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Oregon Investment Council

March 11, 2020

John Russell
Chair

John Skjervem
Chief Investment Officer

Tobias Read
State Treasurer

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OREGON INVESTMENT COUNCIL

Agenda

March 11, 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** January 30, 2020	**John Russell** *OIC Chair*	**1**
9:05-9:15	**2. Committee Reports and Opening Remarks**	**John Skjervem** *Chief Investment Officer*	**2**
9:15-10:00	**3. Stonepeak Infrastructure Partners IV, L.P.** *OPERF Alternatives Portfolio*	**Ben Mahon** *Senior Investment Officer, Alternatives* **Michael Dorrell** *CEO & Co-Founder, Stonepeak Infrastructure Partners* **Luke Taylor** *Senior Managing Director, Stonepeak Infrastructure Partners* **Tom Martin** *Managing Director, TorreyCove Capital Partners*	**3**
10:00-10:30	**4. Common School Fund Annual Review** *Common School Fund*	**Michael Viteri** *Senior Investment Officer, Public Equity* **Bill Ryan** *Deputy Director, Operations, Oregon Department of State Lands*	**4**
10:30-10:45	**-------------------- BREAK --------------------**		
10:45-11:00	**5. Policy Updates** *OIC and OPERF*	**Jennifer J. Peet** *Corporate Governance Director*	**5**

B. Information Items

Time	Item	Presenter	Tab
11:00-11:50	**6. Real Estate Portfolio Review** *OPERF*	**Tony Breault** *Senior Investment Officer, Real Estate* **Christy Fields** *Managing Principal, Meketa Investment Group* **Tony Charles** *Managing Director, Real Assets, Morgan Stanley*	**6**
11:50-12:15	**7. Q4 2019 Performance & Risk Report** *OPERF*	**Karl Cheng** *Senior Investment Officer, Portfolio Risk & Research* **Janet Becker-Wold** *Senior Vice President, Callan LLC*	**7**
12:15-12:20	**8. Asset Allocation & NAV Updates** a. Oregon Public Employees Retirement Fund b. SAIF Corporation c. Common School Fund d. Southern Oregon University Endowment Fund	**John Skjervem**	**8**
	9. Calendar — Future Agenda Items	**John Skjervem**	**9**
12:25	**10. Open Discussion**	**OIC Members** **Staff** **Consultants**	

C. Public Comment

TAB 1 – REVIEW & APPROVAL OF MINUTES

January 30, 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

January 30, 2020

Meeting Minutes

Members Present:	Rukaiyah Adams, John Russell, Tobias Read, Rex Kim, Patricia Moss, and Kevin Olineck
Staff Present:	John Skjervem, Michael Kaplan, Deena Bothello, David Randall, John Hershey, Karl Cheng, May Fanning, Jen Peet, Roy Jackson, Andy Coutu, Tyler Bernstein, Wil Hiles, Geoff Nolan, Jen Plett, Ben Mahon, Faith Sedberry, Tony Breault, Kristi Jenkins, Ahman Dirks, Jo Recht, Michael Langdon, Lisa Pettinati, Mark Selfridge, Joe Hutchinson, Sam Spencer, Amanda Kingsbury, Michael Mueller, Monique Sadegh, Aliese Jacobsen, Angela Schaffers, Ian Huculak, Dana Millican, Eric Messer, Michael Viteri, Robin Kaukonen, Mohammed Quraishi, Anna Totdahl, Jeremy Knowles, Will Hampson, Tiffany ZhuGe, Dmitri Palmateer, Amy Wojcicki, Rachel Wray, Krystal Korthals, Sommer May, Andrey Voloshinov, Caitlyn Wang, and Scott Robertson
Consultants Present:	David Fann and Tom Martin, (TorreyCove); Allan Emkin and David Glickman (Meketa Investment Group, Inc.); Janet Becker-Wold and Kevin Machiz (Callan LLC)
Legal Counsel Present:	Steven Marlowe, Department of Justice

The January 30th, 2020 OIC meeting was called to order at 9:00 am by Rukaiyah Adams, OIC Chair.

I. 9:00 am Review and Approval of Minutes

MOTION: Chair Adams asked for approval of the December 11, 2019 OIC regular meeting minutes. Mr. Russell moved approval at 9:00 am, and Mr. Kim seconded the motion which then passed by a 5/0 vote.

II. 9:00 am Proposed 2021 OIC Meeting Dates

John Skjervem, Chief Investment Officer, requested Council approval for a proposed list of 2021 OIC meeting dates.

MOTION: Treasurer Read moved approval at 9:01 am, and Mr. Kim seconded the motion which then passed by a 5/0 vote.

III. 9:01 am Committee Reports and CIO Remarks

Committee Reports: Mr. Skjervem, gave an update on the following committee actions taken since the December 11, 2019 OIC meeting:

Private Equity Committee

December 11, 2019	Clearlake Capital Partners VI, L.P.	$200M

Alternatives Portfolio Committee

December 18, 2019	Bridgewater Optimal Portfolio Top-Off	$250M
	GMO Systematic Global Macro Fund Top-off	$250M

Real Estate Committee

None

Opportunity Portfolio Committee

None

Mr. Skjervem then provided opening remarks which included context for the Private Equity Annual Plan and Portfolio Update, and staff's Risk Parity manager recommendations. Mr. Skjervem then introduced new OST staff members, Claire Illo, Investment Analyst, Public Equity and Monique Sadegh, Investment Analyst, Operations. He also announced Aliese Jacobsen's promotion from Investment Analyst 1, Operations to Investment Analyst 2, Operations, and the departure of Garrett Cudahey, Investment Officer, Fixed Income, Ricardo Lopez, Investment Analyst, Real Estate, Tom Lofton, Investment Officer, Fixed Income and Kristel Flores, Executive Support Specialist.

IV. 9:12 am Risk Parity Manager Recommendation – *OPERF Risk Parity Portfolio*

Karl Cheng, Senior Investment Officer, Portfolio Risk & Research, Janet Becker-Wold, Senior Vice President, Callan LLC and Kevin Machiz, Vice President, Capital Markets Research Group, Callan LLC recommended approval of a $650 million investment to Bridgewater Associates, LP All Weather Portfolio.

At current OPERF NAV, the target allocation to the Risk Parity portfolio translates to $2.0 billion. At its December 2019 meeting, the OIC approved investments in two other risk parity strategies. If Bridgewater All Weather is approved, this additional $650 million commitment, combined with the prior two risk parity strategies, would collectively bring OPERF's Risk Parity Portfolio up to its target allocation.

With approximately $168 billion in assets under management (AUM) as of December 31, 2019, Bridgewater Associates, LP was established by Ray Dalio in 1975, and has grown to become the largest hedge fund manager in the world. Three co-CIOs (Mr. Dalio, alongside Bob Prince and Greg Jensen) oversee the Firm's investment management process, and monitor the performance of all its portfolios and investment systems. Bridgewater functions under a one-team approach, with all products designed and managed by the same investment group. The Firm's "Investment Engine," consisting of research, account management, and trading functions, marshals the investment process from generating views to constructing portfolios to executing trades. A key aspect of the process is systemization, with all elements explicitly codified in order to preserve and compound insights and learnings.

Mr. Cheng then introduced James L. Haskel, Senior Portfolio Strategist, Bridgewater Associates, LP and Joel Whidden, Global Head of Sales, Bridgewater Associate, LP, who provided a brief overview of the firm and discussed specific elements of Bridgewater's All Weather risk parity strategy.

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MOTION: Treasurer Read moved approval at 9:56 am for a $650 million commitment to the Bridgewater Associates, LP All Weather Portfolio. Mr. Kim seconded the motion which then passed by a 5/0 vote.

V. 9:56 am Opportunity Portfolio Policy Update – *OPERF*

Mike Mueller, Investment Officer, Alternatives, sought Oregon Investment Council approval for revisions and updates to Policy INV 703: OPERF Opportunity Portfolio Standards and Procedures.

During the annual review of the OPERF Opportunity Portfolio on October 31, 2019, Staff suggested, and the OIC requested, a proposed policy change that would allow for an increase in OPERF's total exposure to the Opportunity Portfolio during distressed market conditions and/or a discreet market dislocation event. The proposed policy change would allow Staff to flex the capacity of the Opportunity Portfolio to five percent, once a market dislocation (as defined) was triggered. Using the same example of a 10% decline in OPERF, ceteris paribus, up to $1.7 billion could be invested before the Opportunity Portfolio would breach a five percent total fund value.

