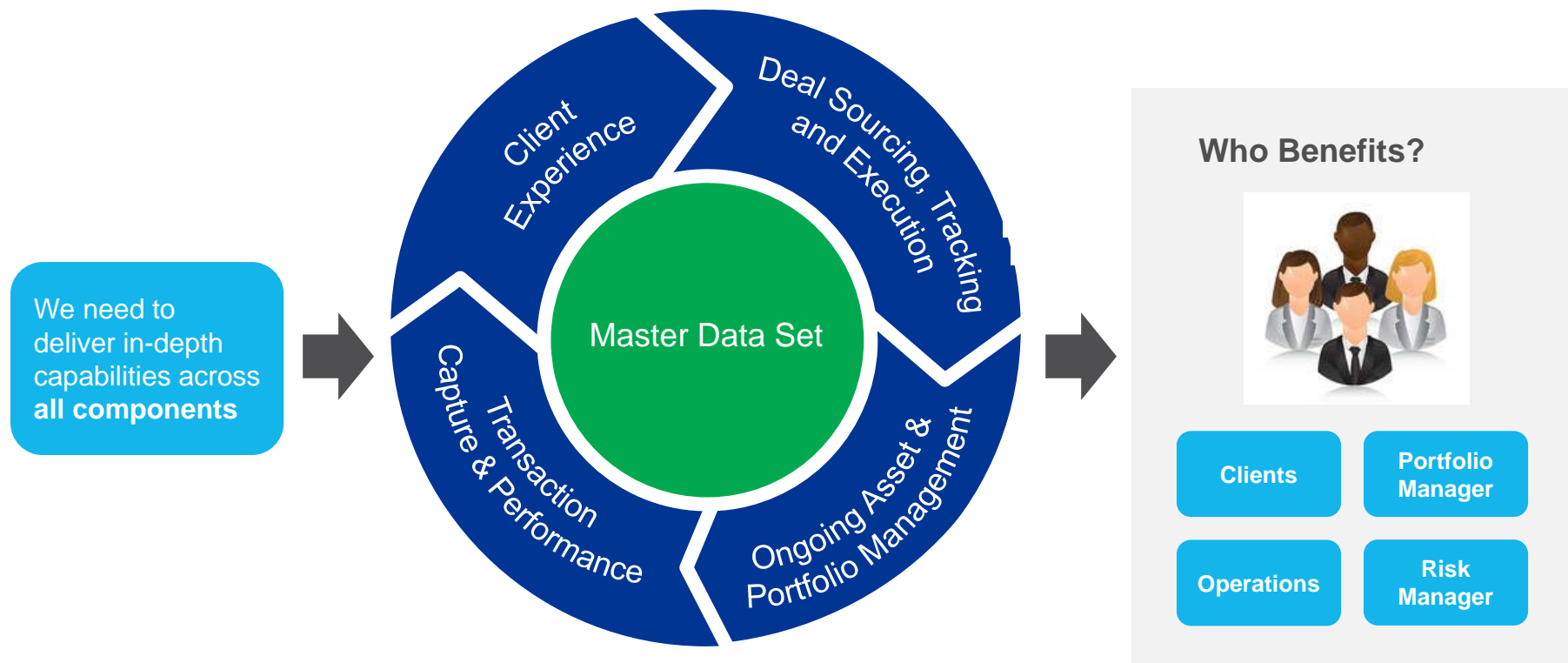


# Aladdin For Alternatives Vision

*BlackRock Solutions is the market leader for alternatives investment management technology providing transparency and insights throughout the full life cycle of investments*

Our Alts Technology vision is anchored on 3 goals:

- Deliver a tightly integrated platform to the **Aladdin community** to manage their Alts business
- Facilitate **Portfolio and Enterprise analysis** via a robust risk management framework across Alts asset classes



# What is needed in the private deal investment process?

Provide support of the investment lifecycle from sourcing, to acquisition, and through disposition

Deal Sourcing & Pipeline Management		Transaction Execution & Performance		Ongoing Asset Management & Risk Reporting	
Sourcing & Tracking	Flexible Workflow Engine	Integrated Data Model	Transaction Processing	Asset & Portfolio Review	Reporting
Quick investment opportunity capture from sourcing channels	Asset specific checklist generation for all stakeholders	Evaluate capacity allocation and dry powder available	Record keeping of transactions to most granular level	Asset level operating details	Performance and risk management reporting
Pipeline reporting of investment opportunities	Initial suitability assessment with portfolio guidelines	Portfolio structure model allowing for necessary capital flow	Sophisticated IRR & fee calculator	Risk models & analytics across illiquid and liquid assets	Comprehensive portfolio reporting for full investment diversification analysis and PME



TAB 7 – Common School Fund  
Annual Review



# Common School Fund Annual Review

## Purpose

To provide the Oregon Investment Council (OIC or the Council) with an update on the asset allocation, performance, and rebalancing activity within the Common School Fund (CSF) for the period ended December 31, 2017.

## About the Common School Fund

The act of Congress admitting Oregon to the Union in 1859 granted nearly 3.4 million acres of the new state's land "for the use of schools." The State Land Board was established to oversee these "school lands" and has been the trustee of the CSF for more than 150 years.

School lands and their mineral resources, submerged and submersible lands underlying the state's tidal and navigable waterways, unclaimed property held in trust, and the proceeds from escheated estates all contribute to the corpus of the fund.

## CSF Asset Allocation

At its September 20, 2017 meeting, the Oregon Investment Council (OIC or the Council) approved the following asset allocation targets, benchmarks, and ranges (Exhibit 1) for the CSF. The OIC-approved asset allocation resulted in a 10 percent target allocation to both Real Assets and Diversifying Strategies, which improved ex ante returns without a commensurate increase in expected risk.

