## OREGON INVESTMENT COUNCIL

**Agenda**

**July 22, 2020**

**9:00 AM**

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

<table>
<thead>
<tr>
<th>Time</th>
<th>A. Action Items</th>
<th>Presenter</th>
<th>Tab</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00-9:05</td>
<td>1. Review &amp; Approval of Minutes</td>
<td>John Russell&lt;br&gt;June 3, 2020</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OIC Chair</td>
<td></td>
</tr>
<tr>
<td>9:05-9:10</td>
<td>2. Opening Remarks and Committee Reports</td>
<td>Rex Kim&lt;br&gt;Chief Investment Officer</td>
<td>2</td>
</tr>
<tr>
<td>9:10-10:00</td>
<td>3. Market Environment</td>
<td>Howard Marks, CFA&lt;br&gt;Co-Chairman, Oaktree Capital Management, LP</td>
<td>3</td>
</tr>
<tr>
<td>10:00-10:15</td>
<td>4. OPERF Fixed Income Recommendation</td>
<td>Geoff Nolan&lt;br&gt;Senior Investment Officer Fixed Income</td>
<td>4</td>
</tr>
<tr>
<td>10:15-10:25</td>
<td>5. OSGP Consultant Recommendation</td>
<td>Michael Viteri&lt;br&gt;Senior Investment Officer Public Equity&lt;br&gt;Wil Hiles&lt;br&gt;Investment Officer Public Equity</td>
<td>5</td>
</tr>
<tr>
<td>10:25-11:00</td>
<td>6. Securities Lending</td>
<td>Geoff Nolan&lt;br&gt;Senior Investment Officer Fixed Income&lt;br&gt;Johnson Shum&lt;br&gt;Vice President, State Street Global Markets&lt;br&gt;Tom Connelley, CFA&lt;br&gt;Vice President, State Street Global Markets</td>
<td>6</td>
</tr>
</tbody>
</table>

**B. Information Items**

<table>
<thead>
<tr>
<th>Time</th>
<th>A. Information Items</th>
<th>Presenter</th>
<th>Tab</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tom Connelley, CFA&lt;br&gt;Vice President, State Street Global Markets</td>
<td></td>
</tr>
</tbody>
</table>

---

**John Russell**<br>Chair
**Patricia Moss**<br>Vice-Chair
**Cara M. Samples**<br>Member
**Monica Enand**<br>Member
**Tobias Read**<br>State Treasurer
**Kevin Olineck**<br>PERS Director
11:00-11:30  7. Annual Operations Update

    David Randall
    Director of Investment Operations

    Debra Day, CPA
    Investment Reporting Manager

    Kristi Jenkins
    Investment Operations Manager

11:30-11:35  8. Asset Allocation & NAV Updates

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

9. Calendar — Future Agenda Items

11:35  10. Open Discussion

    OIC Members
    Staff
    Consultants

C. Public Comment
TAB 1 – REVIEW & APPROVAL OF
MINUTES June 3, 2020 Regular Meeting
Members Present: John Russell, Tobias Read, Patricia Moss, Cara Samples and Kevin Olineck

Staff Present: Rex Kim, Karl Cheng, Geoff Nolan, Michael Langdon, May Fanning

Staff Participating virtually: Jennifer Peet, Scott Robertson, Faith Sedberry, Paul Koch, Eric Messer, Aliese Jacobsen, Meredith Coba, John Hershey, Krystal Korthals, Dmitri Palmateer, Jeremy Knowles, Caitlyn Wang, Chris Ebersole, Sommer May, Will Hampson, Robin Kaukonen, Jen Plett, Michael Viteri, Amanda Kingsbury, Missy Simpson, Jo Recht, Dana Millican, Tiffany ZhuGe, Tony Breault, Monique Sadegh, Mohammed Quraishi, Claire Illo, Perrin Lim, Ahman Dirks, Ben Mahon, Ryan Mann, Angela Schaffers, Joe Hutchinson, Sam Spencer, Ian Huculak, Deena Bothello, Wil Hiles, Mark Selfridge, David Randall, John Lutkehaus, Steve Kruth, Roy Jackson, Austin Carmichael, Mike Mueller, Andrey Voloshinov, Michael Kaplan, Debra Day, Anna Todtahl, Amy Bates, Lisa Pettinati, Andy Coutu, Kristi Jenkins, David Elott, Kenny Bao,

Consultants Present: Allan Emkin (Meketa Investment Group, Inc.); Jason Ellement (Callan LLC), Tom Marin, TorreyCove Capital Partners

Legal Counsel Present: Steven Marlowe, Department of Justice

Before proceeding with the OIC meeting, Chief Investment Officer, Rex Kim provided a disclosure pertaining to the virtual set-up of this OIC meeting, informing those in attendance (virtual and in person) of the guidelines in which this meeting will proceed.

The June 3rd, 2020 OIC meeting was called to order at 9:00 am by John Russell, OIC Chair.

I. 9:01 am Review and Approval of Minutes
MOTION: Chair Russell asked for approval of the April 22, 2020 OIC regular meeting minutes. Treasurer Read moved approval at 9:03 am, and Ms. Moss seconded the motion which then passed by a 4/0 vote.

II. 9:03 am Committee Reports and Opening Remarks
Committee Reports: Mr. Kim, gave an update on the following committee actions taken since the April 22, 2020 OIC meeting:
Private Equity Committee

- April 22, 2020: Thoma Bravo Fund XIV, L.P. - $250M
- May 14, 2020: Vitruvian Investment Partners IV, L.P. - €150M
- May 27, 2020: CVC Capital Partners VIII, L.P. - €325M
  Sherpa Healthcare Fund I, L.P. - $100M

Alternatives Portfolio Committee

- May 1, 2020: NGP Royalty Partners, L.P. - $150M

Real Estate Committee

- May 19, 2020: Abacus Core Multifamily Separate Account - $250M
  Columbia Industrial Properties, LLC - $150M
  Sculptor Real Estate Fund IV, L.P. - $150M

Opportunity Portfolio Committee

None

Mr. Kim also provided opening remarks with a quick OIC agenda overview that included the Market Commentary from the Co-CIO at Bridgewater Associates, and Asset Allocation & Capital Markets Assumption; Fixed Income Manager Recommendation, in addition to the Asset Allocation, NAV and forward calendar.

III. 9:06 am Market Environment

Mr. Joel Whidden, Head of Sales, Global Marketing, Bridgewater Associates, gave a brief introduction to the firm and went on to introduce Mr. Greg Jensen, Co-Chief Investment Officer, Bridgewater Associates, who provided the Council with a Market Environment update, sharing insight relative to the current global economic state, and how to better invest in the next decade.

IV. 10:01 am Asset Allocation, Capital Markets Assumptions

OST staff work with the Council's general consultant to annually update risk and return expectations for OPERF based on a) the consultant’s Capital Market Assumptions and b) OPERF’s strategic asset allocation targets. Every three to five years, the assumptions are incorporated in a rigorous study of OPERF's assets and liabilities. The Capital Market Assumptions are also more prominent every odd-number year, e.g., 2019, since they coincide with the Public Employees Retirement System (PERS) Board’s biannual setting of the assumed rate of investment return. During those sessions, the PERS Board considers OPERF’s asset allocation and the Capital Market Assumptions, alongside their actuary’s analysis, and approves an assumed rate of return. At their July 2019 meeting, the PERS Board reaffirmed an assumed rate of 7.2%.

Karl Cheng, Senior Investment Officer, Portfolio Risk & Research, Jason Ellement, Senior Vice President, Callan LLC and Allan Emkin, Managing Principal, Meketa Investment Group, Inc., presented a thorough summary of updated capital market assumptions and revised estimates of OPERF’s long-term, forward-looking risk and return.
Furthermore, Staff recommend approval of the proposed revision to INV 1203 (Statement of Investment Objectives and Policy Framework for OPERF) with updated Capital Market Assumptions and other edits.

**MOTION:** Treasurer Read, moved approval of the proposed revision to INV 1203 at 10:33 am, and Ms. Moss seconded the motion which then passed by a 4/0 vote.

V. **10:33 am Fixed Income Manager Recommendation**

Geoff Nolan, Senior Investment Officer, Fixed Income, started with a brief refresher of the December 2019 Fixed Income Strategic Review, and the Implementation Process and Current Status. He then proceeded to explain that shortly after the Fixed Income Strategic Review was approved in December 2019, a manager search process was initiated. The presentation provided the detailed process of selection, resulting with the following Fixed Income Staff Manager selections:

- **Global Sovereign Manager Selections:** Mandate: global sovereign ex-US Treasuries (hedged to USD) Morgan Stanley Investment Management (MSIM) and, PIMCO. Total mandate funding amount combined up to 8.1% of OPERF fixed income AUM. $1.117BN based upon OPERF 4/30/20 AUM, split evenly between MSIM and PIMCO, up to $585MM to each manager.

- ** Emerging Markets Debt Manager Selections:** Mandate: emerging markets debt (hard dollar) Global Evolution, PGIM and Ashmore. Total mandate funding amount combined up to 2.7% of OPERF fixed income AUM. $390MM based upon OPERF 4/30/20 AUM. Split evenly amongst Global Evolution, PGIM and Ashmore, up to $130MM to each manager.

**MOTION:** Treasurer Read, moved approval of the staff’s Manager recommendations at 10:45 am, and Ms. Samples seconded the motion which then passed by a 4/0 vote.

VI. **10:45 am Asset Allocation & NAV Updates**

Mr. Kim reviewed asset allocations and NAVs across OST-managed accounts for periods ended April 30, 2020.

VII. **10:46 am Calendar – Future Agenda Items**

A calendar listing of future OIC meetings and scheduled agenda topics was included in the Council’s meeting material.

VIII. **10:47 am Open Discussion**

Treasurer Read raised a question built around all that was discussed during today’s meeting in relation to the world and how it will look when things go back to a certain stability, how will that impact our portfolio. He brought up a couple of examples linked to the environment, and around oil and gas, he went on to say that there’s not enough visibility on how all this will play into our portfolio, and any risks that should come as a result. He said there are several ways to approach and raise these concerns and was hopeful that the Council will recognize and agree on this matter. He proposed that perhaps the CIO and his team could maybe think of ideas to better manage the potential risks. Chair Russell commented that funds may diverge in their viewpoints on the value of divesting versus not divesting.

Mr. Olineck, noted that the PERS Board, will be bringing the Capital Market Assumptions update that were discussed during today’s meeting to their July PERS Board meeting.

Ms. Samples, expressed her appreciation for the participation and remarks by, Greg Jensen. She specified the value this brings in helping the Council, especially in the current environment. She also thanked everyone involved in putting this together, and suggested that having similar speakers in future meetings could be very
beneficial. Ms. Moss also, agreed with that statement, and Chair Russell affirmed that Mr. Jensen will indeed be a tough act to follow. Nonetheless, Mr. Kim, made mention of quite a remarkable list that his staff has provided him with. He also said that one of the values we have as a State is the strong reputation and the relationships with the managers and their willingness to be there to help us think through these larger issues.

10:54 am  Public Comments
None

Mr. Russell adjourned the meeting at 10:54 am.

Respectfully submitted,

May Fanning
Executive Support Specialist
TAB 2 – Opening Remarks and Committee Reports
Opening Remarks
Rex T. Kim, Chief Investment Officer
Agenda:

• Market Commentary from Howard Marks, Co-Chairman, Oaktree Capital

• Action Items: Fixed Income Manager Recommendation; OSGP Consultant

• Review Items: Securities Lending, Annual Operations Update, Asset Allocation, NAV, and a look into future meetings
TAB 3 – Market Environment
The Truth About Investing
Howard Marks, Chairman
Oaktree Capital Management, L.P.
Most investors can’t see the macro-future better than anyone else. Thus trying to predict the future won’t make them successful investors.

“We have two classes of forecasters: Those who don’t know – and those who don’t know they don’t know.”

– John Kenneth Galbraith
Nevertheless, most investors act as if they can see the future. Either they think they can, or they think they have to pretend they can. That’s dangerous if it turns out they can’t, as is usually the case.

“It’s frightening to think that you might not know something, but more frightening to think that, by and large, the world is run by people who have faith that they know exactly what’s going on.”

– Amos Tversky

“It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so.”

– Mark Twain
The Truth About Investing

Investors would be wise to accept that they can’t see the future and restrict themselves to doing things that are within their power. These include gaining insight regarding companies, industries and securities; controlling emotion; and behaving in a contrarian and counter-cyclical manner.
While we can’t see where we’re going, we ought to have a good sense for where we are. It’s possible to enhance investment results by making tactical decisions suited to the market climate. The most important is the choice between aggressiveness and defensiveness. These decisions can be made on the basis of observations regarding current conditions; they don’t require guesswork about the future.
Superior results don’t come from buying high quality assets, but from buying assets – regardless of quality – for less than they’re worth. It’s essential to understand the difference between buying good things and buying things well.
A low purchase price not only creates the potential for gain; it also limits downside risk. The bigger the discount from fair value, the greater the “margin of safety” an investment provides.
The price of a security at a given point in time reflects the consensus of investors regarding its value. The big gains arise when the consensus turns out to have underestimated reality. **To be able to take advantage of such divergences, you have to think in a way that departs from the consensus; you have to think different and better.** This goal can be described as “second-level thinking” or “variant perception.”
Superior performance doesn’t come from being right, but from being more right than the consensus. You can be right about something and perform just average if everyone else is right, too. Or you can be wrong and outperform if everyone else is more wrong.
The Truth About Investing

Any time you think you know something others don’t, you should examine the basis for that belief. “Does everyone know that?” “Why should I be privy to exceptional information or insight?” “Am I certain I’m right and everyone else is wrong; mightn’t it be the opposite?” If it’s the result of advice from someone else, you must ask, “Why would anyone give me potentially profitable information?”
Over the last few decades, investors’ timeframes have shrunk. They’ve become obsessed with quarterly returns. In fact, technology now enables them to become distracted by returns on a daily basis, and even minute-by-minute. **Thus one way to gain an advantage is by ignoring the “noise” created by the manic swings of others and focusing on the things that matter in the long term.**
It isn’t the inability to see the future that cripples most efforts at investment. More often it’s emotion. Investors swing like a pendulum – between greed and fear; euphoria and depression; credulousness and skepticism; and risk tolerance and risk aversion. Usually they swing in the wrong direction, warming to things after they rise and shunning them after they fall.
Most investors behave pro-cyclically, to their own detriment. When economic indicators, corporate earnings and asset prices have been rising, people become more optimistic and buy at cyclical highs. Likewise, their pessimism grows when the reverse is true, causing them to sell (and certainly to not buy) at cyclical lows. It’s essential to act counter-cyclically.
Cyclical ups and downs don’t go on forever. But at the extremes, most investors act as if they will. This is a big part of the reason for bubbles and crashes.