MOTION: Ms. Moss moved approval at 10:11 am of moving the allocation of the Opportunity Portfolio from 0% to 5% with notice that an exposure over 3% will trigger required reporting to the Council. Treasurer Read seconded the motion which then passed by a 5/0 vote.

10:11 am Policy Updates – *OIC and OPERF*

Chair Adams noted that this particular agenda item would be moved to a subsequent OIC meeting for discussion and approval.

10:11 am Special Officer Election

Treasurer Read spoke on behalf of the Council and Staff to express appreciation for Chair Adams several years of dedicated OIC service and recognized the hard work and many keen insights she contributed during her Council tenure. Vice Chair Russell gave commending remarks by describing Ms. Adams as a star not only in her role as OIC Chair but also in her many other service roles within Oregon and the greater Portland community. "Her stardom carries down to all of us here," he added. Member Kim then stated that Ms. Adams will forever be his favorite OIC Chair.

Chair Adams began by acknowledging the major changes that had occurred since Mr. Skjervem joined OST, a time period that closely overlapped with her own Council tenure. She specifically cited the investment program's improvements in terms of AUM growth, execution sophistication and cost effectiveness, but also noted important progress in terms of staff quality, diversity and commitment. She went on to thank the PERS board and DOJ for their respective support, and expressed confidence that investment staff and her Council peers would continue to advance the state's investment brand for the benefit of all Oregonians in general and the program's many thousand beneficiaries in particular.

Ms. Adams then ask for a motion to nominate a new Chair to assume Council leadership responsibilities.

MOTION: At 10:21 am, Treasurer Read nominated Member Russell as Chair and Member Kim as Vice Chair, and mentioned that all current committee assignments would be reviewed and revised if necessary. Chair Adams seconded the motion which then passed by a 4/0 vote.

Ms. Adams left the meeting at 10:21 am.

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VI. 10:35 am Annual Placement Agent Report

John Hershey, Director of Alternatives Investments, provided the Council with the Annual Placement Agent Disclosure report. This report was made in accordance with Policy COM 201: Conflict of Interest and Code of Conduct which states that OST shall disclose, in all investment recommendations to the Oregon Investment Council, any Placement Agent used by an investment firm that has had any contact with one or more members of Treasury's investment staff. Consistent with that policy, Mr. Hershey provided the Council with a summary of all placement agent contact that occurred in calendar year 2019, a summary that will also be made available to the public on the Treasury website.

VII. 10:35 am Private Equity Annual Review and 2020 Plan – *OPERF Private Equity Portfolio*

Michael Langdon, Senior Investment Officer, Private Equity, Ahman Dirks, Investment Officer, Private Equity, Tiffany ZhuGe, Investment Officer, Private Equity, Eric Messer, Investment Officer, Private Equity along with Tom Martin, Managing Director, TorreyCove Capital Partners, presented the Annual Private Equity Review and 2020 Plan. This presentation included a review of OPERF private equity activity in 2019, updated portfolio performance and a summary of staff's 2020 private equity pacing goals.

VIII. 11:30 am Annual PUF Update – *Public Universities Fund*

Responding to a request previously made by Chair Adams, Geoff Nolan, Senior Investment Officer, Fixed Income, provided an update on the Public University Fund.

IX. 11:32 am IAP Update – *OPERF*

Jennifer Peet, Corporate Governance Director and Christopher Nikolich, Head of Glide Path Strategies (U.S.) for AllianceBernstein provided the Council with the annual update on the Individual Account Program, which included a status update, investment performance summary and glide path review.

X. 12:02 pm Asset Allocation & NAV Updates

Mr. Skjervem reviewed asset allocations and NAVs across OST-managed accounts for periods ended December 31, 2019.

XI. 12:02 pm Calendar – Future Agenda Items

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

XII. 12:03 pm Open Discussion

Member Olineck mentioned that during the upcoming 1.31.2020 PERS Board meeting, one of the agenda items would be a preliminary PERS funding status estimate, and in connection therewith, he acknowledged the efforts of investment staff for contributing to the strong returns OPERF realized in 2019. He also mentioned that the system's unfunded actuarial liability had dropped by approximately $3 billion to $24.1 billion, resulting in a commensurate improvement from 69% to 73% in the system's funded status. When considering side accounts, Member Olineck said the system's funded status improved to 79%. He concluded his remarks by thanking, on behalf of the PERS Board, his Council peers and investment staff for their combined efforts.

12:03 pm Public Comments

None

Mr. Russell adjourned the meeting at 12:03 pm.

Respectfully submitted,

May Fanning

May Fanning
Executive Support Specialist

TAB 2 – Committee Reports and Opening Remarks

March 11, 2019 **Oregon Investment Council**

Opening Remarks

John D. Skjervem, Chief Investment Officer

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2019 & Cumulative OPERF Investment Performance

- Yin and Yang
- Additional details from Karl and Janet

Alternatives Portfolio

- Stonepeak Re-up

CSF Annual Review

- Update on fund's asset allocation & investment performance

Policy Updates

- Divestment and RCP

Real Estate Annual Review

- Take a bow, Captain

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OPERF Investment Performance
(as of December 31, 2018)

Annualized Return	1-Year	3-Year	5-Year	7-Year	10-Year
Russell 3000	-5.24%	8.97%	7.91%	12.46%	13.18%
S&P 500	-4.38%	9.26%	8.49%	12.70%	13.12%
Russell 2000	-11.01%	7.36%	4.41%	10.44%	11.97%
MSCI ACWI ex-US IMI	-14.76%	4.39%	0.84%	5.07%	6.97%
MSCI Emerging Markets	-14.58%	9.25%	1.65%	3.23%	8.02%
Bloomberg Barclays U.S. Aggregate	0.01%	2.06%	2.52%	2.10%	3.48%
Fund Performance (Net of Fees)	**1-Year**	**3-Year**	**5-Year**	**7-Year**	**10-Year**
OPERF (Ranking[1])	**0.48% (9)**	**7.49% (9)**	**6.33% (5)**	**8.72% (1)**	**9.46% (1)**
Domestic Equity	-7.87%	8.38%	6.75%	11.80%	13.10%
International Equity	-14.88%	5.09%	1.89%	6.45%	8.00%
Fixed Income	0.25%	2.34%	2.21%	3.16%	6.28%
Private Equity	18.15%	13.78%	12.87%	13.56%	11.66%
Real Estate	8.03%	8.65%	9.98%	10.90%	7.70%

[1] Relative to Wilshire Trust Universe Comparison Service (TUCS) Public Funds > $10 Billion peer group. Rankings based on estimated gross returns for Fund and peer group.