The objective of the CSF, outlined in **OIC INV 901 - Common School Fund: Asset Classes, Asset Allocation, and Reporting Requirements**, is to, on behalf of the Department of State Lands, optimize long-term investment returns and distributions, while enabling the CSF asset base to grow in real terms. The OIC-approved asset allocation was informed by Callan Associates' recent CSF Distribution Study, which was presented to the Department of State Lands Board in April 2017. That study concluded that a 4% annual distribution was the maximum rate compatible with future CSF value stability as measured in real (i.e., inflation-adjusted) terms. Important elements of the CSF asset allocation policy are its expected return and risk statistics. Specifically, minimum return and maximum risk boundaries are necessary to maintain the long-run feasibility of the CSF distribution policy.

### Exhibit 1 – Asset Allocation Policy

Common School Fund	Benchmark	Prior Allocation	Approved Allocation	Approved Range
Global Equity	MSCI ACWI IMI Net	60%	45%	40% - 50%
Private Equity	Russell 3000 + 300 bps	10%	10%	8% - 12%
Fixed Income	Bloomberg U.S. Aggregate Bond Index	30%	25%	20% - 30%
Real Assets	NCREIF ODCE QTR LAG (net)	0%	10%	8% - 12%
Diversifying Strategies	CPI + 4%	0%	10%	8% - 12%
Cash	Cash	0%	0%	0% - 3%

**10 Yr Expected Return (Geo Mean)**  
**Projected Standard Deviation**

**6.5%**

**6.6%**

**14.5%**

**13.2%**

Source: Callan 2017 Capital Market Assumptions

## CSF Performance

For the year ended December 31, 2017, the CSF posted a 17.2 percent return, under-performing its benchmark by a modest 0.2 percent (Exhibit 2). For the three-, five-, and ten- year periods ended December 31, 2017, net excess returns for the CSF were -0.21 percent, 0.25 percent and 0.18 percent, respectively.

**Exhibit 2 – Total Fund Performance**

Period Ending 12/31/2017	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
CSF Returns	\$ 1,676,023,000	3.82%	17.24%	7.71%	9.46%	5.88%
CSF Policy Benchmark		4.04%	17.47%	7.92%	9.21%	5.70%
<b>Excess Return</b>		<b>-0.22%</b>	<b>-0.23%</b>	<b>-0.21%</b>	<b>0.25%</b>	<b>0.18%</b>

Source: State Street

Although total fund returns for CSF across all trailing periods were not remarkably different from the CSF Policy Benchmark (within a 25 basis point range of the Policy Benchmark), at the asset class level relative returns were mixed. Public Equity and Fixed Income posted strong excess returns across all trailing time periods, while Private Equity suffered headwinds, under-performing its benchmark across all time periods (Exhibit 3).

Private equity has benefited the CSF, delivering double digit returns over short and intermediate-term time horizons. However, and similar to staff's experience with private equity investments in the Oregon Public Employees Retirement Fund (OPERF), the CSF's private equity benchmark (Russell 3000 Index + 3%) has proved formidable during this most recent and extended period of strong public equity markets.

**Exhibit 3 – Asset Class Performance**

Period Ending 12/31/2017	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
CSF Global Equity Returns	\$ 952,075,000	5.85%	24.83%	9.85%	12.02%	6.23%
MSCI ACWI IMI Net		5.72%	23.95%	9.52%	11.00%	4.97%
<b>Excess Return</b>		<b>0.13%</b>	<b>0.88%</b>	<b>0.33%</b>	<b>1.02%</b>	<b>1.26%</b>

Period Ending 12/31/2017	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
CSF Fixed Income Returns	\$ 446,205,000	0.50%	4.94%	2.97%	2.84%	5.02%
Bloomberg Barclays U.S. Aggregate		0.39%	3.54%	2.32%	2.21%	4.18%
<b>Excess Return</b>		<b>0.11%</b>	<b>1.40%</b>	<b>0.65%</b>	<b>0.63%</b>	<b>0.84%</b>

Period Ending 12/31/2017	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
CSF Private Equity Returns	\$ 200,352,000	4.11%	15.31%	10.17%	14.04%	7.62%
Russell 3000 + 300 Bps Qtr Lag		5.34%	22.22%	14.03%	17.61%	11.23%
<b>Excess Return</b>		<b>-1.23%</b>	<b>-6.91%</b>	<b>-3.86%</b>	<b>-3.57%</b>	<b>-3.61%</b>

Source: State Street

**Rebalancing Activity Update**

At the April 2017 OIC meeting, staff recommended, and the OIC approved, updated CSF policies for Public Equity, Fixed Income, and Private Equity, which align with asset class policies used for OPERF. In addition to the alignment of asset class policies, the Council also approved staff's ability to exercise manager/strategy retention, termination and rebalancing discretion. These updated policies also endowed staff with the ability to implement in CSF any private equity manager/strategy previously approved by the Council on behalf of OPERF.

Subsequently, at the June 2017 OIC meeting, staff recommended, and the OIC approved, new policies for the CSF, *INV 906: Real Estate* and *INV 907: Alternatives*. These new policies further align CSF and OPERF by granting staff discretion to implement in CSF any real estate manager/strategy or alternatives manager/strategy previously approved by the Council on behalf of OPERF.