There are three stages to a bull market:

• the first, when a few forward-looking people begin to believe things will get better,

• the second, when most investors realize improvement is actually underway, and

• the third, when everyone concludes that things can only get better forever.
It’s important to practice “contrarian” behavior and do the opposite of what others do at the extremes. For example, the markets are riskiest when there’s a widespread belief that there’s no risk, since this makes investors feel it’s safe to do risky things. Thus we must sell when others are emboldened (and buy when they’re afraid).

“The less prudence with which others conduct their affairs, the greater the prudence with which we should conduct our own affairs.”

– Warren Buffett
To be a successful investor, you have to have a philosophy and process you believe in and can stick to, even under pressure. Since no approach will allow you to profit from all types of opportunities or in all environments, you have to be willing to not participate in everything that goes up, only the things that fit your approach. To be a disciplined investor, you have to be able to stand by and watch as other people make money in things you passed on.
Every investment approach – even if skillfully applied – will run into environments for which it is ill-suited. That means even the best of investors will have periods of poor performance. Even if you’re correct in identifying a divergence of popular opinion from eventual reality, it can take a long time for price to converge with value, and it can require something that serves as a catalyst. **In order to be able to stick with an approach or decision until it proves out, investors have to be able to weather periods when the results are embarrassing. This can be very difficult.**

“The market can remain irrational longer than you can remain solvent.”

– John Maynard Keynes

Being too far ahead of your time is indistinguishable from being wrong.
To succeed you have to survive, and in particular that means avoiding selling out at market bottoms. It’s not enough to survive “on average”; you have to survive on the worst days. Selling out at the bottom – and thus failing to participate in the subsequent recovery – is the cardinal sin of investing. The ability to persevere requires consistent adherence to a well-thought-out approach; control over emotion; and a portfolio built to withstand declines.

Never forget the six-foot tall man who drowned crossing the stream that was five feet deep on average.
Risk is an inescapable part of investing. You shouldn’t expect to make money without bearing risk. Any approach, strategy or investment that promises substantial gain without risk is simply too good to be true.
But you also shouldn’t expect to make money just for bearing risk. Many people believe riskier investments produce higher returns, and thus the way to make more money is to take more risk. That can’t be right: if riskier investments could be counted on to produce higher returns, they wouldn’t be riskier.
Controlling risk is just as important as identifying opportunities for return. For most people a desirable approach strikes a balance between offense and defense.

In American football, after four unsuccessful tries to gain ten yards, the referee stops play and turns the ball over to the other team’s offensive squad. But investing is more like soccer, where every team has to comprise both offense and defense, and no one blows a whistle to tell you which way to play.

“If we avoid the losers, the winners will take care of themselves.”

– Oaktree motto
Risk has to be dealt with, but not through quantification. Theory accepts volatility as the indicator of risk, largely because data on volatility is quantitative and machinable. But people in the real world don’t worry about volatility or demand a premium return to bear it; what they care about is the likelihood of losing money. Because that likelihood can’t be quantified, risk is best handled by experienced experts applying subjective, qualitative judgment that is superior.
Investing can’t be reduced to an algorithm or a mechanical process. Few people have demonstrated the ability to excel for long via “quant” investing. Superior results generally require insight, judgment and intuition.

“Not everything that can be counted counts, and not everything that counts can be counted.”

– Albert Einstein
To ascertain whether a manager has above average skill, it’s essential to observe performance over many years and in bad markets as well as good. Short-term outperformance and short-term underperformance are “impostors” that say very little about the skill of a manager. Randomness can cause a weak manager to show good performance for a year or two, but good long-term records are likely to be the result of skill. Absent testing in tough times, aggressive risk-taking in an environment that turns out to be salutary can easily be mistaken for investment skill.

“It’s only when the tide goes out that we find out who’s been swimming naked.”

– Warren Buffett

Never confuse brains with a bull market.
**Expectations should be reasonable.** Aiming for too high a return will either require excessive risk bearing or guarantee disappointment . . . or both.

“The market isn’t an accommodating machine. It won’t give you high returns because you want them.”

– Peter Bernstein
No one should expect investing to be easy.

“There is nothing reliable to be learned about making money. If there were, study would be intense and everyone with a positive IQ would be rich.”

– John Kenneth Galbraith

“It’s not supposed to be easy. Anyone who finds it easy is stupid.”

– Charlie Munger
Investing in the Pandemic World

Howard Marks, Chairman
Oaktree Capital Management, L.P.
Market Behavior

• On February 19, before Americans understood the risk from the coronavirus, the Standard & Poor’s 500 reached an all-time record of 3,386

• Over the next 4½ weeks, the index lost 33.9%, falling to 2,237 on March 23
  
  o This was the fastest trip into “bear territory” (down 20% or more) on record

• The Fed and Treasury announced the massive support program in mid-late March and a powerful rally began. On July 7 the S&P 500 closed at 3,145, up 40.6% from the low
  
  o It had returned to “bull territory” (up 20% or more) in only 2½ weeks
Investing in the Pandemic World

The Dilemma

• The world is combatting a very serious pandemic and the worst economic contraction of the last 80+ years.

• And yet the stock market has been able to compile a record advance and nearly recapture an all-time high that was achieved at a time when:
  
  o the U.S. economy was humming,
  
  o the outlook was rosy, and
  
  o the risk of a pandemic hadn’t registered

• How could that be?
Investing in the Pandemic World

Supportive Elements – Monetary and Fiscal Policy

• The chant went up during the week of March 23: “You can’t fight the Fed.” Investors believe interest rates and markets will do what the Fed wants

• The Fed and Treasury demonstrated their dedication to doing everything they can think of. Fed Chairman Powell said “we won’t run out of ammunition”

• The Fed said it would continue buying securities “for as long as it takes.” There’s no apparent reason why its ability to keep buying has to have a limit

• When the Fed buys securities, it puts money into the hands of the sellers, and that money has to be reinvested. The reinvestment process drives up the prices of assets while driving down interest rates and prospective returns

• In all, the Fed has created capital market conditions that give rise to readily available financing, bond issuance at record levels, and deals that are heavily oversubscribed
Supportive Elements – Interest Rates

Everyone is convinced interest rates will be “lower for longer”. On June 10, the Fed strongly indicated there will be no rate increases through 2021 and possibly 2022

- Low interest rates raise the discounted present value of future cash flows
- A low risk-free rate brings down demanded returns all along the yield curve and capital market line. A low risk-free rate makes even low investment returns seem attractive
- If the Fed is buying bonds, their rising prices and falling expected returns mean most assets don’t have to appear likely to return as much as they used to, so their prices can rise, too
- Low yields on bonds means they offer less competition to stocks, etc.
Investing in the Pandemic World

Why Are Prospective Returns Low?

- The idealized Capital Market Line begins at the “risk-free rate” and proceeds up and to the right to offer investors a potential risk premium as an incentive for bearing incremental risk.
Why Are Prospective Returns Low?

- The idealized Capital Market Line begins at the “risk-free rate” and proceeds up and to the right to offer investors a potential risk premium as an incentive for bearing incremental risk.
Why Are Prospective Returns Low?

- To counter the Global Financial Crisis, and then the economic effects of the pandemic, central banks drove down the risk-free rate

- Returns on other assets fell into line
The Dominant Question

- To sum up and over-simplify, can the Fed keep buying debt forever, and can its doing so keep asset prices up forever?

- In short, many investors appear to have concluded that the answer is “yes”
Investing in the Pandemic World

Approaching the Problem

There’s no way to determine for sure whether an advance has been appropriate or irrational, and whether markets are too high or too low. But there are questions to ask:

• Are investors weighing both the positives and the negatives dispassionately?

• What’s the probability the positive factors driving the market will prove valid (or that the negatives will gain in strength instead)?

• Are the positives fundamental or largely technical, relating to inflows of liquidity (i.e., cash-driven)? If the latter, is their influence likely to prove temporary or permanent?

• Is the market being lifted by rampant optimism?

• Is that optimism causing investors to ignore valid counter-arguments?

• How do valuations based on things like earnings, sales and asset values stack up against historical norms?
My Bottom Line

- I conclude that the powerful rally we’ve seen has been built on optimism; has incorporated positive expectations and overlooked potential negatives; and has been driven largely by the Fed’s injections of liquidity and the Treasury’s support payments.

- Investors are assuming these will bridge to an economic recovery and be free from highly negative second-order consequences. They’re also assuming the Fed will continue to buy assets and suppress interest rates.

- A bounce from the depressed levels of late March was warranted, but it came surprisingly early and quickly went incredibly far. The S&P 500 is down only 7% from an all-time high struck in trouble-free times.

- It seems to me that the potential for further gains from things turning out better than expected or valuations continuing to expand doesn’t fully compensate for the risk of decline from events disappointing or multiples contracting.

- In other words, the fundamental outlook may be positive on balance, but with listed security prices where they are, the odds aren’t in investors’ favor. Caution is called for.
Investing in the Pandemic World

Investment Options in a Low-Return Environment

In a low-return world, the options are limited:

1. Invest as you always have, and settle for today’s low returns.
2. Reduce risk to prepare for a correction, and accept even-lower returns.
3. Go to cash at a near-zero return and wait for a better environment.
4. Increase risk in pursuit of higher returns.
5. Put more into special niches and special investment managers.

None of these alternatives is completely satisfactory. But there are no others.
Disclosures

- The presentation is being provided on a confidential basis solely for the information of those persons to whom it is given. This presentation may not be copied, reproduced, republished, posted, transmitted, disclosed, distributed or disseminated, in whole or in part, in any way without the prior written consent of Oaktree Capital Management, L.P. (together with its affiliates, “Oaktree”) or as required by applicable law. By accepting this presentation, you agree that you will comply with these confidentiality restrictions and acknowledge that your compliance is a material inducement to our providing this presentation to you.

- This presentation contains information and views as of the date indicated and such information and views are subject to change without notice. Oaktree has no duty or obligation to update the information contained herein. Further, Oaktree makes no representation, and it should not be assumed, that past investment performance is an indication of future results. Moreover, wherever there is the potential for profit there is also the possibility of loss.

- This presentation and the information contained herein are for educational and informational purposes only and do not constitute and should not be construed as an invitation, inducement or offer to sell or solicitation of an offer to buy any securities or related financial instruments in any jurisdiction in which such offer or solicitation, purchase or sale would be unlawful under the securities, insurance or other laws of such jurisdiction. Responses to any inquiry that may involve rendering of personalized investment advice or effecting or attempting to effect transactions in securities will not be made absent compliance with applicable laws or regulations (including broker-dealer, investment adviser, or applicable agent or representative registration requirements), or applicable exemptions or exclusions therefrom.

- Certain information contained herein concerning economic trends and performance is based on or derived from information provided by independent third-party sources. Oaktree believes that the sources from which such information has been obtained are reliable; however, it cannot guarantee the accuracy of such information and has not independently verified the accuracy or completeness of such information or the assumptions on which such information is based.
TAB 4 – OPERF Fixed Income Recommendation
Fixed Income Portfolio
Structured Credit Products Manager Recommendations

Geoff Nolan, Senior Investment Officer
Agenda

1. 2020: Structured Credit Products Manager Recommendation
2. 2020: External Manager Overviews
3. Appendix: Key Highlights of 2019 Fixed Income Strategic Review
2020: Structured Credit Products Manager Recommendations

• **Background**
  - In December 2019, the Oregon Investment Council approved the Fixed Income Strategic Review in which the fixed income portfolio would be further de-risked so as to more closely align the portfolio with the objectives laid out policy INV401. (For reference, key highlights from the Strategic Review are in the appendix.)
  - Fixed Income’s role is to (1) provide diversification to the OPERF portfolio in general and to equity securities in particular; and, (2) provide liquidity to help meet OPERF’s cash flow needs.
  - Today’s recommendations are a continuation of the new manager recommendation & approval process that began at the June 3rd, 2020 OIC meeting in which 2 global sovereign and 3 emerging market debt managers were approved.

• **Structured Products Manager Recommendations**
  - OIC Board Members have additional manager background information included in their packets.

• **Mandate:** Structured Credit Products (USD).

• Guggenheim Partners Investment Management, LLC (“Guggenheim”), Putnam Investments (“Putnam”) and Schroders Investment Management North America, Inc. (“Schroders”)
  - Total Mandate Funding Amount:
    - Combined up to 12.8% of OPERF fixed income AUM.
    - $1.8BN based upon 6/30/20 AUM.
  - Split evenly amongst Schroders, Guggenheim Partners, and Putnam.
    - Up to $600MM to each manager.

**Notes:**
- Selections subject to satisfactory negotiation of all terms and conditions.
- Percentage funding amounts are from the approved asset allocation portfolio.
- Funding amounts not to exceed the percentage amounts noted above, but absolute dollar amounts may be less depending upon funding requirements to meet OPERF needs and capital calls associated with OST private markets activities.

---

**Portfolio Realignment to Occur Over the Next 3-6 Quarters**

Fixed Income Manager Recommendations
Agenda

1. 2020: Structured Credit Products Manager Recommendations
2. 2020: External Manager Overviews
3. Appendix: Key Highlights of 2019 Fixed Income Strategic Review
2020: External Manager Overviews

OIC Board Members have additional manager background information included in their packets.

- **Guggenheim**
  - Firm:
    - $205BN AUM (3/31/20) with $38BN in structured credit products AUM.
    - 200 fixed income investment professionals.
  - Team:
    - 9 structured credit portfolio managers and 24 structured credit researchers supported by broader fixed income team.
    - Lead PM’s are Steve Brown (Head of Total Return) and Adam Bloch.
  - Mandate Strategy:
    - Total return strategy investing in structured fixed income securities that can offer favorable risk/reward characteristics while maintaining a minimum weighted average of investment grade quality. Invest primarily across ABS with a secondary focus on commercial mortgage-backed securities and non-agency residential mortgage-backed securities.

- **Putnam**
  - Firm:
    - $149BN AUM (3/31/20) with $28BN in structured credit products AUM.
    - 169 investment professionals with 37 being fixed income.
  - Team:
    - 3 structured credit portfolio managers and 8 structured credit researchers supported by broader fixed income team.
    - Team based PM structure with Michael Salm (Co-Head of Fixed Income) working with Jatin Misra and Brett Kozlowski.
  - Mandate Strategy:
    - Strategy focusing on high conviction ideas, seeking above average returns by identifying market inefficiencies through a proprietary model-driven investment & research process.
2020: External Manager Overviews

OIC Board Members have additional manager background information included in their packets.