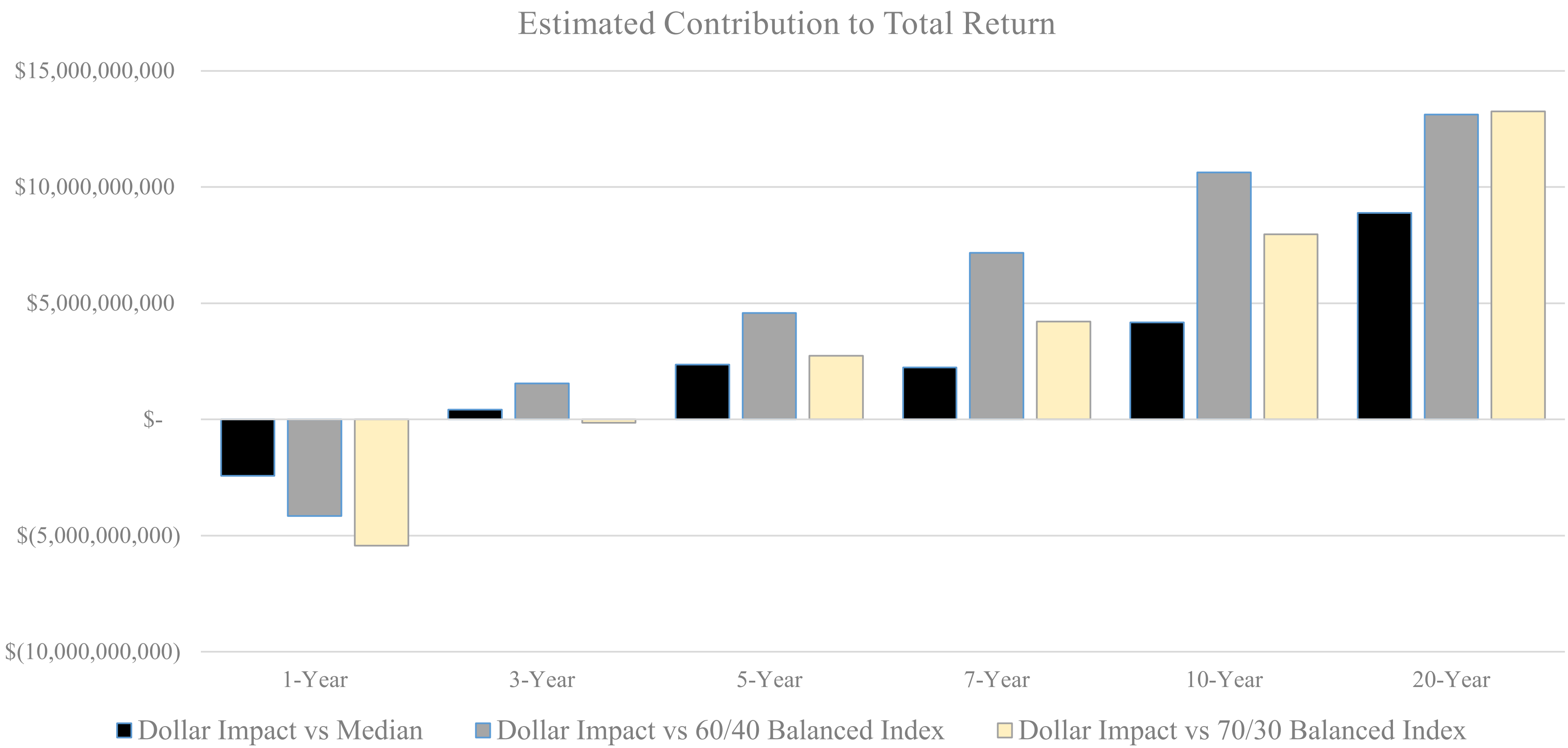
OPERF Investment Performance
(as of December 31, 2019)

Annualized Return	1-Year	3-Year	5-Year	7-Year	10-Year	20-Year
Russell 3000	31.02%	14.57%	11.24%	14.38%	13.42%	6.39%
S&P 500	31.49%	15.27%	11.70%	14.73%	13.56%	6.06%
Russell 2000	25.52%	8.59%	8.23%	11.65%	11.83%	7.59%
MSCI ACWI ex-US IMI	21.63%	9.84%	5.71%	5.65%	5.21%	3.96%
MSCI Emerging Markets	18.42%	11.57%	5.61%	3.26%	3.68%	6.82%
Bloomberg Barclays U.S. Aggregate	8.72%	4.03%	3.05%	2.72%	3.75%	5.03%

Fund Performance	**1-Year**	**3-Year**	**5-Year**	**7-Year**	**10-Year**	**20-Year**
OPERF (Ranking[1])	**13.56% (99)**	**9.60% (34)**	**7.54% (12)**	**8.62% (21)**	**8.91% (9)**	**6.70% (1)**
Domestic Equity	28.99%	12.67%	10.23%	13.46%	12.77%	6.42%
International Equity	22.61%	10.81%	6.75%	6.92%	6.49%	5.03%
Fixed Income	8.84%	4.21%	3.24%	2.96%	4.75%	5.86%
Private Equity	11.10%	15.48%	11.92%	13.08%	13.34%	11.45%
Real Estate	7.25%	8.44%	8.61%	9.99%	9.53%	10.22%

[1] Relative to Wilshire Trust Universe Comparison Service (TUCS) Public Funds > $10 Billion peer group. Percentile rankings based on estimated gross returns for Fund and peer group.

OPERF Performance Impact in $$$s
(as of December 31, 2019)



Notes:
OPERF vs Median reflects gross performance compared to TUCS Universe Median > $10 Billion. OPERF vs Balanced Portfolios reflects net performance.
The 60/40 Balanced Portfolio consists of 60% MSCI IMA, 40% Bloomberg Barclays Aggregate.
The 70/30 Balanced Portfolio consists of 70% MSCI IMA, 30% Bloomberg Barclays Aggregate.

IAP Target Date Funds
Performance Summary as of 12/31/2019

2019 IAP TDF PERFORMANCE			
Fund	**3 Month**	**1 Year**	**Since Inception**
TDF RETIREMENT FUND	1.97	9.84	5.00
TDF 2020	2.03	10.49	5.21
TDF 2025	3.32	13.58	6.20
TDF 2030	3.91	14.74	6.68
TDF 2035	3.77	14.19	6.74
TDF 2040	3.47	14.01	6.56
TDF 2045	4.84	16.75	6.95
TDF 2050	4.84	16.78	6.96
TDF 2055	4.83	16.90	7.03
TDF 2060	4.83	16.93	7.07

Source: State Street.

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TAB 3 – Stonepeak Infrastructure Partners IV, L.P.

OPERF Alternatives Portfolio

Stonepeak Infrastructure Fund IV LP

Purpose
Staff and TorreyCove recommend a $500 million commitment to Stonepeak Infrastructure Fund IV LP ("Stonepeak IV" or 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
Stonepeak Infrastructure Partners ("Stonepeak" or the "Firm") is an independently-owned investment fund manager focused on investing in infrastructure assets in the transportation/logistics, power/utilities, midstream, communications, and water sectors. Stonepeak was founded in 2011 by Michael Dorrell and Trent Vichie, formerly of Blackstone and Macquarie. Stonepeak currently manages $18 billion of capital across its platforms.

Oregon's relationship with Stonepeak dates back to 2012 and consists of three mandates:

- Stonepeak Infrastructure Fund LP – $100 million committed in 2012;
- Stonepeak Infrastructure Fund II LP – $400 million committed in 2015; and
- Stonepeak Infrastructure Fund III LP – $400 million committed in 2017.

Stonepeak is seeking $10 billion in aggregate capital commitments for the Fund, and plans to hold a first close on or about April 30, 2020. Well above the Alternatives Portfolio's target return, the Firm's return targets for the Fund are a gross internal rate of return of 15% and a net internal rate of return of 12%.

Discussion/Investment Considerations
With this Fund, Stonepeak will continue its focus on investing in infrastructure assets, primarily in the transportation/logistics, power/utilities, midstream, communications, and water sectors in the United States and Canada. The Firm expects to make individual equity investments of $250 million or greater, and generally aims to secure a controlling stake in its portfolio companies. An important feature of the Firm's Stonepeak IV strategy is its countercyclical and opportunistic approach to target markets with an overriding focus on "off-the-run" and exclusive deal sourcing opportunities. Seeking to create additional value through its active management strategy, Stonepeak will work with its operating partners to intensively manage Fund portfolio companies and identify both operational improvements and growth opportunities.

Attributes:

- *Experienced team*. Stonepeak's co-founders, Michael Dorrell and Trent Vichie, have invested in infrastructure for more than 20 years. With prior experience at Macquarie and Blackstone, the Stonepeak team has built one of the deepest track records in North American infrastructure investing. In total, Stonepeak's investment team consists of 45 members with 20 additional non-employee operating partners, senior advisors and industrial specialists providing operational and management oversight as well as due diligence support. This breadth of experience provides Stonepeak with the capabilities to evaluate a wide set of opportunities on behalf of the Fund.
- *Market opportunity.* North American infrastructure represents a compelling investment opportunity given the substantial gap between investment demand and capital supply. In particular, U.S. infrastructure is aging and is in critical need of upgrade and replacement. As a result, the infrastructure investment sector is experiencing substantial growth due to the scale of investments required to modernize existing, and develop new, infrastructure. At the same time, traditional suppliers of infrastructure capital, such as governments and utilities, continue to face capital constraints.

- *Independent and focused platform*. In addition to being employee owned and controlled, Stonepeak also has a single sector focus. As such, conflicts typically associated with sponsored entities or competing products do not exist. Additionally, Stonepeak employees will be committing a minimum of 1.5% of the aggregate capital commitments (or $150 million assuming the Firm reaches its target fund size), thereby providing significant "skin in the game."
- *Focus on downside protection.* Stonepeak believes that infrastructure investments should contribute defensive real-returns to an investor's portfolio. The Firm's investment strategy focuses on investing in high-quality assets, securing investments at attractive entry valuations, employing leverage conservatively, and adding structural protections (such as preferred equity) where possible to mitigate left tail risk.
- *Strong interim results*. The three predecessor funds demonstrate consistent performance with aggregate gross and net returns in the low-twenties and mid-teens, respectively. While the existing funds are largely unrealized, it is notable that Stonepeak has experienced no impairments to-date.

