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Oregon Investment Council

October 28, 2020

John Russell
Chair

Rex Kim
Chief Investment Officer

Tobias Read
State Treasurer

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OREGON INVESTMENT COUNCIL

Agenda

October 28, 2020
9:00 AM

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

Time	A. Action Items	Presenter	Tab
9:00-9:05	**1. Review & Approval of Minutes** September 9, 2020	**John Russell** *OIC Chair*	**1**
9:05-9:10	**2. Opening Remarks and Committee Reports**	**Rex Kim** *Chief Investment Officer*	**2**
9:10-9:20	**3. Consultant Recommendations**	**John Hershey** *Director of Investments*	**3**
9:20-9:40	**4. EQT Infrastructure Fund V Recommendation**	**Ben Mahon** *Senior Investment Officer, Alternatives* **Faith Sedberry** *Investment Officer, Alternatives* **Tom Martin** *Head of Private Equity, Real Assets Research, Aksia, Torrey Cove Partners LLC*	**4**
9:40-10:00	**5. Proxy Voting Policy Recommendations**	**Michael Viteri** *Senior Investment Officer, Public Equity*	**5**
10:00-10:30	**6. OPERF Currency Hedging Program Policy Update**	**Karl Cheng** *Senior Investment Officer, Portfolio Risk & Research* **Jiangning (Jen) Plett** *Investment Officer, Portfolio Risk & Research*	**6**
10:30-10:40	**-----------------------------BREAK---------------------------------**		

B. Information Items

10:40-11:10	**7. SAIF Annual Review**	**Geoff Nolan** *Senior Investment Officer, Fixed Income* **Kerry Barnett** *President & CEO, SAIF* **Gina Manley** *Vice President of Finance and Chief Financial Officer, SAIF*	**7**
11:10-11:40	**8. OSGP Annual Review**	**Michael Viteri** **Wil Hiles** *Investment Officer, Public Equity* **Claire Illo** *Investment Analyst, Public Equity* **Uvan Tseng** *Senior Vice President, Callan, LLC* **Anne Heaphy** *Senior Vice President, Callan, LLC*	**8**
11:40-12:10	**9. CEM Benchmarking Annual Review**	**David Randall** *Chief Investment Operating Officer* **Mike Heale** *Principal, CEM Benchmarking, Inc.*	**9**
12:10-12:15	**10. Asset Allocation & NAV Updates** a. Oregon Public Employees Retirement Fund b. SAIF Corporation c. Common School Fund d. Southern Oregon University Endowment Fund	**Rex Kim**	**10**
	11. Calendar — Future Agenda Items	**Rex Kim**	**11**
12:15	**12. Open Discussion**	**OIC Members** **Staff** **Consultants**	

C. Public Comment

TAB 1 – REVIEW & APPROVAL OF MINUTES

September 9, 2020 Regular Meeting

OREGON STATE TREASURY

State of Oregon
Office of the State Treasurer

16290 SW Upper Boones Ferry Road

Tigard, Oregon 97224

OREGON INVESTMENT COUNCIL

September 9, 2020

Meeting Minutes

Members Present:	John Russell, Tobias Read, Patricia Moss, Cara Samples, Monica Enand and Kevin Olineck
Staff Present:	Rex Kim, David Randall, John Hershey, Michael Langdon, Karl Cheng, Ben Mahon, Geoff Nolan, Tony Breault, Michael Viteri, Anna Totdahl, May Fanning
Staff Participating virtually:	Paul Koch, Scott Robertson, Andrey Voloshinov, Aliese Jacobsen, Will Hampson, Ian Huculak, Ahman Dirks, Steve Kruth, Rachel Wray, Andrew Robertson, Perrin Lim, Fawn Hubbard, Andrew Hillis, Jen Plett, Jeremy Knowles, Dana Millican, Monique Sadegh, Kristi Jenkins, Amy Bates, Mike Mueller, Faith Sedberry, Amanda Kingsbury, Sommer May, Christopher Ebersole, Andrew Coutu, Sam Spencer, Caitlyn Wang, Claire Illo, Angela Schaffers, Austin Carmichael, Deena Bothello, David Elott, Kenny Bao, Mohammed Quraishi, Jo Recht, Eric Messer, Mark Selfridge, Lisa Pettinati, Tyler Bernstein, Tiffany ZhuGe, Wil Hiles, Robin Kaukonen, Roy Jackson, Jennifer Peet, Mark Selfridge, Kenny Bao
Consultants Present:	Allan Emkin & David Glickman (Meketa Investment Group, Inc.); Jim Callahan & Janet Becker-Wold (Callan LLC); David Fann & Tom Martin, (Aksia, TorreyCove Capital Partners LLC)
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 September 9th, 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 July 22nd, 2020 OIC regular meeting minutes. Treasurer Read moved approval at 9:02 am, and Ms. Enand seconded the motion which then passed by a 5/0 vote.

II. 9:02 am Committee Reports and Opening Remarks

Committee Reports: Mr. Kim, gave an update on the following committee actions taken since the July 22, 2020 OIC meeting:

Real Estate Committee

July 22, 2020	Ascentris-OR Partners, LLC	$300M

Opportunity Portfolio Committee

None

Private Equity Committee
None

Alternatives Portfolio Committee
None

Mr. Kim also provided opening remarks with an overview of the meeting agenda starting with an expressed enthusiasm for the upcoming presentation on ESG Investment Strategy by friends and partners from EQT Partners. He then touched on the agenda action items, that included, an update to the OIC Investment Beliefs and, the Fixed Income Manager Recommendation, followed with the Alternatives Portfolio Annual Review.

III. 9:04 am ESG Investment Strategy

Christian Sinding CEO & Managing Partner, EQT Partners, Therése Lennehag, Head of Sustainability, EQT Partners, Anna Sundell, Managing Director - Infrastructure, EQT Partners and Magnus Tornling, Partner - Equity, EQT Partners, were introduced by Darlene Sammon, Managing Director, Client Relations and Capital Raising, EQT Partners. They then proceeded to provide the Council with a presentation that started with a brief introduction to EQT, which then followed with a more detailed agenda focusing on their ESG Investment Strategy.

IV. 10:09 am Investments Beliefs; Environmental, Social, Governance

Anna Totdahl, Investment Officer, ESG & Sustainability, requested the Council's approval for changes to Statement of OIC Investment and Management Beliefs including the addition of item number (8), Integration of Environmental, Social and Governance Factors into the policy. Ms. Totdahl, introduced Allan Emkin, Managing Principal, Meketa Investment Group, Inc., to speak about some of the history of the document and ESG, to then be followed by Janet Becker-Wold, Senior Vice President, Callan LLC, for comments on the implementation Callan has seen elsewhere before moving to the vote.

MOTION: Treasurer Read, moved approval of the proposed changes to INV 1201, Statement of OIC Investment and Management Beliefs which include adding item number (8), the Integration of Environmental, Social and Governance Factors into the policy, in addition to minor revisions to item number (7), at 10:35 am, and Ms. Moss seconded the motion which then passed by a 5/0 vote

V. 10:36 am OPERF Fixed Income Recommendation

Geoff Nolan, Senior Investment Officer, Fixed Income, requested the Council's approval to hire Guggenheim Investments, Putnam Investments and Schroders Investment Management North America Inc. to each manage up to 4.27% (up to 12.8% across all three managers) of OPERF Fixed Income AUM in separately managed accounts "SMA". This equates to ~$0.6BN (as of 6/30/20) for each manager.

MOTION: Treasurer Read, moved approval at 10:39 am, to hire all three Managers, and Chair Russell seconded the motion which then passed by a 5/0 vote.

VI. 10:45 am Alternatives Portfolio Review

Ben Mahon, Senior Investment Officer, Alternatives, Tom Martin, Head of Private Equity, Real Assets Research, Aksia, Torrey Cove Partners LLC and Jim Callahan, President, Callan LLC, presented the Alternatives Portfolio 2019 Annual Review and 2020 Plan. This presentation included a discussion of the Alternatives Portfolio's background and objectives, and a review of the portfolio's 2019 performance and investment activity. Mr. Mahon, also provided the Council with an update on the portfolio's current positioning as well as staff's 2020 investment plan.

Staff then recommended changes and related policy modifications to INV 702. In addition to a number of

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housekeeping changes, Staff recommended eliminating the Real Asset sub-sector target weightings and proceeding with an overall 7.5% Real Assets allocation inclusive of Infrastructure and Natural Resources strategies.

MOTION: Treasurer Read, moved approval of the changes to INV 702 at 11:17 am, and Ms. Enand seconded the motion which then passed by a 5/0 vote.

VII.

VIII. 11:17 am OPERF Q2 Performance Review

Janet Becker-Wold and Jim Callahan, presented the quarterly OPERF investment performance and risk report for the calendar quarter and cumulative period ended June 30, 2020.

IX. 11:46 am Asset Allocation & NAV Updates

Mr. Kim reviewed asset allocations and NAVs across OST-managed accounts for periods ended July 31, 2020.

X. 11:48 am Calendar – Future Agenda Items

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

XI. 11:49 am Open Discussion

Chair Russell opened the discussion with a few comments by first, questioning as to what extent can and should there be investing in Venture Capital, and if so, how to go about it. The second comment, is relating to committee structure, there seems to be a general desire for these to be structured more on expertise. Lastly, and with a little bit of trepidation, Chair Russell talked about how investing in currency is common in other portfolios however it is perceived as being risky, he hoped that perhaps the Council would take a look at that.

Treasurer Read, then wanted to acknowledge and thank both Staff and Consultants on the development of the ESG Statement, he also extended his appreciation to the Council for taking this important matter seriously.

XII. 11:52 am Public Comments

Chair Russell read Mr. Bill Parish, Investment Advisor, Parish & Company public comment submitted in writing, his remarks included a letter dated June 15, 2020 by two US Senators, Kevin Cramer and Martha McSally addressed to Blackrock CEO Larry Fink regarding a perceived double standard in the way Blackrock treats investment in Chinese companies versus American. This letter applies to numerous OIC based investments, including those by TPG and KKR. The letter also noted that investments based upon the MSCI Emerging Markets Index at Blackrock are now more than 40% represented by Chinese domiciled companies. It is in the public interest to investigate why Blackrock is not fulfilling its fiduciary responsibility regarding disclosure with these poorly-governed, secretive Chinese companies.

In his comments Mr. Parish also would question what is emerging about a fund whose top two holdings with a combined market cap of $1.4 trillion are Alibaba and Tencent, both of whom withhold more than 35% of shares outstanding from the public, thereby artificially inflating their stock price by constricting supply and grabbing a larger share of indexes that are now driving capital allocation.

Mr. Russell adjourned the meeting at 11:54 am.

Respectfully submitted,

May Fanning

May Fanning
Executive Support Specialist

TAB 2 – Opening Remarks and Committee Reports

October 28, 2020

Oregon Investment Council

Opening Remarks

Rex T. Kim, Chief Investment Officer

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Agenda:

- Famous Last Words: “The October meeting will see us back to a normal agenda.” I was wrong. Another busy meeting!

- Committee Activities

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Tobias Read
Oregon State Treasurer

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TAB 3 – Consultant Recommendations

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TAB 4 – EQT Infrastructure Fund V Recommendation

EQT Infrastructure V (No. 2) USD SCSp

Purpose

Staff and Aksia TorreyCove recommend (i) a commitment of up to $350 million to EQT Infrastructure V (No. 2) USD SCSp ("EQT Infra V" or the "Fund") and (ii) an initial $50 million commitment to a co-investment sidecar vehicle that will invest alongside the Fund for the OPERF Alternatives Portfolio, subject to the satisfactory negotiation of terms and conditions with Staff working in concert with legal counsel. This proposed commitment represents the continuation of a relationship on behalf of the OPERF Alternatives Portfolio.

Background

EQT AB ("EQT" or the "Firm") is a global alternative asset manager formed in 1994. The Firm was established to combine the industrial heritage of Sweden's Wallenberg family with financial expertise to drive investment value through operational improvements. Since inception, EQT has raised approximately €62 billion of capital commitments for 33 funds across three platforms: private capital, real assets, and credit[1].

The infrastructure platform ("EQT Infra") was launched in 2007 and is the primary component of EQT's real assets investment strategy. EQT Infra has raised four funds to-date and is now raising EQT Infra V, which will be a continuation of the investment strategy.

OPERF's history with EQT dates back to 2016 and includes commitments to two mandates:

- EQT Infrastructure III ("Fund III" or "EQT Infra III") – €150 million committed in 2016
- EQT Infrastructure IV ("Fund IV" or "EQT Infra IV") – $290 million committed in 2018

EQT is seeking €12.5 billion of capital commitments for the Fund, with a €15 billion hard cap. The Firm is planning to hold the initial close in the fourth quarter of 2020. EQT will target a mid-teens gross internal rate of return for the Fund.

Discussion/Investment Considerations

Consistent with its history, EQT will focus on high-quality, value-add infrastructure investments, primarily in the telecom, energy, transport, environmental, and social sectors. The Firm will focus on geographies where EQT has a physical presence, namely Northern Europe, Continental Europe, and North America, while opportunistically pursuing investments in Asia-Pacific. In executing the investment strategy, EQT Infra V will follow the Firm's established principles and will create value through implementation of EQT's "industrial approach." EQT is differentiated by its local investment teams and an established network of more than 500 independent industrial advisors. To execute its investment strategy, EQT seeks sufficient influence over its investments through control or co-control positions. The Firm will target equity investments of €200 million to €1 billion across 15 to 20 portfolio companies.

<u>Attributes</u>:

- *Experienced team*. The EQT Infra V investment strategy will be led by Deputy Managing Partner, Lennart Blecher, along with a team of 13 additional partners, representing substantial infrastructure investment experience from various regions around the world. Of note, the partner group averages 11 years of tenure with EQT, providing strong team cohesion. In total, the EQT Infra team is comprised of 72 investment professionals operating out of 11 offices in Stockholm, Munich, Zurich, Madrid, New York, Singapore, London, Helsinki, Milan, Paris, and Sydney.

[1] On June 18, 2020, EQT entered into a definitive agreement to sell EQT Credit to Bridgepoint, with closing expected to take place in the fourth quarter of 2020.

- *Industrial advisor network*. EQT's network of independent industrial advisors share strategic and operating insights in deal sourcing, due diligence, and advice through directorships. The network consists of current and former operating executives from large international corporations and successful entrepreneurs from a variety of industries. Coupled with the breadth of experience of the EQT Infra team, EQT has the capabilities to evaluate the widest possible set of opportunities on behalf of the Fund.
- *Market opportunity*. The historic underinvestment in infrastructure, along with macroeconomic trends of growing populations and urbanization, has resulted in substantial and often imperative investment requirements in both Europe and North America. At the same time, traditional suppliers of infrastructure capital, such as governments and utilities, continue to face capital constraints. EQT believes essential services to society are undergoing transformational changes related to clean and cost-efficient energy, higher resource efficiency, an expanding digital economy, and the increased connectivity of people and devices/machines leading to a large and attractive target opportunity set for the Fund.
- *Portfolio fit*. Although not a "European fund," approximately 60% of prior investments have been in Europe, which has been the highest-returning geography of prior funds. This is a complement to OPERF's existing infrastructure portfolio, which is currently tilted toward North American strategies.
- *ESG considerations*. EQT began developing its environmental, social, and governance efforts in 2008, making the Firm a leader within OPERF's Alternatives Portfolio. EQT's sustainability efforts are centered around the concept of "future-proofing" portfolio companies, highlighting the belief that ESG is key to both value creation and value preservation over the long-term. The Firm has well-developed ESG policies and has leveraged its dedicated sustainability team, as well as its investment staff, to integrate related considerations into its sourcing, due diligence, value creation, and monitoring processes.
- *Strong interim results*. The four predecessor funds demonstrate consistent performance with aggregate gross and net returns in the low-twenties and mid-teens, respectively. Notably, EQT Infra I and II, which represent approximately €2.8 billion of invested capital, have generated €5.3 billion of realized value.

<u>Concerns</u>:
- *Competitive market for investment opportunities.* Interest from institutional investors in real assets, including infrastructure strategies, remains high. As more capital enters the market for private infrastructure, expected returns may decline. [Mitigant: Staff has confidence in EQT's financial discipline and expertise in originating, structuring, and executing infrastructure transactions. The Firm is differentiated by its extensive industrial advisor network and "locals-with-locals" approach, both of which support proprietary deal flow.]
- *EQT Infra V increase*. EQT Infra V represents a substantial increase in capital commitments relative to EQT Infra IV. Such increases in assets under management may result in a deviation from stated objectives, i.e., "style drift," as well as create strains on organizational infrastructure. [Mitigant: The Fund is subject to restrictions on the size and type of investments, limiting the potential impacts on investment approach. Furthermore, the Firm has been steadily bolstering its resources ahead of the EQT Infra V launch, growing from 53 investment professionals to a team of 72 since the EQT Infra IV capital raise. Likewise, the partner group has expanded from 11 to 14 individuals over the same period.]
- *Public listing of EQT*. In September 2019, EQT held its initial public offering of approximately 21% of the Firm on the Nasdaq Stockholm. The public listing may create misalignment of interest with LPs. [Mitigant: Establishing a strong balance sheet to provide capital for growth, as well as a buffer in tough times, is a reasonable objective for a firm of EQT's size. The Firm announced a strategic review of its balance sheet during the EQT Infra IV fundraise, providing reasonable transparency to LPs in advance. Subsequent to the IPO, the EQT Infra team continues to operate with relative independence from the broader organization, allowing the team to remain focused. Additionally, the allocation of carried interest to the investment team remains meaningful.]

- *Political/regulatory risks*. The political and regulatory environment for infrastructure is evolving and changes therein may have an adverse effect on the Firm's ability to pursue its investment strategy. [Mitigant: All investments in the infrastructure sector are subject to the aforementioned risks. Staff finds the risk/reward tradeoff to be reasonable and supported by: a) the team's experience and technical expertise; b) the Fund's proposed asset diversification; and, c) the Fund's likely geographic focus on Northern/Continental Europe and North America.]

Terms

Fund terms include a management fee with a carry and preferred return structure. Please see the Aksia TorreyCove investment memo for complete details. During fundraising efforts, no placement agent had contact with Staff.

Conclusion

The Alternatives Portfolio target allocation to real assets is 50%, with a range of 45% to 55%, or approximately $5.6 billion at current OPERF NAV. The existing real assets portfolio has a current NAV of $4.4 billion, with approximately 67% allocated to infrastructure and 33% to natural resources.

Staff considers EQT an anchor relationship within the Alternatives Portfolio. EQT is a focused investor with expertise across the spectrum of infrastructure investments and a deep network of industry relationships. Moreover, EQT is differentiated by its value-add strategy and European weighting. At a macro level, requirements for infrastructure investment are massive, underpinning positive demand dynamics for capital. EQT Infra V represents an opportunity to invest with an experienced manager in an attractive sector, and Staff believes EQT is well positioned to capitalize on the Fund's target opportunity set.

Aksia

New York • London • Tokyo

MEMORANDUM

TO:	Oregon Public Employees Retirement Fund ("OPERF")
FROM:	Aksia TorreyCove Partners LLC ("Aksia TorreyCove")
DATE:	October 16, 2020
RE:	EQT Infrastructure V, L.P. (the "Fund")

Strategy:

The Fund will pursue control-oriented investments in medium-sized infrastructure and infrastructure-like assets and companies operating within the energy, environmental, transportation and logistics, social, and telecom sectors. Target assets generally provide an essential service to society; possess long-term, stable, or growing demand; maintain a consistent cash flow profile; and have an asset based, long-term contracted or otherwise resilient business model. Integral to the strategy, EQT will focus its origination efforts on opportunities that are primed for growth or can be strategically repositioned through a combination of add-on acquisitions and/or operational enhancements to increase capacity. The investment team will consider a wide array of opportunities including stand-alone operating companies, public-to-privates, corporate orphans, and government privatizations.

Given the increase in fund size, the investment team expects to build a diversified portfolio consisting of 15 to 20 platforms that require between €200.0 million and €1.0 billion of equity per transaction, with an investment pace of three to five deals per year. Each investment will be underwritten assuming a four to six-year holding period. From a geographical perspective, the Nordics and U.K., Continental Europe, and North America will continue to be EQT's primary hunting grounds for platforms. Building off of its partnership with Temasek, the Fund is expected to canvas a growing opportunity set in Asia, albeit honing in on more developed OECD markets such as Australia, Japan, and South Korea. Investments in the region will be capped at 20.0%. The General Partner is targeting a mid-teens gross internal rate of return for the Fund, with investment returns being derived through capital appreciation as opposed to current yield.

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

Conclusion:

The Fund offers OPERF an opportunity to participate in a differentiated portfolio of private equity and private credit investments with relatively attractive overall terms. Based on Aksia TorreyCove's review of the General Partner and the proposed Fund, we believe the potential returns that may be achieved by the Fund justify the risks associated with an investment in the Fund. Aksia TorreyCove recommends that OPERF consider a commitment of $400.0 million to the Fund.

Aksia TorreyCove's recommendation is contingent upon the following:

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

(2) Satisfactory completion of legal documents;

(3) Satisfactory continuation and finalization of due diligence;

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

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

Aksia TorreyCove Fund recommendations should be reviewed together with other Aksia TorreyCove due diligence materials. Please consult your tax, legal and/or regulatory advisors prior to allocating to any private investment fund.

TAB 5 – Proxy Voting Policy Recommendations

INV 605: Exercise of Voting Rights Accompanying Equity Securities
Policy Revisions
Staff Recommendation

Purpose

To revise INV 605: Exercise of Voting Rights Accompanying Equity Securities.

Background

As established in INV 605, the OIC recognizes that a) the quality of corporate governance can affect enterprise value and b) voting rights thus have economic value and must be managed prudently. The OIC retains ultimate authority over proxy votes and strives to ensure that corporations follow practices that advance enterprise value. Since most shareholders like the OIC do not have the resources to attend annual or special meetings at which voting occurs, corporations provide shareholders with the option to vote by proxy. In accordance with voting standards codified in OIC guidelines, the Council implements proxy voting through an independent, third-party research and voting vendor. Currently, Glass, Lewis and Co. ("Glass Lewis") is engaged as the Council's proxy vendor.

The majority of proxies voted are, by far, concerned with ordinary, technical corporate governance details, such as approving board candidates, committee memberships, auditor ratification, etc. Glass Lewis categorizes these as general and routine matters, and has established best practices and guidelines for each such category. Non-routine issues are handled on a case-by-case basis. On occasion, OST public equity managers will have a view that differs with Glass Lewis on how to vote specific proxies. In those instances, staff will deliberate on the differences and potentially override the vendor's guidelines.

Recommendation

Staff recommends approval of the updated Oregon Investment Council policy: INV 605- Exercise of Voting Rights Accompanying Equity Securities.

OREGON INVESTMENT COUNCIL POLICY

INTRODUCTION & OVERVIEW

Summary Policy Statement

The Oregon Investment Council (OIC) recognizes that the quality of corporate governance can affect long-term investment value. In general, the equity markets are highly efficient; therefore, the OIC's corporate governance philosophy anticipates that the OIC and Oregon State Treasury (OST) staff possess no knowledge not shared by the market. The OIC strives to ensure that corporations and their directors follow practices that advance economic value and allow the market to appropriately value these corporations' securities. ~~According to the CFA Institute, voting on corporate matters and advocating on behalf of corporate governance issues helps the OIC protect the interests of the State, by working to improve the long-term health of the companies in which the OIC invests.~~

The OIC recognizes that voting rights have economic value and must be treated as such. The voting rights obtained through the holdings of the domestic and international equity portfolios ~~under the OIC's purview shall~~managed by OST will be primarily exercised by an independent third party (the "vendor") that specializes in proxy research and ~~voting~~voted in accordance with the vendor's independent voting standards which it may revise, at its sole discretion, from time to time. ~~The vendor shall always vote shares as a fiduciary, based solely on the ultimate economic value of the investments overseen by the OIC.~~

Purposes and Goals

The goal of this policy is to ~~codify the process through which the OIC exercises its~~establish the OIC's corporate governance philosophy for proxy voting~~ rights~~.

Authority

ORS 293.716; ORS 293.736

POLICY PROVISIONS

Definitions

According to the CFA Institute:

Proxy Voting Policies. The duty of loyalty, prudence, and care may apply in a number of situations facing the investment professional other than issues related directly to investing assets. Part of [that] duty of loyalty includes voting proxies in an informed and responsible manner. Proxies have an economic value to a [fund] and [investors] must ensure that they properly safeguard and maximize this value. Voting of proxies is an integral part of the management of investments. A cost-benefit analysis may show that voting all proxies may not benefit the [fund], so voting proxies may not be necessary in all instances. *Standards of Practice Handbook*, 2014.

Policy Statements

1. Vendor shall keep a record of how proxies are voted and why. Such records may be subject to review by Oregon State Treasury (OST) staff or other designated representatives of the OIC.
2. OST staff and vendor shall provide an annual (or more frequently if requested) proxy voting summary to the OIC.
3. Vendor shall provide any new or revised proxy voting policies or guidelines to OST staff upon their implementation.
4. Commingled and passive account managers ~~employed~~approved by the OIC shall vote their proxies independent of the ~~OIC's~~ vendor~~, but as a~~ in their fiduciary ~~in the best interest of plan participants~~capacities.
5. ~~In accordance with the vendor agreement, and the timelines therein, the OIC reserves the right to vote proxies directly.~~Consistent with the statutory authority cited above, OST will manage the relationship with the vendor, including the review of the vendor's proxy voting recommendations made pursuant to the applicable policies and guidelines.
6. ~~The public equity team will prepare recommendations to override the vendor's guidelines as circumstances arise that require a secondary review, generally at the request of a retained investment manager. The State Treasurer, Deputy State Treasurer and the Chief Investment Officer will review and vote to approve, or deny, these recommendations, or recommend the issue be brought before the OIC. All such decisions will be made by majority vote and reported to the OIC on a quarterly basis.~~

Exceptions

None.

Failure to Comply

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

Document comparison by Workshare Compare on Wednesday, September 16, 2020 1:40:27 PM

Input:	
Document 1 ID	file://C:\Users\hillisa\OneDrive - Oregon State Treasury\605 Compare\605 BB Current.docx
Description	605 BB Current
Document 2 ID	file://C:\Users\hillisa\OneDrive - Oregon State Treasury\605 Compare\INV 605 BB - Updated Revised Policy.docx
Description	INV 605 BB - Updated Revised Policy
Rendering set	Standard

Legend:	
Insertion	
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Moved to	
Style change	
Format change	
~~Moved deletion~~	
Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	9
Deletions	17
Moved from	0
Moved to	0
Style changes	0
Format changes	0
Total changes	26

Current Status: *Active* **PolicyStat ID:** *4562500*

Origination:	*04/2011*
Last Approved:	*02/2019*
Last Revised:	*02/2019*
Next Review:	*02/2020*
Owner:	*Michael Viteri: Senior Public Equity Investment Officer*
Policy Area:	*Investments*
References:	*OST Policy 4.05.06*

INV 605: Exercise of Voting Rights Accompanying Equity Securities

OREGON INVESTMENT COUNCIL POLICY

INTRODUCTION & OVERVIEW

Summary Policy Statement

The Oregon Investment Council (OIC) recognizes that the quality of corporate governance can affect long-term investment value. In general, the equity markets are highly efficient; therefore, the OIC's corporate governance philosophy anticipates that the OIC and Oregon State Treasury (OST) staff possess no knowledge not shared by the market. The OIC strives to ensure that corporations and their directors follow practices that advance economic value and allow the market to appropriately value these corporations' securities.

The OIC recognizes that voting rights have economic value and must be treated as such. The voting rights obtained through the holdings of the domestic and international equity portfolios managed by OST will be primarily exercised by an independent third party (the "vendor") that specializes in proxy research and voted in accordance with the vendor's independent voting standards which it may revise, at its sole discretion, from time to time.

Purposes and Goals

The goal of this policy is to establish the OIC’s corporate governance philosophy for proxy voting.

Authority

ORS 293.716; ORS 293.736

POLICY PROVISIONS

Definitions

According to the CFA Institute:

Proxy Voting Policies. The duty of loyalty, prudence, and care may apply in a number of situations facing the investment professional other than issues related directly to investing assets. Part of [that] duty of loyalty includes voting proxies in an informed and responsible manner. Proxies have an economic value to a [fund] and [investors] must ensure that they properly safeguard and maximize this value. Voting of proxies is an integral part of the management of investments. A cost-benefit analysis may show that voting all proxies may not benefit the [fund], so voting proxies may not be necessary in all instances. *Standards of Practice Handbook*, 2014.

Policy Statements

1. Vendor shall keep a record of how proxies are voted and why. Such records may be subject to review by Oregon State Treasury (OST) staff or other designated representatives of the OIC.
2. OST staff and vendor shall provide an annual (or more frequently if requested) proxy voting summary to the OIC.
3. Vendor shall provide any new or revised proxy voting policies or guidelines to OST staff upon their implementation.
4. Commingled and passive account managers approved by the OIC shall vote their proxies independent of the vendor in their fiduciary capacities.
5. Consistent with the statutory authority cited above, OST will manage the relationship with the vendor, including the review of the vendor's proxy voting recommendations made pursuant to the applicable policies and guidelines.

Exceptions

None.

Failure to Comply

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

TAB 6 – OPERF Currency Hedging Program Policy Update

OPERF Currency Hedging Program
Policy Update

Purpose

To seek Oregon Investment Council ("OIC") approval for revisions and updates to Policy INV 217: OPERF Foreign Currency Risk Policy.

Background

Oregon Public Employees Retirement System pays benefits from OPERF in U.S. dollars, yet a sizable portion of the Fund's assets are invested outside the U.S. and denominated in foreign currencies. OPERF's foreign currency (FX) exposure is a by-product of its international investments and represents an explicit source of OPERF asset volatility. For U.S.-based investors, currency risk manifests during strong (i.e., appreciating) dollar periods. Without some form of FX hedging, the value in U.S. dollar terms of OPERF's foreign assets *declines* when the dollar *appreciates*.

Staff reported the following primary findings during two OIC education sessions held in December 2016 and March 2017:

- Unmanaged currency exposure is a source of uncompensated risk; and
- Currency fluctuations contribute meaningfully to OPERF's total risk.

After deliberation, the OIC adopted Policy INV 217: OPERF Foreign Currency Risk Policy on August 9, 2017 to establish a Currency Overlay Program (the "Program") to manage FX risk. The goal of the Program is to strategically manage foreign currency exposures to reduce volatility in U.S. dollar-denominated value while preserving the diversification benefits of OPERF's foreign-denominated investments.

Currently, the Program contains three external currency managers with each managing a $2 billion notional developed markets ("DM") currency mandate. Through August 31, 2020, the Program has been active for two years and eight months.

Discussion

As staff gained experience overseeing the Program, staff researched emerging markets ("EM") currencies. To evaluate EM FX risks and propose potential risk-mitigating FX management solutions, staff has surveyed extensive empirical research and conducted discussions with peer funds, consultants, an index provider, and currency managers. Staff found:

- Approximately 8% of OPERF Public Equity Portfolio, in total $2 billion as of 8/31/2020, is exposed to EM currency risk;
- Empirical research shows, similar to that for DM, unmanaged EM currency exposure is a source of uncompensated risk;
- EM currencies do experience significant drawdowns, particularly during market stress environments; and
- EM currency carry level – the spread of EM interest rate over USD interest rate – has trended downward, which reduces its offsetting effect to compensate for EM currency depreciation.