Using this authority, the following rebalance actions (Exhibit 4) were implemented:

**Exhibit 4 - Rebalancing Activity through March 30, 2018**

Date(s)	Manager	Sub-Asset Class	Market Value	Purpose
Oct-17	MFS Institutional	U.S. Large Cap Value	\$ (114,672,000)	Termination
Oct-17	Jackson Square Partners	U.S. Large Cap Growth	\$ (114,038,000)	Termination
Nov-17	Dimensional Fund Advisors	U.S. Large Cap	\$ 228,710,000	Initial Funding
Dec-17	BlackRock ACWI IMI	Global Equity	\$ (50,000,000)	Rebalance - Cash Raise
Jan-18	JP Morgan Systematic	Alternatives	\$ 50,000,000	Initial Funding
Jan-18	BlackRock ACWI IMI	Global Equity	\$ (50,000,000)	Rebalance - Cash Raise
Feb-18	BlackRock Style Advantage	Alternatives	\$ 50,000,000	Initial Funding
Mar-18	RREEF	Real Estate	\$ 9,000,000	Initial Funding

Source: State Street

**Portfolio Construction Update**

As of March 30, 2018, the CSF's actual allocation relative to the newly established policy targets still reflects residual exposures from the prior targets (Exhibit 5). As shown in Exhibit 4, staff allocated \$100MM to two separate Alternatives mandates and one initial funding in Real Estate in Q1 2018. OST Staff is currently working on two real estate mandates which are expected to fund in Q3 2018. Staff expects to reach the revised, OIC-approved target allocations by late-2019.

**Exhibit 5 - Portfolio Construction as of March 30, 2018**

Common School Fund	Prior Allocation	Target Allocation	Range	Market Value	Actual
Global Equity	60%	45%	40% - 50%	\$ 891,720,000	52%
Private Equity	10%	10%	8% - 12%	\$ 212,873,000	12%
Fixed Income	30%	25%	20% - 30%	\$ 451,976,000	26%
Real Estate	0%	10%	8% - 12%	\$ 9,000,000	1%
Alternatives	0%	10%	8% - 12%	\$ 95,869,000	6%
Cash (Oregon Short Term Fund)	0%	0%	0% - 3%	\$ -	0%
				<b>\$1,661,437,000</b>	

Source: State Street

**CSF Net Asset Value (NAV)**

CSF NAV hit a low of \$678 million in February 2009 and has since realized a steady and sustained upward trend. Net of contributions and distributions, CSF appreciated from \$1.46 billion at the end of December 2016 to \$1.67 billion at year-end 2017.

## Background on the Common School Fund

Source: Department of State Lands

The act of Congress admitting Oregon to the Union in 1859 granted sections 16 and 36 in every township "for the use of schools." The provision of land for educational purposes was a practical solution for the developing nation that was "land rich, but cash poor."

In Oregon, Congress granted roughly six percent of the new state's land - nearly 3.4 million acres - for the support of schools. Due to various circumstances, about 700,000 acres remain in state ownership today.

These lands and their mineral and timber resources, as well as other resources under the State Land Board's jurisdiction (including the submerged and submersible lands underlying the state's tidal and navigable waterways) are managed "with the object of obtaining the greatest benefit for the people of this state, consistent with the conservation of this resource under sound techniques of land management."

- **Rangelands** are leased to ranchers for grazing sheep and cattle.
- **Forestlands** are managed for timber production.
- **Waterways** are leased for uses such as sand and gravel extraction, houseboats, marinas and log rafts. The rents and royalties received from these activities are deposited in the Common School Fund, a trust fund for the benefit of Oregon's K-12 public schools.

Other sources of money contributing to the Common School Fund include:

- **Escheats** -- property reverting to the state on an individual's death because no heir or will exists or can be found;
- **Unclaimed property**, while the agency searches for the rightful owner;
- **Gifts** to the state not designated for some other purpose;
- **Tax revenues** from the production, storage, use, sale or distribution of oil and natural gas; and
- **5% of the proceeds** from the sale of federal lands.

The State Treasurer and the Oregon Investment Council invest the Common School Fund. In recent years, fund values have ranged from \$600 million to \$1.4 billion, depending on market conditions.

In addition, the Land Board must consider the issue of "intergenerational equity" in its distribution policies. Fund distributions cannot benefit current students at the disadvantage of future students, or vice-versa.

In early 2005, the State Land Board announced a record \$45.6 million distribution of earnings from the Common School Fund to all K-12 public schools and voted to modify the future

distribution policy for the fund. The turnaround in the stock market during 2004 created a significant increase in the value of the Common School Fund which reached \$1 billion in February 2006.

Changes to Oregon law and the investment policies of the State Land Board beginning in the late 1980s significantly boosted earnings flowing to schools. Specifically, a 1988 Constitutional Amendment allowed investment of the Common School Fund in the stock market, subject to a legislatively-established investment cap of 50 percent. The 1997 Legislature increased the cap to 65 percent, a timely shift in strategy that has helped nearly quadruple the fund's value due to stock market appreciation and revenues generated from land management.

In 2009, the State Land Board adopted a distribution policy that distributes 4% of the fund's preceding 3-year rolling average balance. If the balance of the fund has increased by 11% or more, the distribution shall be 5% of the preceding 3-year average balance.

Legislation passed in 2005 directed the Oregon Department of Education to send CSF revenues directly to Oregon's 197 K-12 public school districts.

Recent years' distributions include the following:

2002	\$32.3 million
2003	\$13.0 million
2004	\$21.6 million
2005	\$40.8 million
2006	\$45.4 million
2007	\$48.5 million
2008	\$55.4 million
2009	\$40.4 million
2010	\$50.5 million
2011	\$48.8 million
2012	\$48.0 million
2013	\$53.1 million
2014	\$50.8 million
2015	\$54.2 million
2016	\$66.2 million
2017	\$70.3 million

# DSL by the Numbers

## Oregon Department of State Lands



### Fiscal Year 2017 (July 1, 2016–June 30, 2017)

The State Land Board was created by the Oregon Constitution in 1859 and has been composed of the Governor, Secretary of State, and State Treasurer since its inception. DSL serves as the administrative arm of the Board, managing land and other resources dedicated to the Common School Fund for K-12 education.