- **Schroders**
  - **Firm:**
    - Schroders plc (the parent) is a public company listed on the London Stock Exchange with overall AUM of $583BN as of 3/31/2020.
    - The North America unit (which will manage the strategy) has $108BN AUM (3/31/20) with $12BN in structured credit products AUM.
    - 120 fixed income investment professionals.
  - **Team:**
    - 4 structured credit portfolio managers and 10 structured credit researchers supported by broader fixed income team.
    - Lead PM is Michelle Russell-Dowe (Head of Securitized Credit) with supporting portfolio managers Jeffery Williams, Chris Ames and Anthony Breaks.
  - **Mandate Strategy:**
    - Total return strategy seeking exposure across securitized assets with the ability to access prepayment, credit and liquidity risk premiums.
Agenda

1. 2020: Structured Credit Products Manager Recommendations
2. 2020: External Manager Overviews
3. Appendix: Key Highlights of 2019 Fixed Income Strategic Review
Background / Objectives

Putting Fixed Income in Context

• Oregon Investment Council (OIC) Oversight
  ▪ The OIC sets policy and is ultimately responsible for the Investment Program
    ▪ The OIC is a policy-setting council that largely delegates investment management activities to the Oregon State Treasury (OST) and qualified external fiduciaries.
    ▪ The OIC has authority to set and monitor portfolio risk. Both short term and long term risks are critical.

• Role of Fixed Income in Oregon Public Employees Retirement Fund (OPERF) = Diversification & Liquidity
  ▪ The role of fixed income investments, pursuant to policy INV 401:
    ▪ provide diversification to the OPERF portfolio in general and to equity securities in particular; and
    ▪ provide liquidity to help meet OPERF’s cash flow needs.

• Fixed Income Strategic Review Objective = Enhance Diversification & Liquidity
  ▪ Objective: determine whether the fixed income portfolio asset allocation can be enhanced to improve upon current diversification & liquidity benefits.

• OST staff worked with BlackRock on the Strategic Review
  ▪ OST provided inputs, feedback & guidance on preferred model portfolios.
  ▪ BlackRock ran the asset allocation analytics given OST’s guidance.
  ▪ Callan and Guggenheim Partners also undertook an independent analysis.

Fixed Income’s Role: Providing Diversification and Liquidity for OPERF
2019 Strategic Review: Executive Summary

• Further De-Risk Fixed Income Portfolio To Enhance Diversification & Liquidity
  ▪ Diversification & liquidity benefits can be enhanced by de-risking. De-risking entails:
    ▪ Lowering non-investment & investment grade credit exposure;
    ▪ Increasing US Treasury exposure;
    ▪ Increasing Global Sovereign exposure (ex-US; hedged back to USD); and
    ▪ Adding an OPERF Liquidity Fund “OLF” (high quality portfolio, internally managed)
  ▪ Additional benefit of de-risking: reduced drawdown & improved credit loss stress scenarios.

• Further De-Risking Comes with Trade-Offs
  ▪ While de-risking improves fixed income’s role within the OPERF portfolio, it comes with trade-offs:
    ▪ Increased expected long term volatility (higher rate risk); and
    ▪ Lower expected long term returns & carry (up in quality, shifting away from higher yielding assets).

• Leverage Helps Mitigate Some of the Trade-Offs of De-Risking & Provides a Safety Buffer in Down Markets
  ▪ Addition of leverage (~12.5% at asset level) improves return potential & Sharpe ratio
  ▪ Additional leverage (~12.5% at asset level) can act as a safety buffer for scenarios such as the following:
    ▪ extended down market timeframes; and
    ▪ capital calls associated with OST Private Market activities.
2019 Strategic Review: What Was Approved

Portfolio Asset Allocation
- Target Portfolio 2 (Please see next page for details)
- Additional Leverage of 12.5% (total 25% at asset class level)
  - Remaining leverage (~12.5%) to be reserved for scenarios such as the following:
    - extended down market timeframes; and
    - capital calls associated with OST Private Markets activities.
- Use of leverage above 12.5% would require the approval of:
  - Chief Investment Officer; and
  - Director of Capital Markets.

Policy Benchmark
- Bloomberg Barclays US Aggregate Bond Index for Portfolio 2 (Leveraged 12.5%) with a return target expectation of 15 basis points above the Policy Benchmark over a market cycle.

OST Policy INV 401
- Amend “Section A, Policy Statement” return target expectation to 15 from 25 basis points over a market cycle.
- Amend “Section A, Policy Statement” Policy Benchmark per the above.
- Amend “Section B, (1)” limiting portfolio risk, as measured by tracking error, to “up to 1.0 percent” from “0.5-1.0 percent”.

Fixed Income Strategic Review Implementation Update
## 2019 Strategic Review: Asset Allocation Portfolios

<table>
<thead>
<tr>
<th>Fixed Income Asset Classes</th>
<th>Policy Benchmark</th>
<th>Actual Portfolio</th>
<th>Unlevered</th>
<th>Leveraged 12.5%</th>
<th>Leveraged 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash / OPERF Liquidity Fund (OLF)</td>
<td>0.0%</td>
<td>4.9%</td>
<td>18.9%</td>
<td>24.1%</td>
<td>28.8%</td>
</tr>
<tr>
<td>ABS (Credit cards, Autos, Student Loans)</td>
<td>0.2%</td>
<td>4.4%</td>
<td>1.9%</td>
<td>1.6%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Agency MBS</td>
<td>12.8%</td>
<td>13.7%</td>
<td>3.7%</td>
<td>5.5%</td>
<td>6.2%</td>
</tr>
<tr>
<td>CMBs</td>
<td>1.0%</td>
<td>2.4%</td>
<td>5.7%</td>
<td>5.6%</td>
<td>5.7%</td>
</tr>
<tr>
<td><strong>Subtotal Securitized</strong></td>
<td>14.0%</td>
<td>20.5%</td>
<td>11.3%</td>
<td>12.8%</td>
<td>13.7%</td>
</tr>
<tr>
<td>IG Corporate 1-5</td>
<td>5.5%</td>
<td>5.6%</td>
<td>0.6%</td>
<td>1.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>IG Corporate 5-10</td>
<td>3.8%</td>
<td>5.9%</td>
<td>1.3%</td>
<td>1.7%</td>
<td>1.6%</td>
</tr>
<tr>
<td>IG Corporate 10+</td>
<td>4.3%</td>
<td>2.8%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Subtotal IG Corporate</strong></td>
<td>13.5%</td>
<td>14.2%</td>
<td>2.0%</td>
<td>3.0%</td>
<td>3.1%</td>
</tr>
<tr>
<td>US Treasuries 1-10</td>
<td>45.7%</td>
<td>32.4%</td>
<td>35.9%</td>
<td>38.6%</td>
<td>43.8%</td>
</tr>
<tr>
<td>US Treasuries 10+</td>
<td>9.6%</td>
<td>10.2%</td>
<td>15.0%</td>
<td>14.3%</td>
<td>14.0%</td>
</tr>
<tr>
<td><strong>Subtotal US Treasuries</strong></td>
<td>55.3%</td>
<td>42.6%</td>
<td>50.9%</td>
<td>52.9%</td>
<td>57.8%</td>
</tr>
<tr>
<td>TIPS</td>
<td>0.0%</td>
<td>1.3%</td>
<td>1.4%</td>
<td>1.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Global Sovereign (ex-US) (USD Hedged)</td>
<td>0.0%</td>
<td>1.0%</td>
<td>5.7%</td>
<td>8.1%</td>
<td>9.3%</td>
</tr>
<tr>
<td>High Yield</td>
<td>4.0%</td>
<td>3.9%</td>
<td>5.2%</td>
<td>4.8%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Bank Loans</td>
<td>13.0%</td>
<td>11.2%</td>
<td>2.1%</td>
<td>2.5%</td>
<td>2.7%</td>
</tr>
<tr>
<td><strong>Subtotal Non Investment Grade</strong></td>
<td>17.0%</td>
<td>15.2%</td>
<td>7.4%</td>
<td>7.3%</td>
<td>7.8%</td>
</tr>
<tr>
<td>EM Debt (Hard Dollar)</td>
<td>0.0%</td>
<td>0.4%</td>
<td>2.6%</td>
<td>2.7%</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100.0%</td>
<td>112.5%</td>
<td>125.0%</td>
</tr>
</tbody>
</table>

**Note:** Policy Benchmark refers to the Portfolio’s disaggregated benchmark per OIC policies.

---

### Further De-Risking the Fixed Income Portfolio

Exposure movements refer to changes from Actual Portfolio to Unlevered and Leveraged 12.5% allocations, respectively.

- **Add OPERF Liquidity Fund exposure of ~14% to ~19%.
- **Reduce IG exposure from ~14% to ~2-3%.
- **Increase US Treasury exposure from ~43% to ~51-53%.
- **Increase Global Sovereign exposure from ~1% to ~6-8%.
- **Reduce Non-IG exposure from ~15% to ~7%.

Portfolios 2 was Approved with ability to move to portfolio 3, subject to certain conditions.
2019 Strategic Review: Implementation Guidelines

- Given the complexity of and amount of fund movements involved in the portfolio realignment, implementation of changes from the Strategic Review would take place at a measured pace over the next 3-6 quarters.

- Internally-managed mandates:
  - US treasuries; US treasury futures; and US TIPS and OPERF Liquidity Fund.

- Step 1 – Manager Searches
  - Initiate searches for new mandates: Global Sovereign /EMD (Hard Currency); Securitized (ABS, Agency MBS, CMBS); and High yield / bank loan. Incumbent managers may be included in searches.

- Step 2 - Funding New Mandates (without using leverage)
  - Depending on timing of onboarding of new managers, funding of mandates may be run in parallel.
    - Global Sovereign / EMD expected to be largely funded with proceeds from reduction in high yield / bank loan mandates.
    - Securitized, OPERF Liquidity Fund, US Treasuries & TIPS expected to be funded with proceeds from a combination of a reduction in investment grade core mandates.

- Step 3 – Leverage
  - Leverage to be added through use of US treasury futures.
  - Given current cash allocation to US treasuries (internally managed and embedded within external core manager portfolios), sales of US treasuries to reach the asset allocation target may be modest.
  - Leverage would be added upon completion of ramp in of US treasury cash portfolio.

- Other
  - To minimize the costs of the realignment, in-kind transfers (to internal or new external managers) and arms-length crossing trades within managers may be considered.

Portfolio Realignment to Occur Over the Next 3-6 Quarters
2019 Strategic Review: Additional Leverage Guidelines

• **Utilization of Additional Leverage beyond 12.5%**
  • Remaining leverage of ~12.5% to be reserved for scenarios such as the following:
    • extended down market timeframes; and
    • capital calls associated with OST Private Markets activities.
  • For governance and control purposes, use of leverage above 12.5% would require the approval of:
    • Chief Investment Officer; and
    • Director of Capital Markets.

• **Leveraging Sequencing Guidelines**
  • Given the uncertainty surrounding forecasting down markets (e.g., timing, depth, duration, etc.), OPERF plan needs at the time as well as future fixed income and OPERF portfolio composition, a pre-set proscribed leveraging sequence is not advisable.

  • However, in an extended down market scenario, the following factors would need to be considered:
    • Expected length and/or severity of the downturn;
    • Amount of US treasuries (most liquid, easily sold assets) as well as leverage to hold in reserve in case market downturn extends and/or becomes more severe;
    • Ease and practicality of selling cash securities vs. leveraging via US treasury futures; and
    • Maintaining a reasonable risk level at the asset class and total plan level.

Additional Use of Leverage Warrants Appropriate Controls by Senior Management
TAB 5 – OSGP Consultant Recommendation
Purpose
To address the Oregon Savings Growth Plan general consulting contract, which expires on August 31, 2020.

Background
Callan LLC (Callan) was initially retained with a three-year contract that began on September 1, 2017. Under OST Policy INV 210: Consulting Contracts, new contracts are awarded for three-year periods and a) can be renewed no more than twice and b) are limited to a final expiration date no more than four years beyond the contracts' original expiration date. At the end of seven years, contracts must be re-bid and a new seven-year cycle can begin. Additionally, the OIC retains the contractual right to terminate such contracts, at any time, upon written notice.

Staff Recommendation
In recognition of the contributions made by Callan, Staff proposes that the OIC extend its current contract, subject to satisfactory negotiation of all terms and conditions, for a two-year period beginning September 1, 2020.
TAB 6 – Securities Lending
Agenda

- What is Securities Lending? - Securities Finance 101

- Cash Management and Securities Lending – role of State Street Global Advisors

- Securities Lending Market Update and Performance Review

- Securities Lending Cash Collateral Portfolio Review and Market Update – State Street Global Advisors
Securities
Finance 101
Securities Finance Defined

An investment management product where participants generate revenue by temporarily transferring idle securities, in a collateralized transaction, to a borrower.

- Borrower becomes legal owner of securities while lender retains rights of beneficial ownership entitling it to all distributions and corporate actions.
- Lender portfolios can be managed without limitation.
- The borrower is contractually obligated to return the securities upon recall by the lender.
Securities Finance
Why borrow securities?

Short-selling is only one of many reasons for borrowing securities.