<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 Stonepeak's financial discipline and expertise in originating, structuring, and executing infrastructure transactions. Moreover, Stonepeak focuses on sourcing off-market transactions, thereby reducing competition.]
- *Stonepeak IV increase*. Stonepeak IV represents a substantial increase in capital commitments relative to Stonepeak III. 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: Stonepeak's target deal size for Stonepeak IV is consistent with the deals executed in Stonepeak II and Stonepeak III, and the Firm intends to utilize the larger pool of capital to reduce its dependence on external capital for deal execution. 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 hiring ahead of the Stonepeak IV launch, growing to a team of 83 individuals, including 24 professionals dedicated to finance, operations, legal/compliance, and investor relations.]
- *Significant unrealized value*. The Firm has a limited historical track record, with only six investments fully realized to-date. Managing the unrealized portfolio will require significant time and attention from the investment and operating teams. [Mitigant: With an investment team of 45 professionals (an increase of 21 since the launch of Stonepeak III), Stonepeak feels that it is adequately staffed to manage the existing Funds and deploy Stonepeak IV. Through the deployment and management of Stonepeak III, Stonepeak has demonstrated its ability to navigate these challenges successfully.]
- *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 geographic focus on North America.]

Terms
Fund terms include a blend of market and enhanced provisions. Please see the TorreyCove investment memo for more detail. The Fund will have a five-year investment period, and a 12-year duration with up to three, one-year extensions subject to Limited Partner Advisory Committee consent. During fundraising efforts, no placement agent had contact with Treasury staff.

Conclusion
The Alternatives Portfolio target allocation to infrastructure investments is 20%, with a range of 15% to 25%, or approximately $2.3 billion at current OPERF NAV. To complement this allocation's current $2.5 billion NAV, Staff considers Stonepeak IV an anchor commitment within the OPERF infrastructure portfolio.

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

MEMORANDUM

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

FROM: TorreyCove Capital Partners ("TorreyCove")

DATE: March 3, 2020

RE: Stonepeak Infrastructure Fund IV, L.P.

Strategy:

The Fund will focus on high-quality, low-risk infrastructure assets operating across the transportation & logistics, power & utilities, midstream energy, water, and communications sectors. The Firm will primarily source defensible assets with barriers to entry, stable revenue streams, inflation resilient cash flow profiles, and monopolistic characteristics that are insulated from regulatory risks, direct commodity price exposure, and technological obsolescence. Stonepeak will employ its value-add, operationally intensive approach towards investment evaluation and asset management, leveraging its domain expertise and network of operating professionals, senior advisors, and industrial specialists to implement best practices, drive operational enhancements, reduce controllable costs, and position assets to be scaled over time.

Given the increase in fund size, the investment team expects to execute between eight and 12 platform deals, with each transaction garnering at least $250.0 million of invested capital. Stonepeak will primarily source assets domiciled in the U.S. and Canada; however, the Fund will also consider potential investments in Western Europe, Asia, and other regions where there is an established rule of law, well-developed regulatory regimes, stable monetary systems, and robust capital markets. Non-U.S. and Canada investments will be capped at 25.0% of commitments.

Please see 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 investments with relatively attractive overall terms. TorreyCove's review of the General Partner and the proposed Fund indicates that the potential returns available justify the risks associated with an investment in the Fund. TorreyCove recommends that OPERF consider a commitment of up to $500.0 million to the Fund. TorreyCove's recommendation is contingent upon the following:

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

(2) Satisfactory completion of legal documents;

(3) Satisfactory continuation and finalization of due diligence;

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

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

TAB 4 – Common School Fund Annual Review

Common School Fund

Common School Fund
Annual Review

Purpose
Provide the Oregon Investment Council with an update on the Common School Fund (CSF) for the period ended December 31, 2019.

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

In Oregon, Congress granted roughly six percent of the new state´s land -- nearly 3.4 million acres -- for the support of schools. Due to various circumstances, about 700,000 acres remain in state ownership today. These lands and their mineral and timber resources, as well as other resources under the State Land Board´s jurisdiction (including the submerged and submersible lands underlying the state´s tidal and navigable waterways) are managed "with the object of obtaining the greatest benefit for the people of this state, consistent with the conservation of this resource under sound techniques of land management."

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

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

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

CSF Asset Allocation
The objective of the CSF, outlined in **OIC INV 901** - *Common School Fund: Asset Classes, Asset Allocation, and Reporting Requirements,* is to, on behalf of the Department of State Lands, optimize long-term investment returns and distributions, while enabling the CSF asset base to grow in real terms.

At the September 20, 2017 Board meeting, the Oregon Investment Council (OIC or the Council) approved the following asset allocation targets, benchmarks, and ranges (Exhibit 1) for the CSF. This OIC-approved asset allocation resulted in a 10 percent target allocation to both Real Assets and Alternatives, which produced an improvement in ex ante returns while simultaneously decreasing expected risk.

Exhibit 1 – Asset Allocation Policy

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

10-Year Expected Return (Geometric Mean)	**6.5%**	**6.6%**
Projected Standard Deviation	**14.5%**	**13.2%**

Source: Updated using Callan 2018 Capital Market Assumptions.

CSF Performance

For the year ended December 31, 2019, the CSF posted a 16.04 percent return, out-performing its policy benchmark by 0.89 percent (Exhibit 2). For the trailing three-, five-, and ten- year periods ended December 31, 2019, CSF relative returns were mixed, but in a tight range relative to the benchmark.

Exhibit 2 – Total Fund Performance

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Returns	$ 1,900,572,077	4.68%	16.04%	9.35%	6.86%	8.39%
CSF Policy Benchmark		4.49%	15.15%	10.06%	7.36%	8.36%
Excess Return		**0.19%**	**0.89%**	**-0.71%**	**-0.50%**	**0.03%**

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Public Equity Returns	$ 895,189,714	9.23%	26.26%	11.79%	8.21%	9.62%
MSCI ACWI IMI Net		9.05%	26.35%	12.09%	8.34%	8.91%
Excess Return		**0.18%**	**-0.09%**	**-0.30%**	**-0.13%**	**0.71%**

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Fixed Income Returns	$ 487,914,680	0.61%	10.57%	4.83%	3.69%	4.92%
Bloomberg Barclays US Aggregate		0.18%	8.72%	4.03%	3.10%	3.95%
Excess Return		**0.43%**	**1.85%**	**0.80%**	**0.59%**	**0.97%**

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Private Equity Returns	$ 202,601,994	3.44%	11.07%	13.83%	11.33%	13.56%
Russell 3000 + 300 Bps Qtr Lag		1.91%	6.00%	16.18%	13.73%	16.44%
Excess Return		**1.53%**	**5.07%**	**-2.36%**	**-2.40%**	**-2.88%**

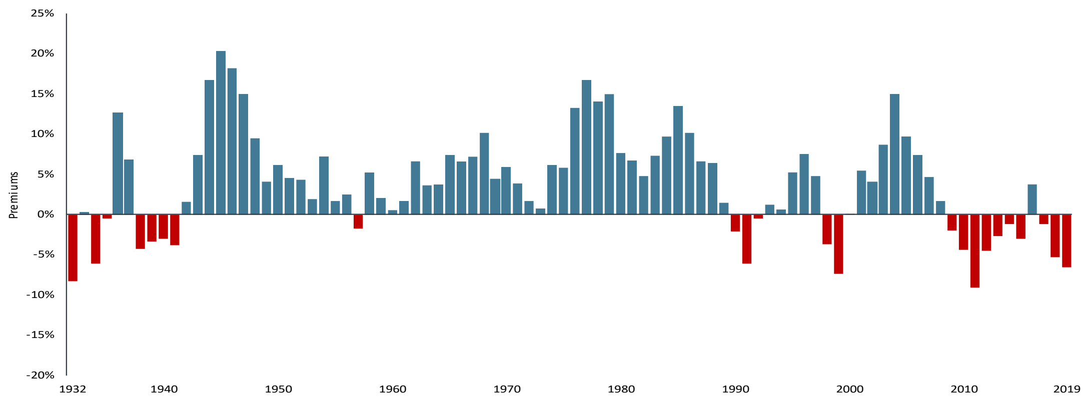
Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Alternatives Returns	$ 119,813,485	-2.09%	-1.47%	N/A	N/A	N/A
CPI + 400 Bps		1.07%	6.37%	N/A	N/A	N/A
Excess Return		**-3.16%**	**-7.84%**	**N/A**	**N/A**	**N/A**

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Real Estate Returns	$ 128,802,076	1.48%	6.66%	N/A	N/A	N/A
NCREIF ODCE (Custom Adj)		1.08%	4.64%	N/A	N/A	N/A
Excess Return		**0.40%**	**2.02%**	**N/A**	**N/A**	**N/A**

Source: State Street

The Common School Fund's Public Equity portfolio includes low-cost, systematic or "engineered" strategies that tilt to size, value and other, discreet risk-factor exposures (e.g., momentum, profitability, etc.). The majority of this portfolio's trailing one-, three-, and five- year relative underperformance is attributable to the performance differential between value and growth stocks during the last few years. From a historical perspective, this growth/value performance differential is the largest and most sustained since the 1930s (Exhibit 4).