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

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

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

In the 2015-17 biennium, DSL had 107 employees:

**Administration Division:** 43 staff  
(Business Operations and Support Services – 30; Trust Property – 13)

**Director’s Office:** 4 staff

**Operations Division:** 46 staff  
(Aquatic Resource Management – 34; Real Property – 12)

**South Slough Reserve:** 16 staff

The agency’s 2015-17 Legislatively Approved Budget was \$38.7 million. No General Funds are used for operations, only Other Funds and Federal Funds.

#### Agency Mission:

To ensure a Common School Fund legacy through sound management of our trust responsibilities and the protection of waters of the state.



### Common School Fund

**\$1.54 Billion Market Value** as of June 30, 2017

Distribution to Schools	Operating Revenues	Operating Expenses	Change in Fund Value
\$70,334,366	\$14,039,612	\$24,982,351	\$133,925,000

# DSL by the Numbers

## Oregon Department of State Lands



### Department of State Lands Fiscal Year 2017

#### Real Property

Estimated total value of Common School Fund land assets: \$544 million

Total number of active authorizations on Common School Fund lands: 303

#### Rangelands/Ag Lands **627,916 acres**

Gross revenues \$1,482,067

#### Forestlands **121,151 acres**

Gross revenues \$3,522,486

#### Industrial/Commercial/

#### Residential **6,809 acres**

Gross revenues \$1,139,925

#### Special Stewardship

#### Lands **13,166 acres**

Gross revenues \$15,954

#### Mineral and Energy

#### Resources **767,092 acres**

Gross revenues \$368,601

#### Land Sales **497 acres**

Gross revenues \$2,434,069

No. of sales 18

#### Trust Property

#### Unclaimed Property

Gross receipts \$60,887,947

Claims paid \$29,573,644

No. of claims paid 14,599

#### Estates Escheat Program

No. of estates handled 908

Funds pending permanent escheat to

Common School Fund \$6,549,041

#### Aquatic Resource Management

#### Removal-Fill Permits **385**

Individual Permits 193

General Permits 38

General Authorizations 108

Emergency Authorizations 46

Permit fees \$405,818

#### Wetland Delineation Reports **270**

Report fees \$115,697

#### Wetland Determinations **177**

#### Wetland Land Use Notices **601**

#### Wetland Mitigation Banks

No. of approved banks 28

No. of credits available (6-30-17) 431.43

No. of credits sold in FY 2017 38.24

#### Removal-Fill Mitigation Fund

No. of permits using program 21

Credits sold 4.47

Funds collected \$563,084

#### State-Owned Waterways

**1,264,558 acres**

No. of active authorizations 5,246

Gross revenues \$4,002,448

#### South Slough National

#### Estuarine Research Reserve

No. of acres managed 5,927

No. of research projects 15

No. of education/interp. programs 194

No. of training workshops 9

No. of program participants 5,303

No. of visitors at interp. center 4,611



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



#### Oregon Department of State Lands

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[www.oregon.gov/DSL](http://www.oregon.gov/DSL)

# Common School Fund Benefits Oregon Schools



## \$70.3 Million Earmarked for State's 197 K-12 Districts in 2017

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

Common School Fund distributions are considered local revenue in the state funding formula, and the dollars are not insignificant. In a district such as Corvallis, their share in 2017 (\$1,184,612) supports the equivalent of 14 full-time teaching positions; in Bend, 24; and in Medford, 19.

## State Land Board oversees Common School Fund

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

Our “land-rich, cash-poor” state quickly sold many school lands, as state officials felt private ownership of these lands would yield more for schools through property taxes and other economic benefits. As a result, less than a fourth of Oregon’s original acreage—about 750,000 acres—remains in state ownership.

The State Treasurer and Oregon Investment Council invest the Common School Fund, which exceeded its performance benchmark over the three-year period ending in 2016, earning a 4.36 percent average annual return. The value of the fund fluctuates with changing market conditions, and is now valued at \$1.4 billion. Historically, about 4 percent of the fund has been distributed to school districts annually.

## 2017 Common School Fund Distributions

A sampling of districts and the impact of their distributions

School District	Distribution	Equal to*
Astoria	\$218,904	2.5 full-time teachers
Bend	\$2,076,263	24
Coos Bay	\$353,865	4
Corvallis	\$1,184,612	14
Hood River	\$470,280	5.5
Medford	\$1,628,362	19
Ontario	\$286,730	3
Pendleton	\$374,504	4
Portland	\$6,190,520	73
Salem	\$5,009,361	59

\*Based on the 2016 annual statewide average of \$85,056 per teacher for salary and benefits; figures are rounded



*“Every education advocate should understand the Common School Fund’s role in helping fund K-12 schools.”*

*Jim Paul, Director  
Department  
of State Lands*





“Protecting and enhancing the Common School Fund is arguably the most important thing we do as a state agency,” says Jim Paul, director of the Department of State Lands, the administrative arm of the Land Board. “Our goal is to have every education advocate understand its role in funding K-12 schools.”

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

## Goal is to grow the fund significantly over time

As the Common School Fund grows, so do distributions to Oregon school districts. Since 2000, distributions have ranged from a low of \$13 million in 2004 to a high of \$70 million in 2017. Distributions in the 2015-17 biennium will total about \$136.6 million.

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

“Every dollar helps Oregon schools,” he says. “Through balancing revenue enhancement and resource protection, our goal is to provide sustainable funding for schools forever.”