- Fail coverage
- Corporate event arbitrage
- Market making
- Yield enhancement
- Hedging
- Collateral optimisation
- Financing
- Short selling
Fundamentals of Securities Finance
Transaction Basics / Demand Drivers

• Securities are borrowed by a counterparty that has a commitment to deliver those which it has sold, but does not possess.
  – All asset classes
  – Failing purchase on the other side of the trade

• Securities are borrowed to cover a “short” position in a security.
  – All asset classes, but typically seen in corporate securities
  – Broker sells a position that it doesn’t own and borrows securities to make good on their delivery
  – Bets that the price of the security will fall before it has to return shares to the beneficial owner
  – Broker profits on the difference in price minus the cost to borrow the stock

• Tax treaties between governments allow for dividend arbitrage trades.
  – These are non-U.S. equities entitled to 75%-85% of a foreign dividend, borrower in the local market entitled to 100%

• Securities are borrowed as part of a financing strategy
  – Typically U.S. and non-U.S. government securities
  – “Repo” transaction
Fundamentals of Securities Finance
One Day Sample Transaction – Cash Collateral

• A Broker is looking to borrow 50,000 shares of XYZ Corp.
  – 50,000 shares of XYZ Corp. has a market value of $10 million

• The Broker contacts the Securities Finance US Equity Trading Desk in Boston.
  – State Street has the supply/inventory

• Terms are agreed:
  – Rebate rate of 0.05%
  – Cash collateral
  – Open loan (no fixed period of time)

• Trade is executed on DML (Securities Finance’s Trading and Accounting Platform).
  – The automated queuing system identifies fund ABCD as next in line for loan
  – ABCD has 50,000 shares of XYZ Corp available

• Collateral is delivered by the Broker
  – Cash collateral valued at 102% of the market value ($10,200,000)
  – Cash is invested by SSGA in a specific, client designated re-investment portfolio, earning 0.30%

• Shares are delivered through DTC to the Broker
Collateral delivered at 102%
$10,200,000

Clients Reinvestment Collateral Yield: 0.30%
Earnings: $85

Yield – Rebate = Total Spread
0.30% - 0.05% = 0.25% (25 bps)

Yield – OBFR = Reinvestment Spread
0.30% - 0.15% = 0.15% (15 bps)

OBFR – Rebate = Demand Spread
0.15% - 0.05% = 0.10% (10 bps)

CBFR – Overnight Banking Funding Rate

Collateral Yield and Rebate Rate are annualized
Fundamentals of Securities Finance
One Day Sample Transaction – Non-Cash Collateral

• A Broker is looking to borrow 50,000 shares of XYZ Corp.
  – 50,000 shares of XYZ Corp. has a market value of $10 million

• The Broker contacts the Trading Desk.
  – State Street has the supply/inventory

• Terms are agreed:
  – Premium rate of 0.35%
  – Non-Cash collateral
  – Open loan (no fixed period of time)

• Trade is executed on DML (Securities Finance’s Trading and Accounting Platform).
  – The automated queuing system identifies fund ABCD as next in line for loan
  – Fund ABCD has 50,000 shares of XYZ Corp available

• Collateral is delivered by Broker
  – $10,200,000 US Treasuries, 102% of the market value of XYZ Corp.
  – US Treasuries are delivered to State Street and held for the benefit of fund ABCD

• XYZ Corp. shares are delivered through DTC to Broker
Fundamentals of Securities Finance
One Day Sample Transaction Diagram – Non-Cash Collateral (US Treasuries)

US Treasuries delivered at 102%
$10,200,000

Loaned securities:
$10,000,000 of XYZ Corp.

Premium: 0.35%
(0.35%/360 * $10,200,000)
Fee Due: $100

Premium rate annualized using a 360-day basis.
Fundamentals of Securities Finance
Factors Affecting Income

- Lender’s Tax Status
- Duration of the Loan
- Supply of Securities
- Interest Rate environment
- Market Activity
  - Arbitrage opportunity
  - Dividend season
- Program Guidelines
  - Borrower selection, collateral type, collateral investment guidelines
- Types of Securities in demand
  - Specials
Securities Finance
Major risks and mitigating factors

**Credit Risk**
State Street controls the quality of its approved borrower list and monitors all borrowers daily against credit limits approved by Enterprise Risk Management. The optional borrower default indemnity transfers credit risk to State Street Bank & Trust Co which is rated AA- by S&P, the joint highest of any major agent lender.*

**Market Risk**
State Street marks to market all loans and collateral daily, takes a positive margin on collateral, and actively monitors value-at-risk in addition to stress scenario exposures. The optional borrower default indemnity transfers market risk to State Street, who will cover the shortfall in collateral value in the event of a borrower default.

**Ops Risk**
State Street has dedicated operations teams to monitor daily processes and industry standard systems such as Pirum to reconcile positions with borrowers. Security-level buffers are imposed to ensure that most sales can be facilitated through swaps with other clients, removing the need for a loan recall.

**Legal Risk**
Clients sign a single Securities Lending Agency Agreement (SLAA) defining all terms and parameters for their program. The SLAA should be regularly reviewed and updated to ensure that it properly reflects the client’s risk/reward appetite.

**Reinvest Risk**
Cash collateral is managed by State Street Global Advisors, one of the world’s largest cash managers with over $387.59 billion under management.** State Street’s optional borrower default indemnity typically does not cover cash collateral and clients should ensure that their reinvestment policy is appropriate.

---

* Source: Standard & Poor’s long term local currency issuer ratings, April 2020
** Source: State Street Global Advisors, March 31, 2020
State Street Agency Lending
Program Overview

State Street’s securities finance program launched in 1974 and is one of the largest agency lending programs in the world today. Leveraging our experienced global trading teams, State Street provides follow-the-sun access to demand within a customized framework that fits each client’s requirements.

45 years of experience in securities lending

$4.49 trillion of lendable assets

$380.7 billion of active loans

34 security markets for equities and fixed income

251 active clients, 47 approved jurisdictions

157 borrowers, 16 approved jurisdictions

US (BTC) and German (GmbH) legal entities

Cash collateral is managed by State Street Global Advisors (SSGA), one of the world’s largest cash managers

9 regional offices with 5 trading desks

405* dedicated employees

AA- rating from Standard & Poor’s (since Dec 2015)

As of April 2020

“State Street provides us with regular updates on industry events and new opportunities. We’ve mandated State Street as our securities lending agent for many years. We are very satisfied with the service they offer. Their service is very reliable and high quality.”

#1 Custodial lender (weighted) for the third consecutive year in the Global Investor/ISF 2020 Beneficial Owners Survey and #1 in nine service categories including collateral management and parameter management

#1 Securities Finance House, since 2012

#1 in Securities Lending for 5th consecutive year

#1 Agent Lender in Global Investor/ISF 2019 International Securities Finance Survey

2 Asia Asset Management Best of the Best Awards 2020
3 The Triple A Asset Asian Awards 2019
4 Globally and in Americas when rated by G1 Borrowers, weighted and unweighted

* Headcount data as of 31 December 2019. This headcount figure does not include contractors

Information Classification: Limited Access
Glossary

- **Asset-Backed Commercial Paper (ABCP)** - A short-term investment vehicle with a maturity that is typically between 90 and 180 days. The security itself is typically issued by a bank or other financial institution. The notes are backed by physical assets such as trade receivables, and are generally used for short-term financing needs.

- **Asset-Backed Security (ABS)** - A financial security backed by a loan, lease or receivables against assets other than real estate and mortgage-backed securities. For investors, asset-backed securities are an alternative to investing in corporate debt.

- **Asset/Liability Mismatch** - The process of maintaining assets and liabilities with different durations in an attempt to optimize return. In securities lending transactions, securities loans (liabilities of the lender) are typically overnight instruments while the reinvestment securities (assets of the lender) have various durations, depending on the condition of the yield curve at the time of purchase.

- **Counterparty Risk** - The risk that a counterparty will not settle an obligation in full, either on the due date or at any time afterwards. This risk is present on both the lending side (borrower as counterparty) and the collateral reinvestment side (reinvestment security issuer as counterparty) of a securities lending transaction. Synonymous with credit risk.

- **Demand Spread** - For loans vs. cash collateral, it is the weighted average risk-free rate less the rebate rate. It represents a measure of the demand value of the loaned security and is also referred to as the funding spread, the intrinsic spread, the intrinsic value, the natural spread or the below-the-line spread. For loans vs. non-cash collateral it is equal to the premium paid by the borrower.

- **General Collateral** - Securities that are not highly sought after in the market by borrowers; demand for general collateral is not issue specific. Repo rates, rebate rates and premiums for these specific securities tend to be lower than the prevailing rate for special collateral.

- **Gross Spread** - The difference between the yield generated by the cash collateral and the rebate paid on the securities loans (or, the in case of loans vs. non-cash collateral, the premium). It is comprised of the demand spread and the reinvestment spread. Also referred to as combined spread, integrated spread or total spread.

- **Mark to Market** - The practice of (re)valuing securities and financial instruments using current market prices. Both securities loans and collateral are revalued daily.
Glossary

- **Open Transactions** – Transactions with no fixed maturity date that are subject to the possibility of daily termination or renegotiation of rebate rates. Securities loans are generally considered overnight, or open, transactions.

- **Rebate Rate** - The interest rate that a securities lender pays the borrower on cash collateral. This will normally be below the risk-free rate and will reflect the demand value of the securities. Also referred to as the funding rebate.

- **Reinvestment Spread** - Weighted average collateral yield less the weighted average risk-free rate. This represents a measure of the excess return generated by the investment process. This is also referred to as asset spread, investment spread, above-the-line spread or collateral spread.

- **Repurchase Agreement (Repo)** - A financing arrangement in which the holder of securities sells them to a lender under an agreement to repurchase them on a specified date at an agreed-to price.

- **Risk Free Rate** - A theoretical interest rate that would be returned on an investment that was completely free of risk. The very short-term government securities are usually used as proxies for the risk-free rate, since they are virtually risk-free. In securities lending transactions the Overnight Banking Funding Rate (OBFR) and the Eonia are used as close approximations of the risk-free rate for loans vs. USD collateral and loans vs. Euro collateral, respectively. The risk-free rate serves as the breakpoint that segments the total spread/income earned on a securities lending transaction into the portion of spread/income attributable to the demand for the loaned securities and the portion attributable to the reinvestment process.

- **Specials Collateral** - Securities that, for a specific reason, are highly sought after in the market by borrowers. Funding rates, rebate rates and premiums for these specific securities tend to be higher than the prevailing rate for general collateral.

- **Substitute Payment** - A payment made by the borrower of securities to the lender in lieu of actual dividends or other income earned on the securities (net of any applicable taxes). This payment is equal to that which the lender would have received if it had not lent the securities. Also referred to as a manufactured payment.

- **Weighted Average Maturity (WAM)** - The length of time until the average security in a fund will mature or be redeemed by its issuer. It indicates a fixed income fund's sensitivity to interest rate changes: longer average weighted maturity implies greater volatility in response to interest rate changes.

---

1. Source: investopedia.com
2. Source: Investorwords.com

Information Classification: Limited Access
Market Update
Market Update

• The COVID-19 pandemic and its subsequent ramifications on the economy/markets have remained the focus for the last couple of months. The Federal Reserve has been heavily involved in the markets by basically offering “unlimited” Quantitative Easing (QE)/Liquidity through outright security purchases and various lending facilities. The massive issuance of Treasury Bills has created liquidity and consistent market supply.

• The volatility in the US equities market has created demand in the technology sector and online only retailers, while others such as airlines, energy, and cruise lines continue suffering and these names are starting to attract the attention of short sellers.

• Temporary short sell bans in a number of EMEA and APAC markets did not prevent lending as we continued to meet borrower demand in these markets with increased activity. There was no ban on lending and no requirement to close existing short positions. EU companies cancelled or postponed their dividends either because social distancing has prevented companies hosting their Annual General Meeting at which the dividend would be approved, or the crisis has forced companies to redirect their capital.

• Corporate bond issuances were robust in both the Investment Grade (IG) and High Yield (HY) markets. With the additional supply and strong liquidity in the HY market, loan balances and demand spreads have seen a gradual compression.
Performance Review
Relationship Summary

• Earnings Overview
  – $429.1M* in securities lending revenue for Oregon State Treasury since 2001

• Cash Collateral
  – Separately accounts for Oregon PERS Funds and Oregon Non – PERS Funds managed by SSGA with same custom investment guidelines as Oregon Short-Term Fund
  – Non-Cash Collateral
    • US Treasury and US Agency Bonds, Sovereign Debt

• Approved Borrowers
  – Oregon PERS Funds - State Street approved Borrowers list
  – Oregon Non - PERS Funds - Fed Primary Dealers list

• Program Parameters
  – Limits: 20% per Borrower

• Borrower Default Indemnification provided by State Street

• As of May 31, 2020
• Source: my.statestreet.com
Data represents past performance and is not a guarantee of future results
## Securities Lending Performance

### State of Oregon - All Accounts Performance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Lendable Assets ($)</td>
<td>46,860,853,506</td>
<td>51,858,652,901</td>
<td>52,365,296,785</td>
<td>53,347,700,173</td>
<td>53,065,798,003</td>
<td>51,043,417,297</td>
<td>-3.81%</td>
</tr>
<tr>
<td>Average On Loan ($)</td>
<td>3,345,928,200</td>
<td>3,290,834,044</td>
<td>4,189,356,035</td>
<td>3,200,047,303</td>
<td>3,716,842,940</td>
<td>2,868,299,010</td>
<td>-22.83%</td>
</tr>
<tr>
<td>Utilization</td>
<td>7.14%</td>
<td>6.35%</td>
<td>8.00%</td>
<td>6.00%</td>
<td>7.00%</td>
<td>5.62%</td>
<td>-19.77%</td>
</tr>
<tr>
<td>Earnings by Program ($)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US Equity</td>
<td>6,011,253</td>
<td>4,378,891</td>
<td>4,005,729</td>
<td>3,215,650</td>
<td>1,412,815</td>
<td>1,178,726</td>
<td>-16.57%</td>
</tr>
<tr>
<td>US Corporate Bond</td>
<td>998,690</td>
<td>899,955</td>
<td>2,087,163</td>
<td>1,297,278</td>
<td>668,534</td>
<td>626,246</td>
<td>-6.33%</td>
</tr>
<tr>
<td>US Government</td>
<td>1,504,167</td>
<td>1,108,839</td>
<td>1,866,601</td>
<td>1,964,452</td>
<td>919,039</td>
<td>1,533,992</td>
<td>66.91%</td>
</tr>
<tr>
<td>Non-US Equity</td>
<td>5,313,485</td>
<td>3,835,483</td>
<td>4,298,421</td>
<td>2,918,137</td>
<td>1,430,526</td>
<td>677,849</td>
<td>-52.62%</td>
</tr>
<tr>
<td>Non-US Fixed Income</td>
<td>27,893</td>
<td>20,182</td>
<td>14,096</td>
<td>2,770</td>
<td>1,331</td>
<td>1,931</td>
<td>45.02%</td>
</tr>
<tr>
<td>Total Earnings ($)</td>
<td>13,855,487</td>
<td>10,243,350</td>
<td>12,272,010</td>
<td>9,398,287</td>
<td>4,432,246</td>
<td>4,018,744</td>
<td>-9.33%</td>
</tr>
<tr>
<td>Components of Spread (bps)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand Spread</td>
<td>47</td>
<td>41</td>
<td>34</td>
<td>24</td>
<td>26</td>
<td>23</td>
<td>-13.52%</td>
</tr>
<tr>
<td>Reinvestment Spread</td>
<td>16</td>
<td>7</td>
<td>26</td>
<td>29</td>
<td>24</td>
<td>55</td>
<td>127.31%</td>
</tr>
<tr>
<td>Net Spread</td>
<td>63</td>
<td>48</td>
<td>60</td>
<td>53</td>
<td>50</td>
<td>77</td>
<td>54.06%</td>
</tr>
<tr>
<td>Non-Cash Collateral Spread (bps)</td>
<td>31</td>
<td>29</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>21</td>
<td>-2.79%</td>
</tr>
<tr>
<td>Return to Lendable Assets (bps)</td>
<td>2.96</td>
<td>1.98</td>
<td>2.34</td>
<td>1.76</td>
<td>2.00</td>
<td>1.89</td>
<td>-5.74%</td>
</tr>
</tbody>
</table>