Exhibit 4 – Historical Observations of Value Five-Year Premiums: January 1932 – December 2019



Source: Dimensional Fund Advisors

Underperformance among CSF's alternative investments is also attributed to these same common factor tilts. Although differentiated from the public equity strategy by investments in event-driven and managed futures, both of these alternative strategies underperformed due to their long/short value exposures which reached relative value nadirs comparable in magnitude to levels plumbed during the early 2000 tech stock bubble.

Allocations to private equity were first added to the CSF in 2007. For the one-year period ending December 31, 2019, the CSF's private equity portfolio out-performed its benchmark by 5.07 percent. Within private equity, the majority of the trailing three- and five-year relative underperformance is attributable to the following: 1) poor manager selection; and 2) adverse vintage year concentrations (see Exhibit 5). Regarding the latter, approximately 40 percent of CSF's total private equity fund commitments were made in 2007 and 2008. Accordingly, CSF private equity performance has been dominated by adverse vintage year concentrations and poor (e.g., 3rd quartile) manager selection.

A second wave of fund commitments occurred between 2013 and 2015, accounting for 45 percent of CSF's total private equity allocation. Today, more than 85 percent of all CSF fund commitments are concentrated in 5 of the last 12 vintage years, with half of these investments in 3rd quartile funds. In response to the lack of vintage diversification, staff is applying a more systematic vintage year pacing discipline, which should result in improved private equity performance for CSF going forward.

Exhibit 5

Vintage	Fund	Commitment	Unfunded Commit	Contributions	Distributions	TVPI	Net IRR	Cambridge Assoc. Rank
2007	Warburg Pincus PE X	$ 25,000,000	$ -	$ 25,214,323	$ 28,856,311	1.61X	8.6%	3rd
2007	Oak Hill Capital Part III	$ 25,000,000	$ -	$ 30,189,059	$ 41,715,827	1.5X	8.9%	3rd
2008	Apollo Invest Fund VII	$ 25,000,000	$ 3,565,948	$ 30,092,816	$ 46,945,151	2.05X	23.1%	1st
2008	TPG Partners VI	$ 25,000,000	$ 1,090,536	$ 27,095,272	$ 31,317,640	1.64X	11.2%	3rd
2008	PEG Venture Cap IV	$ 20,000,000	$ 274,676	$ 24,434,184	$ 18,738,925	1.79X	14.1%	3rd
2009	Oaktree Opp Fund VIII	$ 12,500,000	$ -	$ 12,500,000	$ 17,178,520	1.46X	9.2%	N/A
2011	Oaktree Opp Fund VIIIb	$ 12,500,000	$ -	$ 12,500,000	$ 9,480,383	1.33X	20.8%	2nd
2013	Oaktree Opp Fund IX	$ 20,000,000	$ -	$ 20,000,000	$ 6,579,086	1.14X	3.2%	N/A
2013	KKR Asian Fund II	$ 25,000,000	$ 2,309,953	$ 27,186,631	$ 20,340,392	1.41X	13.7%	3rd
2013	Apollo Invest Fund VIII	$ 25,000,000	$ 5,580,815	$ 21,690,865	$ 6,525,855	1.37X	14.6%	3rd
2014	PEG Venture Cap V	$ 25,000,000	$ 4,104,290	$ 21,385,953	$ 1,062,332	1.22X	NM	NM
2015	Francisco Partners IV	$ 15,000,000	$ 382,500	$ 14,617,500	$ 1,552,500	1.58X	26.0%	1st
2015	Oaktree Opp Fund X	$ 25,000,000	$ 7,500,000	$ 20,000,000	$ 2,809,830	1.33X	20.8%	NM
2018	Vista Equity Partners Fund VII	$ 15,000,000	$ 12,346,104	$ 2,653,896	$ 17,021	0.97X	NM	NM
2019	BlackStone Capital Partners	$ 15,000,000	$ 15,000,000	$ -	$ -	0.00X	NM	NM

Source: Torrey Cove Consulting

Although positive returns relative to the CSF private equity benchmark (Russell 3000 + 300 bps) have not been achieved over longer-term trailing time periods, it is important to note that CSF's private equity allocation has generated the Common School Fund's highest absolute returns, thereby contributing to the Fund's primary objectives of optimizing long-term investment returns and distributions while enabling CSF corpus growth in real terms.

Portfolio Construction Update

As of December 31, 2019, the CSF's actual asset allocation relative to recently established policy targets is near completion (Exhibit 6). Staff allocated $75mm to two separate Alternatives mandates in 2019 (specifically, $50 mm to Bridgewater Optimal Fund and $25 mm to Brookfield Infrastructure Fund IV).

Staff is currently working on new investments for real estate, private equity and alternative all of which should fund this year. Accordingly, staff expects to reach the OIC-approved target allocations for CSF by late 2020.

Exhibit 6 - Portfolio Construction as of December 31, 2019

Common School Fund	Benchmark	Market Value	Current Allocation	Target Allocation	Approved Range
Global Equity	MSCI ACWI IMI Net	$ 895,189,713.90	47.1%	45%	40% - 50%
Private Equity	Russell 3000 + 300 bps	$ 202,601,993.64	10.7%	10%	8% - 12%
Fixed Income	Bloomberg U.S. Aggregate Bond Index	$ 487,914,680.00	25.7%	25%	20% - 30%
Real Assets	NCREIF ODCE QTR LAG (net)	$ 128,802,075.88	6.8%	10%	8% - 12%
Alternatives	CPI + 4%	$ 119,813,484.94	6.3%	10%	8% - 12%
Cash	Cash	$ 66,249,000.00	3.5%	0%	0% - 3%
		$ 1,900,570,948.36			

March 13, 2019

Common School Fund Annual Review

Michael Viteri

Senior Investment Officer

OREGON STATE TREASURY

Common School Fund
Asset Allocation Policy

- Approved by the Oregon Investment Council on September 20, 2017.
- Resulted in a 10 percent target allocation to Real Assets and Alternatives.
- Improvement in expected returns while decreasing expected risk.

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

10-Year Expected Return (Geometric Mean)		**6.5%**	**6.6%**
Projected Standard Deviation		**14.5%**	**13.2%**

Source: Updated using Callan 2018 Capital Market Assumptions.

OREGON STATE TREASURY

Common School Fund Performance
(Period ending December 2019)

- For the year ended December 31, 2019, the CSF posted a 16.04 percent return, outperforming its policy benchmark by 0.89 percent.
- Relative returns were mixed for the trailing three-, five- and ten- year periods, but in a tight range relative to the benchmark.