Staff also recognizes the following elements:

1) There is a longer list of EM currencies than DM currencies in the public equity indices;
2) Additional operational factors need to be considered when including EM currencies, such as hedging cost, trading and settlement, account setup requirement, etc.; and
3) Potential risk premium might be embedded in certain EM currencies.

To hedge potential losses due to EM currency movement, staff recommends replacing of the permitted currency list in the MSCI World ex-U.S. index with those in the MSCI All Country World Index ex-U.S. This would provide OPERF's currency overlay managers leeway to tactically hedge major EM currencies when opportunities appear and hedging is warranted.

For details on how staff plans to implement the inclusion of hedging EM currencies in the Program, please see the table listed below.

Program Profile Update

Considerations	Program Parameters
Objective	To hedge currency risk in OPERF's Public Equity portfolio ("EQ")
Inception date	January 2nd, 2018
Notional amount	$6 billion, covering 82% of EQ's total non-U.S. DM currency exposure
Target portfolio	Currency mix comprised by the MSCI World ex-U.S. Index
FX overlay managers	Adrian Lee & Partners, Aspect Capital and P/E Global
Base currency	U.S. dollar
Benchmark	The currency return component of a 50% hedged MSCI World ex-U.S. Index
Permitted currencies	~~14 currencies that constitute the MSCI World ex-U.S. index~~ Currencies that constitute the MSCI All Country World Index ex-U.S.
Constraints	Limit net long or net short in individual EM FX up to 3%; Limit net long or net short in the 8 EM FX bloc up to 10%
Range of hedge ratios	0% to 100%
Active volatility target	2%

Staff Recommendation

Approve staff's proposed revisions and updates to Policy INV 217: OPERF Foreign Currency Risk Policy as detailed in the attached documents.

INV 217: OPERF Foreign Currency Risk Policy

INTRODUCTION & OVERVIEW

Purpose and Goals

The purpose of this policy is to a) summarize the philosophy of the *Oregon Investment Council* (the "OIC" or the "Council") relative to the foreign currency exposures of the Oregon Public Employees Retirement Fund (OPERF) and b) establish a Currency Overlay Program to manage the risk of such exposures. The goal of the Currency Overlay Program is to strategically manage foreign currency risk to reduce volatility in U.S. dollar-denominated value as a result of movements in foreign exchange rates while preserving the diversification benefits of OPERF's foreign-denominated investments.

POLICY PROVISIONS

Definitions

Currency Exposure: The direct or indirect exposure to a foreign currency due to an investment. For example, OPERF may hold shares of Toyota Motor Corporation listed on the Tokyo Stock Exchange and denominated in Japanese yen. This particular investment would have a currency exposure to the movement of the Japanese yen versus the U.S. dollar *distinct and separate* from the equity performance of the shares on the Tokyo Stock Exchange. There are several forms of currency exposure:

a. *Direct*. Currency exposure from a foreign currency-denominated investment. These include investments such as publicly-traded stocks listed on foreign exchanges. Measuring this type of direct currency exposure is relatively simple and straight forward.

b. *Indirect*. Currency exposure from a U.S. dollar-denominated investment that holds or comprises other foreign currency-denominated investments. For example, a U.S.-listed Exchange Traded Fund (ETF) that tracks a foreign index is denominated in U.S. dollars but is comprised of foreign stocks. The investor's investment in this ETF would be measured in U.S. dollars, but the investor would have non-U.S. dollar currency exposure associated with the ETF's underlying foreign stock holdings. If this ETF's underlying holdings are transparent, measuring this type of indirect currency exposure is also relatively simple and straightforward.

c. *Implicit*. Currency exposure from an investment that has economic sensitivity to foreign currencies. For example, a publicly-traded stock of a multi-national corporation may be denominated in U.S. dollars, but a shareholder would have currency exposure to the non-U.S. component of that corporation's revenue. This type of implicit foreign currency exposure is often difficult to measure due to opaque or insufficient accounting detail and/or corporate- or partnership-level currency hedging activities.

Policy Statements

~~As a U.S. sovereign entity,~~ OPERF must pay benefits in U.S dollars, yet a sizable portion of OPERF's assets are invested outside the U.S. and denominated in foreign currencies. Essentially, OPERF's foreign currency exposure is a by-product of its international investments.

INV 1201 Statement of OIC Investment and Management Beliefs reaffirms the Council's authority to set and monitor portfolio risks. The Council acknowledges that such risks include those that arise from currency movements, that is, the incremental volatility of return due to the translation of investments denominated in foreign currencies back to the U.S. dollar. Furthermore, the OIC recognizes that a) there is little economic basis or empirical evidence to support a positive, long-term return expectation in connection with OPERF's foreign currency exposure, and b) OPERF's foreign currency exposure is the source of meaningful, stand-alone volatility that contributes to OPERF's total, overall risk. **In other words, the OIC recognizes that unmanaged foreign currency exposure is a source of uncompensated risk.**

Although foreign currency exposure results in uncompensated risk, the Council maintains unhedged policy benchmarks at both the total fund (i.e., OPERF) and individual asset class levels, but simultaneously directs staff to moderate the impact of foreign currency exposure on both OPERF and individual asset class performance as and when economically feasible.

1) Staff will ~~initiate and manage~~ administer a Currency Overlay Program (the "Program") to strategically manage foreign currency risk to reduce volatility in U.S. dollar-denominated value as a result of movements in foreign exchange rates. However, the Council recognizes that the implementation of the Program and related strategies or tactics could generate additional risks for OPERF, such as operational risk – significant cash inflows and outflows generated exclusively from currency hedging activities – and counterparty risk. To that end, staff will consider and incorporate these additional risks in Program design, implementation and management efforts.

2) The Program will be managed to meet the following guidelines:

    a. Performance and risk objectives evaluated over a full currency market cycle:

        - The Program's benchmark return is the currency component of return on a

50% hedged MSCI World ex-U.S. Index;

- The Program is expected to achieve a zero or negligible annualized rate of return, net of fees;
- The Program, in isolation, shall target a moderate level of risk while reducing OPERF-level volatility due to foreign currency exposures; and
- The Program aims to minimize negative cash flows and limit portfolio drawdowns.

b. The Program is permitted to transact in foreign currencies that constitute the MSCI ~~World~~ All Country World Index (ACWI) ex-U.S. Index, representing equity securities in Non-U.S. developed markets countries and emerging markets countries. ~~a developed countries equity index~~; and

c. Staff will periodically provide the Council a~~n annual~~ review of the Program.

~~3) On a regular basis, staff will report to the Council a summary of OPERF's direct and indirect currency exposures. Implicit exposures, particularly those from OPERF's private market investments, are more difficult to measure. Staff will endeavor to include implicit exposures in its summary report, but will balance such efforts against related time, cost and accuracy considerations.~~

Exceptions

None.

Failure to Comply

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

ADMINISTRATION

Feedback

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

INV 217: OPERF Foreign Currency Risk Policy

INTRODUCTION & OVERVIEW

Purpose and Goals

The purpose of this policy is to a) summarize the philosophy of the *Oregon Investment Council* (the "OIC" or the "Council") relative to the foreign currency exposures of the Oregon Public Employees Retirement Fund (OPERF) and b) establish a Currency Overlay Program to manage the risk of such exposures. The goal of the Currency Overlay Program is to strategically manage foreign currency risk to reduce volatility in U.S. dollar-denominated value as a result of movements in foreign exchange rates while preserving the diversification benefits of OPERF's foreign-denominated investments.

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c. *Implicit*. Currency exposure from an investment that has economic sensitivity to foreign currencies. For example, a publicly-traded stock of a multi-national corporation may be denominated in U.S. dollars, but a shareholder would have currency exposure to the non-U.S. component of that corporation's revenue. This type of implicit foreign currency exposure is often difficult to measure due to opaque or insufficient accounting detail and/or corporate- or partnership-level currency hedging activities.

Policy Statements

OPERF must pay benefits in U.S dollars, yet a sizable portion of OPERF's assets are invested outside the U.S. and denominated in foreign currencies. Essentially, OPERF's foreign currency exposure is a by-product of its international investments.

INV 1201 Statement of OIC Investment and Management Beliefs reaffirms the Council's authority to set and monitor portfolio risks. The Council acknowledges that such risks include those that arise from currency movements, that is, the incremental volatility of return due to the translation of investments denominated in foreign currencies back to the U.S. dollar. Furthermore, the OIC recognizes that a) there is little economic basis or empirical evidence to support a positive, long-term return expectation in connection with OPERF's foreign currency exposure, and b) OPERF's foreign currency exposure is the source of meaningful, stand-alone volatility that contributes to OPERF's total, overall risk. **In other words, the OIC recognizes that unmanaged foreign currency exposure is a source of uncompensated risk.**

Although foreign currency exposure results in uncompensated risk, the Council maintains unhedged policy benchmarks at both the total fund (i.e., OPERF) and individual asset class levels, but simultaneously directs staff to moderate the impact of foreign currency exposure on both OPERF and individual asset class performance as and when economically feasible.

1) Staff will administer a Currency Overlay Program (the "Program") to strategically manage foreign currency risk to reduce volatility in U.S. dollar-denominated value as a result of movements in foreign exchange rates. However, the Council recognizes that the implementation of the Program and related strategies or tactics could generate additional risks for OPERF, such as operational risk – significant cash inflows and outflows generated exclusively from currency hedging activities – and counterparty risk. To that end, staff will consider and incorporate these additional risks in Program design, implementation and management efforts.

2) The Program will be managed to meet the following guidelines:

    a. Performance and risk objectives evaluated over a full currency market cycle:

        - The Program's benchmark return is the currency component of return on a

50% hedged MSCI World ex-U.S. Index;

- The Program is expected to achieve a zero or negligible annualized rate of return, net of fees;
- The Program, in isolation, shall target a moderate level of risk while reducing OPERF-level volatility due to foreign currency exposures; and
- The Program aims to minimize negative cash flows and limit portfolio drawdowns.

b. The Program is permitted to transact in foreign currencies that constitute the MSCI All Country World Index (ACWI) ex-U.S. Index, representing equity securities in Non-U.S. developed markets countries and emerging markets countries. ; and

c. Staff will periodically provide the Council a review of the Program.

Exceptions

None.

Failure to Comply

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ADMINISTRATION

Feedback

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

October 28, 2020 Oregon Investment Council

Emerging Market Currency Management Introduction

Jiangning (Jen) Plett
Karl Cheng
Portfolio Risk and Research

OREGON STATE TREASURY

Agenda

- Executive Summary
- Program Goal
- EM Currency Risk
- EM Currency Hedging
- Hedging Recommendations

Appendix:

- EM Equity and Currency Characteristics
- EM Currency Skewness and Drawdown
- OPERF Public Equity's Currency Exposure
- MSCI ACWI ex-USA Index Currency Exposure
- MSCI EM Index's Currency Exposure
- Recent EM FX Market Performance
- Recent DM FX Market Performance

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Executive Summary

- The OIC adopted INV 217: OPERF Foreign Currency Risk Policy on 8/9/2017 to strategically hedge Non-U.S. developed currencies.
- The OPERF's Currency Overlay Program (the "Program") was launched in January 2018 to reduce currency-related volatility.
- Empirical research shows, similar to that for developed markets, unmanaged emerging markets (EM) currency exposure is a source of uncompensated risk.
- EM currencies do experience significant drawdowns, particularly during market stress environments.
- EM currency carry level has been trending down, which reduces its offsetting effect to compensate for EM currency depreciation.
- Approximately 8% of OPERF Public Equity Portfolio, in total $2 billion as of 8/31/2020, is exposed to EM currency risk.
- Subject to the OIC's approval, staff recommends amending INV 217 to allow the Program to transact in EM currencies to expand the risk reduction capabilities.

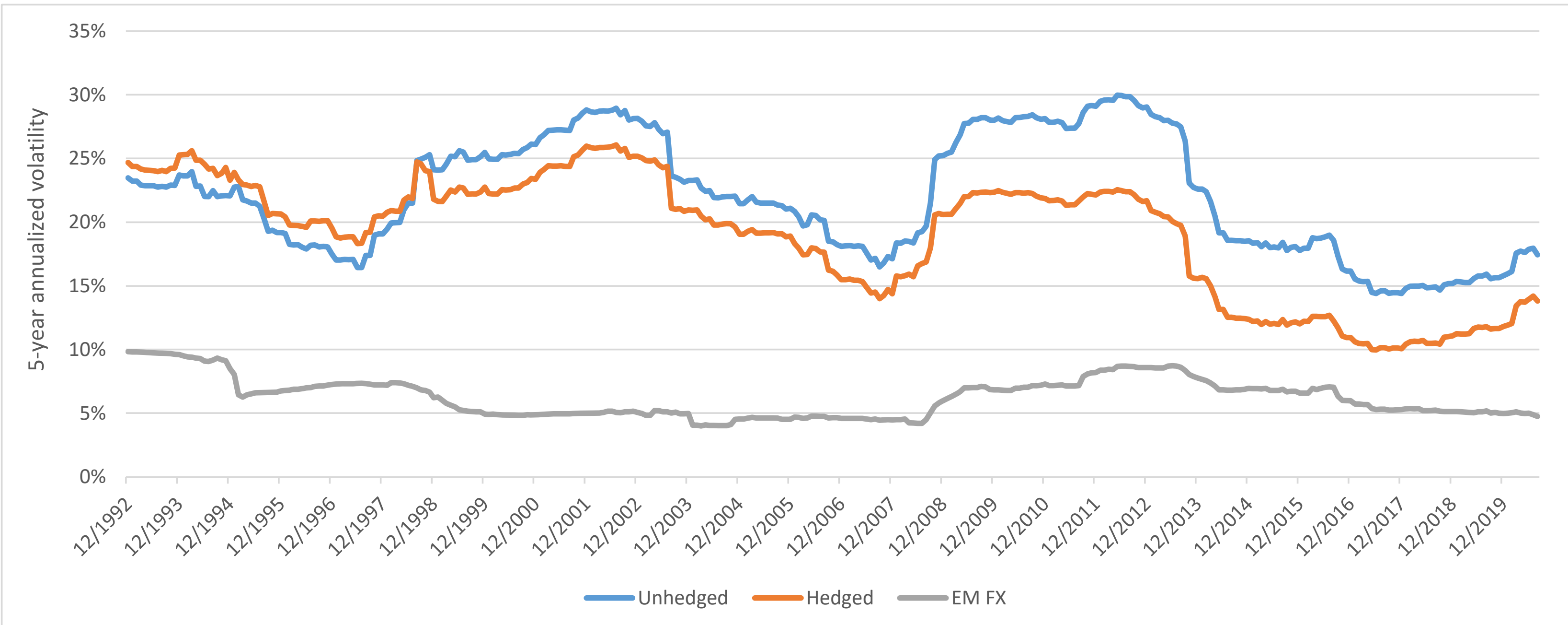
Program Goal

INV 217: OPERF Foreign Currency Risk Policy

- “The goal of the Currency Overlay Program is to strategically manage foreign currency risk to reduce volatility in U.S. dollar-denominated value as a result of movements in foreign exchange rates while preserving the diversification benefits of OPERF’s foreign-denominated investments.”

OREGON STATE TREASURY

Risk: EM Equity and Currency Rolling 5-Yr Annualized Volatilities

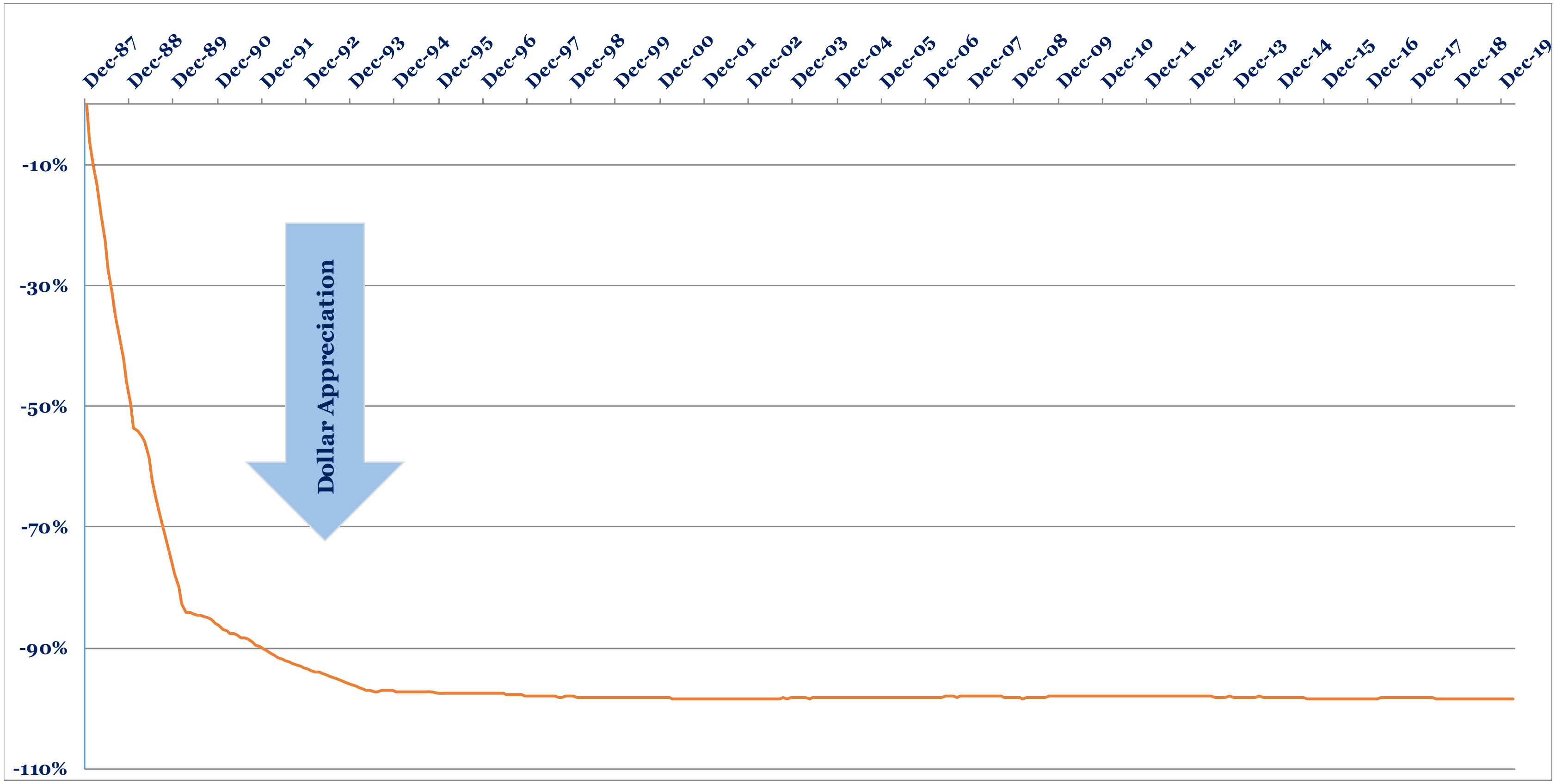


Source: OST staff calculation, MSCI

OREGON STATE TREASURY

Risk: Historical Drawdown Since 1980s

- Currency component returns associated with the MSCI Emerging Markets Index have historically been volatile with potential massive drawdowns due to EM countries' significant currency devaluation.
- EM currency's historical maximum loss from peak to trough is -98.5%, which occurred in 2002.



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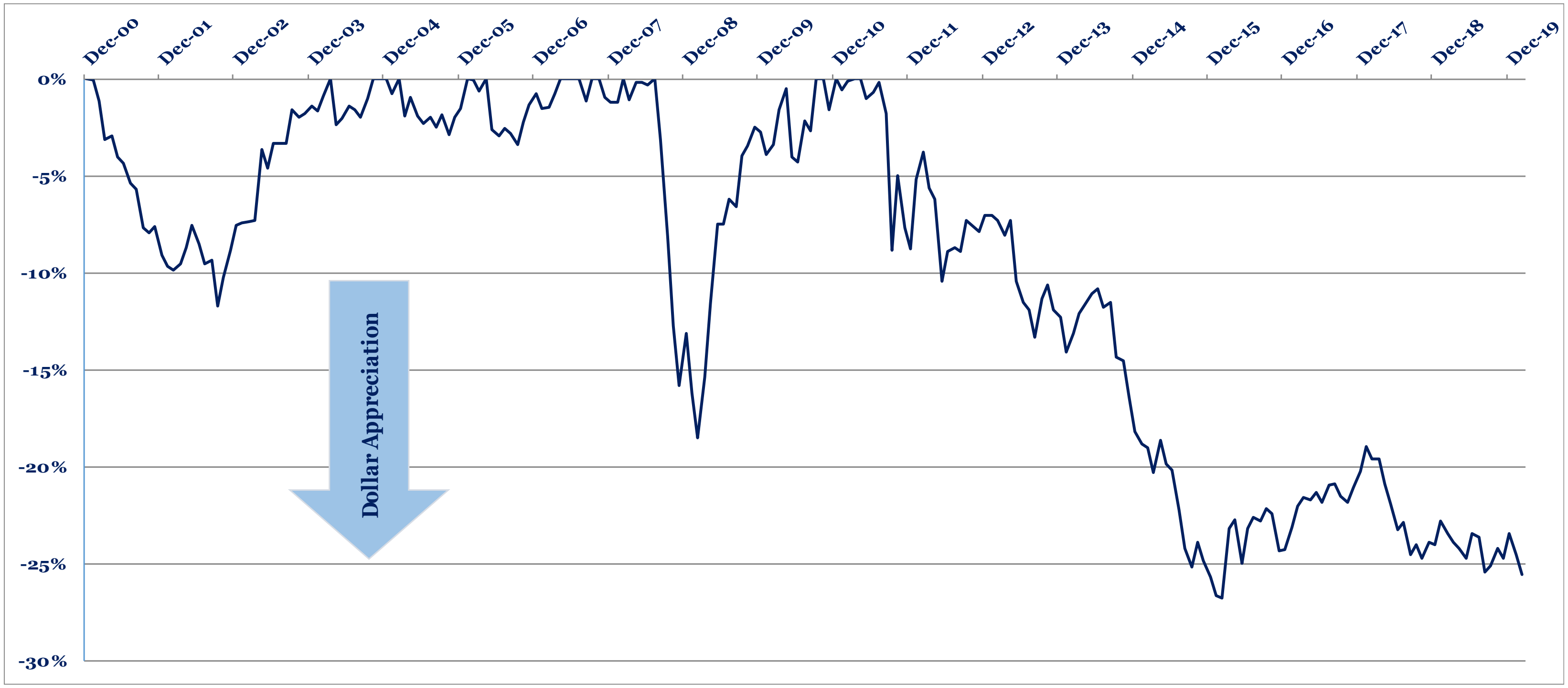
Source: MSCI, OST staff calculation

Risk: Historical Drawdown Since 2000

- Currency component returns associated with the MSCI Emerging Markets Index have historically been pro-cyclical, particularly during stressed environments (e.g., 2001, 2008, 2014-2015, after 2018).
- Since 2000, EM currency's historical maximum loss from peak to trough is -27%, which occurred in February 2016.



Source: MSCI, OST staff calculation

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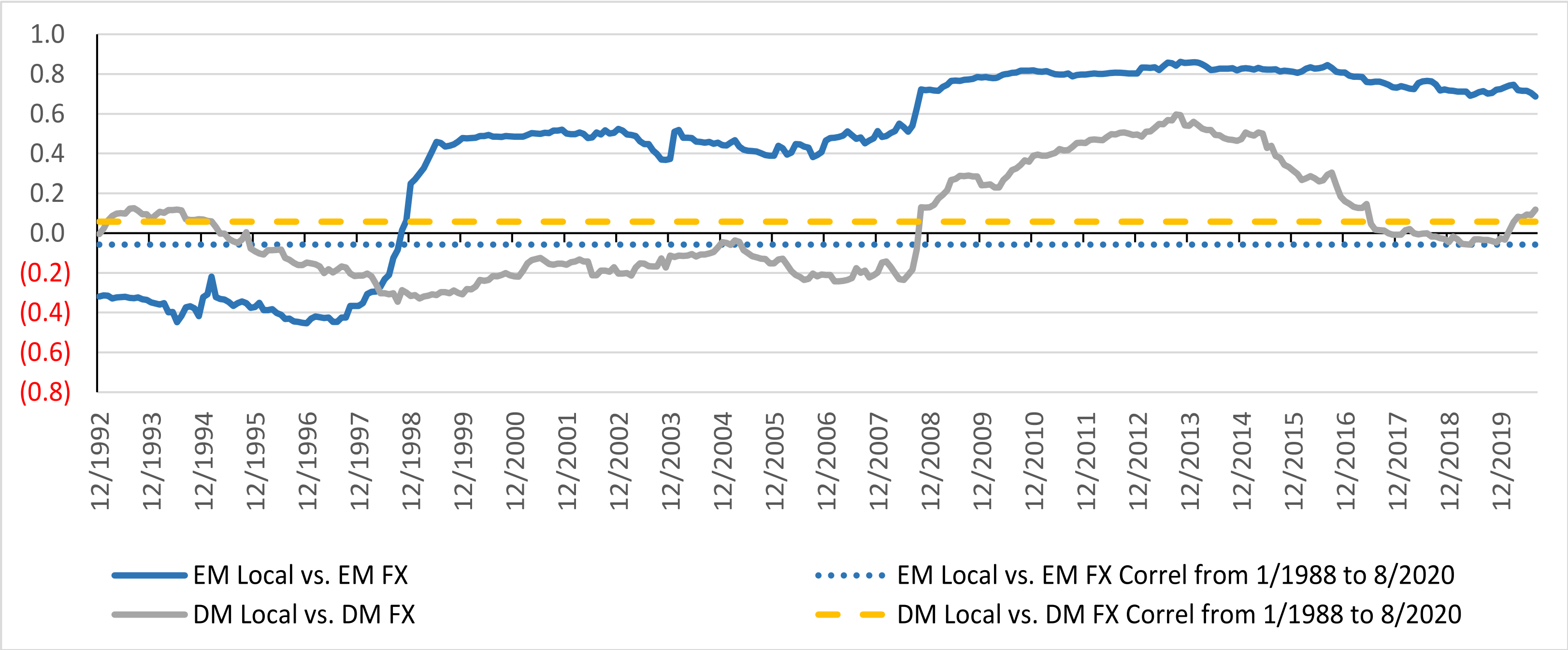
Risk: Equity and Currency Rolling 5-Yr Correlation



On average, EM FX has much higher correlation with EM Local Equity compared to DM FX's correlation with DM Local Equity.

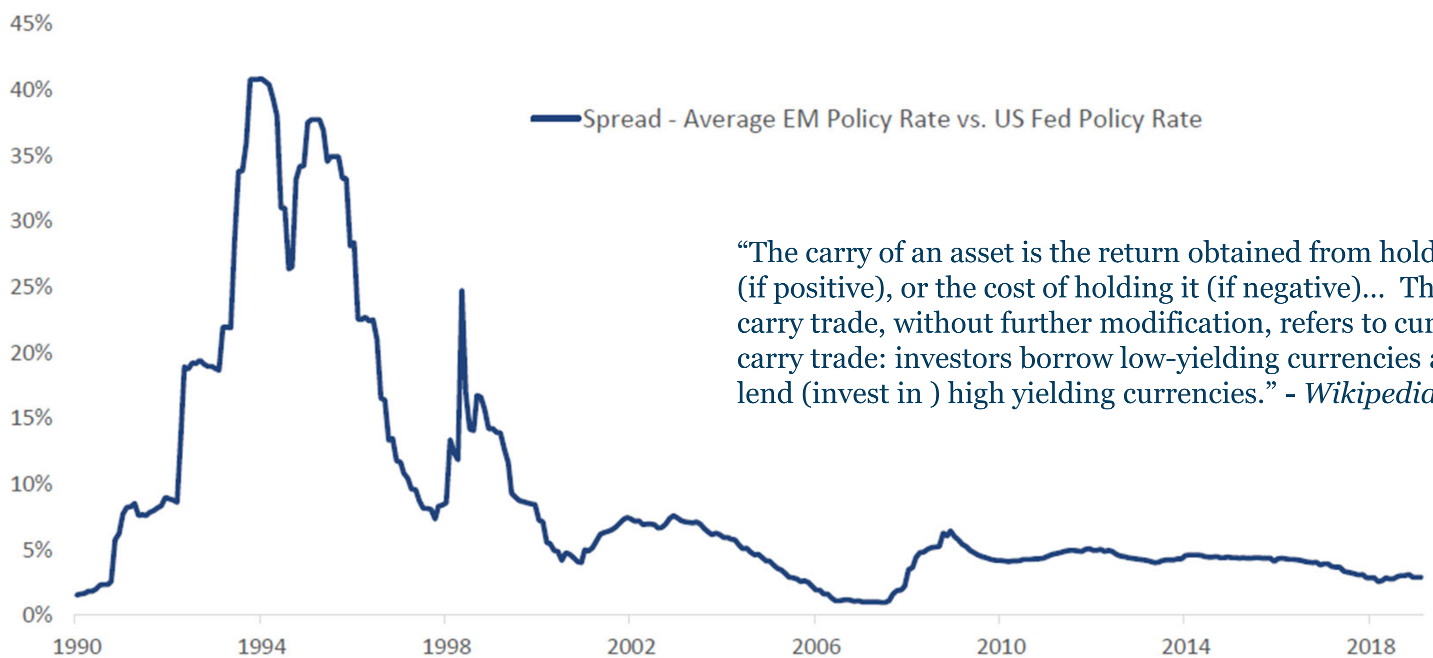
Source: OST staff calculation, MSCI

OREGON STATE TREASURY

Return: EM Currency Carry

EM FX carry has trended down post Asian Financial Crisis in late 1990s. In recent market stress periods, EM carry has also largely declined as EM central banks slashed rates to support their economies. To realize the EM carry, we need to assume EM spot exchange rates stay relative flat. In reality, due to large depreciations, returns to EM carry were often eroded.

Emerging Market Interest Rate Differentials[1] versus USD



"The carry of an asset is the return obtained from holding it (if positive), or the cost of holding it (if negative)... The term carry trade, without further modification, refers to currency carry trade: investors borrow low-yielding currencies and lend (invest in) high yielding currencies." - *Wikipedia*

Sources: Millennium Global and Macrobond, January 1990 to February 2019. This information is provided for illustration, information & educational purposes only.