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

The Land Board’s Real Estate Asset Management Plan calls for a “clear commitment to creating a consistent stream of revenue to increase annual distributions to schools.” It also recognizes the need to strategically dispose of selected land assets and acquire assets with high performance potential.



## Oregon Department of State Lands

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(503) 986-5200  
[www.oregon.gov/DSL](http://www.oregon.gov/DSL)

For more information and copies of this fact sheet, contact:  
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## TAB 8 – Asset Allocations & NAV Updates

**Asset Allocations at April 30, 2018**

Regular Account							Variable Fund	Total Fund	
OPERF	Policy	Target <sup>1</sup>	\$ Thousands	Pre-Overlay	Overlay	Net Position	Actual	\$ Thousands	\$ Thousands
Public Equity	32.5-42.5%	37.5%	29,755,876	38.7%	(635,927)	29,119,949	37.9%	583,634	29,703,583
Private Equity	13.5-21.5%	17.5%	15,129,869	19.7%		15,129,869	19.7%		15,129,869
<b>Total Equity</b>	<b>50.0-60.0%</b>	<b>55.0%</b>	<b>44,885,745</b>	<b>58.4%</b>	<b>(635,927)</b>	<b>44,249,819</b>	<b>57.5%</b>		<b>44,833,452</b>
Opportunity Portfolio	0-3%	0.0%	1,757,853	2.3%		1,757,853	2.3%		1,757,853
Fixed Income	15-25%	20.0%	15,217,523	19.8%	2,305,256	17,522,778	22.8%		17,522,778
Real Estate	9.5-15.5%	12.5%	7,477,333	9.7%	(7,100)	7,470,233	9.7%		7,470,233
Alternative Investments	0-12.5%	12.5%	5,892,856	7.7%		5,892,856	7.7%		5,892,856
Cash <sup>2</sup>	0-3%	0.0%	1,683,089	2.2%	(1,662,229)	20,860	0.0%		23,301
<b>TOTAL OPERF</b>		<b>100%</b>	<b>\$ 76,914,400</b>	<b>100.0%</b>	<b>\$ -</b>	<b>\$ 76,914,400</b>	<b>100.0%</b>		<b>\$ 586,075</b>

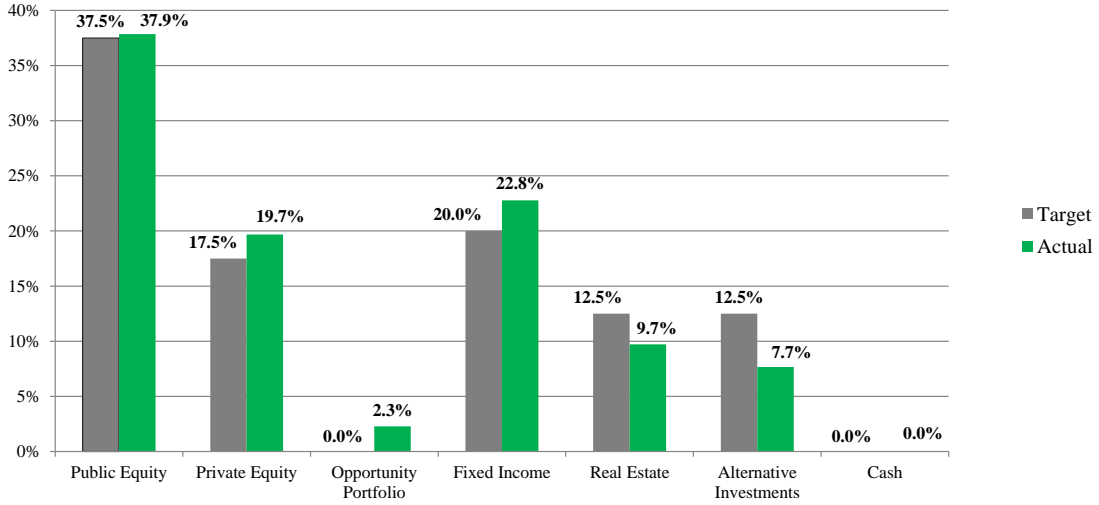
<sup>1</sup>Targets established in June 2015. Interim policy benchmark consists of: 40% MSCI ACWI IMI Net, 22.5% Custom FI Benchmark, 20% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF ODCE net (1 quarter lagged), & 5% CPI+400bps.

<sup>2</sup>Includes cash held in the policy implementation overlay program.

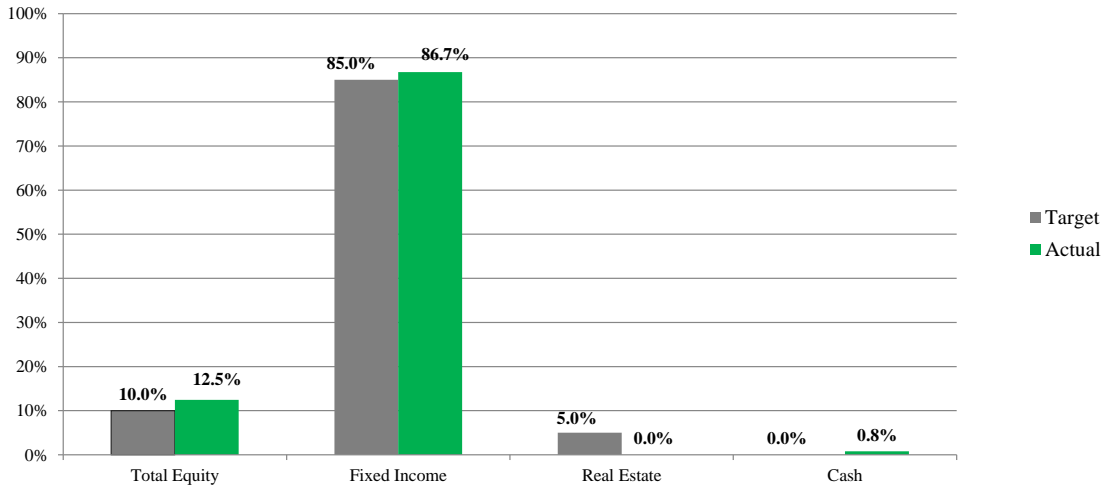
SAIF	Policy	Target	\$ Thousands	Actual
<b>Total Equity</b>	<b>7-13%</b>	<b>10.0%</b>	<b>589,964</b>	<b>12.5%</b>
Fixed Income	80-90%	85.0%	4,109,136	86.7%
Real Estate	0-7%	5.0%	0	0.0%
Cash	0-3%	0%	38,193	0.8%
<b>TOTAL SAIF</b>			<b>\$ 4,737,293</b>	<b>100.0%</b>