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Returns	$ 1,900,572,077	4.68%	16.04%	9.35%	6.86%	8.39%
CSF Policy Benchmark		4.49%	15.15%	10.06%	7.36%	8.36%
Excess Return		**0.19%**	**0.89%**	**-0.71%**	**-0.50%**	**0.03%**

Source: State Street

OREGON STATE TREASURY

Common School Fund Performance
(Periods ended December 31, 2019)

<u>Public Equity</u>

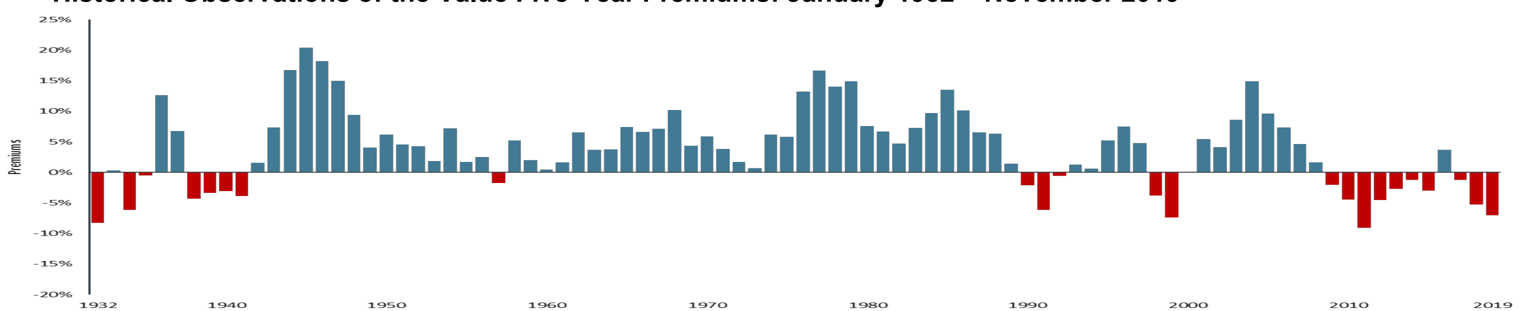
– Within Public Equity, the majority of the relative underperformance can be attributed to a systematic strategy with deliberate tilts towards Value, Size and Profitability which are supported by robust empirical evidence as persistent and pervasive sources of excess return relative to the market.

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Public Equity Returns	$ 895,189,714	9.23%	26.26%	11.79%	8.21%	9.62%
MSCI ACWI IMI Net		9.05%	26.35%	12.09%	8.34%	8.91%
Excess Return		**0.18%**	**-0.09%**	**-0.30%**	**-0.13%**	**0.71%**

– Calendar year performance differentials between Growth and Value stocks (as defined by the Russell 1000 Growth and Russell 1000 Value index) over the last three calendar years were significant. In 2019, growth outperformed Value by 9.87 percent. In 2018, growth outperformed value by 6.76 percent. In 2017, growth outperformed value by a whopping 16.55 percent.

– From a historical perspective, the current U.S. growth/value performance gap is the largest and most sustained since the 1930s.

Historical Observations of the Value Five-Year Premiums: January 1932 – November 2019



Source: Dimensional Fund Advisors

Common School Fund Performance
(Periods ended December 31, 2019)

Alternatives

- Although differentiated from public equity factor tilts by investments in event-driven and managed futures, underperformance within Alternatives can also be attributed to pronounced long/short value exposures.

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Alternatives Returns	$ 119,813,485	-2.09%	-1.47%	N/A	N/A	N/A
CPI + 400 Bps		1.07%	6.37%	N/A	N/A	N/A
Excess Return		**-3.16%**	**-7.84%**	**N/A**	**N/A**	**N/A**

OREGON STATE TREASURY

Common School Fund Performance
(Periods ended December 31, 2019)

Private Equity

- For the one-year period ending December 31, 2019, the CSF's private equity portfolio outperformed its benchmark by 5.07 percent.

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Private Equity Returns	$ 202,601,994	3.44%	11.07%	13.83%	11.33%	13.56%
Russell 3000 + 300 Bps Qtr Lag		1.91%	6.00%	16.18%	13.73%	16.44%
Excess Return		**1.53%**	**5.07%**	**-2.36%**	**-2.40%**	**-2.88%**

- Longer term, the private equity portfolio has underperformed as a result of 1) poor manager selection and 2) adverse vintage year concentrations.
- Approximately 40 percent of the CSF's total private equity commitments were made in 2007 and 2008. A second wave of fund commitments (45 percent of total commitments) occurred between 2013 and 2015. In total, more than 85 percent of all CSF private equity commitments are concentrated in 5 of the last 12 vintage years, with half of these investments in 3rd quartile funds.
- In response to the lack of vintage diversification, staff is applying a more systematic vintage year pacing discipline, which should result in improved private equity performance for CSF going forward.

Vintage	Fund	Commitment	Unfunded Commit	Contributions	Distributions	TVPI	Net IRR	Cambridge Assoc. Rank
2007	Warburg Pincus PE X	$ 25,000,000	$ -	$ 25,214,323	$ 28,856,311	1.61X	8.6%	3rd
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2008	PEG Venture Cap IV	$ 20,000,000	$ 274,676	$ 24,434,184	$ 18,738,925	1.79X	14.1%	3rd
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2011	Oaktree Opp Fund VIIIb	$ 12,500,000	$ -	$ 12,500,000	$ 9,480,383	1.33X	20.8%	2nd
2013	Oaktree Opp Fund IX	$ 20,000,000	$ -	$ 20,000,000	$ 6,579,086	1.14X	3.2%	N/A
2013	KKR Asian Fund II	$ 25,000,000	$ 2,309,953	$ 27,186,631	$ 20,340,392	1.41X	13.7%	3rd
2013	Apollo Invest Fund VIII	$ 25,000,000	$ 5,580,815	$ 21,690,865	$ 6,525,855	1.37X	14.6%	3rd
2014	PEG Venture Cap V	$ 25,000,000	$ 4,104,290	$ 21,385,953	$ 1,062,332	1.22X	NM	NM
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2015	Oaktree Opp Fund X	$ 25,000,000	$ 7,500,000	$ 20,000,000	$ 2,809,830	1.33X	20.8%	NM
2018	Vista Equity Partners Fund VII	$ 15,000,000	$ 12,346,104	$ 2,653,896	$ 17,021	0.97X	NM	NM
2019	BlackStone Capital Partners	$ 15,000,000	$ 15,000,000	$ -	$ -	0.00X	NM	NM

Source: Torrey Cove

OREGON STATE TREASURY

Common School Fund Performance
(Periods ended December 31, 2019)

Real Estate

– The real estate portfolio has performed in line with expectations.

Period Ending 12/31/19	Market Value	3 Months	1 Year	3 Years	5 Years	10 Years
Common School Fund Real Estate Returns	$ 128,802,076	1.48%	6.66%	N/A	N/A	N/A
NCREIF ODCE (Custom Adj)		1.08%	4.64%	N/A	N/A	N/A
Excess Return		**0.40%**	**2.02%**	**N/A**	**N/A**	**N/A**

OREGON STATE TREASURY

CSF Portfolio Construction Update
(Periods ended December 31, 2019)

- Two Alternatives mandates (Bridgewater Optimal Fund and Brookfield Infrastructure Fund IV) funded in 2019.
- One Real Estate mandate (Walton Street) funded in the second half of 2018.
- Staff is currently working on one alternatives investment, one real estate investment, and two private equity commitments, all of which should fund this year.
- Staff expects to reach the OIC-approved target allocation for CSF by late 2020.

CSF Portfolio as of December 31, 2019

Common School Fund	Benchmark	Market Value	Current Allocation	Target Allocation	Approved Range
Global Equity	MSCI ACWI IMI Net	$ 895,189,713.90	47.1%	45%	40% - 50%
Private Equity	Russell 3000 + 300 bps	$ 202,601,993.64	10.7%	10%	8% - 12%
Fixed Income	Bloomberg U.S. Aggregate Bond Index	$ 487,914,680.00	25.7%	25%	20% - 30%
Real Assets	NCREIF ODCE QTR LAG (net)	$ 128,802,075.88	6.8%	10%	8% - 12%
Alternatives	CPI + 4%	$ 119,813,484.94	6.3%	10%	8% - 12%
Cash	Cash	$ 66,249,000.00	3.5%	0%	0% - 3%
		$ 1,900,570,948.36			

Source: State Street

OREGON STATE TREASURY

OREGON
STATE
TREASURY

Tobias Read
Oregon State Treasurer

350 Winter St NE, Suite 100
Salem, OR 97301-3896

oregon.gov/treasury

TAB 5 – Policy Updates

OIC and OPERF

Oregon Investment Council
Policy Updates
March 11, 2020

Purpose
Update the Responsible Contractor Policy, and the policies governing divestment.

Discussion

Staff recommends the following two changes:

A. Update the Responsible Contractor Policy, as noted in the attached documents.
B. Consolidate two divestment policies into one. Currently there are two divestment policies in force: 1) an overarching OIC document; and 2) a second policy outlining steps for staff to follow in implementing divestment programs. Staff recommends converting the second policy into a procedure document, and attaching it to the first policy. This approach is consistent with staff's broader and on-going policy rationalization initiative, and results in a single policy document regarding Oregon's divestment program.