Notes:
1. Risk-Free rate used for spread calculations was Fed Funds Open, which changed to OIBFR on 9/19/2016
2. Data represents past performance and is not a guarantee of future results
3. Data Source: Securities Finance Business Intelligence
4. Components of Spread encompass only "cash collateral" backed loans during the period
### Securities Lending Performance

#### State of Oregon - PERS Performance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Lendable Assets ($)</td>
<td>29,289,150,404</td>
<td>33,296,379,135</td>
<td>32,168,041,226</td>
<td>31,248,473,537</td>
<td>31,012,882,028</td>
<td>28,955,497,370</td>
<td>-6.63%</td>
</tr>
<tr>
<td>Average On Loan ($)</td>
<td>2,518,154,606</td>
<td>2,596,442,241</td>
<td>2,683,687,926</td>
<td>2,255,996,575</td>
<td>2,513,452,406</td>
<td>2,046,933,359</td>
<td>-18.56%</td>
</tr>
<tr>
<td>Utilization</td>
<td>8.60%</td>
<td>7.80%</td>
<td>8.34%</td>
<td>7.22%</td>
<td>8.10%</td>
<td>7.07%</td>
<td>-12.77%</td>
</tr>
</tbody>
</table>

#### Earnings by Program ($)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>US Equity</td>
<td>5,951,586</td>
<td>4,287,278</td>
<td>3,940,306</td>
<td>3,146,126</td>
<td>1,399,196</td>
<td>1,159,964</td>
<td>-17.10%</td>
</tr>
<tr>
<td>US Corporate Bond</td>
<td>445,389</td>
<td>421,351</td>
<td>874,550</td>
<td>513,865</td>
<td>255,828</td>
<td>336,515</td>
<td>31.54%</td>
</tr>
<tr>
<td>US Government</td>
<td>721,885</td>
<td>609,248</td>
<td>852,960</td>
<td>933,727</td>
<td>438,862</td>
<td>750,284</td>
<td>70.96%</td>
</tr>
<tr>
<td>Non-US Equity</td>
<td>5,047,557</td>
<td>3,704,779</td>
<td>4,187,004</td>
<td>2,846,314</td>
<td>1,397,498</td>
<td>665,442</td>
<td>-52.38%</td>
</tr>
<tr>
<td>Non-US Fixed Income</td>
<td>27,893</td>
<td>20,182</td>
<td>14,096</td>
<td>2,770</td>
<td>1,331</td>
<td>1,931</td>
<td>45.02%</td>
</tr>
<tr>
<td>Total Earnings ($)</td>
<td>12,194,309</td>
<td>9,042,839</td>
<td>9,868,917</td>
<td>7,442,801</td>
<td>3,492,715</td>
<td>2,914,136</td>
<td>-16.57%</td>
</tr>
</tbody>
</table>

#### Components of Spread (bps)

<table>
<thead>
<tr>
<th>Component</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2019</th>
<th>2020</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand Spread</td>
<td>62</td>
<td>46</td>
<td>48</td>
<td>42</td>
<td>47</td>
<td>32</td>
<td>-31.68%</td>
</tr>
<tr>
<td>Reinvestment Spread</td>
<td>16</td>
<td>7</td>
<td>23</td>
<td>25</td>
<td>23</td>
<td>55</td>
<td>138.25%</td>
</tr>
<tr>
<td>Net Spread</td>
<td>77</td>
<td>52</td>
<td>71</td>
<td>67</td>
<td>70</td>
<td>88</td>
<td>24.38%</td>
</tr>
<tr>
<td>Non-Cash Collateral Spread (bps)</td>
<td>34</td>
<td>35</td>
<td>29</td>
<td>24</td>
<td>24</td>
<td>21</td>
<td>-12.70%</td>
</tr>
</tbody>
</table>

#### Return to Lendable Assets (bps)

<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2019</th>
<th>2020</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.16</td>
<td>2.72</td>
<td>3.07</td>
<td>2.38</td>
<td>2.70</td>
<td>2.42</td>
<td>-10.64%</td>
</tr>
</tbody>
</table>

**Notes:**

1. Risk-Free rate used for spread calculations was Fed Funds Open, which changed to OIS on 9/19/2016
2. Data represents past performance and is not a guarantee of future results
3. Data Source: Securities Finance Business Intelligence
4. Components of Spread encompass only "cash collateral" backed loans during the period
## Securities Lending Performance

### State of Oregon - Non-PERS Performance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Lendable Assets ($)</td>
<td>17,571,703,102</td>
<td>18,562,273,766</td>
<td>20,197,255,559</td>
<td>22,099,226,635</td>
<td>22,052,915,975</td>
<td>22,087,919,926</td>
<td>0.16%</td>
</tr>
<tr>
<td>Average On Loan ($)</td>
<td>827,773,594</td>
<td>694,391,803</td>
<td>1,505,668,109</td>
<td>944,050,728</td>
<td>1,203,390,534</td>
<td>821,365,651</td>
<td>-31.75%</td>
</tr>
<tr>
<td>Utilization</td>
<td>4.71%</td>
<td>3.74%</td>
<td>7.45%</td>
<td>4.27%</td>
<td>5.46%</td>
<td>3.72%</td>
<td>-31.85%</td>
</tr>
<tr>
<td>Earnings by Program ($)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US Equity</td>
<td>59,667</td>
<td>91,612</td>
<td>65,422</td>
<td>69,524</td>
<td>13,619</td>
<td>18,762</td>
<td>37.76%</td>
</tr>
<tr>
<td>US Corporate Bond</td>
<td>553,301</td>
<td>478,603</td>
<td>1,212,613</td>
<td>783,414</td>
<td>412,706</td>
<td>289,731</td>
<td>-29.80%</td>
</tr>
<tr>
<td>US Government</td>
<td>782,283</td>
<td>499,592</td>
<td>1,013,641</td>
<td>1,030,725</td>
<td>480,177</td>
<td>783,708</td>
<td>63.21%</td>
</tr>
<tr>
<td>Non-US Equity</td>
<td>265,928</td>
<td>130,704</td>
<td>111,416</td>
<td>71,824</td>
<td>33,028</td>
<td>12,407</td>
<td>-62.44%</td>
</tr>
<tr>
<td>Non-US Fixed Income</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Earnings ($)</td>
<td>1,661,178</td>
<td>1,200,511</td>
<td>2,403,093</td>
<td>1,955,486</td>
<td>939,531</td>
<td>1,104,608</td>
<td>17.57%</td>
</tr>
<tr>
<td>Components of Spread (bps)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand Spread</td>
<td>11</td>
<td>20</td>
<td>7</td>
<td>2</td>
<td>10</td>
<td>4</td>
<td>-56.01%</td>
</tr>
<tr>
<td>Reinvestment Spread</td>
<td>18</td>
<td>10</td>
<td>31</td>
<td>36</td>
<td>25</td>
<td>54</td>
<td>112.51%</td>
</tr>
<tr>
<td>Net Spread</td>
<td>30</td>
<td>31</td>
<td>38</td>
<td>38</td>
<td>34</td>
<td>58</td>
<td>68.33%</td>
</tr>
<tr>
<td>Non-Cash Collateral Spread (bps)</td>
<td>17</td>
<td>13</td>
<td>11</td>
<td>14</td>
<td>15</td>
<td>13</td>
<td>-14.66%</td>
</tr>
<tr>
<td>Return to Lendable Assets (bps)</td>
<td>0.95</td>
<td>0.65</td>
<td>1.19</td>
<td>0.88</td>
<td>1.02</td>
<td>1.20</td>
<td>17.38%</td>
</tr>
</tbody>
</table>

Notes:
1. Risk-Free rate used for spread calculations was Fed Funds Open, which changed to OBFR on 9/19/2016
2. Data represents past performance and is not a guarantee of future results
3. Data Source: Securities Finance Business Intelligence
4. Components of Spread encompass only "cash collateral" backed loans during the period
### Borrower Diversification – May 31, 2020

**State of Oregon Borrower Diversification**

<table>
<thead>
<tr>
<th>Borrower</th>
<th>On-Loan Market Value</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE BARCLAYS GROUP</td>
<td>495,178,998</td>
<td>12%</td>
</tr>
<tr>
<td>THE J.P. MORGAN CHASE GROUP</td>
<td>353,939,496</td>
<td>11%</td>
</tr>
<tr>
<td>THE CREDIT SUISSE GROUP</td>
<td>274,943,833</td>
<td>9%</td>
</tr>
<tr>
<td>THE BANK OF AMERICA GROUP</td>
<td>199,908,264</td>
<td>9%</td>
</tr>
<tr>
<td>THE BNP PARIBAS GROUP</td>
<td>170,333,043</td>
<td>8%</td>
</tr>
<tr>
<td>THE UBS GROUP</td>
<td>145,114,211</td>
<td>8%</td>
</tr>
<tr>
<td>THE CITIGROUP GROUP</td>
<td>126,410,279</td>
<td>7%</td>
</tr>
<tr>
<td>BANK OF MONTREAL EUROPE PLC</td>
<td>121,808,753</td>
<td>6%</td>
</tr>
<tr>
<td>THE MORGAN STANLEY GROUP</td>
<td>103,846,142</td>
<td>6%</td>
</tr>
<tr>
<td>THE HSBC GROUP</td>
<td>101,617,317</td>
<td>5%</td>
</tr>
<tr>
<td>OTHER BORROWERS</td>
<td>598,978,348</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,692,078,684</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Notes:**

1. Based Currency (USD) Loan balance as of: May 31, 2020
2. Data represents past performance and is not a guarantee of future results
3. Data Source: Securities Finance Business Intelligence
Disclaimer

State Street Global Markets® is a registered trademark of State Street Corporation® used for its financial markets business and that of its affiliates (collectively “State Street”).

This document and information provided herein is for marketing and/or informational purposes only and is not intended for retail clients, nor for distribution to, and may not be relied upon by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to applicable law or regulation. It is not intended to constitute investment, legal, regulatory, tax or accounting advice regarding any securities or futures and does not take into account any client's particular investment or other financial objectives or strategies, nor any client’s legal, regulatory, tax or accounting status, nor does it purport to be comprehensive, nor intended to replace the exercise of a client’s own careful independent review and judgment regarding any corresponding investment or other financial decision. All information has been obtained from sources believed to be reliable at the time of publication, but we make no representation or warranty as to its accuracy and you should not place any reliance on this information.

This document and information provided herein is not intended to suggest or recommend any investment or investment strategy, and does not constitute investment research. These written materials do not constitute, and should not be construed as constituting, (1) a solicitation, offer or invitation to subscribe for, or purchase securities or futures or the making available of securities or futures for purchase or subscription in any jurisdiction; (2) the provision of investment advice concerning securities or futures; or (3) an undertaking by State Street to manage the portfolio of securities or futures contracts on behalf of other persons. This material is not intended to constitute any binding contractual arrangement or commitment by State Street to provide securities services nor any other financial services.

Any market commentary provided by Securities Finance Trading Desks is not investment research. Performance data shown represents past performance and is no guarantee of future results.

State Street hereby disclaims all liability, whether arising in contract, tort or otherwise, for any losses, liabilities, damages, expenses or costs arising, either direct or consequential, from or in connection with the use of or any reliance placed upon any information provided.

Clients should be aware of the risks of participating in securities lending, which may include counterparty, collateral, loss of investment, tax and accounting risks. The communication and information or any portion thereof may not be reprinted, sold or redistributed without the prior written consent of State Street Global Markets.

The products and services described herein are offered by State Street Bank and Trust Company, authorized and regulated by the Federal Reserve Board.

Products and services may not be available in all jurisdictions. Please contact your sales representative for further information.

SF GEN GL 2020-01.

To learn how State Street looks after your personal data, visit: http://www.statestreet.com/utility/data-processing-and-privacy-notice.html

© 2020 State Street Corporation - All Rights Reserved
Cash Management
State Street’s Cash Management Team

22 professionals averaging 20 years of industry experience managing $388B in AUM across 14 strategies globally

<table>
<thead>
<tr>
<th>Cash Management</th>
<th>Role</th>
<th>Location</th>
<th>Years Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pia McCusker</td>
<td>Global Head</td>
<td>Boston</td>
<td>19</td>
</tr>
<tr>
<td>Peter Hajjar</td>
<td>Global Head of Credit Research</td>
<td>Boston</td>
<td>18</td>
</tr>
<tr>
<td>Todd Bean, CFA</td>
<td>Head of US Traditional Cash Strategies</td>
<td>Boston</td>
<td>20</td>
</tr>
<tr>
<td>Sean Dillon</td>
<td>Head of US Securities Lending Cash Strategies</td>
<td>Boston</td>
<td>25</td>
</tr>
<tr>
<td>Simon Mullumby, CFA</td>
<td>Head of APAC Cash Management</td>
<td>Sydney</td>
<td>23</td>
</tr>
<tr>
<td>Nicholas Pidgeon</td>
<td>Head of EMEA Cash Management</td>
<td>London</td>
<td>31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Value (in billions USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Registered</td>
<td>$179.0</td>
</tr>
<tr>
<td>US ERISA</td>
<td>$82.0</td>
</tr>
<tr>
<td>US SMA</td>
<td>$86.0</td>
</tr>
<tr>
<td>Non-US</td>
<td>$41.0</td>
</tr>
<tr>
<td>US Registered Non-US</td>
<td>$138.0</td>
</tr>
<tr>
<td>Non-US Prime</td>
<td>$120.0</td>
</tr>
<tr>
<td>Prime Plus &amp; Enhanced Cash</td>
<td>$77.0</td>
</tr>
<tr>
<td>Repo Only</td>
<td>$23.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategy Type</th>
<th>Value (in billions USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Repo</td>
<td></td>
</tr>
<tr>
<td>ABS and Structured</td>
<td></td>
</tr>
<tr>
<td>Money Market</td>
<td></td>
</tr>
<tr>
<td>Sovereign Rates</td>
<td></td>
</tr>
<tr>
<td>Government Agencies</td>
<td></td>
</tr>
<tr>
<td>Non-Traditional Repo</td>
<td></td>
</tr>
<tr>
<td>Term Unsecured</td>
<td></td>
</tr>
</tbody>
</table>

Source: State Street Global Advisors, as of March 31, 2020. Figures provided in billions USD.
We Deliver Outcomes Based on Our Clients Needs

Our Approach

Finding the appropriate balance

Relative Value approach does not “reach” for yield

Understanding the needs for ready cash

Principal Preservation
Safety

Meeting the Needs of our Clients

Yield
Competitive Return

Liquidity
Same Day Access
Portfolio Construction

Portfolio activity revolves around liquidity management and generating relative value through security selection all while ensuring proper oversight and controls.