1. Simple average of policy rates in China, India, South Korea, Malaysia, Taiwan, Singapore, Indonesia, Turkey. Hungary, Poland, Czech Republic, Brazil, Russia and Mexico over US Fed Policy Rate

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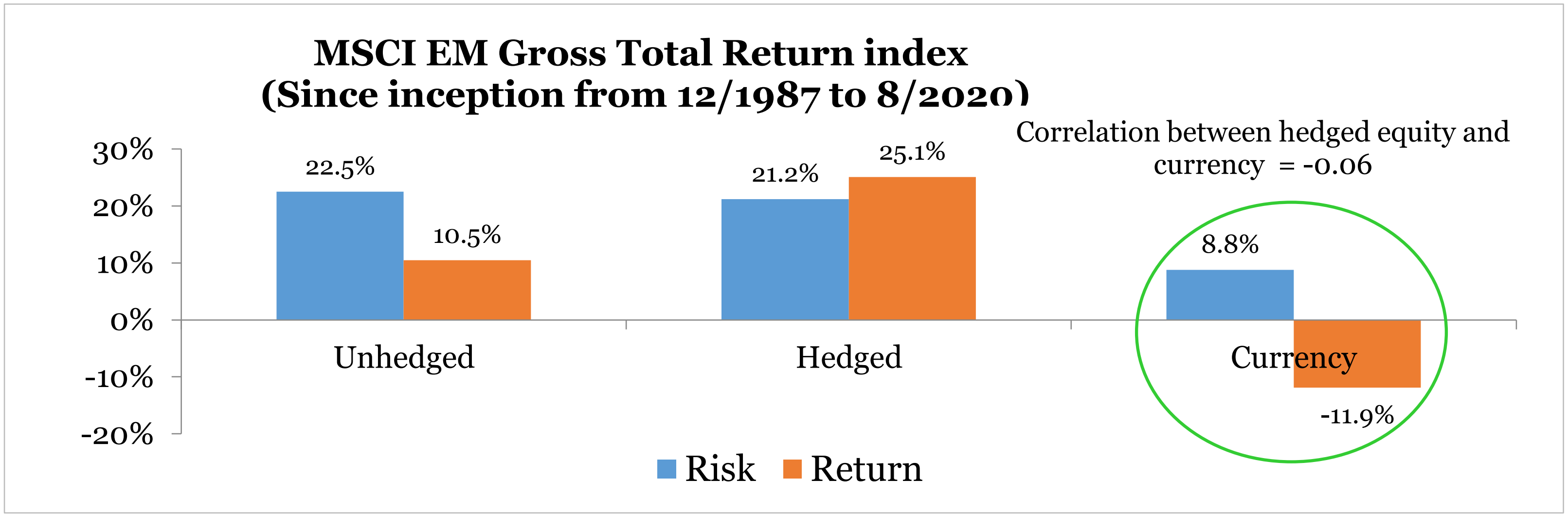
Source: Millennium

Return: Uncompensated Currency Risk



Source: OST staff calculation, MSCI

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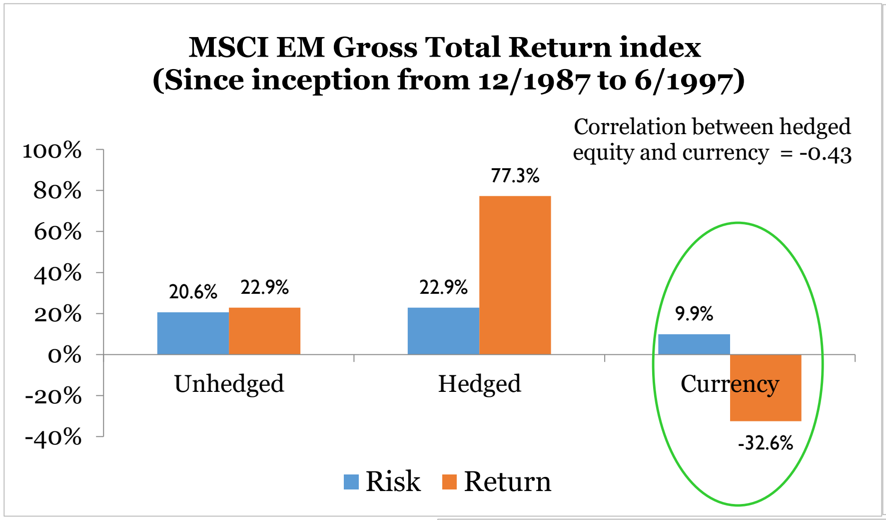
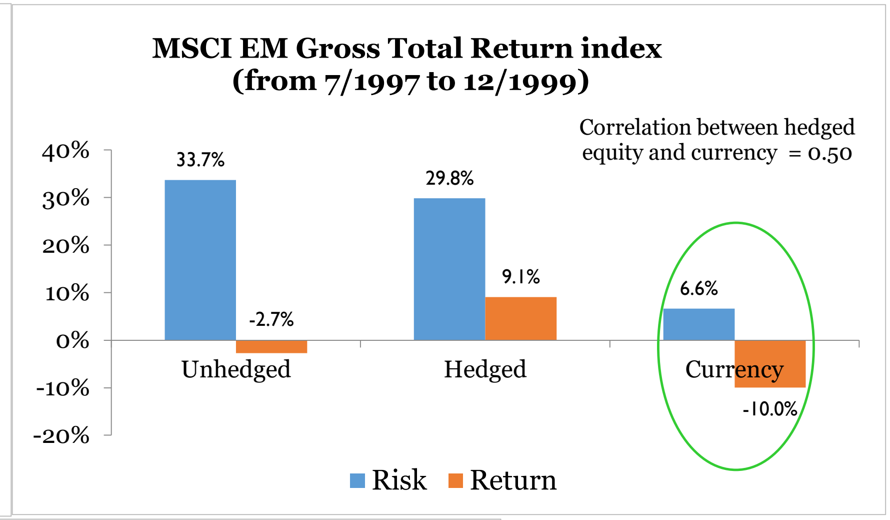
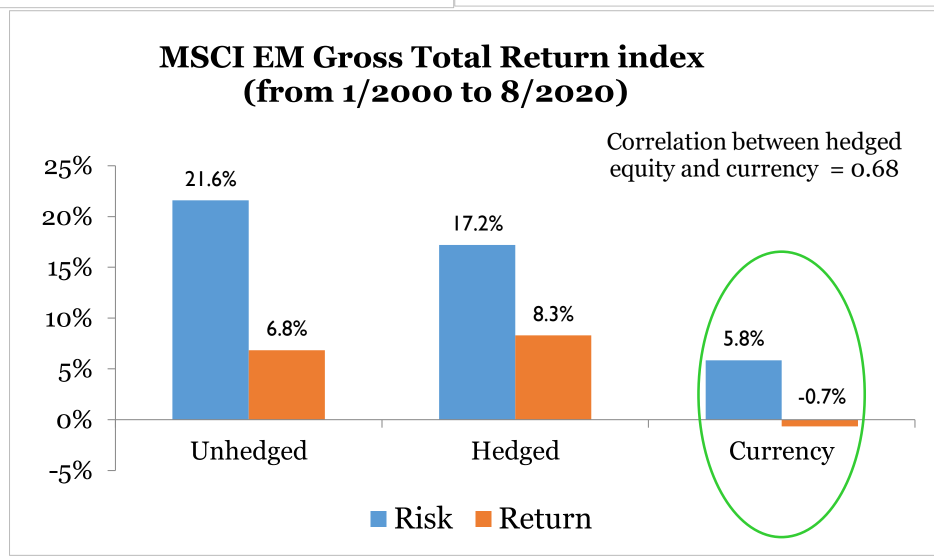
Return: Uncompensated Currency Risk

Before, During, & After Asian Financial Crisis







Source: OST staff calculation, MSCI

OREGON STATE TREASURY

Strategic Decision: Hedge or Not Hedge

Options	Pros	Cons
Do nothing: Continue with only DM FX hedging and without EM FX hedging	• Requires no action	• EM FX exhibits negative skew and significant drawdowns especially during stress periods
Permit FX hedging of selected EM currencies without changing the program benchmark of World ex-USA 50% Hedged	• Tactically hedge EM FX when opportunities appear and hedging is warranted • Practical implementation	• Does not represent the entire EM FX exposure in the ACWI ex-USA index
Permit EM FX hedging with changing the program benchmark from World ex-USA 50% Hedged to ACWI ex-USA 50% Hedged	• Strategically hedge EM FX	• Benchmark requires passively hedging all 23 EM FXs regardless of its liquidity, T-costs and operational considerations

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EM FX Hedging

- EM FX risk represents an uncompensated risk in the Public Equity Portfolio.
- Top 10 EM currencies represents 16% in the MSCI ACWI ex-USA but covers 88% of the index's total EM exposures and contributed about 91% of the total EM FX's risk contribution to the index's total risk.
- Due to relative higher transaction cost and less trading liquidity of the top 10 EM currencies, staff recommend excluding Saudi Riyal and Thai Baht. Add the remaining eight EM FX for hedging purposes in the Program.

Taiwan Dollar	TWD	ASIA	Brazilian Real	BRL	LATAM
South Korean Won	KRW	ASIA	Mexican Peso	MXN	LATAM
Indian Rupee	INR	ASIA	South African Rand	ZAR	EMEA
Chinese Renminbi	CNY	ASIA	Russian Ruble	RUB	EMEA

- Recommend tactically hedge eight major EM currencies, as listed above, up to 10% of the target portfolio in addition to 14 DM currencies currently in the Program.

OREGON STATE TREASURY

Hedging Recommendations

Considerations	Program Parameters
Objective	To hedge currency risk in OPERF's public equity portfolio
Inception date	January 2^{nd}, 2018
Notional amount	$6 billion
Target portfolio	Currency mix comprised by the MSCI World ex-U.S. Index
FX overlay managers	Adrian Lee & Partners, Aspect Capital and P/E Global
Base currency	U.S. dollar
Benchmark	The currency return component of a 50%-hedged MSCI World ex-U.S. Index
Permitted currencies	~~14 currencies that constitute the MSCI World ex-U.S. Index~~ Currencies that constitute the MSCI All Country World Index ex-U.S.
Constraints	Limit net long or net short in individual EM FX up to 3%; Limit net long or net short in the 8 EM FX bloc up to 10%
Range of portfolio hedge ratios	0% to 100%
Active volatility target	2%

OREGON STATE TREASURY

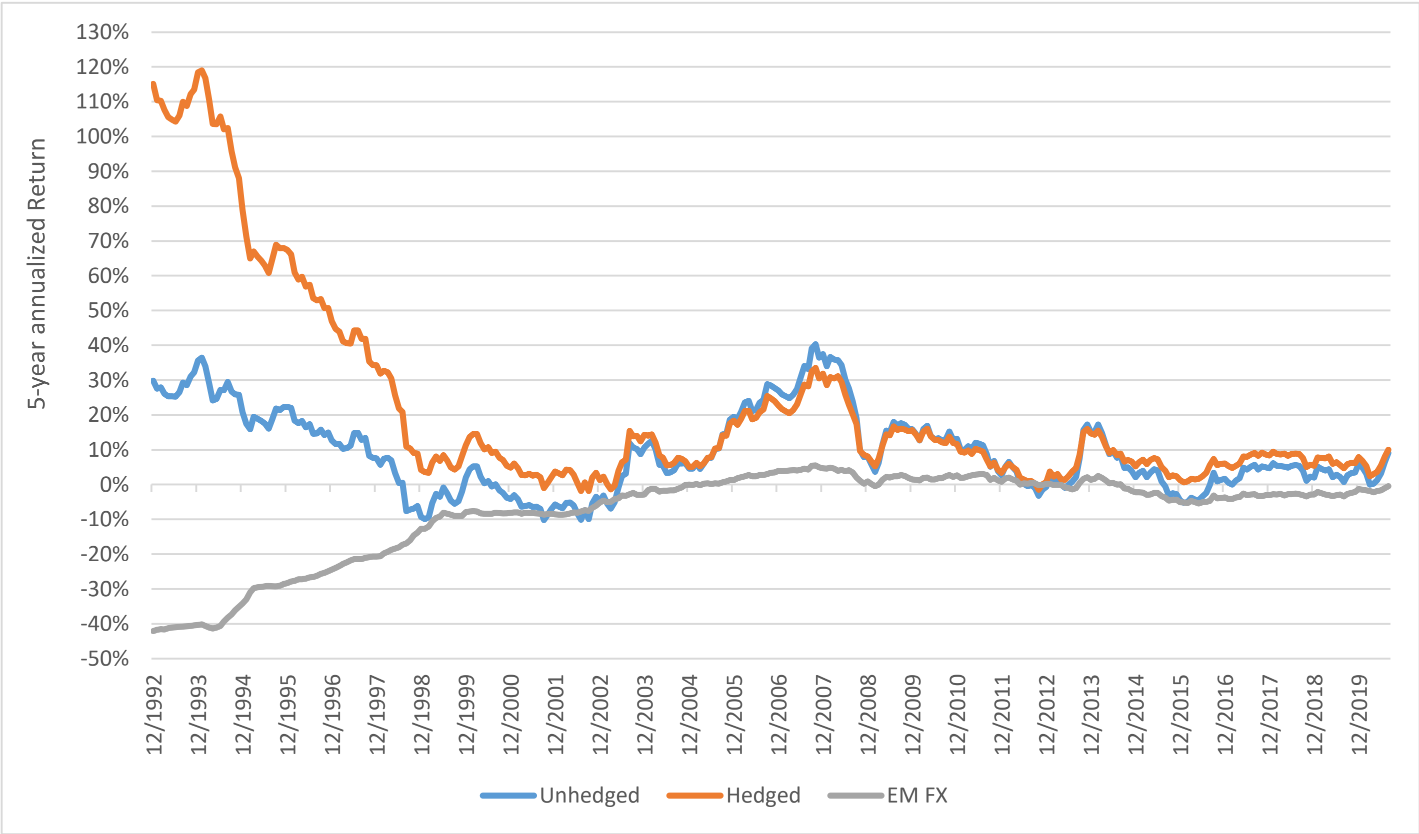
Value of Active Management in EM Currency Hedging

- The market inefficiency in EM currency markets could provide opportunities for active management.
- EM currency weights are a byproduct of the market-cap-weighted equity indexes. Active management can opportunistically hedge EM currency exposure based on manager models and signals.
- EM currencies tend to be more volatile than DM currencies. They have historically exhibited sharp devaluations and large drawdowns during market stress periods. Active management could proactively mitigate EM equities' downside risk.
- Active management takes into consideration liquidity and associated transaction costs of individual EM currencies.

OREGON STATE TREASURY

Appendix Section

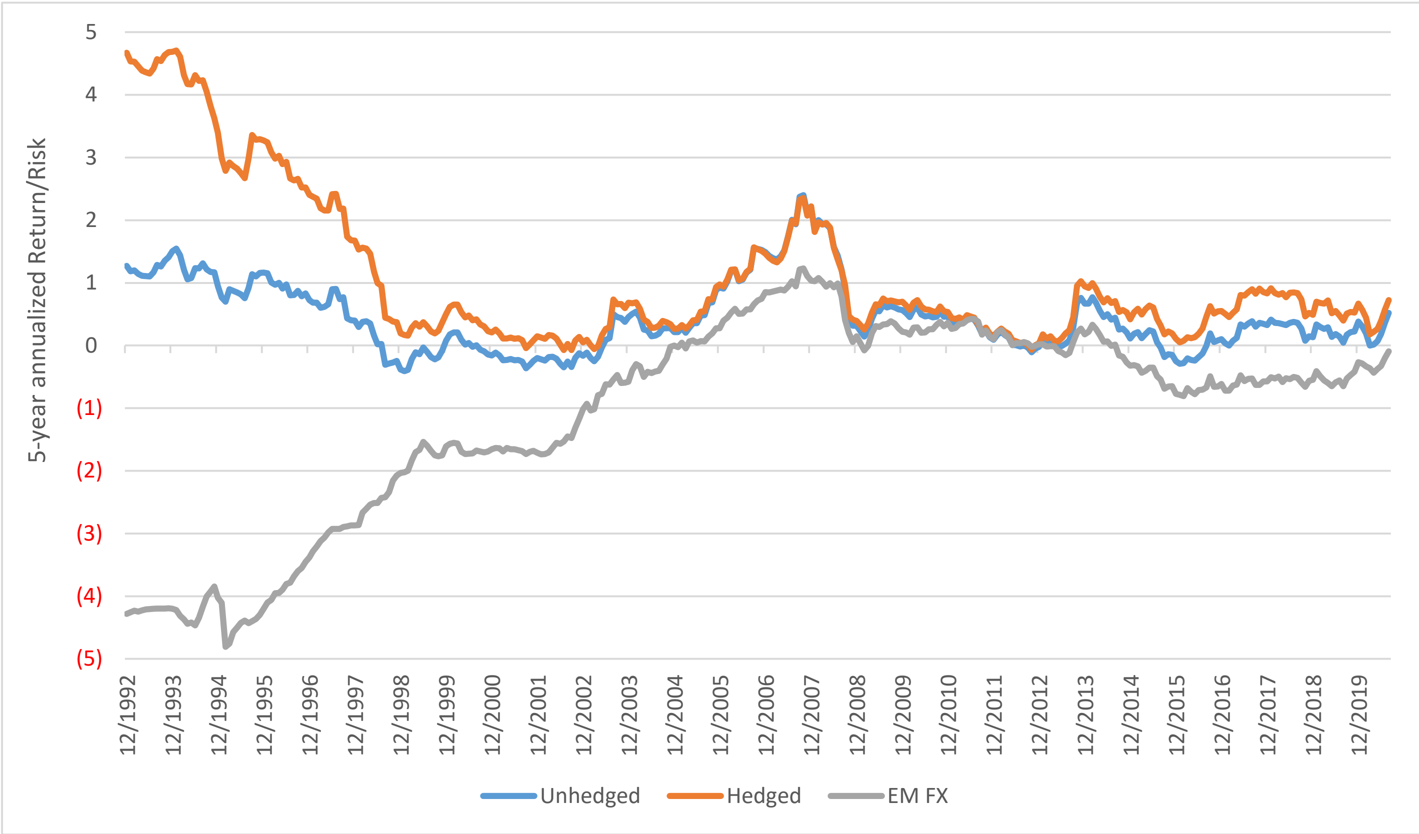
Appendix 1 – EM Equity and Currency Rolling 5-Yr Annualized Return



OREGON STATE TREASURY

Source: OST staff calculation, MSCI

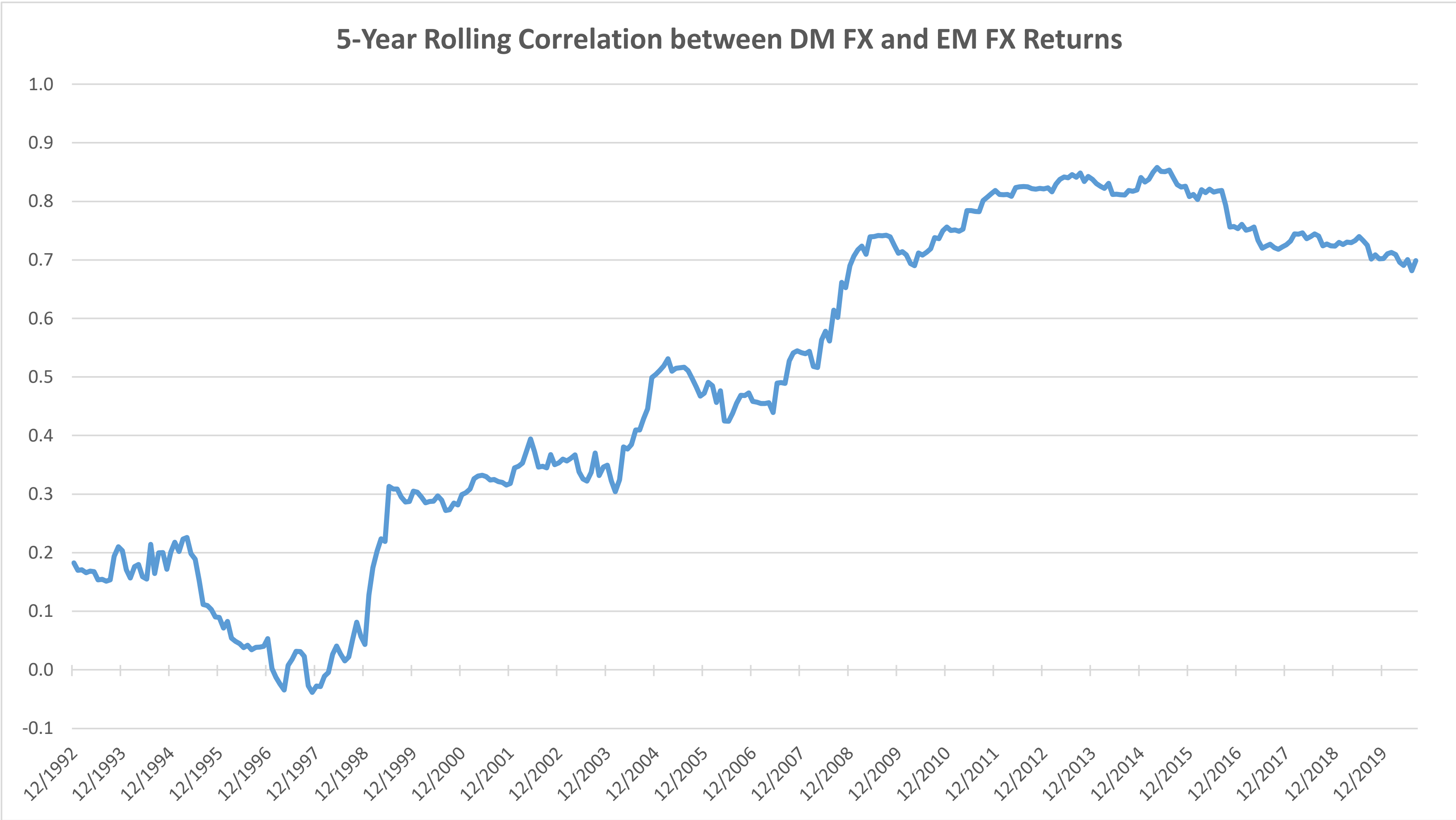
Appendix 2 – EM Equity and Currency Rolling 5-Yr Annualized Return/Risk Ratio



Source: OST staff calculation, MSCI

OREGON STATE TREASURY

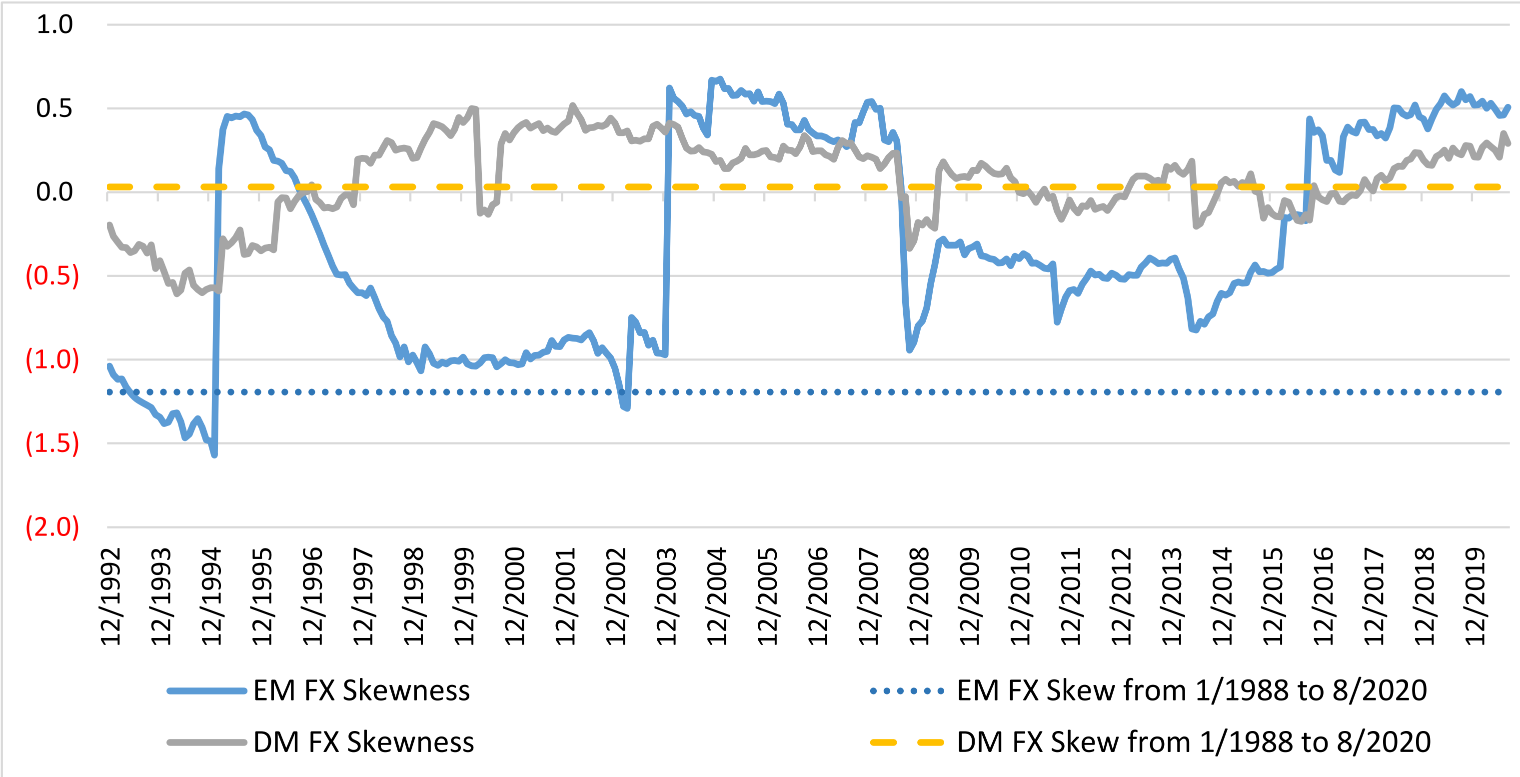
Appendix 3 – DM Currency vs. EM Currency



Source: MSCI, OST staff calculation

OREGON STATE TREASURY

Appendix 4 – Currency Rolling 5-Yr Skewness

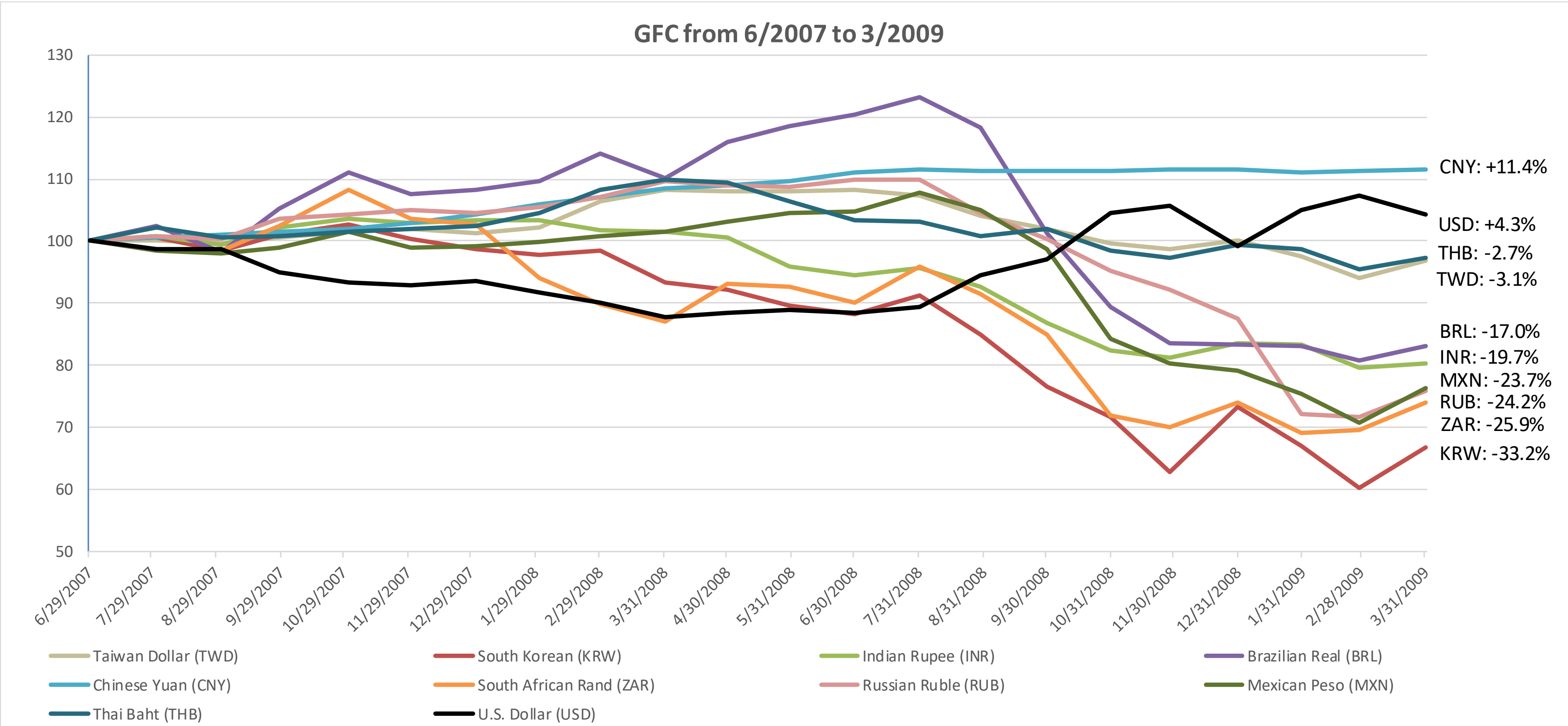


- Since inception from 1/1988 to 8/2020, EM FX has high negative skewness of -1.19 compared to +0.03 for DM FX for the period.
- Due to its high negative skewness, EM FX tends to exhibit a long left-tailed distribution. Therefore, its risk exposure should be managed, particularly during the market stress periods.

Source: MSCI, OST staff calculation

OREGON STATE TREASURY

Appendix 5 – Drawdown During Great Financial Crisis



Through the 21 months of the Great Financial Crisis: S&P 500 plunged -45% while U.S. Dollar was up +4%. Meanwhile, the following major emerging currencies traded against USD:

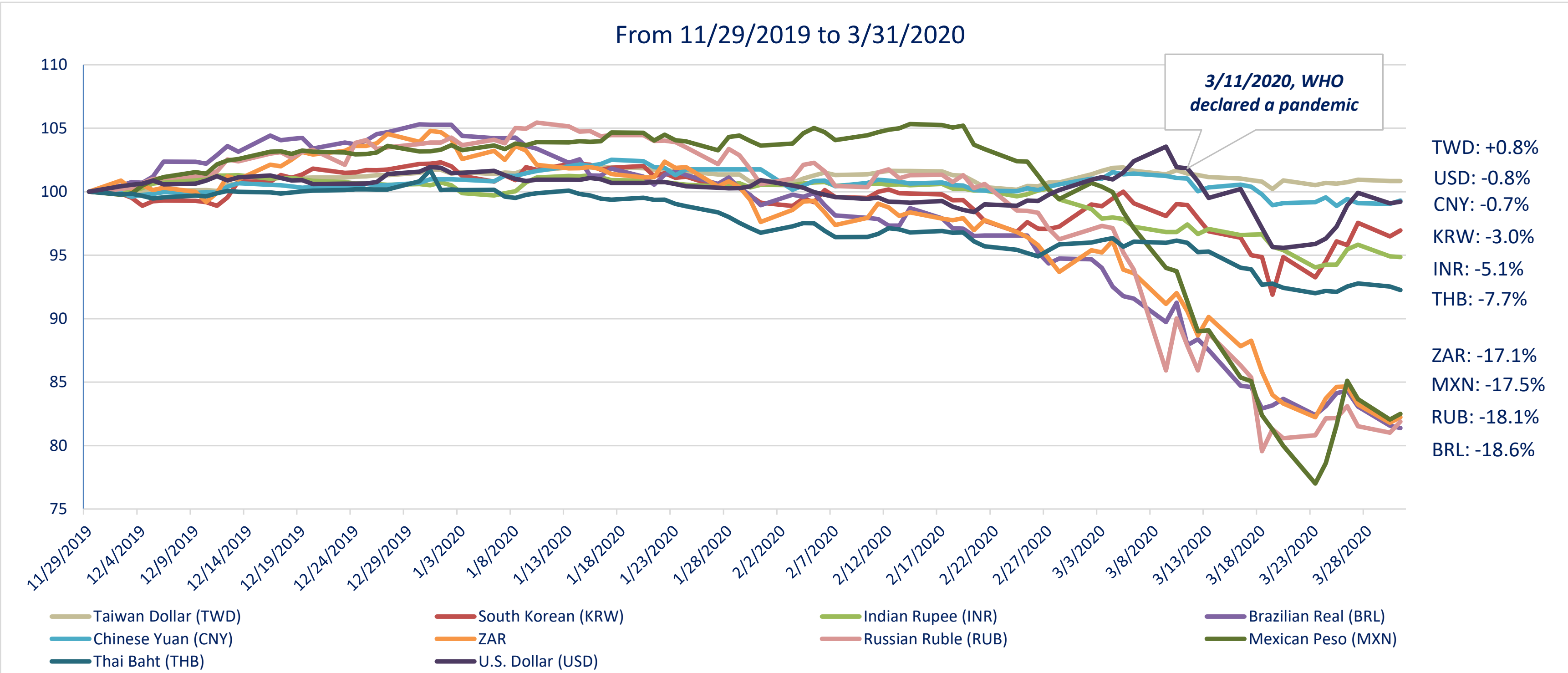
Currency hedging may offset portfolio risk.