Recommendation
Approve policy language as presented in the attached documents.

~~OREGON INVESTMENT COUNCIL POLICY~~INV 504 – FOR OIC REVIEW & APPROVAL

INTRODUCTION & OVERVIEW

Summary Policy Statement

This ~~Responsible Contractor Policy~~responsible contractor policy (the "Policy") for the Oregon Public Employees Retirement Fund ("OPERF" or "the Fund") is designed to guide, to the extent possible, the selection of ~~appropriate contractors and subcontractors ("~~Responsible Contractors~~"~~ (defined below) who provide building operations and construction services (collectively, "Services") to real estate properties ~~wholly owned by the Fund~~and infrastructure assets held by OPERF. Selection of Responsible Contractors should ~~**be consistent with**~~meet fiduciary responsibilities to Fund beneficiaries, ~~**particularly the obligations of maximizing**~~specifically, the obligation to maximize investment returns ~~**while exercising**~~and exercise appropriate prudence.

This Policy seeks to ensure that Responsible Contractors will be selected based upon their ability to provide Services of appropriate quality at ~~reasonable expense~~a fair price with minimal operational risk, thereby prudently maximizing the value of OPERF real estate properties and infrastructure assets.

~~Purpose and Goals~~Purpose and Goals

~~To guide the selection of contractors and subcontractors providing building operations and construction services to real estate properties wholly owned by OPERF.~~

The Oregon Investment Council ("OIC") is keenly interested in the quality and performance of its real estate and infrastructure investment managers ("Advisors"), their contractors, and subcontractors, including the quality and performance of Responsible Contractors in carrying out the Services. The OIC expects such Advisors, contractors, and subcontractors to utilize Responsible Contractors whenever possible, because it believes that a local, diverse, adequately compensated, and well-trained workforce safely delivers high quality products and services. This, in turn, improves the long term growth of the real estate and infrastructure investments in the OPERF portfolio, and supports the fiduciary responsibility to deliver sustainable returns for Fund beneficiaries. Within the context of this fiduciary duty to plan participants, this Policy is intended to guide Advisors, contractors and subcontractors in the selection of Responsible Contractors who may provide Services to Applicable Investments (as defined herein).

Applicability

Classified represented, management service, unclassified executive service.

Authority

ORS Chapter 293.

POLICY PROVISIONS

~~Definitions~~

Policy Statements

I. DEFINITIONS

Applicable Investments: Applicable Investments are defined as real estate and infrastructure investments where OPERF holds at least a 51% ownership interest, and is able to exercise complete control of the investment asset through the investment vehicle. For real estate and infrastructure investments in which the aggregate holdings of OPERF are less than a 51% ownership interest, only Articles I through IV shall apply, although the OIC strongly encourages all managers to comply with the entire Policy.

This policy specifically excludes all other types of investments, including mezzanine debt, hybrid debt, international investments, secondary funds, and indirect, specialty and mortgage investments lacking equity features, and their respective advisors.

Responsible Contractor: A contractor or subcontractor that provides goods or services to ~~the Oregon Investment Council (OIC) in a manner that is consistent with the fiduciary duties owed by the OIC to the Fund~~real estate and infrastructure Advisors, in compliance with applicable law. ~~A Responsible Contractor~~The term "Responsible Contractor" does not include a contractor debarred by, or whose principal officer is debarred by, a municipal, state, or federal government. A Responsible Contractor is licensed in good standing to do business in the state in which it operates, and is distinguished by qualities such as capacity, experience, industry reputation, honesty, integrity, responsiveness, dependability, ~~and its~~respect for labor laws and regulations, and appropriate treatment of and relations with its employees, including ~~payment of fair wages and benefits. What constitutes "fair wages" and "fair benefits" depends~~providing a workplace free of harassment, and payment of adequate compensation. "Adequate compensation" includes area standard, or "fair," wages and benefits, including, but not limited to, employer-paid family health care coverage, retirement benefits, and state registered apprenticeship programs. "Fair wages" and "fair benefits" depend upon the circumstances in each ~~case, and may include a consideration of wages and benefits paid on comparable real estate projects, local market factors, the nature of the project (e.g., residential or commercial, public or private), comparable job or trade classifications, and the scope and complexity of services provided. This Policy does not require that "prevailing wages" be paid in order to satisfy the requirement that a Responsible Contractor treat its employees fairly~~market. In markets where a majority of the market in the construction trade or building service sector is subject to a collective bargaining agreement with a labor organization, "fair wages" and "fair benefits" will be measured by the applicable master collective bargaining agreement.

~~Policy Statements~~

~~I. GENERAL STATEMENTS~~

~~This Policy recognizes the statutory right of employees to representation and expects its managers, and contractors and subcontractors retained by its managers, to comply with federal and state laws that protect those rights in the event of a legitimate attempt by a labor organization to organize workers~~

~~employed by contractors or subcontractors retained by the manager.~~

~~This Policy encourages a broad outreach and, where appropriate, competitive bidding in the selection of Responsible Contractors. OPERF advisors, managers and their agents should contact local trades as well as others to suggest contractors, which in their view qualify as Responsible Contractors. The advisors, managers and their agents are responsible for gathering and analyzing information relevant to identifying and hiring Responsible Contractors.~~

The OIC supports and encourages adequate compensation and state-registered apprenticeship training for workers employed by its managers, subject to the strict fiduciary principles applicable to a public pension fund.

~~II.~~ II. REQUIREMENTS OF THE RESPONSIBLE ~~CONTRACTING~~CONTRACTOR POLICY

A. ~~A.~~ **Duty of Loyalty**~~:~~. Notwithstanding any other considerations, assets of the Fund shall be managed for the sole and exclusive benefit of ~~**the**~~Fund beneficiaries~~**of the Fund**~~. Fiduciary duties owed to Fund beneficiaries shall take precedence over any other responsibility under this Policy.

B. ~~B. **Prudence**: The OIC, staff, advisors, managers, and their agents are charged with the fiduciary duty of exercising the care, skill, prudence, and diligence appropriate to the task~~**Prudence.** Investment funds shall be invested and the investments of those funds managed as a prudent investor would do, under the circumstances then prevailing and in light of the purposes, terms, distribution requirements and laws governing each investment fund. This standard requires the exercise of reasonable care, skill and caution, and is to be applied to investments not in isolation but in the context of each investment fund's investment portfolio and as a part of an overall investment strategy, which should incorporate risk and return objectives reasonably suitable to the particular investment fund.

C. ~~C.~~ **Competitive Return**~~:~~. To comply with fiduciary duties~~of~~, including loyalty and prudence, all investments and services must be made and managed in a manner that maximizes a ~~prudently~~competitive, risk-adjusted return.

~~D. **Competitive Bidding**: Responsible Contractors should be selected through a competitive bidding and selection process in order to encourage competition and to actively seek bids from best-qualified providers. This bid invitation process should include reasonable notification and be distributed to a broad spectrum of potential bidders. In reviewing submitted bids, advisors, managers, and their agents, as applicable, should consider appropriate factors consistent with this Policy. Competitive bidding is not required if advisors, managers, or their agents reasonably determine that a competitive bidding process would be infeasible or otherwise inconsistent with their fiduciary obligations.~~

~~E.~~ **D. Compliance with Laws**~~:~~. Each ~~advisor~~Advisor, property manager, contractor, and subcontractor shall observe all local, state and national laws (including, for example, those pertaining to labor contractors, insurance, withholding taxes, minimum wage, labor relations, health and occupational safety). The practices of wage theft and the use of debarred contractors do not comply with the law.

III. RECOMMENDED PRACTICES OF RESPONSIBLE CONTRACTORS

This Policy supports and strongly encourages:

A. Representation. Compliance with federal and state laws applicable to representation.

B. Competitive Bidding. A competitive bidding and selection process when retaining contractors and subcontractors unaffiliated with a building manager to provide construction, maintenance and services. The purpose of this provision is to encourage fair competition and to actively seek bids from all qualified sources within an area, including those identified as Responsible Contractors.