Source: SSGA as of March 4 2020. Key: WAM weighted average maturity, WAL weighted average life
Credit Research Process at Work

Case Study #1

- SSGA Cash Credit Research team reviews for approval a European government-supported credit institution (with Aa1/AA credit rating).

- An in-depth analysis revealed poor lending standards at the institution, and the Credit Research team determined that the government support mechanism was all that underpinned its strong external credit rating. As such, issuer was not approved.

- Concerns were validated a year later when the European government removed its support, a move that immediately led to multiple notch downgrades for the issuer, all the way to HY status.

Case Study #2

- For large global banks, fundamental credit profile deterioration often occurs over multiple years, even if financial markets don’t reflect the degradation immediately.

- The Global Cash Credit Research process aims to identify credit profile degradation in “real-time”, and reduce maturity restrictions to limit exposure to weakening credits for our Cash clients.

- In the case of this large global bank, maturity restrictions were reduced multiple times and well-in-advance-of of 3rd party credit rating downgrades, and more material volatility in equity and CDS prices.
Account Summary
The Oregon State Treasury (FC5L)

As of: May 20, 2020
Total Par AUM: 835,204,620
Uninvested/unsettled Cash: 827
Net AUM: 835,205,467

**Liquidity Schedule**

<table>
<thead>
<tr>
<th>Floating Rate Breakdown</th>
<th>Fixed Rate</th>
<th>Floating Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1M LIBOR</td>
<td>39.93%</td>
<td>20.33%</td>
</tr>
<tr>
<td>3M LIBOR</td>
<td>19.63%</td>
<td>7.42%</td>
</tr>
<tr>
<td>FED FUNDS</td>
<td>2.75%</td>
<td>2.80%</td>
</tr>
<tr>
<td>SOFR</td>
<td>2.63%</td>
<td>1.00%</td>
</tr>
<tr>
<td>Total</td>
<td>64.95%</td>
<td>20.93%</td>
</tr>
</tbody>
</table>

**Sectors**

<table>
<thead>
<tr>
<th>Sectors</th>
<th>ABS</th>
<th>REPO</th>
<th>Bank Note</th>
<th>CD</th>
<th>CP</th>
<th>Corporate</th>
<th>GOVERNMENT</th>
<th>M-MKT FUND</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury</td>
<td>136,567,000</td>
<td>16.58%</td>
<td>39,000,000</td>
<td>3.89%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>165,567,000</td>
</tr>
<tr>
<td>Agency Debt</td>
<td>39,000,000</td>
<td>3.89%</td>
<td>165,567,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>174,567,000</td>
</tr>
<tr>
<td>Total</td>
<td>165,567,000</td>
<td>20.13%</td>
<td>165,567,000</td>
<td>24.22%</td>
<td>15.83%</td>
<td>165,567,000</td>
<td>20.13%</td>
<td>165,567,000</td>
<td>165,567,000</td>
</tr>
</tbody>
</table>

**Repo Collateral**

<table>
<thead>
<tr>
<th>Repo Collateral</th>
<th>AAA</th>
<th>AA+</th>
<th>AA-</th>
<th>A+</th>
<th>A-</th>
<th>BBB+</th>
<th>A-1+</th>
<th>A-1</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury</td>
<td>15.21%</td>
<td>2.63%</td>
<td>16.89%</td>
<td>32.44%</td>
<td>5.15%</td>
<td>7.85%</td>
<td>11.97%</td>
<td>3.83%</td>
<td>2.33%</td>
</tr>
<tr>
<td>Agency Debt</td>
<td>2.63%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**S&P Ratings**

<table>
<thead>
<tr>
<th>Country of Issuer</th>
<th>Canada</th>
<th>Germany</th>
<th>Japan</th>
<th>Luxembourg</th>
<th>Sweden</th>
<th>Singapore</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>3.59%</td>
<td>1.92%</td>
<td>3.26%</td>
<td>2.99%</td>
<td>2.30%</td>
<td>1.92%</td>
<td>13.77%</td>
<td>40.72%</td>
</tr>
<tr>
<td>Canada</td>
<td>21.06%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td>1.92%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td>3.26%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxembourg</td>
<td></td>
<td></td>
<td></td>
<td>2.99%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.30%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.92%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13.77%</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40.72%</td>
</tr>
</tbody>
</table>

**Country of Risk**

<table>
<thead>
<tr>
<th>Country of Risk</th>
<th>Canada</th>
<th>Germany</th>
<th>Japan</th>
<th>Luxembourg</th>
<th>Sweden</th>
<th>Singapore</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>3.59%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>21.06%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td>1.92%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td>3.26%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxembourg</td>
<td></td>
<td></td>
<td></td>
<td>2.99%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.30%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.92%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13.77%</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40.72%</td>
</tr>
</tbody>
</table>

Source: SSGA, Bloomberg Finance, L.P.

*The yield quotation stated above more closely reflects the current earnings of the fund than the total return quotation. Ratings are from Bloomberg Finance L.P. and S&P. All YCD’s and Repo are being reported as Domestic and thus not included in the % Foreign Issuers. Weighted Average Maturity (WAM): Aggregation of WAM of underlying securities in fund defined as Floating rate securities; Next Reset Date — Current Date; Fixed Rate: Maturity Date — Current Date defined in days. Weighted Average Life (WAL): Aggregation of WAL of underlying securities in fund defined as Floating rate securities; Expected Maturity Date — Current Date; Fixed Rate: Expected Maturity Date — Current Date (defined in days). Sector information/security type designations may vary according to analyst or security characteristics, and they should not be construed as formal statements or interpretations of asset classes or sectors. Characteristics, allocations and sector weightings are as of the date indicated, subject to change, and should not be relied upon as current thereafter. Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. All results are historical and assume the reinvestment of dividends and capital gains. Visit http://www.SSGA.com/cash/funds for most recent month-end performance.
The Oregon State Treasury (FC5L)

Source: SSGA as of May 31 2020
Oregon State Treasury Short Term Fund (FC91)

As of: May 29, 2020

Total Par AUM: 635,962,000
Uninvested/unsettled Cash: 230
Net AUM: 635,962,230
1-Day Yield % (360 | 365 Basis): 0.5100 | 0.5200
WAM (in days): 25.47
WAL (in days): 78.56
Fund Price as of May 29, 2020: 0.9999

Liquidity Schedule

Floating Rate Breakdown

<table>
<thead>
<tr>
<th>Floating Rate Type</th>
<th>ON</th>
<th>2-7</th>
<th>8-30</th>
<th>1-2 M</th>
<th>2-3 M</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1M LIBOR</td>
<td>18.22%</td>
<td>3.62%</td>
<td>5.22%</td>
<td>2.75%</td>
<td>6.05%</td>
<td>40.14%</td>
</tr>
<tr>
<td>3M LIBOR</td>
<td>15.05%</td>
<td>2.52%</td>
<td>3.47%</td>
<td>2.52%</td>
<td>6.05%</td>
<td>36.19%</td>
</tr>
<tr>
<td>FED FUNDS</td>
<td>1.26%</td>
<td>0.00%</td>
<td>2.06%</td>
<td>0.00%</td>
<td>6.05%</td>
<td>9.45%</td>
</tr>
<tr>
<td>SOFR</td>
<td>1.57%</td>
<td>0.00%</td>
<td>5.92%</td>
<td>0.00%</td>
<td>6.05%</td>
<td>9.45%</td>
</tr>
<tr>
<td>Total</td>
<td>20.44%</td>
<td>3.62%</td>
<td>22.06%</td>
<td>2.75%</td>
<td>6.05%</td>
<td>40.14%</td>
</tr>
</tbody>
</table>

Sectors

<table>
<thead>
<tr>
<th>Sector Type</th>
<th>ABS</th>
<th>DR</th>
<th>Repo</th>
<th>Bank Note</th>
<th>CD</th>
<th>CP</th>
<th>Corporate</th>
<th>GOVERNMENT</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>6,120,000</td>
<td>10,24%</td>
<td>238,002,000</td>
<td>37.46%</td>
<td>8,700,000</td>
<td>8.29%</td>
<td>65,030,000</td>
<td>18.00%</td>
<td>2,703,000</td>
</tr>
</tbody>
</table>

Repo Collateral

<table>
<thead>
<tr>
<th>Repo Collateral</th>
<th>Treasury</th>
<th>Agency Debt</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>176,262,000</td>
<td>28.63%</td>
<td>238,002,000</td>
</tr>
</tbody>
</table>

S&P Ratings

<table>
<thead>
<tr>
<th>Rating</th>
<th>Treasury</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>7.77%</td>
</tr>
<tr>
<td>AA+</td>
<td>1.57%</td>
</tr>
<tr>
<td>AA</td>
<td>17.19%</td>
</tr>
<tr>
<td>A+</td>
<td>46.00%</td>
</tr>
<tr>
<td>A</td>
<td>1.03%</td>
</tr>
<tr>
<td>A-</td>
<td>5.00%</td>
</tr>
<tr>
<td>BBB+</td>
<td>3.14%</td>
</tr>
<tr>
<td>BB+</td>
<td>6.07%</td>
</tr>
<tr>
<td>B+</td>
<td>5.42%</td>
</tr>
<tr>
<td>Other</td>
<td>2.97%</td>
</tr>
</tbody>
</table>

Country of Issuer

<table>
<thead>
<tr>
<th>Country of Issuer</th>
<th>Australia</th>
<th>Canada</th>
<th>Germany</th>
<th>Japan</th>
<th>Luxembourg</th>
<th>Netherlands</th>
<th>Sweden</th>
<th>Singapore</th>
<th>UK</th>
<th>Sweden</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Total</td>
<td>2.59%</td>
<td>10.42%</td>
<td>3.14%</td>
<td>1.97%</td>
<td>3.30%</td>
<td>3.62%</td>
<td>3.26%</td>
<td>1.20%</td>
<td>0.47%</td>
<td>12.59%</td>
<td>46.00%</td>
</tr>
</tbody>
</table>

Country of Risk

<table>
<thead>
<tr>
<th>Country of Risk</th>
<th>Australia</th>
<th>Canada</th>
<th>Germany</th>
<th>Japan</th>
<th>Luxembourg</th>
<th>Netherlands</th>
<th>Sweden</th>
<th>Singapore</th>
<th>UK</th>
<th>Sweden</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Total</td>
<td>2.59%</td>
<td>10.42%</td>
<td>3.14%</td>
<td>1.97%</td>
<td>3.30%</td>
<td>3.62%</td>
<td>3.26%</td>
<td>1.20%</td>
<td>0.47%</td>
<td>12.59%</td>
<td>46.00%</td>
</tr>
</tbody>
</table>

Source: SSGA, Bloomberg Finance, L.P.

*The yield quotation stated above more closely reflects the current earnings of the fund than the total return quotation. Ratings are from Bloomberg Finance L.P. and S&P. All YCD's and Repo are being reported as Domestic and thus not included in the % Foreign Issuers. Weighted Average Maturity (WAM): Aggregation of WAM of underlying securities in fund defined as Floating rate securities: Next Reset Date — Current Date; Fixed Rate: Maturity Date — Current Date defined in days. Weighted Average Life (WAL): Aggregation of WAL of underlying securities in fund defined as Floating rate securities: Expected Maturity Date — Current Date; Fixed Rate: Expected Maturity Date — Current Date (defined in days). Sector information/security type is an internal characterization created and applied by SSGA analysts for internal surveillance based on market convention and security characteristics. Sector information/security type designations may vary according to analyst or security characteristics, and they should not be construed as formal statements or interpretations of asset classes or sectors. Characteristics, allocations and sector weightings are as of the date indicated, subject to change, and should not be relied upon as current thereafter. Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. All results are historical and assume the reinvestment of dividends and capital gains. Visit http://www.SSGA.com/cash/funds/ for most recent month-end performance.
Oregon State Treasury Short Term Fund (FC91)

**AUM**

- Billions
- May-19 to Apr-20
- Values ranging from $0.10 to $1.00

**1-Day Yield**

- Percentage values ranging from 0.00% to 3.50%
- May-19 to Apr-20

**WAM and WAL**

- Days
- May-19 to Apr-20
- WAM and WAL represented by different colored lines

**1 Week Liquidity**

- Days
- May-19 to Apr-20
- Values ranging from 50.00 to 70.00
Oregon Public Employees Retirement Fund (FC5N)

As of: May 29, 2020
Total Par AUM: 6,201,185
Uninvested/unsettled Cash: 0
Net AUM: 6,201,185
1-Day Yield% (360 | 365 Basis): 1.050 | 1.070
WAM (in days): 40.62
WAL (in days): 1.669
Fund Price as of May 29, 2020: 0.0046

Liquidity Schedule

Floating Rate Breakdown

<table>
<thead>
<tr>
<th>Floating Rate Breakdown</th>
<th>1M LIBOR</th>
<th>2M</th>
<th>3M LIBOR</th>
<th>1-2M</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1M LIBOR</td>
<td>31.83%</td>
<td>8.30</td>
<td>68.12%</td>
<td>31.83%</td>
<td>100.00%</td>
</tr>
<tr>
<td>3M LIBOR</td>
<td>68.12%</td>
<td>1.669</td>
<td>1-2M</td>
<td>68.12%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Total</td>
<td>100.00%</td>
<td>Total</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sectors

<table>
<thead>
<tr>
<th>Sectors</th>
<th>ABS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>6,201,185</td>
<td>100.00%</td>
</tr>
<tr>
<td>Total</td>
<td>6,201,185</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Repo Collateral

<table>
<thead>
<tr>
<th>Repo Collateral</th>
<th>31.88%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCC</td>
<td>68.12%</td>
</tr>
<tr>
<td>US</td>
<td>31.88%</td>
</tr>
<tr>
<td>UK</td>
<td>68.12%</td>
</tr>
</tbody>
</table>

S&P Ratings

<table>
<thead>
<tr>
<th>S&amp;P Ratings</th>
<th>US</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>68.12%</td>
<td></td>
</tr>
<tr>
<td>CCC</td>
<td>31.88%</td>
<td></td>
</tr>
</tbody>
</table>

Country of Issuer

<table>
<thead>
<tr>
<th>Country of Issuer</th>
<th>US</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>31.88%</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>68.12%</td>
<td></td>
</tr>
</tbody>
</table>

Country of Risk

*The yield quotation stated above more closely reflects the current earnings of the fund than the total return quotation. Ratings are from Bloomberg Finance L.P. and S&P. All YCD's and Repo are being reported as Domestic and thus not included in the % Foreign Issuers. Weighted Average Maturity (WAM); Aggregation of WAM of underlying securities in fund defined as Floating rate securities; Next Reset Date — Current Date; Fixed Rate: Maturity Date — Current Date defined in days. Weighted Average Life (WAL); Aggregation of WAL of underlying securities in fund defined as Floating rate securities; Expected Maturity Date — Current Date; Fixed Rate: Expected Maturity Date — Current Date (defined in days). Sector information/security type designations may vary according to analyst or security characteristics, and they should not be construed as formal statements or interpretations of asset classes or sectors. Characteristics, allocations and sector weightings are as of the date indicated, subject to change, and should not be relied upon as current thereafter. Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. All results are historical and assume the reinvestment of dividends and capital gains. Visit [http://www.SSGA.com/cash/funds](http://www.SSGA.com/cash/funds) for most recent month-end performance.