- Chinese Yuan rallied +11%; note CNY is not a freely convertible currency.
- Thai Baht was off by -2.7% and Taiwan Dollar was down -3.1%
- Both Brazilian Real and Indian Rupee were down close to -20%. Mexican Peso, Russian Ruble, South African Rand, and South Korean Won all plunged by more than -20%.

OREGON STATE TREASURY

Source: MSCI, OST staff calculation

Appendix 6 – Drawdown During Covid-19 Pandemic



OREGON STATE TREASURY

Source: Bloomberg, OST staff calculation

Appendix 7 – OPERF Public Equity FX Exposure

As of 8/31/2020	MSCI ACWI IMI	EQ Without FX Hedge	EQ With FX Hedge	FX Overlay Hedge Impact on EQ
	%	%	%	%
USD	59.5%	61.9%	74.5%	12.6%
Developed Non-USD FX	32.8%	29.2%	16.5%	-12.6%
EM FX	7.7%	8.2%	8.2%	0.0%
Other currencies	0.0%	0.7%	0.8%	0.0%
Total	100.0%	100.0%	100.0%	0.0%
in $mil	$mil	$mil	$mil	$mil
USD	$14,847	$15,447	$18,590	$3,144
Developed Non-USD FX	$8,184	$7,283	$4,128	($3,155)
EM FX	$1,923	$2,047	$2,047	$0
Other currencies	$0	$178	$189	$12
Total FX notional associated with EQ in $mil	**$24,954**	**$24,954**	**$24,954**	**$0**

Source: State Street, Aladdin

OREGON STATE TREASURY

Appendix 8 – MSCI ACWI ex-USA Currency Exposure

	As of 8/31/2020	MS_ACWXUS	100.0%	Scaled World ex_USA	Diff
1	Euro	EUR	20.8%	24.0%	-3.3%
2	Japanese Yen	JPY	16.0%	18.5%	-2.5%
3	British Pound	GBP	8.7%	10.1%	-1.4%
4	Hong Kong Dollar	HKD	8.9%	2.4%	**6.5%**
5	Swiss Franc	CHF	6.6%	7.6%	-1.0%
6	Canadian Dollar	CAD	6.6%	7.7%	-1.1%
7	US Dollar	USD	4.7%	0.5%	**4.3%**
8	Australian Dollar	AUD	4.4%	5.1%	-0.7%
9	Swedish Krona	SEK	2.1%	2.4%	-0.3%
10	Danish Krone	DKK	1.6%	1.8%	-0.2%
11	Singapore Dollar	SGD	0.7%	0.8%	-0.1%
12	Norwegian Krone	NOK	0.4%	0.4%	-0.1%
13	Israeli Shekel	ILS	0.2%	0.2%	0.0%
14	New Zealand Dollar	NZD	0.2%	0.2%	0.0%
	Total DM FX	81.8%		81.8%	0.0%
1	Taiwan Dollar	TWD	3.6%	ASIA	
2	South Korean Won	KRW	3.4%	ASIA	
3	Indian Rupee	INR	2.4%	ASIA	
4	Brazilian Real	BRL	1.4%	LATAM	
5	Chinese Renminbi	CNY	1.5%	ASIA	
6	South African Rand	ZAR	1.0%	EMEA	
7	Russian Ruble	RUB	0.8%	EMEA	
8	Saudi Riyal	SAR	0.8%	EMEA	
9	Thai Baht	THB	0.6%	ASIA	
10	Mexican Peso	MXN	0.5%	LATAM	
11	Malaysian Ringgit	MYR	0.5%		
12	Indonesian Rupiah	IDR	0.4%		
13	Qatari Riyal	QAR	0.2%		
14	Philippine Peso	PHP	0.2%		
15	Polish Zloty	PLN	0.2%		
16	Chilean Peso	CLP	0.2%		
17	United Arab Emirates Dirham	AED	0.2%		
18	Turkish Lira	TRY	0.1%		
19	Hungarian Forint	HUF	0.1%		
20	Colombian Peso	COP	0.1%		
21	Egyptian Pound	EGP	0.0%		
22	Czech Koruna	CZK	0.0%		
23	Pakistani Rupee	PKR	0.0%		
	Total EM FX	18.2%			
	Total FX		100.0%		

HKD and USD weightings in the MSCI ACWI ex-USA. are amplified due to Chinese H-shares and ADRs (American Depositary Receipts), which underweights EM FX.

- As of 8/31/2020, 6.9% within 8.9% of HKD are Chinese H-shares: mainland Chinese companies that are primarily listed in Hong Kong.
- As of 8/31/2020, 4.1% within 4.7% of USD are Chinese ADRs.

Top 10 EM currencies represents 16% in the MSCI ACWI ex-USA but covers 88% of the index's total EM exposures. In addition, the top 10 EM currency bloc contributed about 91% of the EM FX block's risk contribution to the index's total risk.

Source: OST staff calculation, MSCI

OREGON STATE TREASURY

Appendix 9 – MSCI EM Currency Exposure

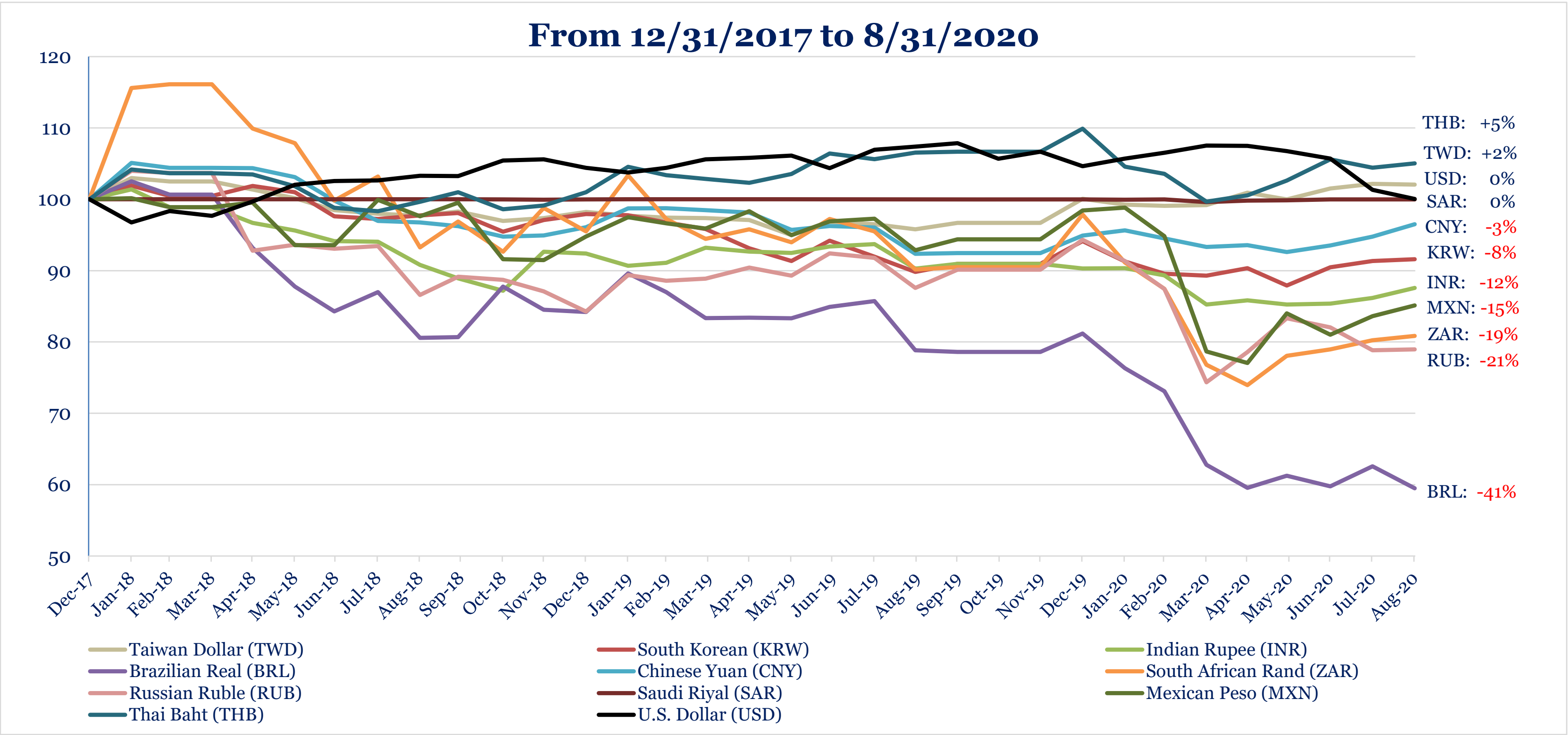
As of 8/31/2020	Security Description	Market Value %
		100.0%
1 Hong Kong Dollar	HKD	23.3%
2 US Dollar	USD	14.7%
3 **Taiwan Dollar**	TWD	12.3%
4 **South Korean Won**	KRW	11.6%
5 **Indian Rupee**	INR	8.1%
6 **Chinese Renminbi**	CNY	5.1%
7 **Brazilian Real**	BRL	4.9%
8 **South African Rand**	ZAR	3.5%
9 **Russian Ruble**	RUB	2.8%
10 **Saudi Riyal**	SAR	2.7%
11 **Thai Baht**	THB	1.9%
12 Malaysian Ringgit	MYR	1.7%
13 **Mexican Peso**	MXN	1.6%
14 Indonesian Rupiah	IDR	1.4%
15 Qatari Riyal	QAR	0.8%
16 Philippine Peso	PHP	0.7%
17 Polish Zloty	PLN	0.7%
18 United Arab Emirates Dirham	AED	0.6%
19 Chilean Peso	CLP	0.5%
20 Turkish Lira	TRY	0.3%
21 Hungarian Forint	HUF	0.2%
22 Colombian Peso	COP	0.2%
23 Euro	EUR	0.1%
24 Egyptian Pound	EGP	0.1%
25 Czech Koruna	CZK	0.1%
26 Pakistani Rupee	PKR	0.0%

Our top 10 EM currencies represent 55% in the MSCI Emerging Market Index.

OREGON STATE TREASURY

Source: OST staff calculation, MSCI, Aladdin

Appendix 10 – Recent EM FX Market Performance Since OPERF FX Program's Inception Date



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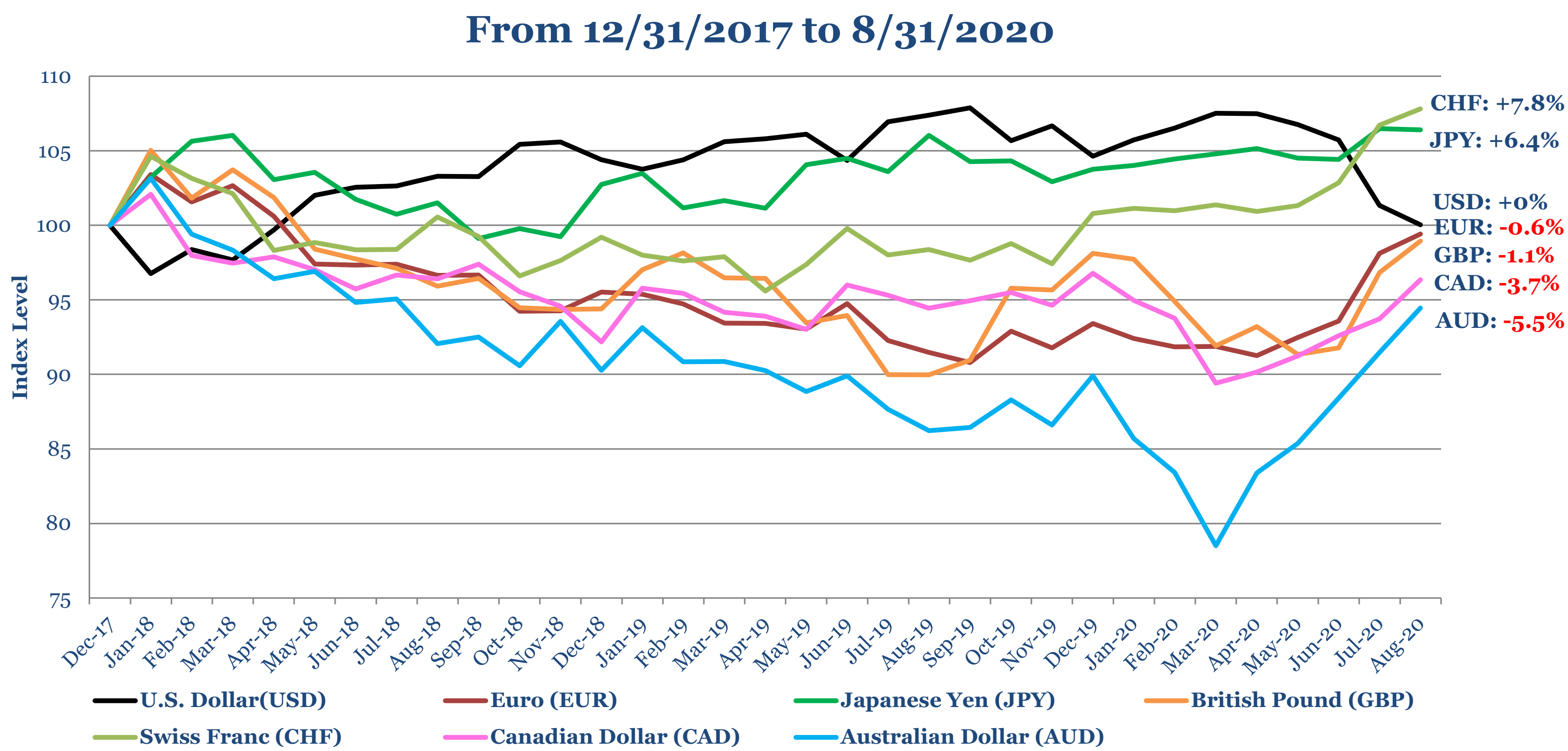
Source: Bloomberg

Appendix 11 – Recent DM FX Market Performance



Source: Bloomberg

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Tobias Read
Oregon State Treasurer

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oregon.gov/treasury

TAB 7 – SAIF Annual Review

October 28, 2020 Oregon Investment Council

SAIF Fixed Income Portfolio Annual Review

Geoff Nolan, Senior Investment Officer

OREGON STATE TREASURY

Agenda

1. SAIF Fixed Income Portfolio Overview

State Accident Insurance Fund (SAIF)

Objective – The SAIF portfolio is largely designed to be comprised of fixed income holdings that provide positive cash flow, dampen overall portfolio volatility, provide a real rate of return, and are positively linked to the entity's insurance liabilities. Maintaining the flexibility to seek out total return and a focus on realized loss minimization are additional, important criteria.

Strategy – SAIF funds are invested to maintain an overall portfolio quality of single A or higher with an average duration of +/-20% of the custom fixed income benchmark. In addition, maturities are structured to provide reinvestment opportunities that consider SAIF's operating cash flow projections. SAIF hires independent consultants to develop an appropriate strategy and benchmark. OST staff assists in this process and helps select firms that can best achieve the desired objective given all relevant constraints.

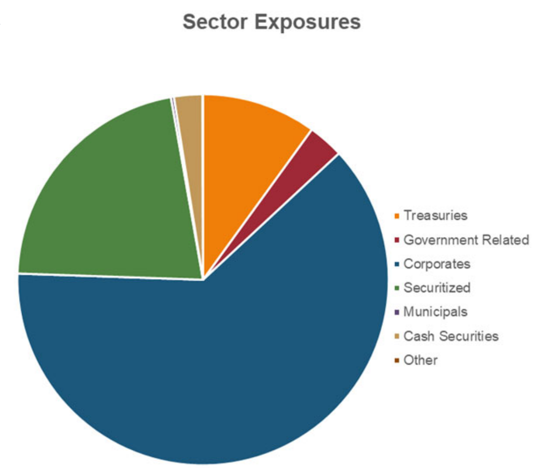
Managers – The SAIF portfolio is allocated to two external firms:

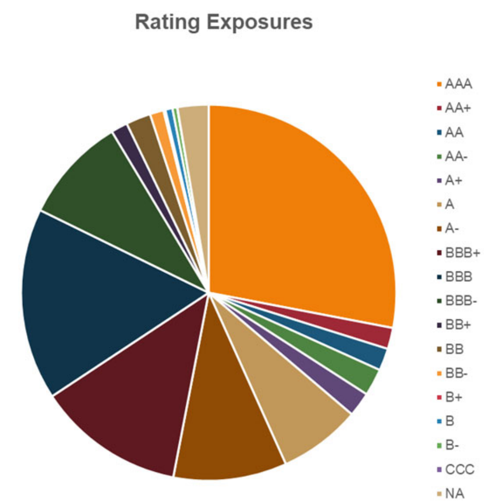
- Western Asset
- Wellington Management

Benchmark – SAIF's investment objective and liability structure give rise to a uniquely created custom benchmark that is comprised of the following components:

- 50% Bloomberg Barclays U.S. Corporate Index
- 20% Bloomberg Barclays Mortgage Backed Fixed Rate Security Index
- 15% Bloomberg Barclays U.S. Government Index
- 10% Bloomberg Barclays Corporate Intermediate Index
- 5% Bloomberg Barclays Ba to B U.S. High Yield 2% Issuer Cap

		Yield to Maturity		Duration		Effective Rating	
Portfolio	NAV ($Ms)	Portfolio	Benchmark	Portfolio	Benchmark	Portfolio	Benchmark
SAIF FI	4,390,427	2.10	1.69	6.17	6.31	A	A+
Wellington	2,167,520	2.27	1.69	6.36	6.31	A	A+
Western Asset	2,178,505	1.98	1.69	6.08	6.31	A	A+
Pledged Securities	44,402	0.15		1.64		AAA	





	Market Value ($Ms)	1 Mth	3 Mth	YTD	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year
State Accident Insurance Fund	**4,346,025**	**-0.56**	**3.61**	**6.76**	**7.18**	**9.44**	**6.03**	**5.20**	**5.88**	**5.46**	**4.99**
Wellington	2,167,520	-0.55	3.79	6.76	7.10	9.31	5.97	5.19	5.80	5.45	5.00
Western Asset	2,178,505	-0.57	3.43	6.75	7.26	9.56	6.08	5.21	5.96	5.47	4.99
SAIF Custom Benchmark		-0.80	2.58	6.40	6.83	8.89	5.57	4.58	5.14	4.79	4.35
Excess Return		0.24	1.03	0.36	0.35	0.55	0.46	0.62	0.74	0.67	0.64

As of August 31, 2020

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Legal Disclaimer Information

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Updated Jan 2016

SAIF Fixed Income Portfolio 2020 Annual Review

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Tobias Read
Oregon State Treasurer

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oregon.gov/treasury

SAIF

Oregon Investment Council

October 28, 2020

Kerry Barnett, President & CEO
Gina Manley, Vice President of Finance & CFO

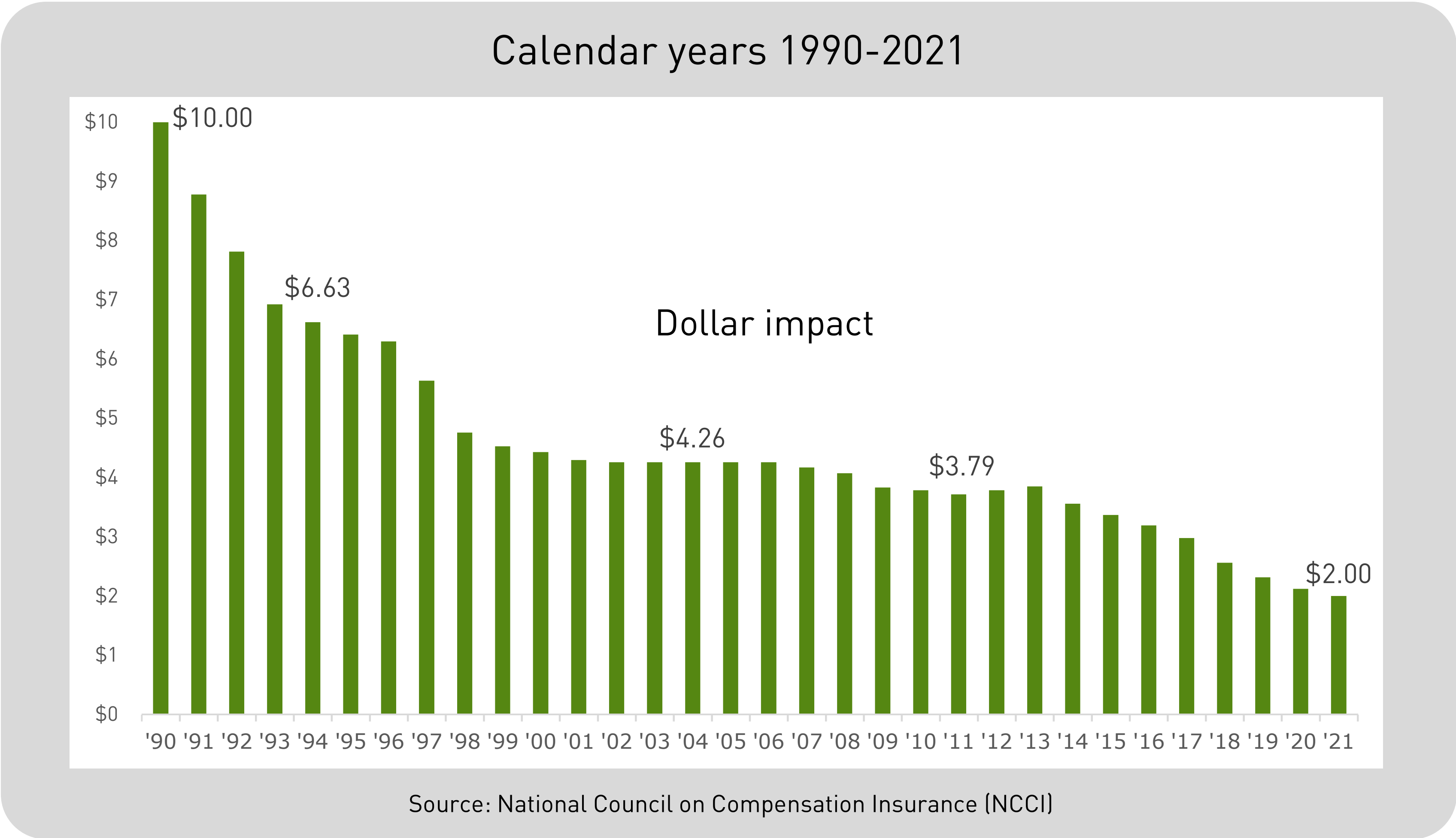
The state of SAIF is strong

- Market share is 54.2%
- Pricing is very competitive
- Very strong safety program
- Market-leading service levels
  - Agent, employer, worker surveys
  - Return-to-work services
  - Timely claims decisions
  - Timely delivery of first check to injured workers

The state of SAIF (continued)

- Dividends
  - 2020 - $100M policyholder dividend
  - 2019 - $160M policyholder dividend
  - 23 of last 31 years, 11 in a row
- Customer retention rate over 99% for the last ten years
- The workers' comp system is stable and balanced
  - 2021 pure premium reduction of 5.6%
  - 2020 pure premium reduction of 8.4%
  - 37.3% cumulative reduction over past five years!

Impact of Oregon workers' comp premium rate changes



SAIF’s financial model

- Policies are priced below actual cost
- Investment returns subsidize pricing
- Changes to our $2.5B claims reserve have a big impact
- Goals:
  - Maintain stable, predictable pricing
  - Small contribution to capital base each year
  - Pay a dividend when appropriate

COVID-19

SAIF’s response to COVID

- Key requirements to face a crisis
  - Strong capital base
  - Strong technology base
  - Strong organizational culture

SAIF’s response to COVID

- Remained open for business; staff working remotely since March 13
- $25M Coronavirus worker safety fund
- $100M early dividend declaration
- Changed key policies
  - Moratorium on cancellations
  - Flexible payment terms
  - No premium charged for employees on paid furlough
  - Relaxed claim filing requirements
- Outbound calls to policyholders
- Dissemination of COVID-safety information

Impacts of COVID on SAIF

Through September:

- Premium down at least 7.0%
- Collections down 5.9%
- Past due balances up 63%
- First quarter investments down $262M (since recovered)

Issues to watch

- Market volatility
- Reductions in payroll
  - COVID
  - Recession
  - Fires, etc.
- Increase in medical cost inflation
- Commoditization of workers' comp
- A "taking" of SAIF capital
- Legislative/regulatory changes that threaten balance in WC system

SAIF’s financial profile

Balance sheet

	2019
Invested assets	$4.7 billion
Other assets	$0.4 billion
Total assets	**$5.1 billion**

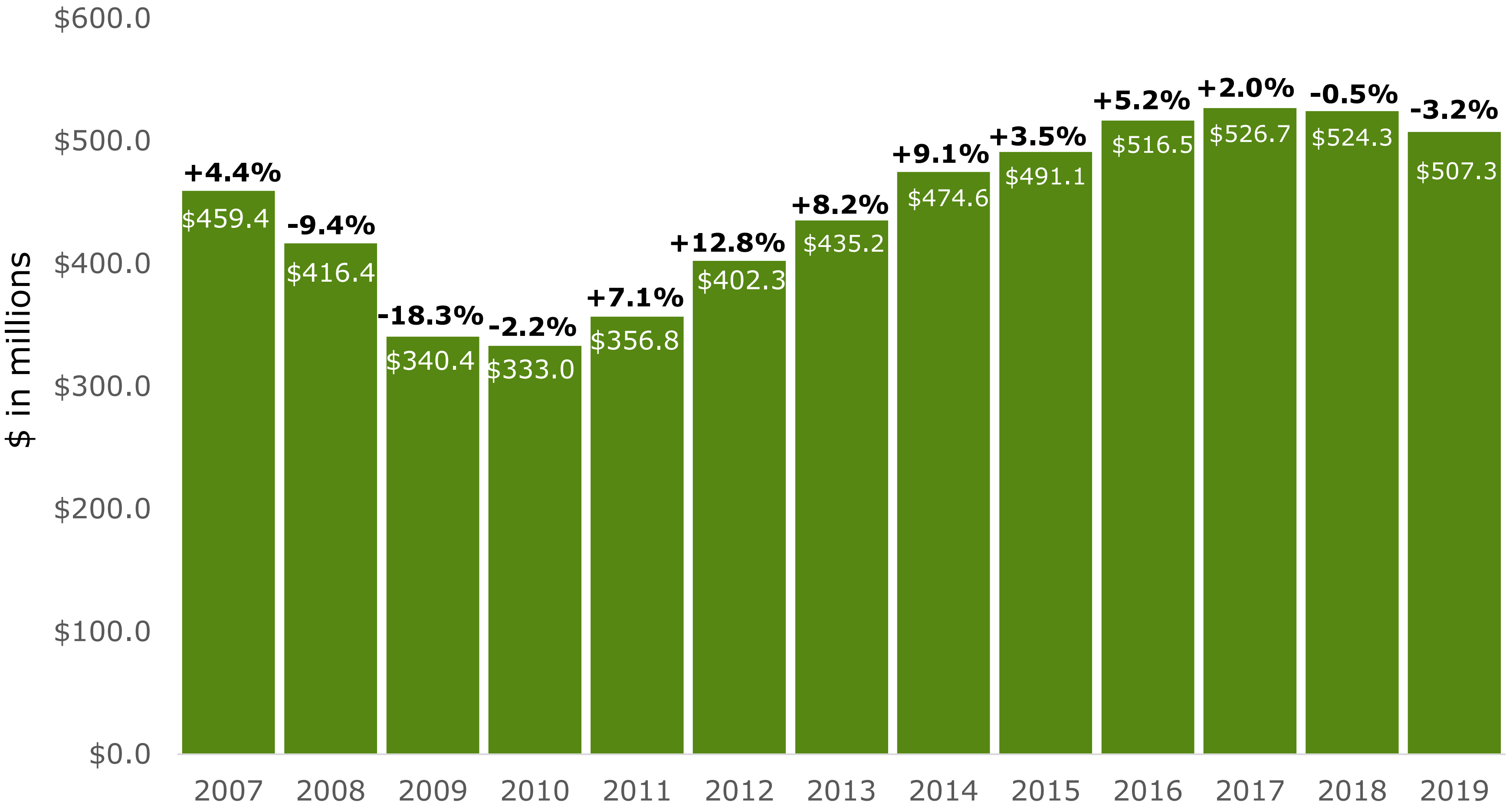
Claims reserves	$2.5 billion
Insurance payables and other	$0.5 billion
Total liabilities	**$3.0 billion**

Total surplus/capital	**$2.1 billion**
Total liabilities & surplus/capital	**$5.1 billion**