CSF	Policy	Target	\$ Thousands	Actual
Global Equities	40-50%	45%	883,450	53.1%
Private Equity	8-12%	10%	211,188	12.7%
<b>Total Equity</b>	<b>58-62%</b>	<b>55%</b>	<b>1,094,638</b>	<b>65.8%</b>
Fixed Income	25-35%	25%	448,695	27.0%
Real Estate	8-12%	10%	9,000	0.5%
Diversifying Strategies	8-12%	10%	95,292	5.7%
Cash	0-3%	0%	16,202	1.0%
<b>TOTAL CSF</b>			<b>\$ 1,663,826</b>	<b>100.0%</b>

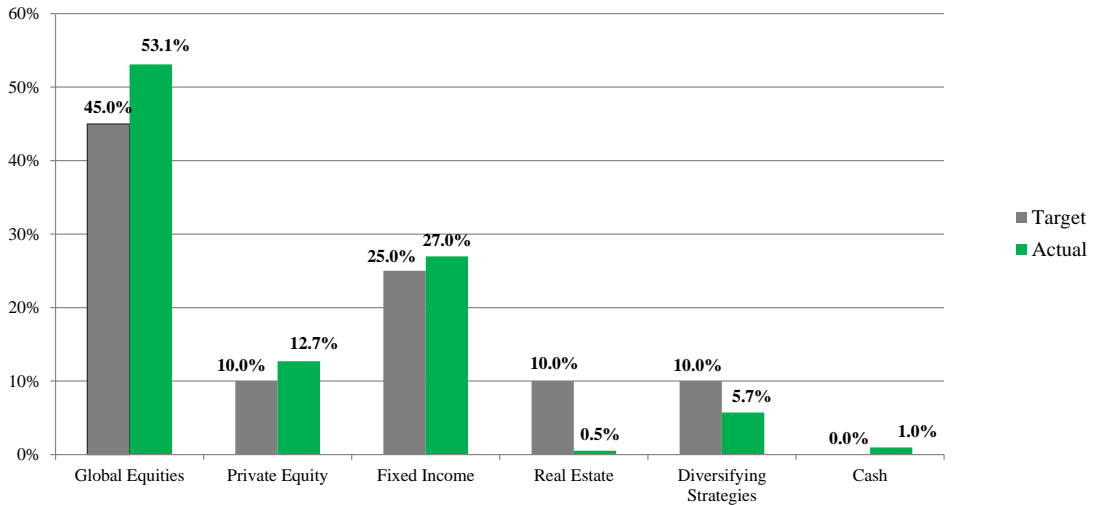
### OPERF Asset Allocation



### SAIF Asset Allocation

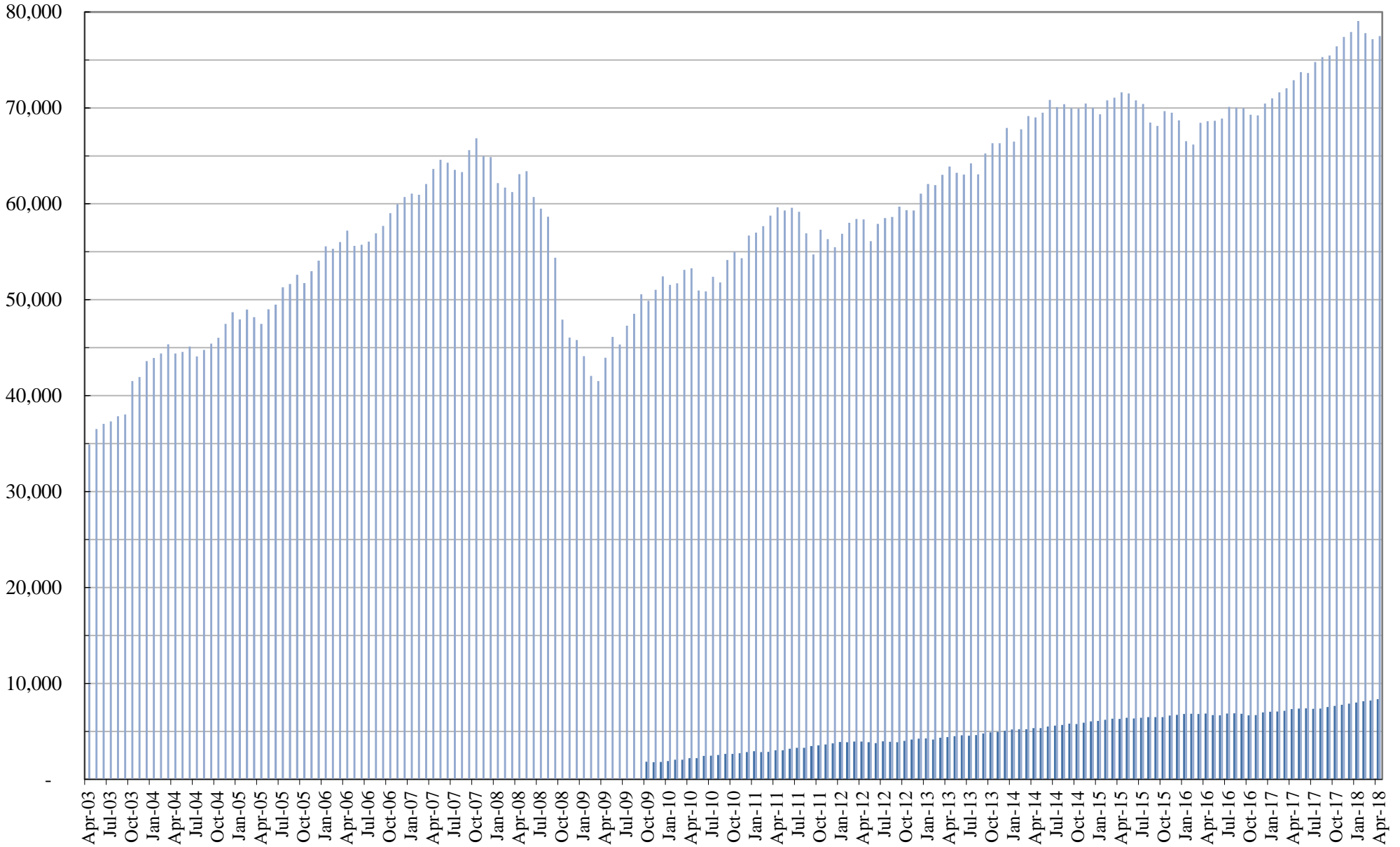


### CSF Asset Allocation

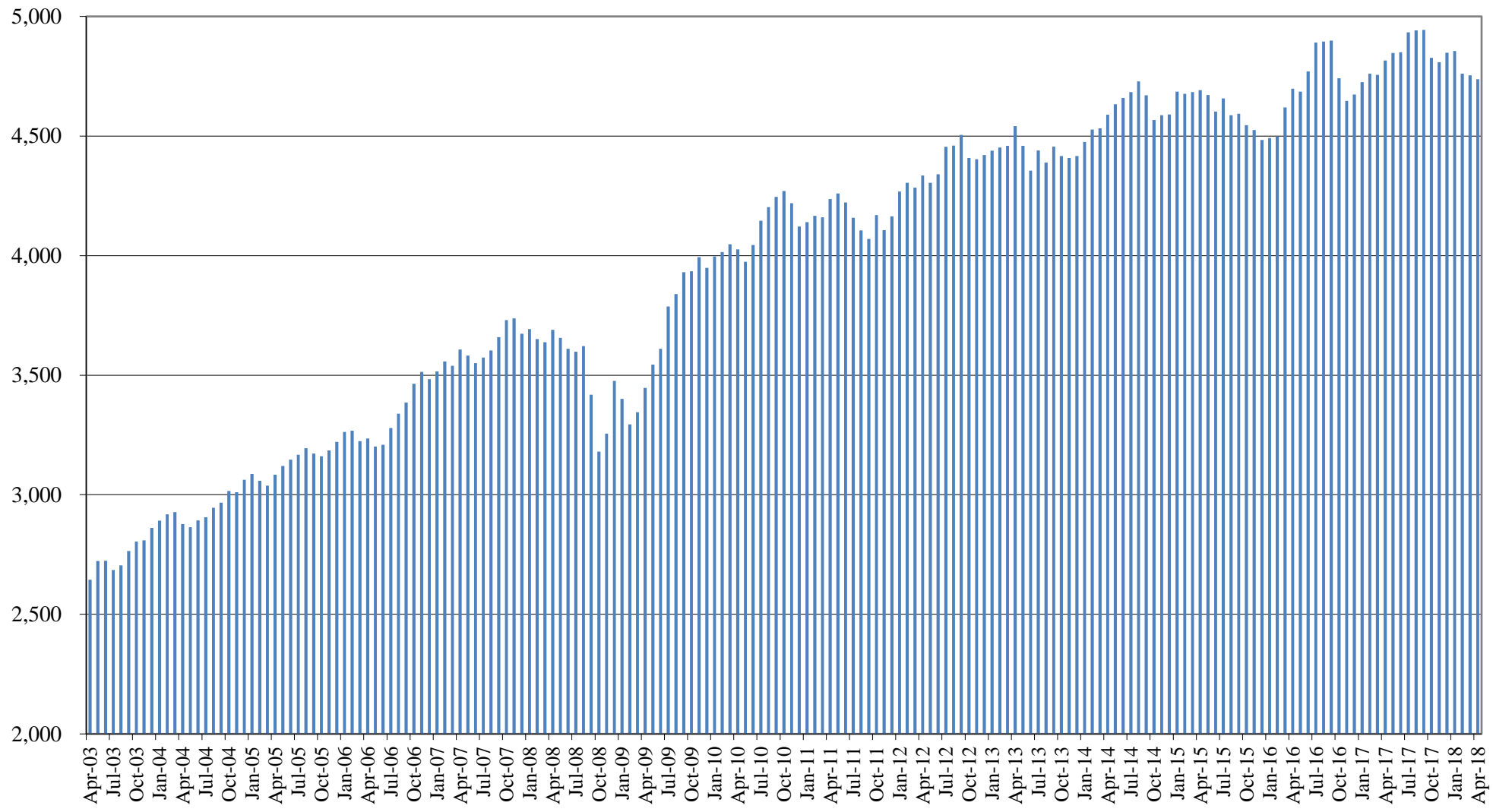