Source: SSGA, Bloomberg Finance, L.P.
Oregon Public Employees Retirement Fund (FC5N)

AUM

<table>
<thead>
<tr>
<th>Month</th>
<th>AUM (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-19</td>
<td>7.00</td>
</tr>
<tr>
<td>Jun-19</td>
<td>6.80</td>
</tr>
<tr>
<td>Jul-19</td>
<td>6.60</td>
</tr>
<tr>
<td>Aug-19</td>
<td>6.40</td>
</tr>
<tr>
<td>Sep-19</td>
<td>6.20</td>
</tr>
<tr>
<td>Oct-19</td>
<td>6.00</td>
</tr>
<tr>
<td>Nov-19</td>
<td>5.80</td>
</tr>
</tbody>
</table>

1-Day Yield

<table>
<thead>
<tr>
<th>Days</th>
<th>1-Day Yield (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.00%</td>
</tr>
<tr>
<td>7</td>
<td>-0.20%</td>
</tr>
<tr>
<td>30</td>
<td>0.20%</td>
</tr>
</tbody>
</table>

WAM and WAL

<table>
<thead>
<tr>
<th>Days</th>
<th>WAM</th>
<th>WAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>2,000.00</td>
<td>1,500.00</td>
</tr>
<tr>
<td>1,000</td>
<td>1,500.00</td>
<td>1,000.00</td>
</tr>
<tr>
<td>1,500</td>
<td>1,000.00</td>
<td>500.00</td>
</tr>
</tbody>
</table>

1 Week Liquidity

<table>
<thead>
<tr>
<th>Days</th>
<th>1 Week Liquidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.20%</td>
</tr>
<tr>
<td>7</td>
<td>0.40%</td>
</tr>
<tr>
<td>30</td>
<td>0.60%</td>
</tr>
<tr>
<td>90</td>
<td>0.80%</td>
</tr>
</tbody>
</table>

Source: SSGA as of May 31 2020
Market Update
Rates settling into an old routine: Zero

Source: Federal Reserve, Bloomberg Finance, L.P., as of June 15, 2020. Key: OBFR: Overnight Bank Funding Rate, 3M Libor: 3 Month Libor Rate, SOFR: Secured Overnight Finance Rate; 3M Bill: 3 month Treasury Bill; FF Target Lower: Federal Funds Target Range Lower Bound; FF Target Upper: Federal Funds Target Range Upper Bound. There can be no assurance that developments will transpire as forecasted and that the estimates are accurate. Performance quoted represents past performance, which is no guarantee of future results.
Massive and making a difference

System Open Market Account (SOMA: Fed’s Holdings)

Source: Federal Reserve NY as of June 15, 2020
Perception and Reality

Fed’s TOMO, Repurchase Agreements

Discount Window Borrowing

Fed’s Central Bank Liquidity Swaps (FX)

Primary Dealer Credit Facility (green) Money Market Liquidity Facility (orange)

Source: Bloomberg Finance, L.P., Federal Reserve, as of June 15th 2020
Other things we keep an eye on

Primary Dealer Positions: US Government Securities

Fed's Reverse Repo Allotment and Bill yields

US Treasury's Cash Balance

US Treasury Tax Receipts

Source: Bloomberg Finance, L.P., Federal Reserve, as of June 15, 2020
A nice improvement in credit conditions

3 Month Libor & OIS with Yield Difference

Bloomberg Barclays 1–3 year Corporate

3m LOIS Forward

Floating Rate Notes OAS vs. Swap

Source: Federal Reserve, Bloomberg Finance, L.P., as of May 17, 2020. Key: OBFR: Overnight Bank Funding Rate, 3M Libor: 3 Month Libor Rate, SOFR: Secured Overnight Finance Rate; 3M Bill: 3 month Treasury Bill; FF Target Upper: Federal Funds Target Range Upper Bound. OIS: Overnight Index Swap. There can be no assurance that developments will transpire as forecasted and that the estimates are accurate. Performance quoted represents past performance, which is no guarantee of future results.
The Treasury’s Printing Press is running overtime

Treasury Bills as a % of Public Treasury Debt

Commercial Paper Outstandings

US Treasury Bill total Auction

Appendix A: Important Disclosures
Important Disclosures

For Investment Professional Use Only.

Investing involves risk including the risk of loss of principal. The whole or any part of this work may not be reproduced, copied or transmitted or any of its contents disclosed to third parties without State Street Global Advisors SGA’s express written consent. The views expressed in this material are the views of US Fixed Income Portfolio Strategy and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected. The information provided does not constitute investment advice and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell a security. It does not take into account any investor’s particular investment objectives, strategies, tax status or investment horizon. You should consult your tax and financial advisor.

All material has been obtained from sources believed to be reliable. There is no representation or warranty as to the accuracy of the information and State Street shall have no liability for decisions based on such information. The trademarks and service marks referenced herein are the property of their respective owners. Third party data providers make no warranties or representations of any kind relating to the accuracy, completeness or timeliness of the data and have no liability for damages of any kind relating to the use of such data.

Web: www.ssga.com

© 2020 State Street Corporation — All Rights Reserved.

Tracking Code: 2391902.3.1.GBL.INST

Expiration Date: July 31, 2021
Investment Operations

Dave Randall
Director of Investment Operations

Debra Day
Investment Reporting Manager

Kristi Jenkins
Investment Operations Manager
Executive Summary

Data accuracy, analytics, reporting, and business intelligence are critical to investment decision-making.

Continued utilization of Blackrock’s Aladdin platform and the evolution and maturation of dedicated OST operational staff and infrastructure have enabled Investment Officers to focus on informed decision-making and produced the following bottom line results:

• Cost Savings
• Value Added Returns
• Data Integrity
• Expanded Capabilities
Background - Audit and Peer Reviews

Common theme of findings

• The investment division was significantly under-resourced relative to the size and complexity of its asset management responsibilities.
• This gap created substantial and avoidable risks.
• Given its fiduciary obligations, the Council determined that the status quo was untenable.

ANALYSES

- CUTTER (2011-14)
- FUNSTON ADVISORY SERVICES (2012)
- HEWITT ENNIS KNUPP (2012)
- CORTEX (2012)
- OST INTERNAL AUDIT (2013)
- CEM BENCHMARKING (ANNUAL)
- WILSHIRE/TRUST UNIVERSE COMPARISON SERVICE (ANNUAL)
OST undertook a multi-year business transformation project that included the addition and assimilation of dedicated operational resources as well as the acquisition and integration of the BlackRock Solutions (BRS) Aladdin platform. Today, OST’s Aladdin utilization rates are top among peers, and the Investment Operations Unit is now comprised of 14 FTEs across Investment Accounting, Performance, Reporting, Reconciliation, Trade Operations, and Data Management.

- External reviews and internal audits show substantial operational risks
- Blackrock (BRS) Aladdin system implemented on time and on budget
- Operations reaches staff of 7 specialists
- Operations reaches staff of 9 specialists
- Operations reaches staff of 11 specialists
- Operations reaches staff of 13 specialists
- Increased Internally-Managed Assets: $500M Emerging Markets
- Multi-stage program designed to address antiquated infrastructure and other operating risks
- Director of Investment Operations & Data Analyst hired – staff of 5
- Increased Internally-Managed Assets: $5B Treasury and $2B International Equity Portfolios
- Management of stock distributions brought in-house
- Trade Ops Transition reaches major milestones – Corp Actions Derivative Ops
- Increased Internally-Managed Assets: Another $1B Treasuries (Target 2021)
Investment Division Org Chart - Today

Capital Markets

VACANT
Director of Capital Markets

Geoff Nolan
Senior Investment Officer, Fixed Income

John Lutkehaus
Investment Officer, Fixed Income

Perrin Lim
Investment Officer, Fixed Income

Will Hampson
Investment Officer, Fixed Income

Angela Schaffers
Investment Analyst, Fixed Income

Andrew Coutu
Investment Analyst, Fixed Income

Scott Robertson
Investment Analyst, Fixed Income

Jeremy Knowles
Investment Analyst, Fixed Income

Michael Viteri
Senior Investment Officer, Public Equity

Robin Kaakonen
Investment Officer, Public Equity

Wil Hiles
Investment Officer, Public Equity

Claire Illo
Investment Analyst, Public Equity

Faith Sedberry
Investment Analyst, Alternatives

Amanda Kingsbury
Investment Analyst, Alternatives

VACANT
Investment Analyst, Alternatives

Alternatives

VACANT
Director of Alternative Investments

John Hershey
Executive Support Specialist

Ben Mahon
Senior Investment Officer, Alternatives

Mike Mueller
Investment Officer, Opportunity

Paul Koch
Investment Officer, Alternatives

Faith Sedberry
Investment Analyst, Alternatives

Sam Spencer
Investment Officer, Real Estate

VACANT
Investment Analyst, Real Estate

VACANT
Investment Analyst, Private Equity

VACANT
Investment Analyst, Private Equity

Michael Langdon
Senior Investment Officer, Private Equity

Ahman Dirks
Investment Officer, Private Equity

Tiffany ZhuGe
Investment Officer, Private Equity

Eric Messer
Investment Officer, Private Equity

Monique Sadegh
Investment Accountant

Dana Millican
Investment Analyst

Operations

VACANT
Director of Investment Operations

David Randall
Executive Support Specialist

Debra Day
Investment Reporting Manager

Roy Jackson
Senior Investment Accountant

Tiffany Zahas
Data Investment Analyst

Mohammed Quraishi
Trade Support Analyst

Aliese Jacobsen
Trade Support Analyst

Kenny Bao
Operations Analyst

Caitlyn Wang
Data Investment Analyst

Risk

Fawn Hubbard
Senior Investment Officer, Portfolio Risk and Research

Kristi Jenkins
Investment Operations Manager

Mark Selfridge
Data Investment Analyst

Anna Todahl
Investment Officer, ESG

Jennifer Laing
Investment Officer, Portfolio Risk & Research
Investment Operations Review

OST Staffing Compared to Peers - 2016

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

Source: CEM Benchmarking, November 2016 report.
OST Staffing Compared to Peers - Today

Investment Front Office
- 4th Quartile
- 3rd Quartile
- 2nd Quartile
- 1st Quartile
- OST (Today)

Governance, Operations, & Support
- 4th Quartile
- 3rd Quartile
- 2nd Quartile
- 1st Quartile
- OST (Today)

Total
- 4th Quartile
- 3rd Quartile
- 2nd Quartile
- 1st Quartile
- OST (Today)
<table>
<thead>
<tr>
<th>Operations</th>
<th>Oregon</th>
<th>Peer Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Analysis and Reporting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment Accounting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment Expense Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Management &amp; Governance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade Support/Settlement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational Risk Management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Cutter Associates Public Funds Resource Allocation Peer Group Study. Note: Peer group numbers reflect peer group average.
Assets Under Management
(Data as of 3/31/2020)

$103.2 BILLION

OREGON TREASURY
ASSETS UNDER MANAGEMENT

Public Employee Retirement
$75.6 Billion
- Target Date Funds: 3.3%
- Total Variable Fund: 0.5%

Local Government Intermediate Fund
OLGIF - $0.2 Billion

Oregon Short-Term Fund
OSTF - $22.7 Billion
- OLGIF: 1.0%
- Fixed Income: 99.0%

State Accident Insurance Fund
SAIF - $4.6 Billion
- Real Cash OLGIF: 1.0%
- Public Estate: 1.0%
- Fixed Income: 86.7%

Common School Fund
- Real Estate: 7.9%
- Alternatives: 8.3%
- Private Equity: 12.2%
- Fixed Income: 29.6%
- Public Equity: 40.8%

Local Government Intermediate Fund
OLGIF - $0.2 Billion
- Fixed Income: 100.0%

Oregon Intermediate-Term Pool
OITP - $0.1 Billion
- OSTF: 6.6%
- Fixed Income: 93.4%
Managing Billions Internally
(Data as of 3/31/2020)

PUBLIC EQUITY
INTERNAL 30.4%
EXTERNAL 69.6%

FIXED INCOME
INTERNAL 65.8%
EXTERNAL 34.2%

TOTAL PORTFOLIO
INTERNAL
34.3%
ASSET VALUE
$35.4 B
Building Capacity – Internal Management

Through benchmarking an aggregation of pension funds across the globe, research shows that internally-managed assets, over the long term, produce cost savings and improved investment returns. Overall staffing levels tend to increase, but the investment management costs are reduced.

-CEM
Internally-Managed Assets

Total OST Assets ($ millions)
Estimated Cost Savings

Incremental Quarterly Internal Management Fee Savings
Since January 2016
Estimated Cost Savings

Estimated Trailing Year as of March 31, 2020 Fee Savings from Internal Management Activities

- Oregon Short Term Fund
- OPERF Assets

Estimated Fee Savings from Internal Management Activities January 1, 2016 to March 31, 2020

- Oregon Short Term Fund
- OPERF Assets
Value Added Performance

Trailing Year Fund and Benchmark Performance as of March 31, 2020

Fund Return (1 Yr) vs Benchmark Return (1 Yr)

- International Risk Premia - OST
- US Risk Premia - OST
- S&P 600 Index - OST
- S&P 400 Index - OST
- S&P 500 Index - OST
- Government Portfolio - OST
- Oregon Short Term Fund

Benchmark Return (1 Yr)

-4.03% -2.15%
-11.24% -8.14%
-25.39% -22.36%
-22.69% -22.51%
-25.89% -25.11%
-11.71% -11.55%
-8.74% 1.95%
-13.54% 13.23%
-6.98% 2.25%

Fund Return (1 Yr)

1.95% 2.25%

Benchmark Return (1 Yr)

13.54% 13.23%

Fund and Benchmark Performance Since January 2016
(As of March 31, 2020)

Fund Return (Since Jan 2016) vs Benchmark Return (Since Jan 2016)

- International Risk Premia - OST
- US Risk Premia - OST
- S&P 600 Index - OST
- S&P 400 Index - OST
- S&P 500 Index - OST
- Government Portfolio - OST
- Oregon Short Term Fund

Benchmark Return (Since Jan 2016)

-8.03% 7.77%
-0.98% 0.55%
-2.72% 2.42%
-2.72% 2.42%
-2.72% 2.42%
-1.78% 1.39%
-5.85% 5.74%
-8.14% 7.91%
-6% -4% -2% 0% 2% 4% 6% 8% 10%

Fund Return (Since Jan 2016)

1.95% 2.25%

Benchmark Return (Since Jan 2016)

13.54% 13.23%
Investment Performance Value Add (Estimated $$s)

Estimated Dollar Contribution Versus Benchmark January 1, 2016 to March 31, 2020
Combined Value Add Estimated

Estimated Cumulative Internal Management Benefit Since January 2016 (as of March 31, 2020)

$458M
$77M
$381M

Cumulative Performance Premium  Cumulative Fee Savings
Data Integrity

Given the size, scale and complexity of the OST investment program, even slight discrepancies in data accuracy can magnify performance distortions which may result in unintended investment consequences and fund valuation errors.