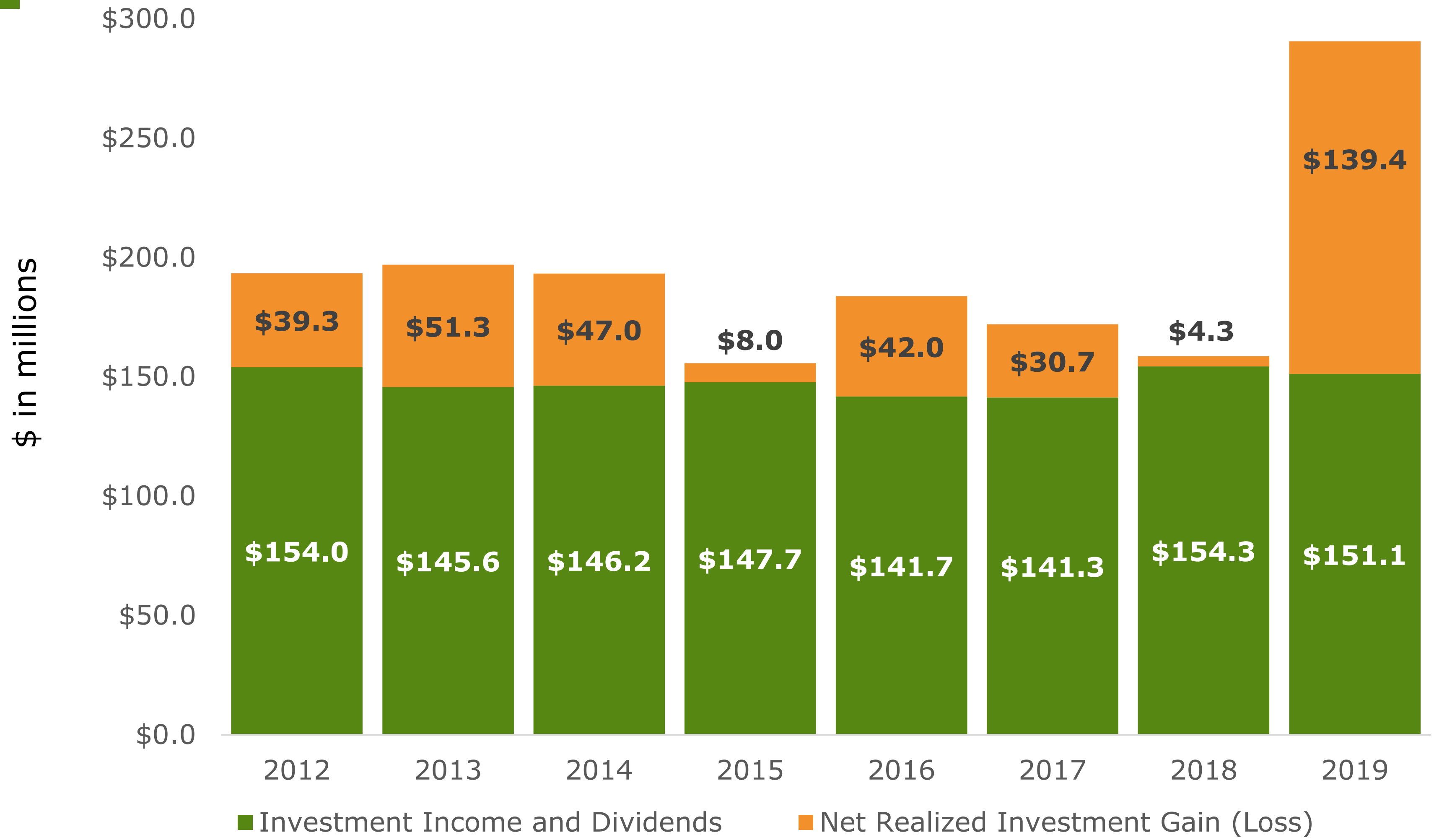
Income statement

$ in millions	2019
Premiums	$ 507.3
Claims	316.6
Loss adjustment, underwriting & other expense	208.6
Underwriting gain (loss)	**(17.9)**
Investment income & realized gains	290.5
Miscellaneous income	0.1
Net income before dividends	272.7
Policyholder dividends	159.9
Net income after dividends	**$ 112.8**

Net earned premium



Total investment income



SAIF's investment priorities

- Preservation of capital
- Stable, predictable investment returns
- Matching liquidity to SAIF cash needs
  - Availability of capital in a crisis
  - Availability of capital for project work

Investment allocation

- Investment allocation approved at April 2019 OIC meeting:

	Previous Actual Allocation	Oct. 2020 Allocation	Current Target Allocation
Fixed income	90%	87%	77%
Real estate funds	0%	3%	5%
Equities	10%	10%	10%
Bank loans & private credit	-	-	8%

Surplus/capital

Capital levels help determine:

- Pricing
  - Investment income offsets underwriting losses
- Dividends
  - Based on a snapshot in time
- Underwriting
  - Our charter: Make WC insurance widely affordable and available

Capital levels help determine:

- Our risk tolerance
  - Recession
  - Earthquake
  - Medical Cost Escalation
  - Legislative/Regulatory/Judicial changes
  - Changes in loss patterns
- Our board adopts a risk tolerance statement:
  - Never fall below 5.0 times CAL-RBC; risk models show the likelihood of capital falling below CAL-RBC over next three years is less than .5%

SAIF’s capital need is affected by:

- Lack of diversification
- No other sources of capital
- WC is a “long tail” line of insurance
- Necessary long-term investments

Thank you

TAB 8 – OSGP Annual Review

OREGON STATE TREASURY

Tobias Read
State Treasurer

Michael Kaplan
Deputy State Treasurer

Date: October 15, 2020

To: Oregon Investment Council

From: Wil Hiles, Investment Officer
Claire Illo, Investment Analyst
Michael Viteri, Senior Investment Officer

Purpose

To provide an annual review of the Oregon Savings Growth Plan and propose a benchmark change recommendation.

Background

The Oregon Savings Growth Plan (the "Plan" or "OSGP") is the State of Oregon's 457 Deferred Compensation plan. OSGP is a voluntary supplemental retirement plan that provides eligible state and local government employees the opportunity to defer a portion of their current salary on a pre-tax or after-tax (Roth) basis. These deferrals are invested in various investment options until participants draw funds at retirement. The Plan offers an array of equity and fixed income investment options, a suite of target-date retirement funds, which in aggregate constitute a single investment option, and a self-directed brokerage option. As of June 30, 2020, plan assets totaled $2.46 billion from over 33,000 participants.

With support and assistance from the Oregon State Treasury (OST) Investment Division, the Oregon Investment Council (OIC) is responsible for oversight of the Plan's investment program. Oversight of Plan administration is the responsibility of the Oregon Public Employees Retirement System Board ("PERS Board"), with support from OSGP staff. Additional oversight is provided by a seven-member Deferred Compensation Advisory Committee (the "Advisory Committee") established under ORS 243.505.

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OSGP Performance

Fund Option *Benchmarks*	Performance (%)					
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
Stable Value Option	0.52	1.08	2.26	2.07	1.81	1.60
91 Day T-Bill	0.02	0.60	1.63	1.77	1.19	0.64
*Rolling Average 5 Year CMT**	0.45	0.91	1.84	1.73	1.55	1.80
Active Fixed Income Option	4.32	5.02	7.43	5.03	4.29	4.15
Barclays US Aggregate Bond Index	2.90	6.14	8.74	5.32	4.30	3.82
Large Company Value Stock Option	14.27	-16.26	-8.85	1.80	4.58	10.46
Russell 1000 Value Index	14.29	-16.26	-8.84	1.82	4.64	10.41
Stock Index Option	22.05	-3.49	6.46	9.94	9.94	13.59
Russell 3000 Index	22.03	-3.48	6.53	10.04	10.03	13.72
Large Company Growth Stock Option	27.84	9.78	23.15	18.85	15.75	17.02
Russell 1000 Growth Index	27.84	9.81	23.28	18.99	15.89	17.23
International Stock Option	18.42	-11.42	-5.68	-0.02	1.62	5.44
MSCI ACWI ex-US (net) Index	16.12	-11.00	-4.80	1.13	2.26	5.75
Small Company Stock Option	24.81	-16.28	-11.11	0.38	3.03	9.86
Russell 2000 Index	25.42	-12.98	-6.63	2.01	4.29	10.99
Socially Responsible Stock Option	22.22	-2.85	7.97	10.07	10.03	N/A
Russell 3000 Index	22.03	-3.48	6.53	10.04	10.03	N/A
Real Return Option	10.79	-10.71	-8.16	-1.06	-0.92	N/A
CPI + 3%	10.53	-11.28	-7.15	0.99	2.32	N/A
BlackRock LifePath Retirement	9.49	0.99	6.00	5.69	5.06	5.99
BlackRock LifePath 2025	11.52	-1.14	4.73	5.92	5.59	7.52
BlackRock LifePath 2030	13.52	-2.81	3.79	6.03	5.90	8.07
BlackRock LifePath 2035	15.31	-4.47	2.77	5.96	6.01	8.42
BlackRock LifePath 2040	17.06	-5.93	1.87	5.93	6.14	8.79
BlackRock LifePath 2045	18.41	-6.84	1.33	5.90	6.22	9.11
BlackRock LifePath 2050	19.03	-7.26	1.05	5.86	6.23	9.36
BlackRock LifePath 2055	19.11	-7.27	1.05	5.86	6.22	N/A
BlackRock LifePath 2060	19.11	-7.27	1.04	5.84	6.22	N/A
BlackRock LifePath 2065	18.95	-7.48	N/A	N/A	N/A	N/A

Source: Voya Financial, as of June 30, 2020.
*CMT is the Constant Maturity Treasury Yield.
Performance shown is a) net of fees and b) annualized for periods longer than one year.
OSGP has two types of fees, investment management and administrative fees.
Administrative fees are comprised of State of Oregon administration, recording keeping, custody, trust, and communications fees.

OREGON STATE TREASURY

Additional OSGP Data

Fund Name	Market Value ($)	% of Total	Plan Participants	IM Fees (bps)	Admin Fees (bps)	Total Fees (bps)
Stable Value Option	322,147,737	13.1%	8,747	32.1	11.9	44.0
Active Fixed Income Option	203,394,311	8.3%	7,569	16.3	11.9	28.2
Large Company Value Stock Option	175,296,135	7.1%	10,866	2.4	11.9	14.3
Stock Index Option	279,687,736	11.4%	10,674	2.1	11.9	14.0
Large Company Growth Stock Option	331,792,340	13.5%	12,754	2.0	11.9	13.9
International Stock Option	121,946,469	5.0%	10,172	53.1	11.9	65.0
Small Company Stock Option	191,296,640	7.8%	10,828	38.7	11.9	50.6
Real Return Option	3,936,501	0.2%	836	22.0	11.9	33.9
Socially Responsible Investment Option	20,721,652	0.8%	2,080	17.0	11.9	28.9
BlackRock LifePath Retirement Fund	331,840,438	13.5%	5,749	8.0	11.9	19.9
BlackRock LifePath 2025 Fund	134,816,181	5.5%	3,550	8.0	11.9	19.9
BlackRock LifePath 2030 Fund	100,332,662	4.1%	3,727	8.0	11.9	19.9
BlackRock LifePath 2035 Fund	76,887,741	3.1%	3,694	8.0	11.9	19.9
BlackRock LifePath 2040 Fund	54,312,456	2.2%	3,512	8.0	11.9	19.9
BlackRock LifePath 2045 Fund	36,166,054	1.5%	3,173	8.0	11.9	19.9
BlackRock LifePath 2050 Fund	28,216,988	1.1%	2,502	8.0	11.9	19.9
BlackRock LifePath 2055 Fund	11,440,334	0.5%	1,423	8.0	11.9	19.9
BlackRock LifePath 2060 Fund	8,091,063	0.3%	971	8.0	11.9	19.9
BlackRock LifePath 2065 Fund	250,903	0.0%	43	8.0	11.9	19.9
Self-Directed Brokerage Option	27,655,041	1.1%	333	0.0	11.9	11.9
Total	**2,460,229,381**	**100%**				

Source: Market Value & Plan Participants data, OSGP record keeper, Voya Financial. Fee estimation, OST. As of June 30, 2020.
OSGP has two types of fees, investment management (IM) and administrative (Admin) fees.
Administrative fees are comprised of State of Oregon administration, recording keeping, custody, trust, and communications fees.

The Plan's Self-Directed Brokerage Option, executed through Charles Schwab, finished the quarter with $27.7 million in assets, or 1.1% of total OSGP assets.

BlackRock Fee Reductions

Effective April 15, 2020, Treasury entered into an updated agreement with BlackRock, as it relates to OSGP plan assets. As a part of this process, BlackRock conducted a review of the broader Treasury relationship, which led to modestly lower investment management fees for the Plan.

OREGON STATE TREASURY

General Consulting Contract Extension

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 Oregon Investment Council (OIC) retains the contractual right to terminate such contracts, at any time, upon written notice.

In recognition of the contributions made by Callan, Staff proposed to extend its current contract, subject to satisfactory negotiation of all terms and conditions, for a two-year period beginning September 1, 2020. And on July 22, 2020, the OIC approved Staff's recommendation to retain Callan as the general consultant to the Oregon Savings Growth Plan (OSGP).

Benchmark Update Recommendation

OSGP previously offered two investment options serving the purpose of capital preservation - the Short-Term Fixed Income Option and the Stable Value Option. Given the redundancy of these options, Staff recommended streamlining the capital preservations options by eliminating the Short-Term Fixed Income Option and transferring associated assets to the Stable Value Option. The OIC approved Staff's recommendation on September 19, 2018. This change reduced participant confusion of having multiple investment options that served the same purpose, while capturing some attractive features offered by the Stable Value Option, including enhanced diversification, a stable crediting rating, and a reduced fee schedule.

Staff recommends the use of the 3-Year Constant Maturity Treasury as the primary benchmark and the 3-Month Treasury Bill (T-Bill) as the secondary benchmark. The Stable Value Option is comprised of a single, underlying investment manager in Galliard Capital Management. Galliard Capital's stated benchmark for this strategy is the 3-Year Constant Maturity Treasury, which closely aligns with the targeted duration of the strategy. The 3-Year Constant Maturity Treasury is published by the Federal Reserve Board and is calculated by adding each new 3-year Treasury Note issued while the Treasury Note that was issued three years previously drops off. This construction provides a smooth and steady return stream, similar to that of a stable value investment.

Additionally, since the Stable Value Option is now serving as the Plan's sole capital preservation investment option, the 3-Month Treasury Bill also serves as an appropriate benchmark. The 3-Month Treasury Bill is a common industry benchmark for government security money market funds and provides an appropriate comparison for purposes of capital preservation and safety of principal. Therefore, Staff and Callan also recommend utilizing the 3-Month Treasury Bill as a secondary benchmark for the Stable Value Option.

October 28, 2020

Oregon Savings Growth Plan Annual Review

Michael Viteri
Senior Investment Officer

Wil Hiles
Investment Officer

Claire Illo
Investment Analyst

OREGON STATE TREASURY

Agenda

Plan Overview

Investment Options Review

Plan Updates

Performance

ESG Update

Benchmark Change (Recommendation)

Policy Revisions (Recommendation)

OREGON
STATE
TREASURY

Plan Overview

Background

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

Participation

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

All Oregon state **employees** are eligible to participate, so long as their employer has adopted the plan.

Plan Overview

Oversight, Authority & Administration

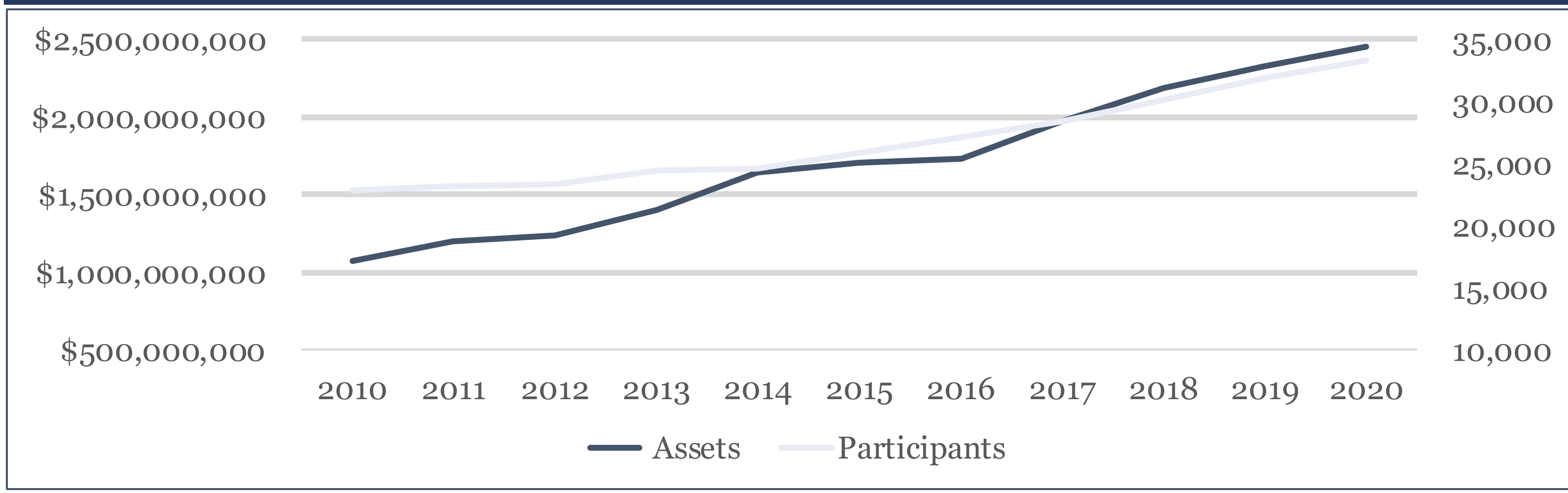
Oregon Savings Growth Plan (OSGP)	
Investment Oversight	OIC and Treasury
Trustee	PERS Board
Recordkeeper	Voya Financial
Custodian	State Street
Administrator	OSGP/PERS
Consultant	Callan
Additional Oversight	OSGP Advisory Committee

Plan Overview

Plan Assets

Oregon Savings Growth Plan (OSGP)	
Assets	$2.46 billion
Participants	33,372

Change in Total Plan Assets & Participants



Source: Voya Financial, as of June 30, 2020.

OREGON STATE TREASURY

Investment Options Overview

Core Funds		
Stable Value Option	Stock Index Option	Small Company Stock Option
Active Fixed Income Option	Large Company Growth Stock Option	Real Return Option
Large Company Value Stock Option	International Stock Option	Socially Responsible Investment Option

Asset Allocation Funds
BlackRock LifePath Funds

Self-Directed Brokerage Option
Schwab Personal Choice Retirement Account (PCRA)

Investment Options Overview

Underlying Funds

	Core Funds
Stable Value Option	Galliard Stable Value
Active Fixed Income Option	BlackRock US Debt (33%) / DoubleLine Total Return Bond (33%) / Wellington Core Bond Plus (33%)
Large Company Value Stock Option	BlackRock Russell 1000 Value Index
Stock Index Option	BlackRock Russell 3000 Index
Large Company Growth Stock Option	BlackRock Russell 1000 Growth Index
International Stock Option	AQR ACWI ex-US (25%) / Arrowstreet ACWI ex-US (25%) / Lazard ACWI ex-US (25%) / DFA Int'l Core (15%) / DFA EM Core (10%)
Small Company Stock Option	DFA Small Cap (35%) / Pleiades Small Cap (35%) / S&P 600 Index (30%)
Real Return Option	State Street Real Asset
Socially Responsible Investment Option	TIAA Social Choice

Investment Options Overview

Market Values

Market Values			Participants
Stable Value Option	322,147,737	13.1%	8,747
Active Fixed Income Option	203,394,311	8.3%	7,569
Large Company Value Stock Option	175,296,135	7.1%	10,866
Stock Index Option	279,687,736	11.4%	10,674
Large Company Growth Stock Option	331,792,340	13.5%	12,754
International Stock Option	121,946,469	5.0%	10,172
Small Company Stock Option	191,296,640	7.8%	10,828
Real Return Option	3,936,501	0.2%	836
Socially Responsible Investment Option	20,721,652	0.8%	2,080
BlackRock LifePath Funds	782,354,820	31.8%	28,344
Self-Directed Brokerage Option	27,655,041	1.1%	333
Total	**$2,460,229,381**	**100%**	**103,203**

OREGON STATE TREASURY

Source: Voya Financial, as of June 30, 2020.

Plan Updates

Recent Changes

- Lowered BlackRock fees
- Extended general consulting contract with Callan

Callan

October 28, 2020

oregon SAVINGS GROWTH PLAN

2020 Annual Review

Anne Heaphy
Plan Sponsor Consulting

Uvan Tseng, CFA
Plan Sponsor Consulting

OSGP Annual Review

OSGP Investment Structure

OSGP Investment Structure			
Risk Spectrum	**Tier I. Asset Allocation Options**	**Tier II. Core Options**	**Tier III. Specialty Options**
Conservative ↑	**Target Date Funds** LifePath Portfolios	**Capital Preservation** Stable Value Option	
		Fixed Income Active Fixed Income Option	
		Broad U.S. Equity Stock Index Option - Russell 3000	**Specialty Equity** Socially Responsible Investment Option
		Large Cap U.S. Equity Large Company Value Stock Option Large Company Growth Stock Option	
		Small Cap U.S. Equity Small Company Stock Option	
		International Equity International Stock Option	**Inflation Sensitive** Real Return Option
Aggressive ↓			**Brokerage Window** Schwab PCRA

Asset Distribution

	June 30, 2020				March 31, 2020	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Tier I - Asset Allocation Options						
Target Date Funds	**$782,240,321**	**31.79%**	**$4,078,490**	**$85,139,736**	**$693,022,094**	**32.41%**
LifePath Index Retirement Fund O	331,737,294	13.48%	(3,222,002)	28,600,087	306,359,209	14.33%
LifePath Index 2025 Fund O	134,797,651	5.48%	(1,058,137)	13,757,288	122,098,499	5.71%
LifePath Index 2030 Fund O	100,427,150	4.08%	2,131,430	11,805,512	86,490,207	4.05%
LifePath Index 2035 Fund O	76,842,453	3.12%	1,922,974	10,069,214	64,850,265	3.03%
LifePath Index 2040 Fund O	54,257,883	2.21%	1,656,467	7,808,832	44,792,584	2.09%
LifePath Index 2045 Fund O	36,148,178	1.47%	1,122,520	5,548,493	29,477,165	1.38%
LifePath Index 2050 Fund O	28,235,871	1.15%	629,656	4,496,242	23,109,973	1.08%
LifePath Index 2055 Fund O	11,439,776	0.46%	241,841	1,805,790	9,392,145	0.44%
LifePath Index 2060 Fund O	8,103,163	0.33%	456,471	1,216,514	6,430,178	0.30%
LifePath Index 2065 Fund O	250,903	0.01%	197,270	31,764	21,869	0.00%
Tier II - Core Investment Options	**$1,625,717,923**	**66.07%**	**$10,934,523**	**$213,009,667**	**$1,401,773,734**	**65.56%**
Stable Value Option						
Galliard	321,312,170	13.06%	9,636,601	862,337	310,813,233	14.54%
Active Fixed Income Option						
BlackRock / DoubleLine / Wellington	203,532,665	8.27%	5,924,878	7,867,678	189,740,109	8.87%
Stock Index Option						
BlackRock	280,041,873	11.38%	(1,770,076)	51,248,732	230,563,217	10.78%
Large Company Value Stock Option						
BlackRock	175,070,257	7.12%	(1,789,175)	22,234,511	154,624,921	7.23%
Large Company Growth Stock Option						
BlackRock	332,234,098	13.50%	1,134,294	72,292,147	258,807,657	12.10%
Small Company Stock Option						
BlackRock / Callan / DFA	191,523,221	7.78%	(3,380,498)	39,307,770	155,595,949	7.28%
International Stock Option						
AQR / Arrowstreet / DFA / Lazard	122,003,639	4.96%	1,178,499	19,196,492	101,628,648	4.75%
Tier III - Specialty Options	**$52,510,051**	**2.13%**	**$1,751,061**	**$7,467,098**	**$43,291,892**	**2.02%**
Socially Responsible Investment Option						
TIAA-CREF	20,698,242	0.84%	(738,634)	3,917,052	17,519,824	0.82%
Real Return Option						
State Street	3,932,847	0.16%	26,773	327,562	3,578,512	0.17%
Brokerage Window	27,878,961	1.13%	2,462,921	3,222,484	22,193,556	1.04%
Total Fund	**$2,460,479,273**	**100.0%**	**$16,764,073**	**$305,616,508**	**$2,138,098,693**	**100.0%**

Summary Returns

Periods Ended June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Tier I - Asset Allocation Options					
LifePath Index Retirement Fund L	9.54	6.13	5.83	5.21	6.16
LifePath Index Retirement Benchmark	9.47	6.02	5.80	5.19	6.15
LifePath Index 2025 Fund L	11.57	4.87	6.06	5.74	7.70
LifePath Index 2025 Benchmark	11.49	4.75	5.99	5.69	7.63
LifePath Index 2030 Fund L	13.51	3.87	6.09	5.96	8.17
LifePath Index 2030 Benchmark	13.44	3.73	5.99	5.87	8.09
LifePath Index 2035 Fund L	15.38	2.93	6.11	6.17	8.61
LifePath Index 2035 Benchmark	15.33	2.81	6.00	6.05	8.50
LifePath Index 2040 Fund L	17.14	2.02	6.07	6.30	8.97
LifePath Index 2040 Benchmark	17.08	1.93	5.97	6.18	8.85
LifePath Index 2045 Fund L	18.49	1.48	6.04	6.38	9.29
LifePath Index 2045 Benchmark	18.41	1.34	5.90	6.23	9.15
LifePath Index 2050 Fund L	19.11	1.22	6.01	6.40	9.54
LifePath Index 2050 Benchmark	19.05	1.13	5.88	6.25	9.40
LifePath Index 2055 Fund L	19.20	1.22	6.01	6.39	9.67
LifePath Index 2055 Benchmark	19.15	1.12	5.88	6.25	9.53
LifePath Index 2060 Fund L	19.20	1.22	5.99	6.39	--
LifePath Index 2060 Benchmark	19.15	1.13	5.88	6.28	--

Summary Returns

Periods Ended June 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Tier II - Core Investment Options					
Stable Value Option	0.59	2.53	2.34	2.10	1.90
3-month Treasury Bill	0.02	1.63	1.77	1.19	0.64
Active Fixed Income Option	4.35	7.63	5.21	4.49	4.33
Bloomberg Aggregate Index	2.90	8.74	5.32	4.30	3.82
Stock Index Option	22.12	6.60	10.10	10.12	13.79
Russell 3000 Index	22.03	6.53	10.04	10.03	13.72
Large Company Value Stock Option	14.35	(8.73)	1.94	4.73	10.64
Russell 1000 Value Index	14.29	(8.84)	1.82	4.64	10.41
Large Company Growth Stock Option	27.87	23.07	18.88	15.84	17.09
Russell 1000 Growth Index	27.84	23.28	18.99	15.89	17.23
Small Company Stock Option	24.84	(11.11)	0.41	3.09	9.91
Russell 2000 Index	25.42	(6.63)	2.01	4.29	10.50
International Stock Option	18.57	(5.38)	0.30	1.93	5.63
MSCI ACWI ex US Index	16.12	(4.80)	1.14	2.26	4.97
Tier III - Specialty Options					
Socially Responsible Investment Option	22.24	7.97	10.10	10.08	--
Russell 3000 Index	22.03	6.53	10.04	10.03	13.72
Real Return Option	10.82	(8.73)	(1.19)	(0.96)	--
Real Return Blended Benchmark	10.53	(8.69)	0.36	0.48	2.12
CPIU + 4%	0.87	4.65	5.72	5.56	5.70

Investment Options Fee Summary

Asset Class and Strategy	Investment Management Fees*	Institutional Peer Group Median
Asset Allocation Options		
LifePath Index Retirement, 2020 – 2060 Funds; L	0.080%	0.12% - 0.15%
Capital Preservation		
Stable Value Option	0.321%	0.38%
Fixed Income		
Active Fixed Income Option	0.163%	0.26%
U.S. Large Cap Equity		
Stock Index Option	0.021%	0.04%
Large Company Value Stock Option	0.024%	0.04%
Large Company Growth Stock Option	0.020%	0.04%
U.S. Small Cap Equity		
Small Company Stock Option	0.387%	0.74%
International Equity		
International Stock Option	0.531%	0.62%
Specialty Options		
Socially Responsible Investment Option	0.170%	0.55%
Real Return Option	0.220%	1.10%

*Fee data provided by OST.

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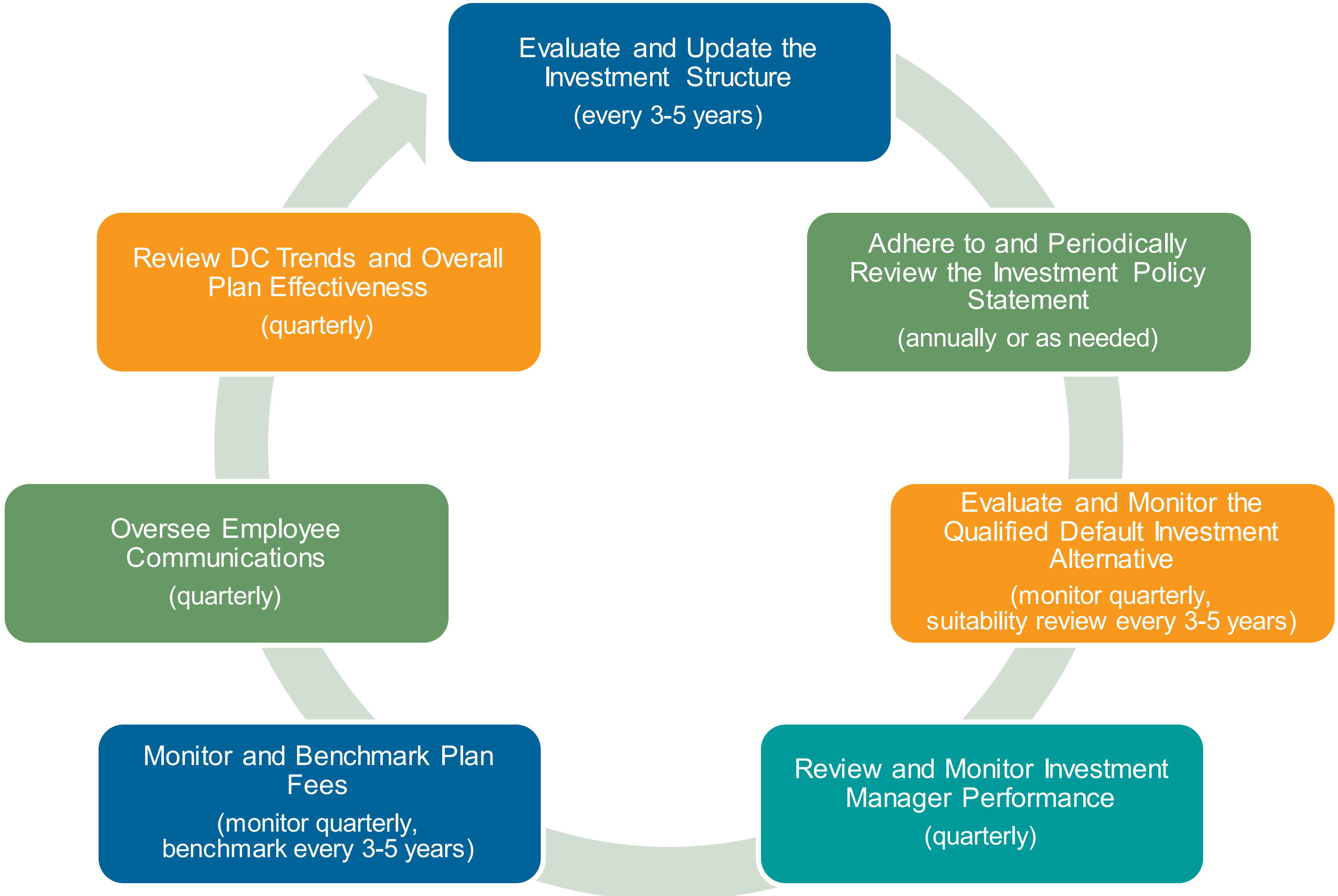
OSGP Work Plan

Key Functions of a DC Plan Fiduciary

In managing DC Plan investments, fiduciaries should consider seven key areas



OSGP Work Plan

OSGP Action Items	Review Date	Status
Review Existing Investment Managers	Quarterly	Continuous
Monitor Investment Fees	Quarterly	Continuous
DC Regulatory, Legal, and Industry Trends Review	Quarterly	Continuous
Plan Utilization and Administration Review (Voya)	Quarterly	Continuous
Plan Communications Review (Voya)	Quarterly	Continuous
Evaluate Administration Services and Fees (PERS & Cammack)	August 2019	Concluded
Investment Policy Statement Review	November 2017	Concluded
Callan DC Trends Survey	February 2018	Concluded
Investment Structure Evaluation	May 2018	Concluded
Capital Preservation Structure Evaluation	August 2018	Concluded
Large Cap Equity Structure Evaluation	August 2018	Concluded
International Equity Structure Evaluation	August 2018	Concluded
Real Assets Structure Evaluation	August 2018	Concluded
Target Date Fund Suitability Review	January 2019	Concluded
Small Cap Equity Structure Evaluation	August 2019	Concluded
Brokerage Window Review (Schwab)	May 2020	Concluded
ESG Education	August 2020	
Investment Policy Statement Review	TBD	
Callan DC Trends Survey	February 2021	

Environmental, Social, and Governance (ESG) Considerations for DC Plans

Defining Environmental, Social, and Governance (ESG)

Broad guidelines when thinking about ESG definitions and taxonomy

What are material Environmental, Social, and Governance (ESG) factors?