**OPERF NAV**  
**15 years ending April 2018**  
**(\$ in Millions)**

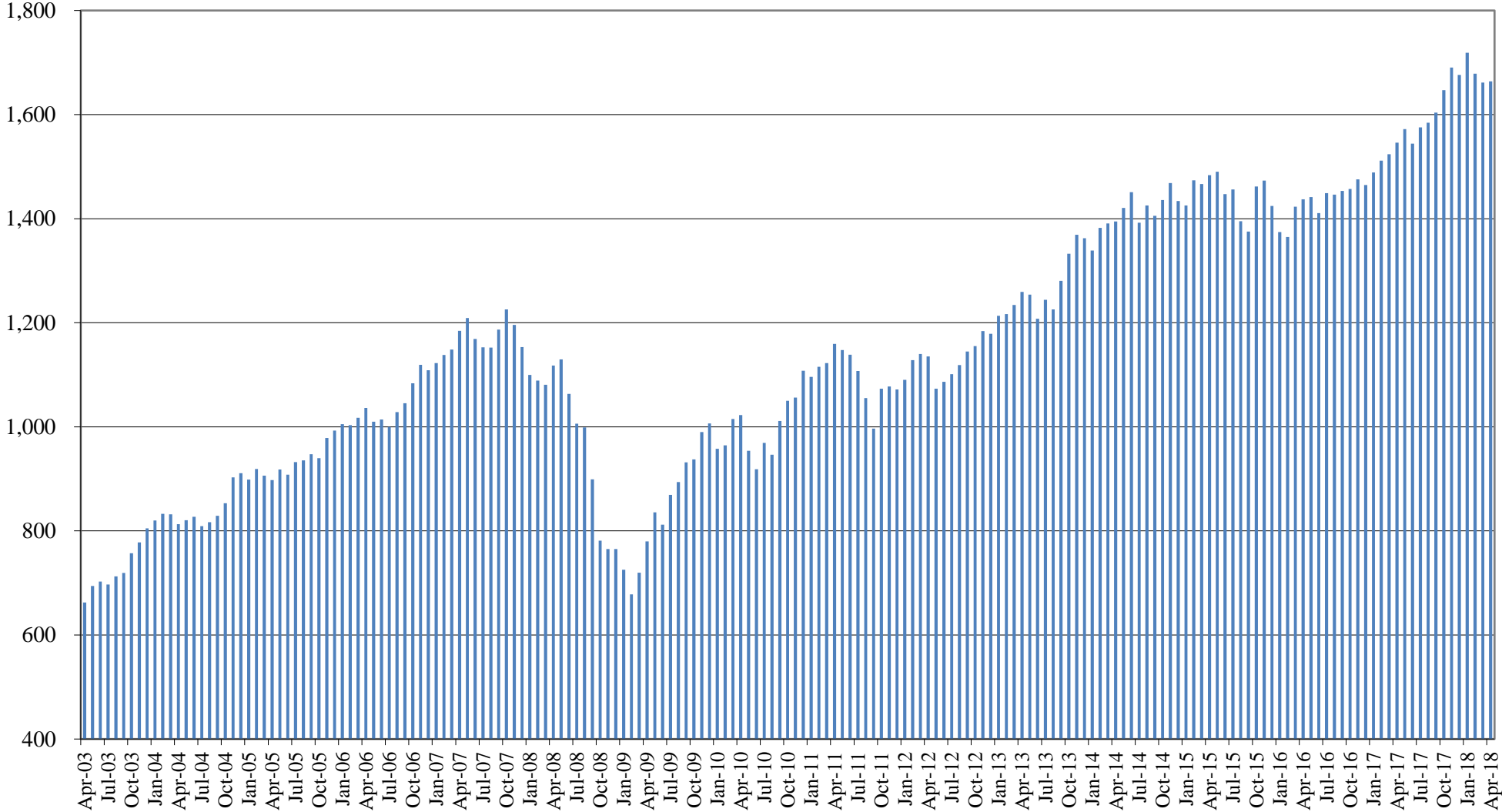
■ IAP ■ OPERF



**SAIF NAV**  
**15 years ending April 2018**  
**(\$ in Millions)**



**CSF NAV**  
**15 years ending April 2018**  
**(\$ in Millions)**



## TAB 9 – Calendar — Future Agenda Items



## **2018/19 OIC Forward Calendar and Planned Agenda Topics**

<b>August 8, 2018:</b>	Private Equity Manager Recommendation Opportunity Portfolio Review Corporate Governance Update OIC Member Orientation Manual
<b>September 19, 2018:</b>	Q2 OPERF Performance & Risk Report CEM Benchmarking Report McKinsey Survey Results Presentation OSGP Annual Review
<b>October 31, 2018:</b>	Currency Program Review Public Equity Program Review General Consultant Recommendation
<b>December 12, 2018:</b>	Q3 OPERF Performance & Risk Report Fixed Income Program Review
<b>January 31, 2019:</b>	Private Equity Program Review Placement Agent Report 2020 OIC Calendar Approval
<b>March 13, 2019:</b>	Real Estate Program Review Q4 2018 OPERF Performance & Risk Report SAIF Annual Review
<b>April 24, 2019:</b>	OPERF Asset Allocation & Capital Market Assumptions Update Alternatives Portfolio Review Securities Lending Update OPERF Overlay Review
<b>June 5, 2019</b>	Q1 OPERF Performance & Risk Report Operations Update CSF Annual Review