Every basis point counts!
Improving Data Reliability

Valuation and Performance Data Flow

- Manager Statements & Security Level Detail
- TorreyCove (Alternatives Consultant)
- Private Edge (Real Estate Consultant)
- State Street (ABOR, PBOR)
- Aladdin (IBOR)
- Callan (General Consultant)
- OST
## Improving Data Reliability – Issue Recon Log

<table>
<thead>
<tr>
<th>Date Discovered</th>
<th>Report Date</th>
<th>Effective Date</th>
<th>Report</th>
<th>Incident/Impact</th>
<th>Phased/Field</th>
<th>Summary</th>
<th>Estimated Impact [$]</th>
<th>Real Cost:</th>
<th>Mean Provided:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 15</td>
<td>Jan 15</td>
<td>Jan 15</td>
<td>ORT</td>
<td>Initial contact</td>
<td>OSSTF</td>
<td>Contacted all affected from OSSTF</td>
<td>N/A</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>4/19/2015</td>
<td>4/18/2015</td>
<td>Mar 2015</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/PN</td>
<td>Initial call to check for software</td>
<td>$33,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>2/15/2016</td>
<td>2/15/2016</td>
<td>Jan 2016</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/PN</td>
<td>Phased out software; performance was acertified</td>
<td>$65,198,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>8/15/2016</td>
<td>8/15/2016</td>
<td>Oct 2016</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/PN</td>
<td>Period Equity Performance- Error for time of year</td>
<td>$75,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>10/15/2016</td>
<td>10/15/2016</td>
<td>Oct 2016</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/PN</td>
<td>Real Estate Portfolio-Borrowing Value did not match performance for time of year</td>
<td>$7,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>7/15/2017</td>
<td>7/21/2017</td>
<td>Jul 2017</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/PN</td>
<td>Real Estate Portfolio-Borrowing Value did not match performance for time of year</td>
<td>$7,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>6/15/2017</td>
<td>6/15/2017</td>
<td>Jun 2017</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/SCOR</td>
<td>(SGIP Fund: $15,000 Cash Flow and expanded, Expanded loan balance closed, error)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>4/15/2017</td>
<td>4/15/2017</td>
<td>Apr 2017</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/SCOR</td>
<td>(SGIP Fund: $15,000 Cash Flow and expanded, Expanded loan balance closed, error)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>2/15/2017</td>
<td>2/15/2017</td>
<td>Feb 2017</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/Allie</td>
<td>Vendor error (Error in SF and OSSTF not corrected)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>2/15/2017</td>
<td>2/15/2017</td>
<td>Feb 2017</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/Allie</td>
<td>Vendor error (Error in SF and OSSTF not corrected)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>1/15/2017</td>
<td>1/15/2017</td>
<td>Jan 2017</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/Allie</td>
<td>Vendor error (Error in SF and OSSTF not corrected)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>12/15/2016</td>
<td>12/15/2016</td>
<td>Dec 2016</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/Allie</td>
<td>Vendor error (Error in SF and OSSTF not corrected)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>8/15/2016</td>
<td>8/15/2016</td>
<td>Aug 2016</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/Allie</td>
<td>Vendor error (Error in SF and OSSTF not corrected)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>5/15/2016</td>
<td>5/15/2016</td>
<td>May 2016</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/Allie</td>
<td>Vendor error (Error in SF and OSSTF not corrected)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>2/15/2016</td>
<td>2/15/2016</td>
<td>Feb 2016</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/Allie</td>
<td>Vendor error (Error in SF and OSSTF not corrected)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>1/15/2016</td>
<td>1/15/2016</td>
<td>Jan 2016</td>
<td>ORT</td>
<td>OSSTF</td>
<td>OPERF/Allie</td>
<td>Vendor error (Error in SF and OSSTF not corrected)</td>
<td>$77,984,888</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

### Notes
- By making updates to the opening value for all SF errors in 2016 and 2017, estimated errors were less than the prior period reported errors were used.
- Updated in SF and OSSTF at the same time.
- Expanded cash flow and expanded, Expanded loan balance closed, error.
- Expanded cash flow and expanded, Expanded loan balance closed, error.
- Vendor error (Error in SF and OSSTF not corrected).

### For Illustrative Purposes
- OSSTF
- SFIP
- OCIP
- OPDST
- OPDSTF
- OPRF/PN
- OPRF/SCOR
- OPRF/Allie
Reconciliation Impact
Updated as of 3/31/2020

Estimated Historical Dollar Impact of Issues Handled by OST Operations Staff

- Private Equity
- Real Estate
- Opportunity
- Alternatives
- Other
OST began managing Stock Distributions in-house on 11/1/2018 (previously managed by external consultant).

- $576 million in distributions as of 3/31/2020
  - 117 separate lots
  - 25 million shares

- Cost Savings
  - Consultant’s average annual fee over the final 5 year period was $1.5 million

- Developed a streamlined process in collaboration with State Street and OST Operations and Equity teams
OST took over FX transaction processing from State Street Bank mid-Q2 2019:

- Over $700 million in FX transactions since program inception
  - Average of $66 million/month
  - 61 transactions processed in total, \( \approx 6 \) transactions/month

- Fee Savings
  - Average fee for processing OST FX transactions was $240k per annum

- Equities and Accounting teams worked together to develop a streamlined process to ensure a seamless transition

Bringing Functions In-House: Automated Reporting
Bringing Functions In-House: Trade Operations

Key Workflows OST manages:

- Order/Trade Entry on Aladdin
- New account set up (Custodian and Broker) – ADAM and CPM templates
- ISDA/CSA/MSFTA agreements – DECO set-up
- New Cash – Capital Flows Entry in Aladdin
- Security Master – Time series data, public securities, including client defined fields
Bringing Functions In-House: Fee Monitoring and Oversight

Alternatives Fees & Expenses: Validation Process

Reported/Charged

- Reported Expenses & Fees: Data extracted from capital account statements, financial statements, and ILPA statements provide us with a snapshot of expenses and fees that have been charged to the fund.
- Expected: Data extracted from LPAs and side letters provide economic terms, which allow us to calculate and model expected expenses and fees.
- The ‘recipe’ for validating alternatives fees and expenses is to compare what is reported against what is expected. Should a difference between the two amounts arise, further investigations will ensue.
A Quantifiable Improvement

Accomplishments

- Cost Savings
- Value Added Performance
- Improved Data Integrity
- Enhanced Capabilities
  - Stock Distributions
  - FX Transactions
  - Centralized/Automated Reporting
  - Trade Operations
  - Fee Oversight
Looking Forward

Strategic Initiatives

• Internal Management Committee

• Research Management System (RMS)

• Continuous Improvement
TAB 8 Asset Allocation & NAV Updates
<table>
<thead>
<tr>
<th>OPERF</th>
<th>Policy</th>
<th>Target</th>
<th>$ Thousands</th>
<th>Pre-Overlay</th>
<th>Overlay</th>
<th>Net Position</th>
<th>Actual</th>
<th>$ Thousands</th>
<th>$ Thousands</th>
<th>$ Thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Equity</td>
<td>27.5-37.5%</td>
<td>32.5%</td>
<td>22,530,812</td>
<td>30.6%</td>
<td>729,191</td>
<td>23,260,003</td>
<td>31.6%</td>
<td>1,083,738</td>
<td>372,319</td>
<td>24,716,660</td>
</tr>
<tr>
<td>Private Equity</td>
<td>13.5-21.5%</td>
<td>17.5%</td>
<td>17,026,271</td>
<td>23.1%</td>
<td>729,191</td>
<td>17,026,271</td>
<td>23.1%</td>
<td>1,701,063</td>
<td>906,143</td>
<td>16,456,022</td>
</tr>
<tr>
<td>Total Equity</td>
<td>45.0-55.0%</td>
<td>50.0%</td>
<td>39,557,083</td>
<td>53.7%</td>
<td>729,191</td>
<td>40,286,274</td>
<td>54.0%</td>
<td>1,701,063</td>
<td>906,143</td>
<td>41,742,331</td>
</tr>
<tr>
<td>Opportunity Portfolio</td>
<td>0-5%</td>
<td>0.0%</td>
<td>1,588,346</td>
<td>2.2%</td>
<td>1,588,346</td>
<td>1,588,346</td>
<td>2.2%</td>
<td>7,465</td>
<td>5,465</td>
<td>7,465</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>15-25%</td>
<td>20.0%</td>
<td>14,109,638</td>
<td>19.1%</td>
<td>645,321</td>
<td>14,754,959</td>
<td>20.0%</td>
<td>1,701,063</td>
<td>906,143</td>
<td>16,456,022</td>
</tr>
<tr>
<td>Risk Parity</td>
<td>0.0-2.5%</td>
<td>2.5%</td>
<td>906,143</td>
<td>1.2%</td>
<td>906,143</td>
<td>906,143</td>
<td>1.2%</td>
<td>7,465</td>
<td>5,465</td>
<td>7,465</td>
</tr>
<tr>
<td>Real Estate</td>
<td>9.5-15.5%</td>
<td>12.5%</td>
<td>8,475,519</td>
<td>11.5%</td>
<td>(4,500)</td>
<td>8,471,019</td>
<td>11.5%</td>
<td>8,471,019</td>
<td>7,743,477</td>
<td>8,471,019</td>
</tr>
<tr>
<td>Alternative Investments</td>
<td>7.5-15.5%</td>
<td>15.0%</td>
<td>7,743,177</td>
<td>10.5%</td>
<td>7,743,177</td>
<td>7,743,177</td>
<td>10.5%</td>
<td>7,465</td>
<td>5,465</td>
<td>7,465</td>
</tr>
<tr>
<td>Cash a</td>
<td>0-3%</td>
<td>0.0%</td>
<td>1,368,026</td>
<td>1.9%</td>
<td>(1,370,012)</td>
<td>(1,986)</td>
<td>0.0%</td>
<td>7,465</td>
<td>5,465</td>
<td>7,465</td>
</tr>
<tr>
<td>TOTAL OPERF</td>
<td>100%</td>
<td>$ 73,717,932</td>
<td>100.0%</td>
<td>$ -</td>
<td>$ 73,717,932</td>
<td>100.0%</td>
<td>$ 2,784,802</td>
<td>$ 379,770</td>
<td>$ 76,882,504</td>
<td></td>
</tr>
</tbody>
</table>

1 Targets established in April 2019. Interim policy benchmark effective January 1, 2019, consists of: 37.5% MSCI ACWI IMI Net, 21% Custom FI Benchmark, 16% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF ODCE net (1 quarter lagged), & 10% CPI+400bps.

* Includes cash held in the policy implementation overlay program.

<table>
<thead>
<tr>
<th>SAIF</th>
<th>Policy</th>
<th>Target</th>
<th>$ Thousands</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Equity</td>
<td>7-13%</td>
<td>10.0%</td>
<td>444,461</td>
<td>9.0%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>80-90%</td>
<td>85.0%</td>
<td>4,238,874</td>
<td>86.3%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>0-7%</td>
<td>5.0%</td>
<td>140,553</td>
<td>2.9%</td>
</tr>
<tr>
<td>Cash</td>
<td>0-3%</td>
<td>0.0%</td>
<td>90,272</td>
<td>1.8%</td>
</tr>
<tr>
<td>TOTAL SAIF</td>
<td>$ 4,914,160</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CSF</th>
<th>Policy</th>
<th>Target</th>
<th>$ Thousands</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Equities</td>
<td>40-50%</td>
<td>45.0%</td>
<td>675,685</td>
<td>38.0%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>8-12%</td>
<td>10.0%</td>
<td>181,305</td>
<td>10.4%</td>
</tr>
<tr>
<td>Total Equity</td>
<td>58-62%</td>
<td>55.0%</td>
<td>856,991</td>
<td>49.4%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>25-35%</td>
<td>25.0%</td>
<td>590,563</td>
<td>29.4%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>8-12%</td>
<td>10.0%</td>
<td>131,710</td>
<td>7.6%</td>
</tr>
<tr>
<td>Alternative Investments</td>
<td>8-12%</td>
<td>10.0%</td>
<td>120,571</td>
<td>6.9%</td>
</tr>
<tr>
<td>Cash</td>
<td>0-3%</td>
<td>0.0%</td>
<td>116,154</td>
<td>6.7%</td>
</tr>
<tr>
<td>TOTAL CSF</td>
<td>$ 1,734,989</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OPERF Asset Allocation

SAIF Asset Allocation

CSF Asset Allocation
SAIF NAV
15 years ending May 31, 2020
($ in Millions)
TAB 9 Calendar – Future Agenda Items
2020/21 OIC Forward Calendar and Planned Agenda Topics

September 9, 2020
Alternatives Portfolio Review
ESG Update
Corporate Governance Update
SAIF Annual Review
Q2 Performance & Risk Report

October 28, 2020
Public Equity Program Review
Opportunity Portfolio Review
Currency Overlay Review
CEM Benchmarking

December 9, 2020
Fixed Income Program Review
Q3 Performance & Risk Report
Policy Updates
Placement Agent Report

January 28, 2021
2022 OIC Calendar Approval
Private Equity Program Review
IAP Update
OSGP Annual Review

March 10, 2021
Real Estate Portfolio Review
CSF Annual Review
Q4 Performance & Risk Report

April 21, 2021
Asset Allocation & Capital Market Assumptions Update
Overlay Review

June 2, 2021
Q1 Performance & Risk Report

July 21, 2021
Alternatives Portfolio Review
Operations Update
Securities Lending Update