Environmental (E) – factors related to a security's interaction with the physical world including:

- **Resource use**
- **Carbon emissions**
- **Climate change impact**
- **Hazardous waste spills**

Potential impact on securities:

Opportunities

- Renewable energy
- Efficiency improvement
- Environmental remediation
- Environmental risk mitigation

Risks

- Obsolescence
- Business disruption
- Reduced margins
- Litigation costs
- Reputation damage

Social (S) – factors that arise from relationship between company and stakeholders (employees, consumers, suppliers, communities of operation):

- **Health and safety**
- **Diversity**
- **Community relations**

Potential impact on securities:

Opportunities

- Improved supply chain
- Business continuity
- Increased employee engagement/ retention

Risks

- Reduced productivity
- Loss of license to operate
- Loss of customers
- Brand damage

Governance (G) – factors related to the structures or systems in place to ensure effective direction and control:

- **Board composition & independence**
- **Incentive alignment**
- **Oversight of management**
- **Corporate culture**

Potential impact on securities:

Opportunities

- Effective management
- Risk identification and mitigation
- Improved alignment of interests

Risks

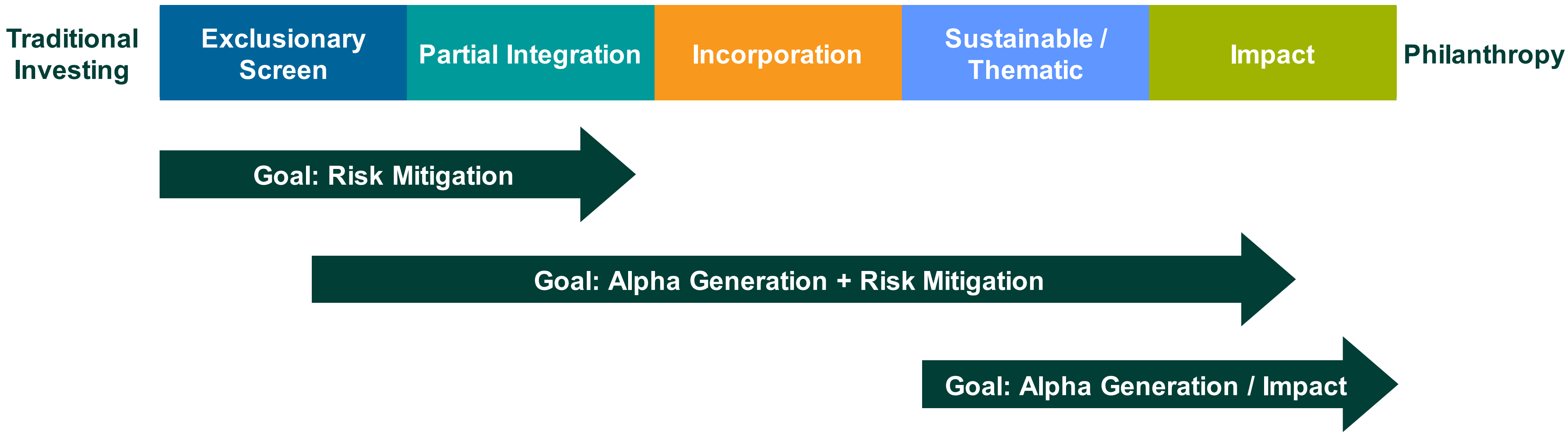
- Poor strategic plan
- Lack of management accountability
- Legal costs
- Reputational damage
- Principal/agent conflict

Defining Strategy Applications

Terminology, definitions becoming more specific and differentiated

Increasingly agreed upon terminology and framework helps define: 1) asset owner philosophy and 2) asset manager implementation.

Asset Owner Spectrum of Target Outcomes/Asset Manager Spectrum of Approaches



What material positive ESG attributes does the company possess that could make it an attractive investment at the right valuation?

What are the potential ESG liabilities and risks to the business that would prevent investment (e.g., pricing negative liabilities not captured by financial reporting)?

ESG Integration in Defined Contribution Plans

Our ESG philosophy and framework to support our clients' needs

- Callan believes that ESG criteria may have a material impact on investments, and that these factors provide an important lens by which to assess potential financial outcomes
- Callan leverages our internal experts and available research to identify investment solutions that incorporate financially material ESG considerations
- Callan's approach for defined contribution plans:

Fiduciary Starting Point:

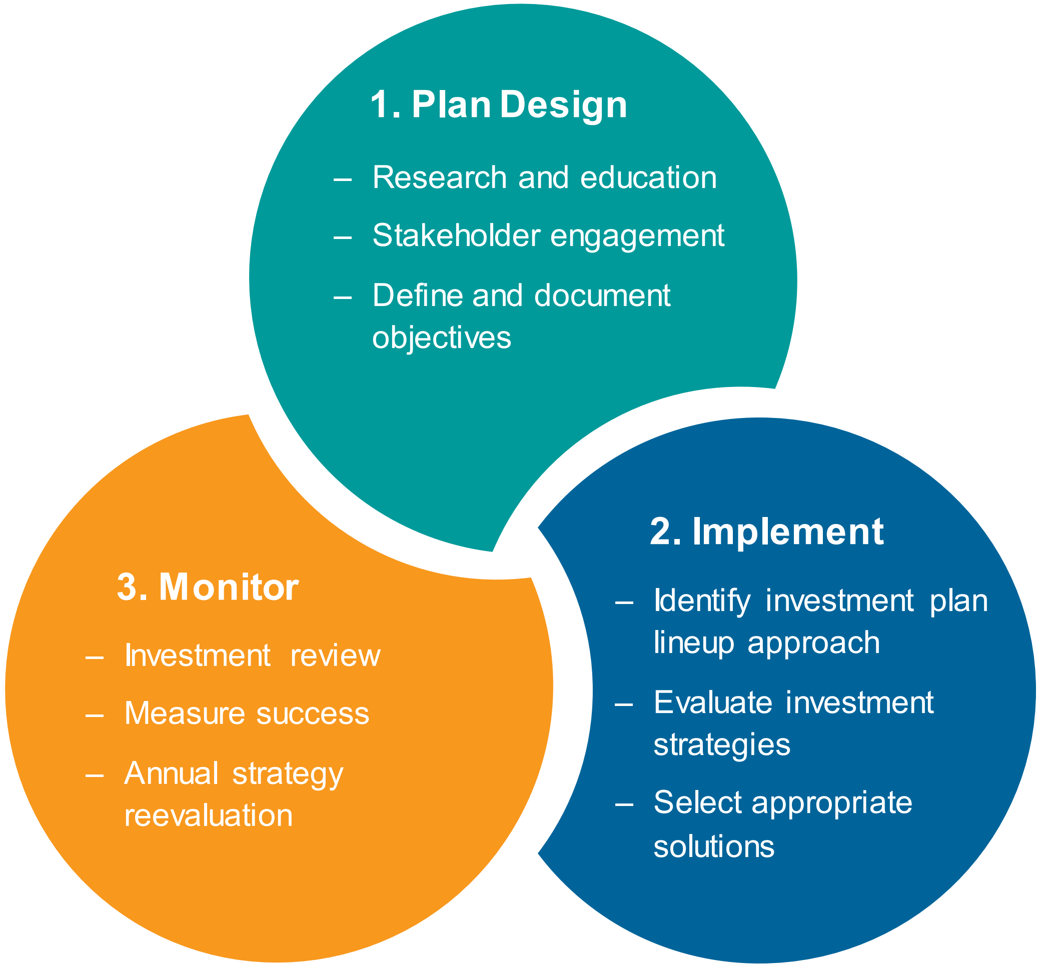
- Understand each defined contribution plan client's fiduciary position and regulatory oversight

ESG Review:

- Review the investment approach of managers already in the Plan. What material ESG factors are they considering or not? and why or why not?
- Assess whether another option or options that integrate financially material ESG considerations should be offered

Ongoing Monitoring:

- Monitor managers, review investment performance, and stay abreast of regulatory developments



ESG and Defined Contribution Assets

Despite the growth in ESG interest within the institutional investing community, data from the Callan's DC Index signals that DC plan adoption of dedicated ESG options is still relatively low.

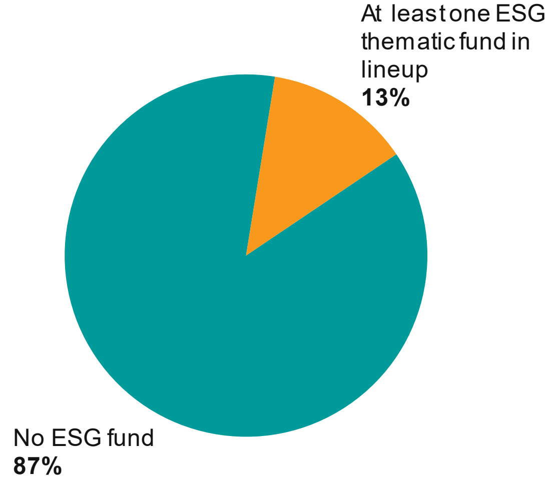
According to Callan's DC Index, around 13% of DC plans offer a dedicated ESG option. However, this number masks a large divide among plan types: only 5% of corporate DC plans offer a standalone option, compared to 43% of public and nonprofit plans.

In addition, utilization for all sponsor types remains low. Allocations range from 0.2% to 3.1% of total plan assets, with an average allocation of 1.2%.

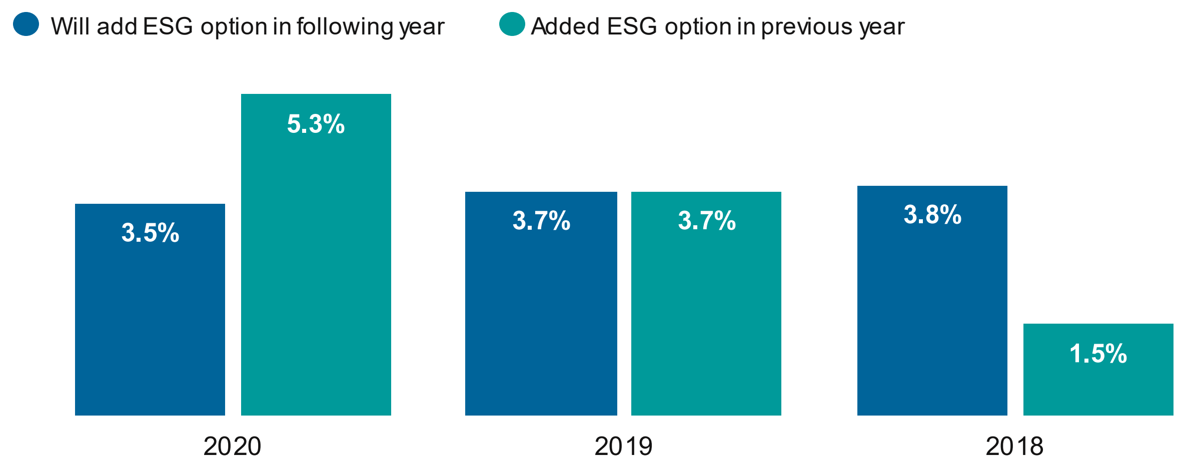
These utilization and prevalence numbers are on par with the figures for emerging market equity, REITs, and global/global ex-U.S. fixed income.

According to Callan's *DC Trends Survey*, there is a slight increase in the percentage of plan sponsors that have added an ESG option to the investment menu in the previous year (1.5% in 2018 vs. 5.3% in 2020).

Callan DC Index: Prevalence of at Least 1 ESG Thematic Fund in Plan Lineup



Callan DC Trends Survey: ESG Option



Sources: Callan 2020 DC Trends Survey, Callan DC Index™, first quarter 2020

Appendix

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Defining Strategy Implementations

Exclusionary Screen	Partial Integration	Incorporation	Sustainable / Thematic	Impact

Motivation	Avoid or limit exposure to a sector or industry using exclusionary screens
Strategy Goal	Remove specific companies and/or industries from the investment opportunity set that are associated with objectionable activities, typically based on shared values or the mission of an organization
Considerations	– How to define screens (e.g., what percentage of revenues warrant exclusion?) – Financial impact of screens (e.g., opportunity cost of not investing, tracking error) – Who will be responsible for selecting and monitoring companies and/or industries that fall within those screens?
Examples	Common applications – Environment: ex-fossil fuels, lower portfolio carbon exposure – Social: ex-firearms manufacturers and retailers, controversial weapons, alcohol and tobacco – Governance: exclude Saudi Arabia, Sudan, and/or Myanmar – Religious: Catholic or Sharia screens
AUM Profile	Majority passive

Defining Strategy Implementations

Exclusionary Screen	**Partial Integration**	Incorporation	Sustainable / Thematic	Impact

Motivation	Consider ESG risks of portfolio companies as part of investment process
Strategy Goal	Invest in companies based off analysis of financial results with consideration of material ESG factors as part of process to mitigate risk
Considerations	– ESG data sources (biases? completeness?) – Active risk taken relative to market cap weighted benchmark
Examples	ESG optimization/positive screening – Passive strategies maximizing exposure to a preferred ESG metric – Active strategies review ESG data as part of analysis but generally does not drive buy/sell decisions
AUM Profile	Majority passive but growth in active as well

Defining Strategy Implementations

Exclusionary Screen	Partial Integration	**Incorporation**	Sustainable / Thematic	Impact

Motivation	Incorporate ESG risks and opportunities to drive portfolio alpha and mitigate portfolio risk
Strategy Goal	Invest in companies with positive ESG opportunities while avoiding or limiting exposure to securities with potential negative ESG risks
Considerations	– ESG data sources (biases? completeness?) – Active risk taken relative to market cap weighted benchmark – Documenting and reporting on ESG incorporation
Examples	ESG best–in-class – Passive strategies that track ESG-specific index/benchmark optimizing for highest ESG scores – Active strategies that tilt portfolio to best ESG opportunities within industry or sector; use as incremental input to buy/sell decision ESG managed – Active strategies using ESG factors/analysis to drive decision-making – Active strategies engage with companies and actively vote proxies
AUM Profile	Majority active

Defining Strategy Implementations

Exclusionary Screen	Partial Integration	Incorporation	**Sustainable / Thematic**	Impact

Motivation	Generate alpha based on targeted exposure to specific criteria
Strategy Goal	Invest in companies with specific focus on particular E, S, and/or G issues
Considerations	– ESG data sources (biases? completeness?) – Active risk taken relative to market cap weighted benchmark – Defining how broad (or narrow) to target exposure
Examples	Sustainable – Passive strategies mitigate exposure to carbon, plastic production, etc. – Active strategies allocate capital to best opportunities that capitalize on long-term transformative industry trends – Active strategies engage with companies and actively vote proxies on specific E,S, or G initiative aligned with strategy goals Thematic – Active strategies focused on climate change, renewable energy, water efficiency, waste reduction, energy transition
AUM Profile	Majority active but passive has substantial legacy assets (ex-fossil fuels)

Defining Strategy Implementations

Exclusionary Screen	Partial Integration	Incorporation	Sustainable / Thematic	**Impact**

Motivation	Generate positive financial and social benefits
Strategy Goal	Target specific non-financial outcome along with financial return with specific focus on particular E, S, or G pillars
Considerations	– ESG data sources (biases? completeness?) – Active risk taken relative to market cap weighted benchmark – Potential financial opportunity cost – Measuring and reporting on progress toward non-financial outcome
Examples	Public markets – Active fixed income: Green bonds and municipal bonds issued to fund specific projects (e.g., more efficient waste management system) – Active equity: Alignment with UN Sustainable Development Goals Private assets – Targeting themes in more niche opportunities (e.g., wind power, de-salinization, or micro-finance)
AUM Profile	Active

Glossary

Economically targeted investment – the U.S. Department of Labor term used to describe impact investing.

Environmental, social and governance (ESG) investing – often used as an umbrella term to describe responsible investing, sustainable investing, or investing that integrates environmental, social, and governance factors into decision-making.

ESG integration – systematically including relevant environmental, social, and governance factors into securities analysis alongside other traditional financial metrics (e.g., P/E ratio). ESG factors focus on materiality for a sector or industry (e.g., data security is more relevant to banking than to agriculture) and contribute to an investment's risk/return outlook.

ESG-themed investing – a top-down investment approach that enables investors to gain positive exposure to macro themes (e.g., diversity, climate change) through their investments. For pooled vehicles, the stated investment objective or investment strategy explicitly describes an environmental, social, or governance theme. Aims for optimal risk/return outcome for investments in relevant sectors to targeted theme.

Impact investing – investments made with the primary goal of fostering a specific positive social or environmental change, ones that also seek to earn the investor a positive return. Goal is to maximize social or other benefits, with risk/return as a secondary goal.

Long-termism – an investment approach or philosophy that focuses on investing for multiple generations, beyond traditional 10- and 30-year time horizons.

Non-ESG-themed investing – any investment that not does explicitly describe an environmental, social, or governance theme in investment objective or strategy. May or may not integrate ESG factors into the investment process.

Responsible investing – often used as an umbrella term to describe sustainable investing and ESG investing; an investment philosophy that seeks to generate both financial and social value.

Screened investing – the concept of aligning social and investment goals by pursuing or eliminating certain types of securities from investment portfolios (e.g., remove tobacco company securities from an S&P 500 Index fund). An approach that may introduce significant tracking error relative to traditional investments.

Sustainable investing – often used as an umbrella term to describe responsible investing and ESG investing; an investment philosophy that seeks to generate both financial and social value.

Values-based investing – an investment philosophy that seeks to generate both financial and social value, primarily oriented to the morals and principles of the end-investor.

Source: DCIIA" Sustainable Investing in Defined Contribution Plans A Guide for Plan Sponsors." Mary 2019.

Disclosure

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Plan Updates

Recommendations

- **Benchmark Updates**
  - Stable Value Option – Update Benchmarks to 3-Year Constant Maturity Treasury (CMT) and 3-Month Treasury Bill (T-Bill)
- **Policy Revisions**
  - INV 801: Statement of Objectives
  - INV 802: Selecting, Managing, Reporting, and Terminating Program Firms

OREGON
STATE
TREASURY

Tobias Read
Oregon State Treasurer

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Oregon Savings Growth Plan
INV 801 & INV 802 Policy Revisions
Staff Recommendation

Purpose
To revise INV 801: Deferred Compensation Investment Program: Statement of Objectives and INV 802: Deferred Compensation Investment Program: Selecting, Managing, Reporting, and Terminating Program Firms.

Background
Given organizational and operational complexities associated with the Oregon Savings Growth Plan ("OSGP" or "the Plan"), Staff strives to clearly define the roles, responsibilities, and relationships surrounding the Plan, as permissible under statute and applied in practice.

Executive Summary: INV 801
- Embedded within the Public Employees Retirement System (PERS), OSGP has evolved into an operationally distinct entity, relative to PERS. Through increased collaboration and engagement over recent years, OST Staff has meaningfully opened communication lines with both PERS and OSGP Staff. As such, Staff believes it is worth clearly discerning that communication typically occurs through PERS and OSGP Staff, opposed to directly with the Public Employees Retirement Board (PERB).
- The OSGP Advisory Committee was created out of statute and lacked citation within policy. Therefore, reference to the OSGP Advisory Committee was added due to Staff's regular (quarterly) contact with the group.
- The Short-Term Fixed Income Option is no longer an investment option offered within the Plan, therefore, all such references within policy are removed.
- Current policy requires that investment option and benchmark descriptions be provided to PERB, which, in practice, is accomplished by generating and publicly distributing the OSGP Investment Options Brochure. Staff proposes these investment option and benchmark descriptions be removed from policy due to the redundancy introduced.
- Investment option naming conventions have been updated for consistency.
- Proposed benchmark changes for the Stable Value Option, which are yet to be approved, and benchmark changes for the Real Return Option, which were previously approved by the OIC but not yet codified in policy, are also included.

Executive Summary: INV 802
- Language regarding the creation of a Deferred Compensation Investment Committee comprised of OST Staff is moot and appears contrary to statute, which establishes a separate OSGP Advisory Committee and more importantly, states that the OIC must approve all investment managers/funds.

Staff Recommendation
Staff recommends revisions to INV 801: Deferred Compensation Investment Program: Statement of Objectives and INV 802: Deferred Compensation Investment Program: Selecting, Managing, Reporting, and Terminating Program Firms, as summarized above and provided in the accompanying documents.

OREGON INVESTMENT COUNCIL POLICY

INTRODUCTION & OVERVIEW

Summary Policy Statement

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

Purpose and Goals

The goal of this policy is to describe in greater detail the manner of implementing and reporting applicable investment options for eligible participating employees by defining the roles and responsibilities of the OIC, Oregon State Treasury Staff ("Staff") and the Program's other service providers.

Applicability

Classified represented, management service, unclassified executive service

Authority

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

POLICY PROVISIONS

Definitions

None.

Policy Statements

GENERAL POLICY STATEMENTS

1. **Investment Option Approval.** The OIC approves Program investment options consistent with ORS 293.721, "to make the moneys as productive as possible" consistent with the "standard of prudence" requirement in ORS 293.726 and other applicable fiduciary standards.

2. **Program Description and Review.** The OIC will provide a description of Program investment options to the Public Employees Retirement Board ("PERB") via Oregon Savings Growth Plan (OSGP) Staff, including the applicable benchmark for each option and a description of the characteristics of each benchmark. ~~The OIC~~Staff will undertake a comprehensive review of Program options and managers ~~at the recommendation of OST investment staff and~~ no less frequently than once every four years.

3. **Changing Program Options.** The OIC may change Program investment options, including applicable benchmarks and investment managers at any time. Any change in Program options or investment managers will be reported to ~~PERB~~ OSGP in advance, whenever practicable.

4. **Program Participation.** The Program is open to qualified public employees on a voluntary basis, and is offered as a means by which eligible participating employees may augment their retirement savings. Eligible employees choose their own level of participation based, *inter alia*, on their assessment of future retirement needs. The level of assets a participating employee accumulates through Program investment is a direct function of that participant's level of earnings deferral and the investment performance of the Program options selected~~he or she selects~~.

5. **Selection of Program Options.** In selecting Program investment options and Program investment managers, the OIC may consider factors including, but not limited to, the population of potential participants and their varying needs, available investment products and strategies, and the qualifications, experience, performance, and cost of actual and potential investment managers. The OIC intends to provide a range of investment options ~~responsive to~~considering participant interests and appropriate for this type of retirement savings program. The Council expects participants to make their own assessment of Program investment options relative to their unique risk tolerance and return objectives, as well as their other sources of retirement funding. There is no guarantee of principal or earnings in the Program, and eligible employees participate at their own risk.

6. **Program Management.** The Program will be managed and monitored consistent with the OIC's policies and procedures regarding selecting, managing, and terminating Program managers as found in INV 802: Selecting, Managing, and Terminating Program Firms.

7. **Participant Disclosure Requirements**. Staff will work with OSGP and the ~~Public Employees Retirement System ("PERS")~~ Plan Administrator to provide necessary information for compliance with participant disclosure requirements as described in ORS 243.450.

8. **Program Information Requests.** Staff will work with the ~~PERS~~ Plan Administrator to provide any other requested Program information.

9. **Program Population Characteristics.** Staff will periodically provide the OIC with Program population characteristics for use in their evaluation of Program options and investment managers. Staff will request such information from the ~~PERS~~ Plan Administrator.

10. **Communication with OSGP and PERB.** Staff will periodically present the OIC with information for consideration from OSGP and the OSGP Advisory Committee, via PERB, regarding the expressed desires of participants related to Program investment options. The duties and powers of PERB and the OIC concerning the Program, while separate and distinct, are also complementary. This dynamic creates a need for coordination and cooperation between the two bodies. At the OIC's request, ~~OST investment s~~Staff will facilitate information flow between the OIC and PERB (via OSGP). Moreover, ~~OST investment s~~Staff will also report in advance, whenever practicable, any change in Program investment options or investment managers to PERB (via OSGP) in a timely manner.

11. **Program Review.** ~~OST investment s~~Staff will periodically bring current and potential investment options to the OIC for review and consideration, including ~~as~~ those requested by the OIC.

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The Program is open to qualified public employees on a voluntary basis, and is offered as a means by which eligible participating employees may augment their retirement savings. Eligible employees choose their own level of participation based, inter alia, on their assessment of future retirement needs. The level of assets a participating employee accumulates through Program investment is a direct function of that participant's level of earnings deferral and the investment performance of the Program options selected. As such, the appropriate investment strategy for any individual participant to accumulate retirement savings or achieve other savings objectives is a function of multiple personal factors, including but not limited to age, income, time horizon, risk tolerance, return expectations, accumulation objectives, anticipated pension and social security benefits, and other assets held outside of the Program.

The Program intends to offer a broad range of investment options with materially different risk and return characteristics. By selecting among the investment options, participants have the opportunity to diversify their balances and construct portfolios consistent with their unique individual circumstances, goals, time horizons, and risk tolerance.

The Program currently offers the following investments options:

~~a. **Short Term Fixed Income**~~

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

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

~~b.~~a. **Stable Value Option**

~~i. **Objective**: Stability of capital while maintaining a stream of income by investing in contracts issued by insurance companies, banks, and other short-term liquidity vehicles. Risk, as measured by volatility of returns, is expected to be very low. However, particularly~~

~~for long-term investors, participants in this option need to consider the possibility of value erosion due to inflation, as well as possible liquidity and credit risks. Net of management fees, investment performance is expected to generally meet or exceed benchmark returns.~~

~~ii.~~i. **Benchmark:** ~~Five~~3-~~Y~~Year Constant Maturity U.S. Treasury and 3 Month U.S. Treasury Bill

~~c.~~b. **Active Fixed Income Option**

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

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

~~d.~~c. **Large ~~Cap~~ Company Value ~~Equity~~Stock Option**

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

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

~~e.~~d. **~~Total Market Equity~~Stock Index Option**

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

~~ii.~~i. **Benchmark:** Russell 3000 Index

~~f.~~e. **~~Environmental Social Governance (ESG)~~Socially Responsible Investment Option**

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

~~ii.~~i. **Benchmark:** Russell 3000 Index

~~g.~~f. **Large ~~Cap~~ Company Growth ~~Equity~~Stock Option**

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

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

~~h.~~g. **International ~~Equity~~Stock Option**

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

~~ii.~~i. **Benchmark:** MSCI All Country World Excluding U.S. (ACWI ex-U.S.) Index

~~i.~~h. **Small ~~Cap~~ Company ~~Equity~~Stock Option**

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

~~ii.~~i. **Benchmark:** Russell 2000 Index

~~j.~~i. **Target Date Retirement Funds**

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

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

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

~~k.~~j. **Self-Directed Brokerage ~~Account (SDBA)~~Option**

i. ~~**Objective**: Provide participants self-directed access to investments that may not be included in other Program options, but may be appropriate for a participant based on his or her individual financial situation, risk tolerance, or investment beliefs and preferences. Since this option is self-directed, performance and volatility may vary widely based on each participant's individual investment selections. Only participants with a minimum Oregon Savings Growth Plan (OSGP) balance of $5,000 will be allowed access to the SDBA option, and participants will only be allowed to allocate a maximum of 90 percent of their total OSGP balance to the SDBA Option.~~

~~l.~~k. **Real Return Option**

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

~~ii.~~i. **Benchmark:** SSgA Real Assets Custom Blended Index and Consumer Price Index (CPI-U) + ~~3~~4%

Exceptions

None.

Failure to Comply

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

PROCEDURES and FORMS

None.

ADMINISTRATION

Feedback

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

OREGON INVESTMENT COUNCIL POLICY

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Purpose and Goals

The goal of this policy is to describe in greater detail the manner of implementing and reporting applicable investment options for eligible participating employees by defining the roles and responsibilities of the OIC, Oregon State Treasury Staff ("Staff") and the Program's other service providers.

Applicability

Classified represented, management service, unclassified executive service

Authority

ORS Chapters 243 and 293.

POLICY PROVISIONS

Definitions

None.

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3. **Changing Program Options.** The OIC may change Program investment options, including applicable benchmarks and investment managers at any time. Any change in Program options or investment managers will be reported to OSGP in advance, whenever practicable.

4. **Program Participation.** The Program is open to qualified public employees on a voluntary basis, and is offered as a means by which eligible participating employees may augment their retirement savings. Eligible employees choose their own level of participation based, *inter alia*, on their assessment of future retirement needs. The level of assets a participating employee accumulates through Program investment is a direct function of that participant's level of earnings deferral and the investment performance of the Program options selected.

5. **Selection of Program Options.** In selecting Program investment options and Program investment managers, the OIC may consider factors including, but not limited to, the population of potential participants and their varying needs, available investment products and strategies, and the qualifications, experience, performance, and cost of actual and potential investment managers. The OIC intends to provide a range of investment options considering participant interests and appropriate for this type of retirement savings program. The Council expects participants to make their own assessment of Program investment options relative to their unique risk tolerance and return objectives, as well as their other sources of retirement funding. There is no guarantee of principal or earnings in the Program, and eligible employees participate at their own risk.

6. **Program Management.** The Program will be managed and monitored consistent with the OIC's policies and procedures regarding selecting, managing, and terminating Program managers as found in INV 802: Selecting, Managing, and Terminating Program Firms.

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10. **Communication with OSGP and PERB.** Staff will periodically present the OIC with information for consideration from OSGP and the OSGP Advisory Committee, via PERB, regarding the expressed desires of participants related to Program investment options. The duties and powers of PERB and the OIC concerning the Program, while separate and distinct, are also

complementary. This dynamic creates a need for coordination and cooperation between the two bodies. At the OIC's request, Staff will facilitate information flow between the OIC and PERB (via OSGP). Moreover, Staff will also report in advance, whenever practicable, any change in Program investment options or investment managers to PERB (via OSGP) in a timely manner.

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The Program intends to offer a broad range of investment options with materially different risk and return characteristics. By selecting among the investment options, participants have the opportunity to diversify their balances and construct portfolios consistent with their unique individual circumstances, goals, time horizons, and risk tolerance.

The Program currently offers the following investments options:

a. **Stable Value Option**
    i. **Benchmark:** 3-Year Constant Maturity U.S. Treasury and 3 Month U.S. Treasury Bill
b. **Active Fixed Income Option**
    i. **Benchmark:** Bloomberg Barclays U.S. Aggregate Bond Index
c. **Large Company Value Stock Option**
    i. **Benchmark:** Russell 1000 Value Index
d. **Stock Index Option**
    i. **Benchmark:** Russell 3000 Index
e. **Socially Responsible Investment Option**
    i. **Benchmark:** Russell 3000 Index
f. **Large Company Growth Stock Option**
    i. **Benchmark:** Russell 1000 Growth Index
g. **International Stock Option**
    i. **Benchmark:** MSCI All Country World Excluding U.S. (ACWI ex-U.S.) Index

h. **Small Company Stock Option**
    i. **Benchmark:** Russell 2000 Index
i. **Target Date Retirement Funds**
    i. **Benchmark:** Each target date fund has a separate, custom benchmark based on its asset allocation.
    ii. **Rebalancing:** The fund manager is responsible for rebalancing each target date fund's asset allocation.
j. **Self-Directed Brokerage Option**
k. **Real Return Option**
    i. **Benchmark:** SSgA Real Assets Custom Blended Index and Consumer Price Index (CPI-U) + 4%

Exceptions

None.

Failure to Comply

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

PROCEDURES and FORMS

None.

ADMINISTRATION

Feedback

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OREGON INVESTMENT COUNCIL POLICY

INTRODUCTION & OVERVIEW

Summary Policy Statement

The Oregon Investment Council (OIC) may appoint and terminate investment managers in the Deferred Compensation Investment Program (the "Program") at its discretion. Accordingly, participating investment managers are retained by the OIC on an "at will" basis. Members of the Oregon State Treasury's Investment Division will provide Program reports to the OIC on a quarterly basis.

Purpose and Goals

The goal of this policy is to describe the process of selecting, managing, reporting on and terminating managers in the Deferred Compensation Investment Program.

Applicability

Classified represented, management service, unclassified executive service

Authority

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

POLICY PROVISIONS

Definitions

None.

General Policy Statements

1. **Program Investments.** In order to accommodate daily cash movements and participant option transfers, Program investments will generally be comprised of mutual funds and commingled trusts with daily pricing and liquidity features.

2. Program options will be comprised of one or more investment funds, and the OIC will establish the percentage of each option that individual mutual funds and commingled trusts may comprise.

3. Over time, the percentages of various Program options comprised by individual mutual funds and commingled trust funds may vary due to investment return differences. At least annually, and by direction to his or her staff ("Staff"), the State Treasurer (as the State's designated Investment Officer), will rebalance the individual mutual funds and commingled trusts back to Program targets as specified by the OIC or as otherwise allowed under the Program.

~~4. **Deferred Compensation Investment Committee.** The State Treasurer has established the Deferred Compensation Investment Committee ("Committee") and delegated to it the operational responsibility of implementing investments consistent with this Program. The Committee normally consists of the Chief Investment Officer and two senior-level Investment Officers. The State Treasurer may appoint other Staff members to the Committee on an "as needed" basis.~~

~~5. The Committee may, by unanimous vote, add, eliminate, or change both Program investment funds and the target ranges for those funds. Staff will notify the OIC and State Treasurer of any proposed Committee action(s) at least two weeks prior to implementing such action(s). The Committee will not implement such action(s) if it receives an objection to the Committee's proposal from either the State Treasurer or any other OIC member.~~

~~6.~~4. **Selection of Investment Managers**. The selection of Program investment managers is reserved for the OIC, and will be based, *inter alia*, on the findings of appropriate due diligence as performed by Staff and related, qualified consultants. Staff, on behalf of the State Treasurer, will implement OIC selection decisions.

~~7.~~5. **Compensation of Firms**. Where applicable, Staff may negotiate investment management or performance-based fees. Staff may also negotiate fees for any additional services. Although Staff will otherwise avoid funds with revenue sharing provisions, revenue sharing rebates (if necessary) will be credited to the net asset value of the applicable Program option.

~~8.~~6. **General Oversight of Investment Managers and Investment Performance**. Staff will evaluate investment manager status, activity and performance. The OIC or State Treasurer may also engage independent consultants to assist in the investment manager oversight process.

~~9.~~7. **Program Monitoring**. Staff will monitor plan participant activity in each Program investment option. Staff will prepare quarterly reports concerning the Program that will include the following information:

   a. **Program Profile** reports will list the value of assets held and the number of participants selecting each Program investment option. These reports will be based on information provided by the Plan Administrator; and

b. **Investment Performance** reports will list, relative to corresponding benchmark returns and net of all fees, costs, and administrative charges, performance for each Program investment option.

~~10.~~8. Staff may delegate some or all of the reporting duties in this policy to a consultant or other, qualified contractor.

~~11.~~9. These reports will be distributed to OIC members and to the Chief Investment Officer.

~~12.~~10. If, after eight (8) consecutive quarters, a Program investment option comprises less than three (3) percent of total plan assets, Staff ~~will~~ may evaluate that option for possible termination. For purposes of a termination evaluation, Staff may rely upon Plan Administrator research~~,~~ and ~~will~~ share its recommendations with the State Treasurer and OIC.

~~13.~~11. **Delegation.** Where Staff delegates to or otherwise engages subcontractors or other service providers to perform or assist with some or all of the foregoing Program monitoring responsibilities, such subcontractors or other service providers will act in a manner consistent with Program standards, including, but not limited to, the ability of Staff to terminate such delegation or engagement at its discretion.

~~14.~~12. **Appointment and Termination of Investment Managers.** Staff will act promptly and prudently to effect decisions by the OIC to appoint or terminate Program investment managers.

Exceptions

None.

Failure to Comply

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PROCEDURES and FORMS

None.

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3. Over time, the percentages of various Program options comprised by individual mutual funds and commingled trust funds may vary due to investment return differences. At least annually,

and by direction to his or her staff ("Staff"), the State Treasurer (as the State's designated Investment Officer), will rebalance the individual mutual funds and commingled trusts back to Program targets as specified by the OIC or as otherwise allowed under the Program.

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8. Staff may delegate some or all of the reporting duties in this policy to a consultant or other, qualified contractor.

9. These reports will be distributed to OIC members and to the Chief Investment Officer.

10. If, after eight (8) consecutive quarters, a Program investment option comprises less than three (3) percent of total plan assets, Staff may evaluate that option for possible termination. For purposes of a termination evaluation, Staff may rely upon Plan Administrator research and share its recommendations with the State Treasurer and OIC.

11. **Delegation.** Where Staff delegates to or otherwise engages subcontractors or other service providers to perform or assist with some or all of the foregoing Program monitoring responsibilities, such subcontractors or other service providers will act in a manner consistent with Program standards, including, but not limited to, the ability of Staff to terminate such delegation or engagement at its discretion.

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Exceptions

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TAB 9 – CEM Benchmarking Annual Review

Oregon Public Employees Retirement Fund

Investment Cost Effectiveness Analysis - Summary of Results

For the 5 year period ending December 31, 2019

CEM Benchmarking
What gets measured gets managed

Mike Heale
Principal

Key takeaways

Returns

- Your 5-year net total return of 7.5% was equal to both the U.S. Public median of 7.5% and the peer median of 7.5%.
- Your 5-year policy return of 7.0% was above the U.S. Public median of 6.9% and equal to the peer median of 7.0%.

Value added

- Your 5-year net value added was 0.5%. This was above the U.S. Public median of 0.4% and equal to the peer median of 0.5%.

Cost

- Your investment cost of 82.0 bps was below your benchmark cost of 84.2 bps. This suggests that your fund was slightly low cost compared to your peers.
- Your fund was slightly low cost because you paid less than peers for similar services. These savings were mostly offset by your higher cost implementation style.

This benchmarking report compares your cost and return performance to the 289 funds in CEM's extensive pension database.

• 149 U.S. pension funds participate. The median U.S. fund had assets of $11.6 billion and the average U.S. fund had assets of $26.0 billion. Total participating U.S. assets were $3.9 trillion.

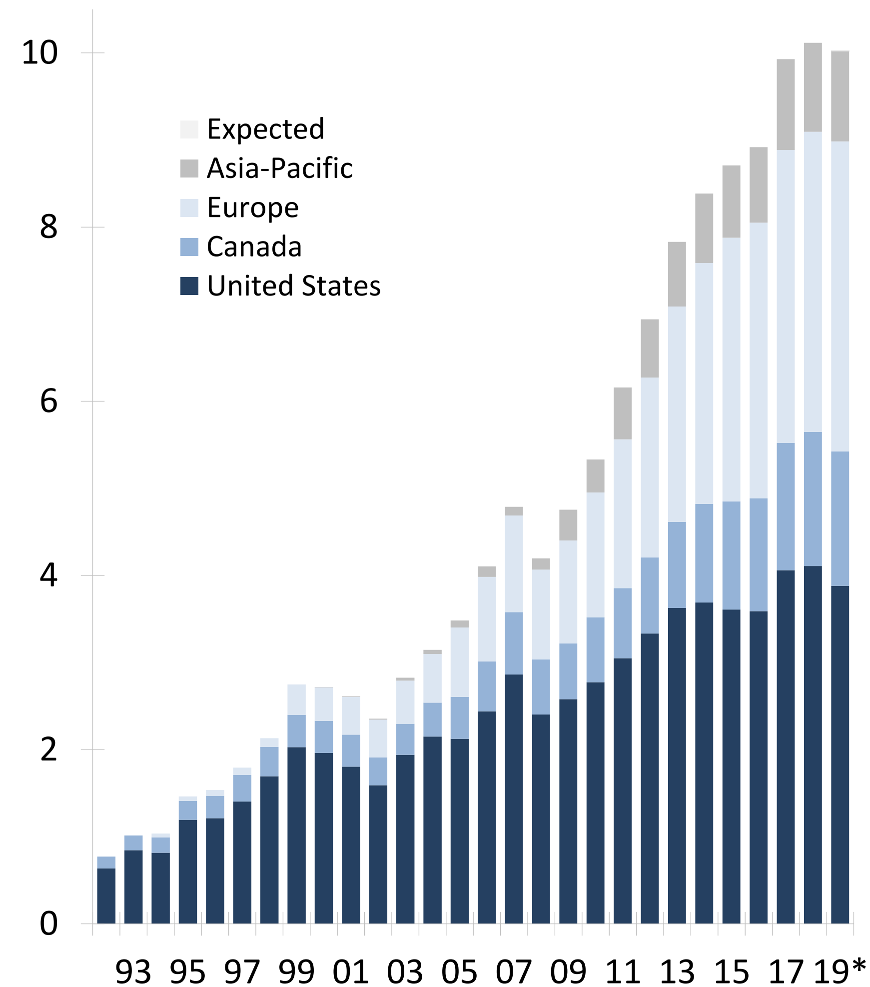
• 66 Canadian funds participate with assets totaling $1.5 trillion.

• 65 European funds participate with aggregate assets of $3.6 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the U.K.

• 6 Asia-Pacific funds participate with aggregate assets of $1.0 trillion. Included are funds from Australia, New Zealand, China and South Korea.

The most meaningful comparisons for your returns and value added are to the U.S. Public universe.

Participating assets ($ trillions)

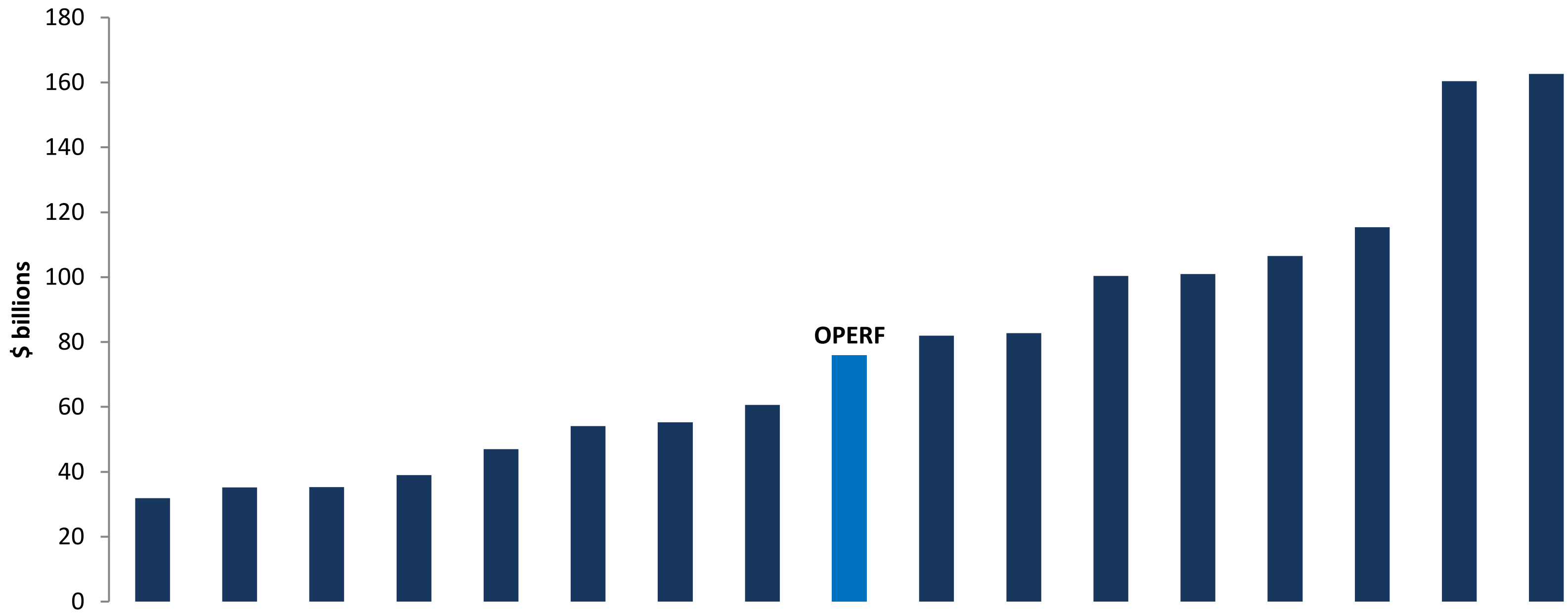


*2019 assets includes both received and expected data.

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

Peer group for Oregon Public Employees Retirement Fund

- 17 U.S. Public public sponsors from $31.9 billion to $162.6 billion
- Median size of $75.9 billion versus your $75.9 billion



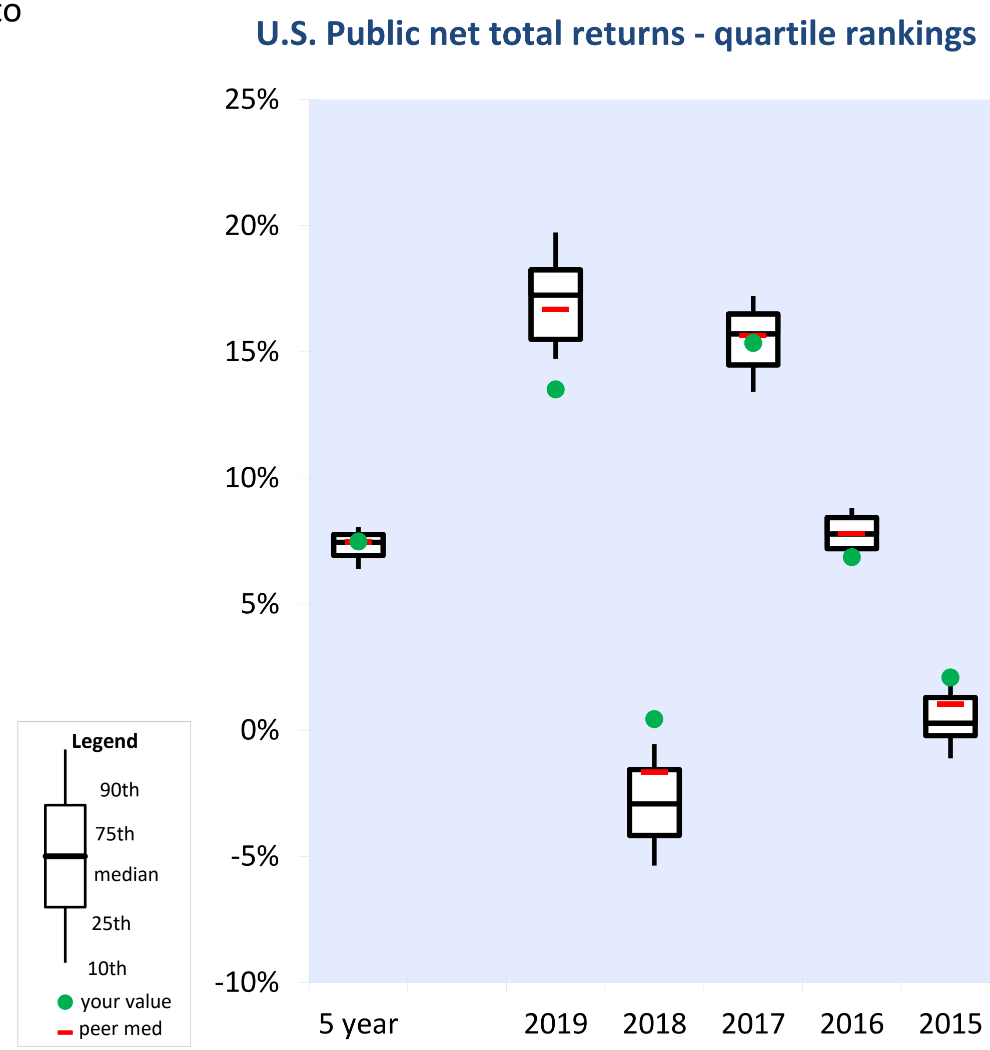
To preserve client confidentiality, given potential access to documents as permitted by the Freedom of Information Act, we do not disclose your peers' names in this document.

Your 5-year net total return of 7.5% was equal to both the U.S. Public median of 7.5% and the peer median of 7.5%.

Total returns, by themselves, provide little insight into the reasons behind relative performance. Therefore, we separate total return into its more meaningful components: policy return and value added.

	Your 5-year
Net total fund return	7.5%
- Policy return	7.0%
= Net value added	0.5%

This approach enables you to understand the contribution from both policy mix decisions (which tend to be the board's responsibility) and implementation decisions (which tend to be management's responsibility).



Your 5-year policy return of 7.0% was above the U.S. Public median of 6.9% and equal to the peer median of 7.0%.

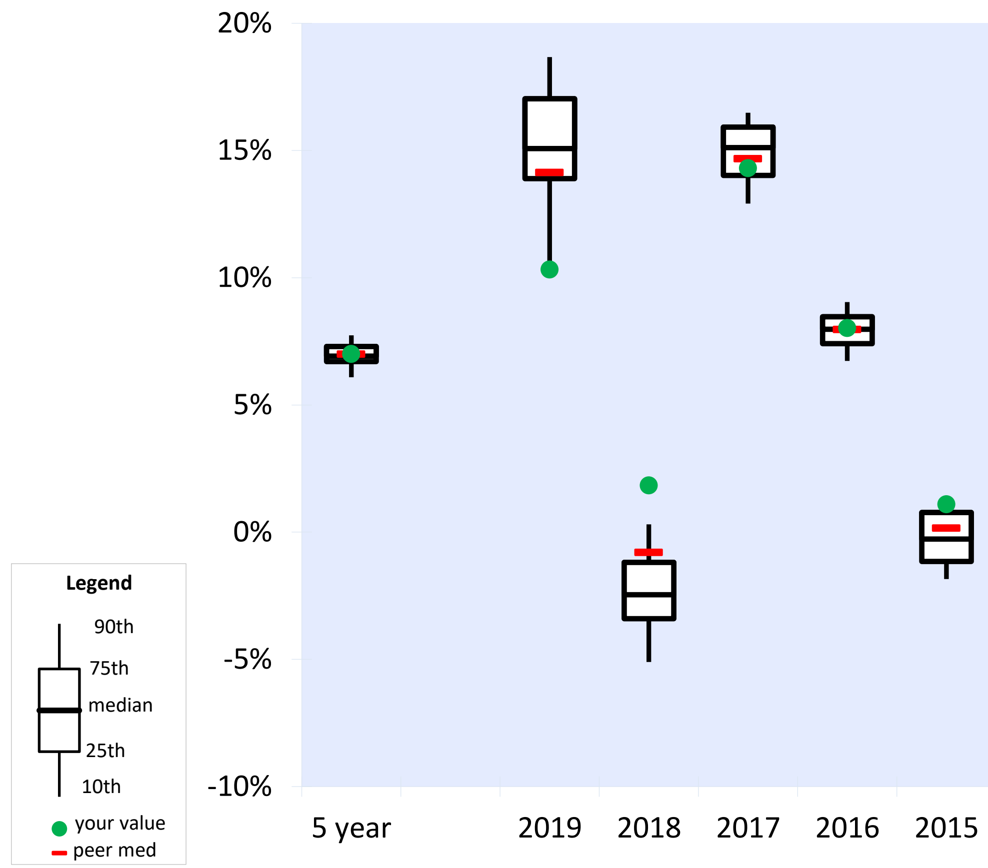
Your policy return is the return you could have earned passively by indexing your investments according to your policy mix.

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

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

Each of these three factors is different across funds. Therefore, it is not surprising that policy returns often vary widely between funds.

U.S. Public policy returns - quartile rankings



To enable fairer comparisons, the policy returns of all participants, including your fund, were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Prior to this adjustment, your 5-year policy return was 8.1%, 1.1% higher than your adjusted 5-year policy return of 7.0%. Mirroring this, your 5-year total fund net value added would be 1.1% lower.

Your 5-year policy return of 7.0% was close to the U.S. Public median of 6.9%.

Your policy return was close to the U.S. public median because:

- You had a lower policy allocation to Stock when compared to the U.S. public universe.
- You had higher policy allocations to Real Estate and Private Equity.
- However, benchmark returns for Stock, Real Estate, and Private Equity were generally similar over the 5 years spanning 2014-2019.

5-year average policy mix[1]

	Your Fund	U.S. Publ Avg.	More/ Less
Stock	40%	49%	-10%
Fixed Income	22%	25%	-3%
Real Estate	13%	8%	4%
Alternatives[1]	6%	9%	-3%
Private Equity	20%	9%	11%
Total	100%	100%	0%

1. Alternatives includes other diversifying strategies, commodities, natural resources, and infrastructure.

Net value added is the component of total return from active management. Your 5-year net value added was 0.5%.

Net value added equals total net return minus policy return.

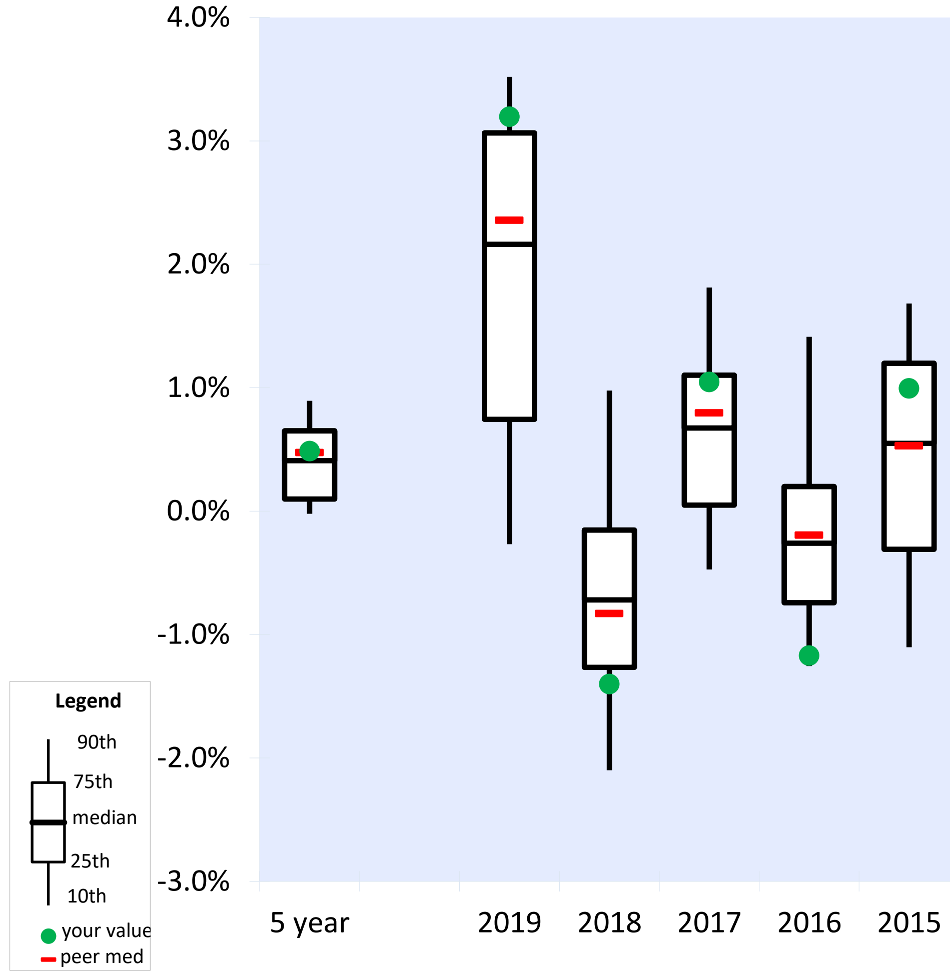
Value added for Oregon Public Employees Retirement Fund

Year	Net Return	Policy Return	Net Value Added
2019	13.5%	10.3%	3.2%
2018	0.4%	1.8%	-1.4%
2017	15.4%	14.3%	1.0%
2016	6.9%	8.0%	-1.2%
2015	2.1%	1.1%	1.0%
5-Year	7.5%	7.0%	0.5%

Your 5-year net value added of 0.5% compares to a median of 0.5% for your peers and 0.4% for the U.S. Public universe.

Your 0.5% 5-year value added translates into approximately $1.9 billion of cumulative value added over 5 years, or $0.3 billion more than if you had earned the U.S. Public median of 0.4%.

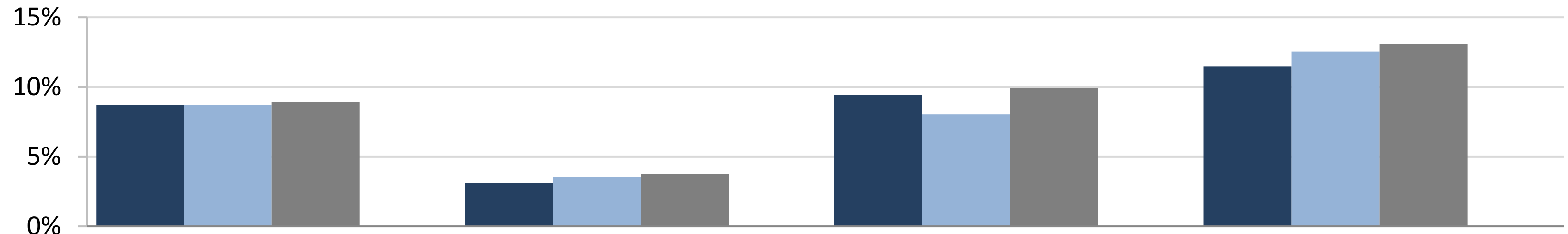
U.S. Public net value added - quartile rankings



To enable fairer comparisons, the value added for each participant including your fund was adjusted to reflect private equity benchmarks based on investable public market indices. Prior to this adjustment, your fund's 5-year total fund net value added was -0.6%.

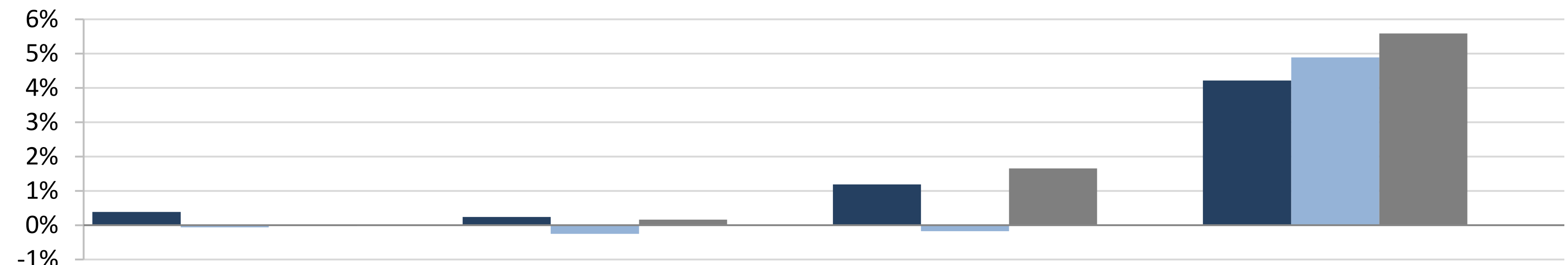
Comparisons of your 5-year net return and net value added by major asset class:

5-year average net return by major asset class



	Stock	Fixed Income	Real Estate	Private Equity[1]
Your fund	8.7%	3.1%	9.4%	11.5%
U.S. Public average	8.7%	3.5%	8.0%	12.5%
Peer average	8.9%	3.7%	9.9%	13.1%
Your % of assets	37.1%	21.5%	9.8%	23.8%

5-year average net value added by major asset class



	Stock	Fixed Income	Real Estate	Private Equity[1]
Your fund	0.4%	0.2%	1.2%	4.2%
U.S. Public average	-0.1%	-0.3%	-0.2%	4.9%
Peer average	0.0%	0.2%	1.7%	5.6%

1. To enable fairer comparisons, the private equity benchmarks of all participants, including your fund were adjusted to reflect lagged, investable, public-market indices. Prior to this adjustment, your fund's 5-year private equity net value added was -2.3%.

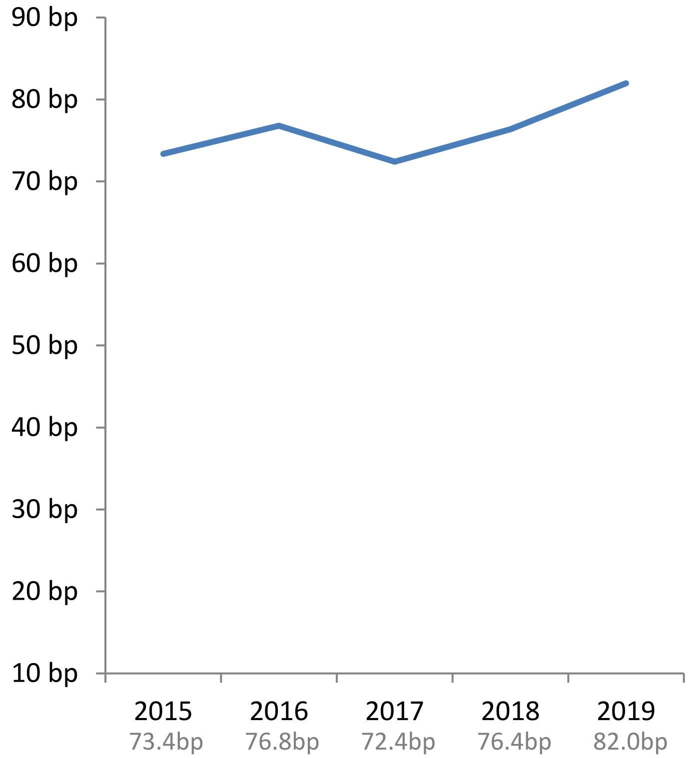
Your investment costs, excluding private asset performance fees, were $622.5 million or 82.0 basis points in 2019.

Asset management costs by asset class and style ($000s)	Internal Management Passive	Internal Management Active	Internal Management Overseeing of external	External Mgmt Passive fees	External Mgmt Active base fees	Total	
Stock	2,052		3,149		60,489	65,690	
Fixed Income	1,181	561	3,213		20,148	25,104	
Real Estate incl. REITs			5,213		60,698	65,910	
Alternatives[1 2]			4,618		99,993	104,611	
Private Equity[2 3]			6,927		346,653	353,580	
Derivatives/Overlays			2,138	542	1,300	3,980	
Total excluding private asset performance fees						618,875	81.5bp
Oversight, custodial and other costs							
Oversight & consulting						1,873	
Trustee & custodial						231	
Audit						456	
Other						1,058	
Total oversight, custodial & other costs						3,618	0.5bp
Total investment costs (excl. transaction costs & private asset performance fees)[4]						622,493	82.0bp

1. Alternatives includes other diversifying strategies, natural resources, and infrastructure.
2. External fees are the weighted average management cost calculated using the detailed limited partnership survey provided.
3. Default added for the underlying funds in Diversified Private Equity - FoFs: 157 bp.
Refer to Appendix A for full details regarding defaults.
4. Excludes non-investment costs, such as benefit insurance premiums and preparing cheques for retirees. Total cost excludes carry/performance fees for real estate, infrastructure, natural resources and private equity. Performance fees are included for the public market asset classes and hedge funds.

Your costs increased by 8.6 bps, from 73.4 bps in 2015 to 82.0 bps in 2019, primarily because you had a higher cost asset mix. This was partly offset by a lower cost implementation style.

Trend in cost



Reasons why you costs increased by 8.6 bps

	2015 cost	2019 cost	Impact in bps
1. Higher cost asset mix			
• Less Fixed Income: 21% vs 24%			(1.7)
• More Alternatives[1] & Private Equity: 34% vs 25%			18.2
• All other mix changes			0.4
			16.9
2. Lower cost implementation style			
• More passive, less active			(2.6)
• More evergreen, Less LP & FoF			(1.8)
• More LP, less FoF			(1.5)
• More co-investment as a % of LP/Co			(1.2)
• All other implementation style changes			0.1
			(6.9)
3. Paid less, net, for similar investment styles	2015 cost	2019 cost	
• Lower external Stock - U.S. Broad/All costs	38.2 bp	21.7 bp	(1.1)
• Lower external Stock - Global costs	39.4 bp	29.1 bp	(0.7)
• All other differences			0.3
			(1.4)
Total increase			8.6

1. Alternatives includes other diversifying strategies, commodities, natural resources, and infrastructure.

Your total investment cost of 82.0 bps was above the peer median of 51.6 bps.

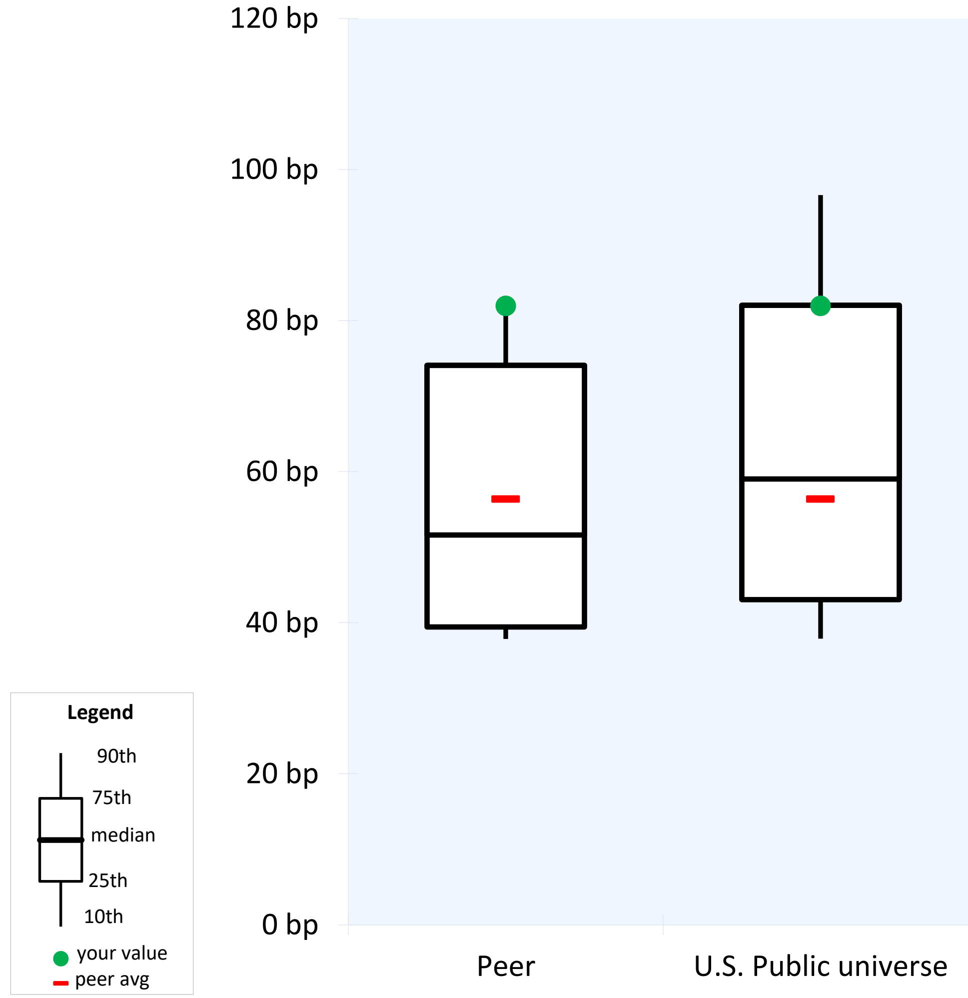
Differences in total investment cost are often caused by two factors that are often outside of management's control:

- Asset mix, particularly holdings of the highest cost asset classes: real estate (excl. REITs), infrastructure, hedge funds and private equity. These high cost assets equaled 44% of your funds assets at the end of 2019 versus a peer average of 29%.
- Fund size. Bigger funds have advantages of scale.

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

Total investment cost

excluding transaction costs* and private asset performance fees



* Initial insights into transaction costs are discussed at the end of section 5.

Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was slightly low cost by 2.2 basis points in 2019.

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

Your total cost of 82.0 bp was slightly below your benchmark cost of 84.2 bp. Thus, your cost savings were 2.2 bp.

Your cost versus benchmark

	$000s	basis points
Your total investment cost	622,493	82.0 bp
Your benchmark cost	639,537	84.2 bp
Your excess cost	(17,044)	(2.2) bp

Your fund was slightly low cost because you paid less than peers for similar services. These savings were mostly offset by your higher cost implementation style.

Reasons for your low cost status

	Excess Cost/ (Savings) $000s	Excess Cost/ (Savings) bps
1. Higher cost implementation style		
• More active management, less lower cost passive	19,331	2.5
• More external management, less lower cost internal	22,841	3.0
• More LPs as a percentage of external	3,841	0.5
• Less fund of funds	(5,325)	(0.7)
• Less co-investment as a percentage of LP/Co	15,525	2.0
• More overlays	1,833	0.2
	58,046	7.6
2. Paying less than peers for similar services		
• External investment management costs	(71,756)	(9.4)
• Internal investment management costs	1,278	0.2
• Oversight, custodial & other costs	(4,612)	(0.6)
	(75,090)	(9.9)
Total savings	(17,044)	(2.2)

The table below summarizes why you are high/low cost relative to the peer-median by asset class.

Why are you high/(low) cost by asset class?

Asset class/category	Impl. style $000s	Paying more/(less) $000s	Total $000s	Total bps[1]
Stock	25,626	(10,570)	15,057	5.9 bp
Fixed Income	6,361	11,305	17,667	11.8 bp
Real Estate	6,562	7,805	14,367	17.2 bp
Alternatives[2]	12,013	(46,853)	(34,840)	(35.0) bp
Private Equity	5,651	(32,166)	(26,515)	(11.4) bp
Derivative programs	1,833	0	1,833	0.2 bp
Oversight, custodial & other	n/a	(4,612)	(4,612)	(0.6) bp
Total	58,046	(75,090)	(17,044)	(2.2) bp

1. Relative to assets benchmarked in each asset class. Oversight, derivative programs, and total are relative to total plan assets.
2. Alternatives includes other diversifying strategies, commodities, natural resources, and infrastructure.

TAB 10 – Asset Allocation & NAV Updates

Asset Allocations at August 31, 2020

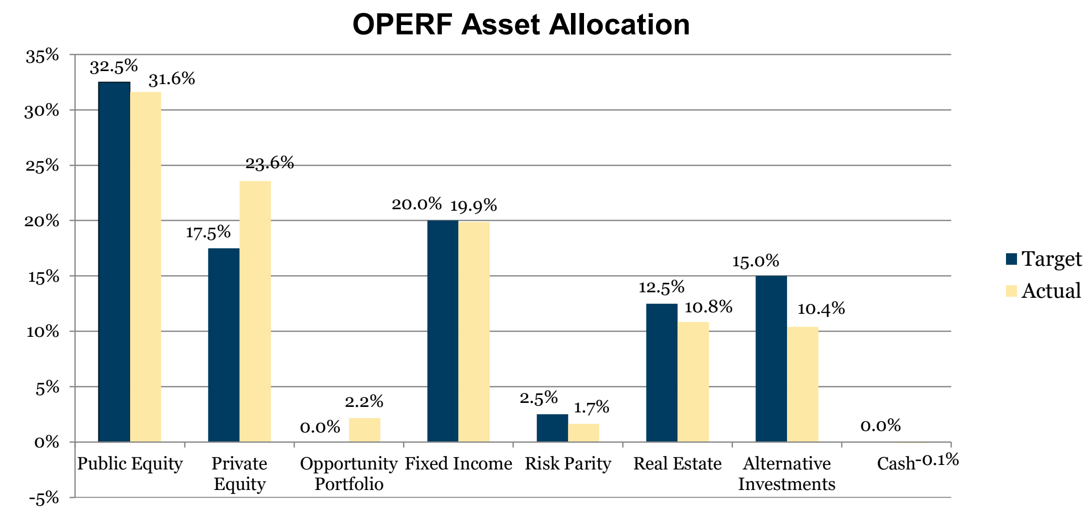
	Regular Account							Target Date Funds	Variable Fund	Total Fund
OPERF	Policy	Target[1]	$ Thousands	Pre-Overlay	Overlay	Net Position	Actual	$ Thousands	$ Thousands	$ Thousands
Public Equity	27.5-37.5%	32.5%	24,954,953	32.1%	(383,079)	24,571,875	31.6%	1,180,051	411,944	26,163,870
Private Equity	13.5-21.5%	17.5%	18,311,626	23.6%		18,311,626	23.6%			18,311,626
Total Equity	**45.0-55.0%**	**50.0%**	**43,266,579**	**55.7%**	**(383,079)**	**42,883,500**	**55.2%**			**44,475,495**
Opportunity Portfolio	**0-5%**	**0.0%**	**1,672,797**	**2.2%**		**1,672,797**	2.2%			**1,672,797**
Fixed Income	**15-25%**	**20.0%**	**13,892,866**	**17.9%**	**1,548,614**	**15,441,480**	19.9%	1,715,429		**17,156,909**
Risk Parity	**0.0-2.5%**	**2.5%**	**1,286,324**	**1.7%**		**1,286,324**	1.7%			**1,286,324**
Real Estate	**9.5-15.5%**	**12.5%**	**8,419,253**	**10.8%**	**(1,400)**	**8,417,853**	10.8%			**8,417,853**
Alternative Investments	**7.5-17.5%**	**15.0%**	**8,079,239**	**10.4%**		**8,079,239**	10.4%			**8,079,239**
Cash[2]	**0-3%**	**0.0%**	**1,086,406**	**1.4%**	**(1,164,136)**	**(77,730)**	-0.1%		6,954	**(70,777)**
TOTAL OPERF		**100%**	**$ 77,703,463**	**100.0%**	**$ -**	**$ 77,703,463**	**100.0%**	**$ 2,895,479**	**$ 418,898**	**$ 81,017,840**

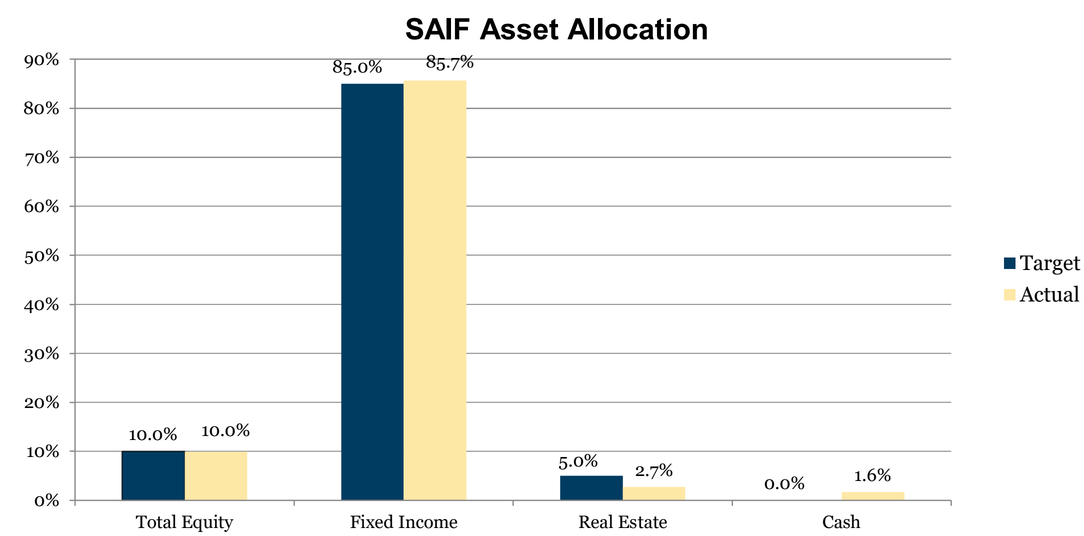
[1] Targets established in April 2019. Interim policy benchmark effective July 1, 2020, consists of: 33.5% MSCI ACWI IMI Net, 20% Custom FI Benchmark, 19% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF ODCE net (1 quarter lagged), 12.5% CPI+400bps, & 2.5% S&P Risk Parity - 12% Target Volatility.

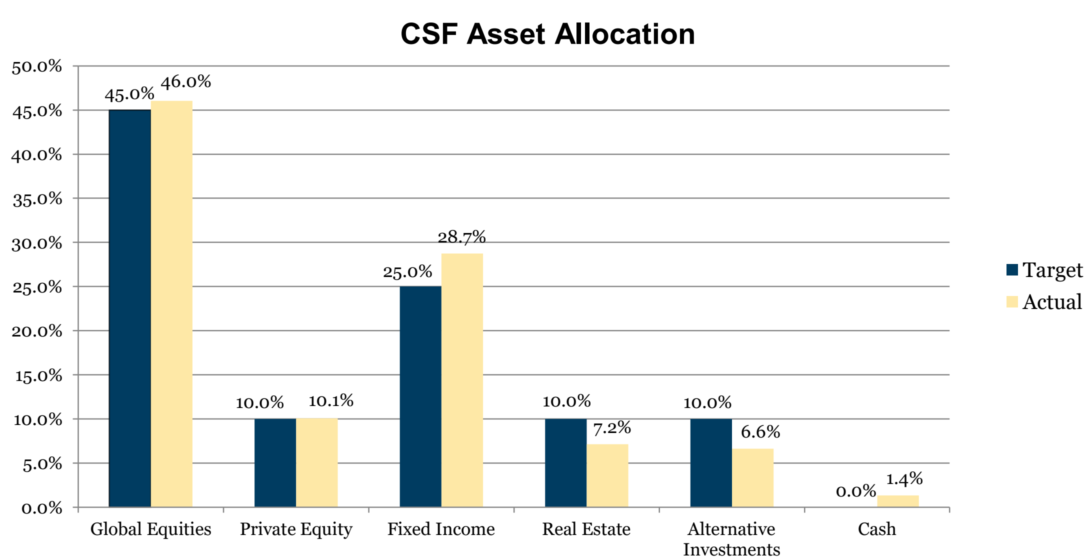
[2] Includes cash held in the policy implementation overlay program.

SAIF	Policy	Target	$ Thousands	Actual
Total Equity	**7-13%**	**10.0%**	**511,969**	**10.0%**
Fixed Income	**80-90%**	**85.0%**	**4,390,427**	**85.7%**
Real Estate	**0-7%**	**5.0%**	**138,204**	**2.7%**
Cash	**0-3%**	**0.0%**	**84,355**	**1.6%**
TOTAL SAIF			**$ 5,124,956**	**100.0%**

CSF	Policy	Target	$ Thousands	Actual
Global Equities	40-50%	45.0%	837,238	46.0%
Private Equity	8-12%	10.0%	182,954	10.1%
Total Equity	**58-62%**	**55.0%**	**1,020,191**	**56.1%**
Fixed Income	**25-35%**	**25.0%**	**522,391**	**28.7%**
Real Estate	**8-12%**	**10.0%**	**130,108**	**7.2%**
Alternative Investments	**8-12%**	**10.0%**	**120,858**	**6.6%**
Cash	**0-3%**	**0.0%**	**24,676**	**1.4%**
TOTAL CSF			**$ 1,818,224**	**100.0%**


OPERF Asset Allocation
35%
30%
25%
20%
15%
10%
5%
0%
-5%
32.5%
31.6%
17.5%
23.6%
0.0%
2.2%
20.0%
19.9%
2.5%
1.7%
12.5%
10.8%
15.0%
10.4%
0.0%
-0.1%
Public Equity
Private Equity
Opportunity Portfolio
Fixed Income
Risk Parity
Real Estate
Alternative Investments
Cash
Target
Actual


SAIF Asset Allocation
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
10.0%
10.0%
85.0%
85.7%
5.0%
2.7%
0.0%
1.6%
Total Equity
Fixed Income
Real Estate
Cash
Target
Actual


CSF Asset Allocation
50.0%
45.0%
40.0%
35.0%
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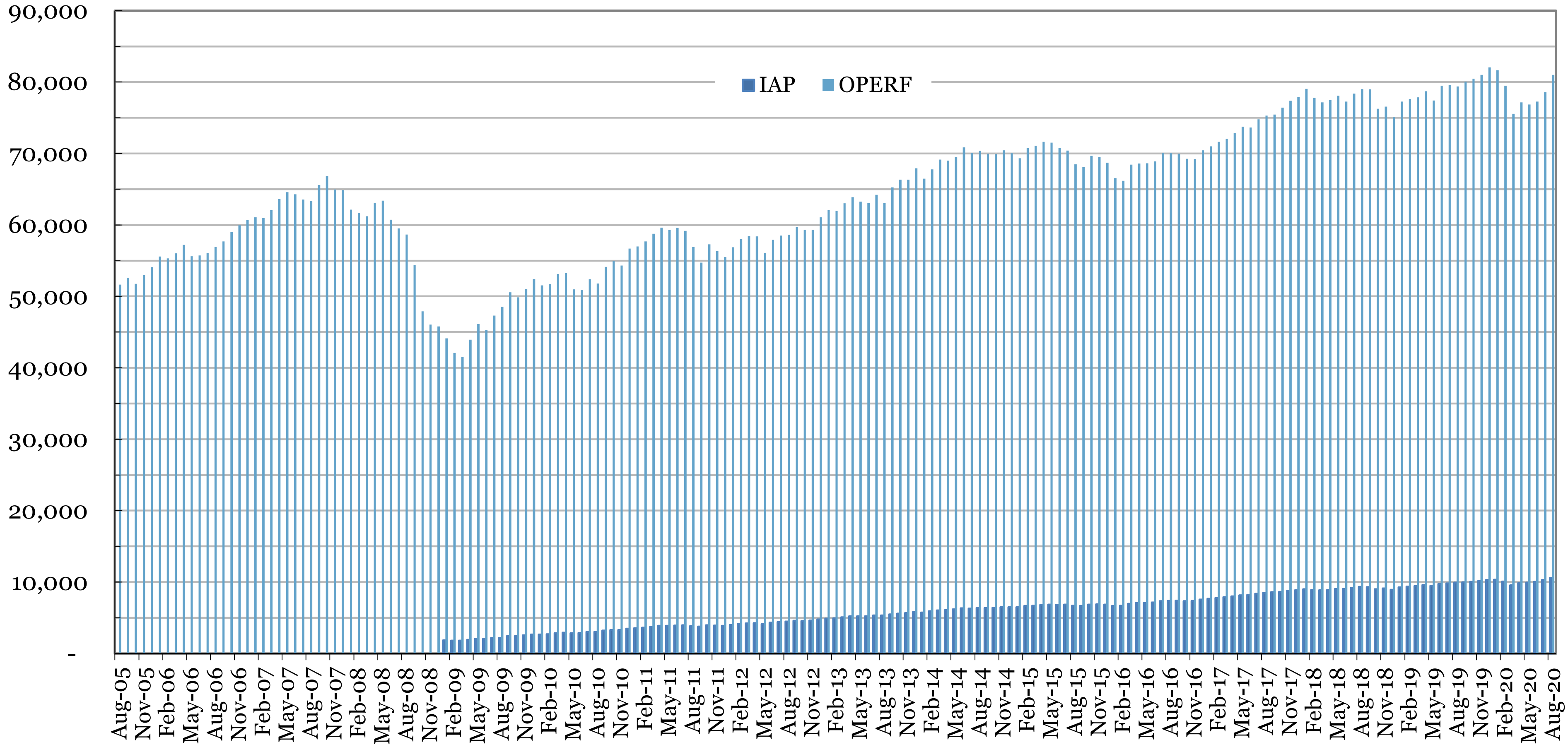
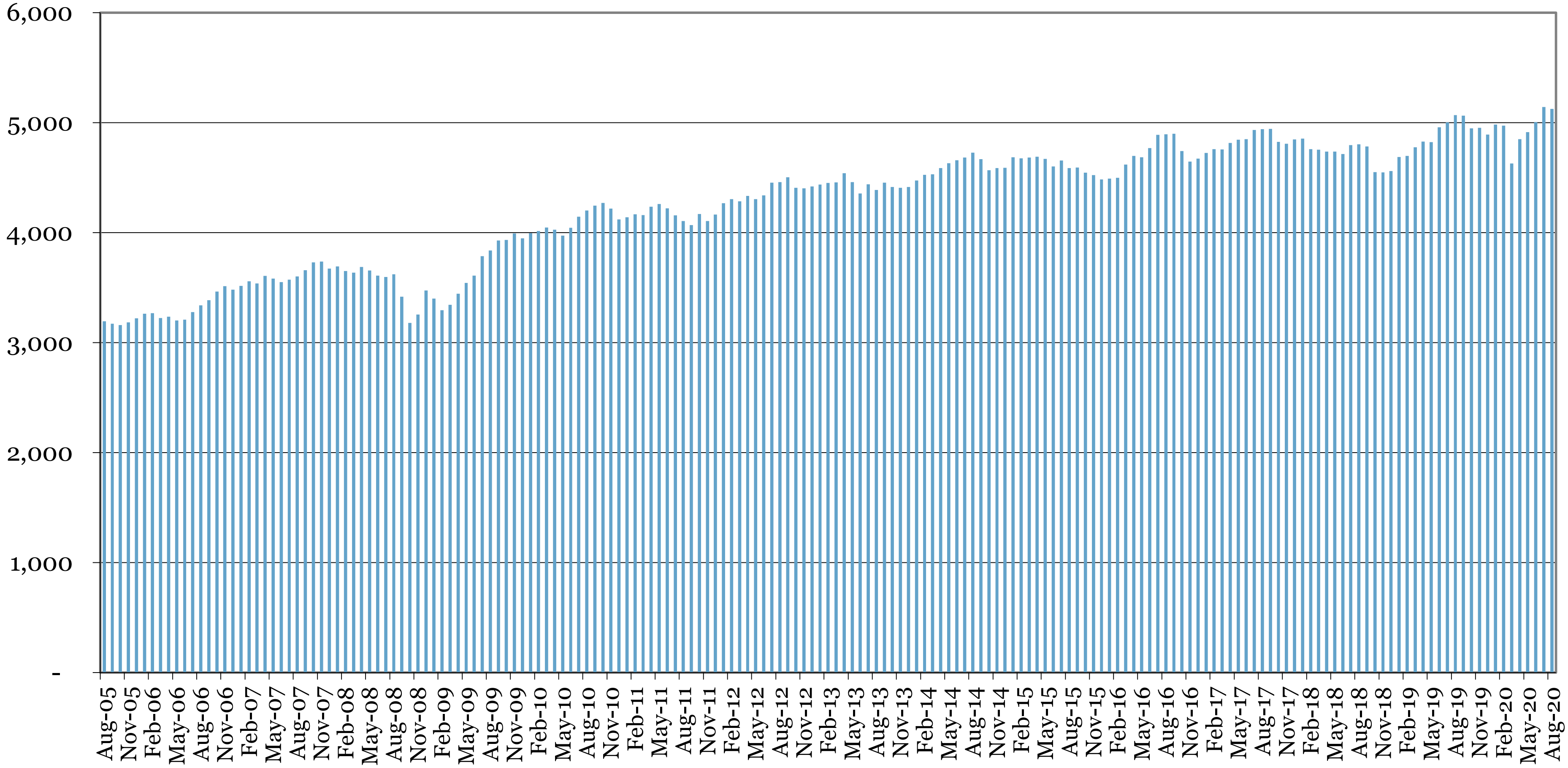
10.0%
6.6%
0.0%
1.4%
Global Equities
Private Equity
Fixed Income
Real Estate
Alternative Investments
Cash
Target
Actual

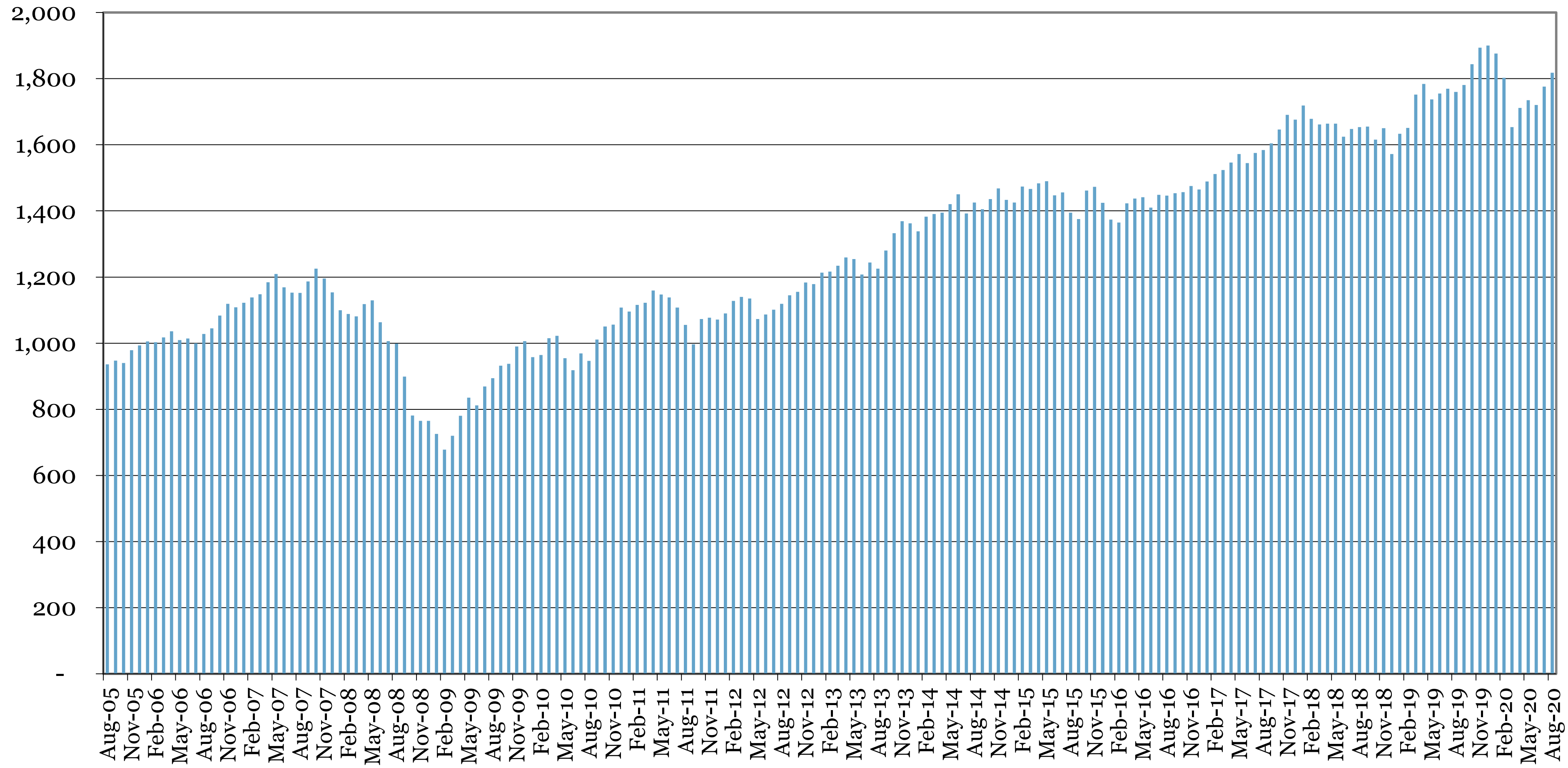
OPERF NAV
15 years ending August 31, 2020
($ in Millions)



SAIF NAV
15 years ending August 31, 2020
($ in Millions)



CSF NAV
15 years ending August 31, 2020
($ in Millions)



TAB 11 – Calendar – Future Agenda Items

2020/21 OIC Forward Calendar and Planned Agenda Topics

December 9, 2020	Public Equity Program Review Fixed Income Program Review Q3 OPERF Performance & Risk Review
January 28, 2021	Private Equity Program Review Opportunity Portfolio Program Review Placement Agent Report 2022 OIC Calendar Approval
March 10, 2021	Real Estate Portfolio Review Alternatives Program Review Q4 OPERF Performance & Risk Review
April 21, 2021	OPERF Asset Allocation & Capital Market Assumptions Update Risk Review (Risk Parity, Currency, Overlay) Operational Annual Review
June 2, 2021	OIC, PERS Joint Session IAP Program Review CEM Benchmarking Q1 OPERF Performance & Risk Review
September 8, 2021	ESG Annual Review Corporate Governance, Proxy Voting Securities Lending Q2 OPERF Performance & Risk Review
October 27, 2021	SAIF Annual Review OSGP Annual Review Common School Fund Annual Review