C. Neutrality. A position of neutrality in the event there is a legitimate attempt by a labor organization to organize workers employed in the construction, maintenance, or operations at a OPERF-owned property or asset in an Applicable Investment. Neutrality, in the context of this Policy, specifically means refraining from taking any action or making any statement that will directly or indirectly state or imply any support for or opposition to the selection by employees of a collective bargaining agent, or preference or opposition to any particular union as a bargaining agent. Nothing in this Policy obligates or prohibits any Advisor, property or asset manager or contractor from entering into private neutrality, labor peace or other lawful agreements with a labor organization seeking to represent, or who currently represents, workers at an Applicable Investment. This Policy does not call for any involvement by any Advisor, property or asset manager or contractor in inter-jurisdictional trade disputes.

D. Training. The provision of employer-paid safety training and state-registered apprenticeship programs by contractors to ensure that all employees have the skills and legal certifications necessary to safely perform assigned work, and to understand best practices in the workplace. This Policy strongly encourages every contractor to draft and adhere to a plan to recruit and employ women, minorities and veterans pursuant to Oregon law.

~~III.~~ IV. MINIMUM CONTRACT SIZE

The Policy shall apply to all ~~operating service~~Applicable Investment-related contracts ~~with~~of a minimum size of $~~25,000 (individually or annually, as applicable) and all construction contracts in excess of $250,000.~~ $100,000. Minimum contract size refers to the total project value of the work being contracted for and not to any disaggregation by trade or task. For example, a $~~25,000~~100,000 contract to paint two buildings in a single office complex would not be treated as two $~~12,500~~50,00 contracts, ~~both~~each below the minimum contract size. Disaggregation designed to evade the requirements of the Policy is not permitted.

V. ~~IV.~~ MONITORING AND ADMINISTRATION .

~~A. **Applicable Investments**: This Policy shall apply to real estate advisors managing real estate investments **solely** for the benefit of the Fund. The Policy **shall not apply** to investments such as hybrid debt, joint ventures, opportunity funds, and other real estate investments where OPERF does not have 100% ownership and/or full control of the investment.~~

~~B. **Responsibilities**:~~ Persons and entities ~~subject to~~in receipt of this Policy shall act in accordance with its terms, including the following:

A. **Staff** will:
~~i. The Investment Division of the Oregon State Treasury will communicate~~ 1. Provide a copy of this Policy to all ~~relevant advisors and exercise~~Advisors of Applicable Investments;
2. Exercise appropriate due diligence as to its implementation by such ~~advisors~~Advisors; and
3. Report on this Policy at a regular meeting of the OIC on an annual basis.

~~ii.~~ B. **Advisors** ~~subject to~~in receipt of this Policy will:
1. ~~1.~~ Communicate this Policy to all property managers~~;~~ providing Services to Applicable Investments; and
2. ~~2.~~ Exercise appropriate due diligence as to its implementation by such property managers~~;~~.

C. ~~iii.~~ **Property managers** ~~subject to~~in receipt of this Policy will:
1. ~~1.~~ Communicate this Policy in bid documents to contractors seeking to secure construction or building service contracts;

2. ~~2.~~ Maintain a list, which should include names, addresses, and telephone numbers of potential Responsible Contractors;

3. ~~3.~~ When ~~appropriate~~possible, use a broadly publicized, competitive bidding process consistent with this Policy in the selection of Responsible Contractors;

4. ~~4.~~ Maintain documentation of successful bidders;~~ and~~

~~5.~~ 5. Provide annual property-level summary reports~~.~~ to Staff;

~~iv.~~

6. Provide a listing for applicable service and construction contracts available for bid for each property or asset under management to all interested parties via prompt electronic notification (a website, email distribution, or other suitable technology, including to the Real Estate Management Tracking System (REMATS) maintained by participating national trades unions). All potential bidders, building and service trade unions and councils, will have access to such electronic notification. Such notice shall be sent as soon as practical prior to the bid due date; and

7. Annually invite input from trade unions/service unions in the development of Responsible Contractor lists.

D. **Contractors** ~~subject to~~in receipt of this Policy will communicate this Policy to subcontractors.

VI. Enforcement.

A. If Staff receives complaints alleging a violation of this Policy, it shall gather information relating to the complaint and forward such information to the Chief Investment Officer and the Director of Compliance. Complaints will be taken seriously. Staff will expect Advisors to provide prompt communication and full information.

B. If Staff becomes aware of a formal determination by a law enforcement or regulatory agency or a court that an Advisor, property or asset manager, or contractor of an Applicable Investment has violated applicable labor laws, regulations, or standards, either directly or by failing to take appropriate steps to prevent or remedy violations and that constitute a violation of this Policy, then Staff will consider all reasonably available remedies and recommend to the Chief Investment Officer and the Director of Compliance any appropriate remedies that they believe will address the violation in a manner consistent with the form of the investment, and that satisfy the fiduciary duties described above.

C. Incidents of non-compliance will be reported to the Chief Investment Officer and the Director of Compliance on a timely basis, and no less than quarterly.

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

Review

Annually.

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 OST 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.

Document comparison by Workshare 9.5 on Tuesday, January 14, 2020 1:49:25 PM

Input:	
Document 1 ID	file://U:\INV 504_ Real Estate Investments_ Responsible Contractor Policy.docx
Description	INV 504_ Real Estate Investments_ Responsible Contractor Policy
Document 2 ID	file://U:\INV 504 - FOR OIC REVIEW APPROVAL.docx
Description	INV 504 - FOR OIC REVIEW APPROVAL
Rendering set	Standard

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

Statistics:	
	Count
Insertions	105
Deletions	72
Moved from	5
Moved to	5
Style change	0
Format changed	0
Total changes	187

INTRODUCTION & OVERVIEW

Summary Policy Statement

This responsible contractor policy (the "Policy") for the Oregon Public Employees Retirement Fund ("OPERF" or "the Fund") is designed to guide, to the extent possible, the selection of Responsible Contractors (defined below) who provide building operations and construction services (collectively, "Services") to real estate properties and infrastructure assets held by OPERF. Selection of Responsible Contractors should meet fiduciary responsibilities to Fund beneficiaries, specifically, the obligation to maximize investment returns and exercise appropriate prudence.

This Policy seeks to ensure that Responsible Contractors will be selected based upon their ability to provide Services of appropriate quality at a fair price with minimal operational risk, thereby prudently maximizing the value of OPERF real estate properties and infrastructure assets.

Purpose and Goals

The Oregon Investment Council ("OIC") is keenly interested in the quality and performance of its real estate and infrastructure investment managers ("Advisors"), their contractors, and subcontractors, including the quality and performance of Responsible Contractors in carrying out the Services. The OIC expects such Advisors, contractors, and subcontractors to utilize Responsible Contractors whenever possible, because it believes that a local, diverse, adequately compensated, and well-trained workforce safely delivers high quality products and services. This, in turn, improves the long-term performance of OPERF's real estate and infrastructure investments, and supports the OIC's fiduciary responsibility to deliver sustainable returns for Fund beneficiaries. Within the context of this fiduciary duty to plan participants, this Policy is intended to guide Advisors, contractors and subcontractors in the selection of Responsible Contractors who may provide Services to Applicable Investments (as defined herein).

Applicability

Classified represented, management service, unclassified executive service.

Authority

ORS Chapter 293.

POLICY PROVISIONS

Policy Statements

I. DEFINITIONS

Applicable Investments: Applicable Investments are defined as real estate and infrastructure investments where OPERF holds at least a 51% ownership interest, and is able to exercise complete control of the investment asset through the investment vehicle. For real estate and infrastructure investments in which the aggregate holdings of OPERF are less than a 51% ownership interest, only Articles I through IV shall apply, although the OIC strongly encourages all Advisors to comply with the entire Policy.

This policy specifically excludes all other types of investments, including mezzanine debt, hybrid debt, international investments, secondary funds, and indirect, specialty and mortgage investments lacking equity features, and their respective advisors.

Responsible Contractor: A contractor or subcontractor that provides goods or services to real estate and infrastructure Advisors, in compliance with applicable law. The term “Responsible Contractor” does not include a contractor debarred by, or whose principal officer is debarred by, a municipal, state, or federal government. A Responsible Contractor is licensed in good standing to do business in the state in which it operates, and is distinguished by qualities such as capacity, experience, industry reputation, honesty, integrity, responsiveness, dependability, respect for labor laws and regulations, and appropriate treatment of and relations with its employees, including providing a workplace free of harassment, and payment of adequate compensation. “Adequate compensation” includes area standard, or “fair,” wages and benefits, including, but not limited to, employer-paid family health care coverage, retirement benefits, and state registered apprenticeship programs. “Fair wages" and "fair benefits" depend upon circumstances in each market. In markets where a majority of the market in the construction trade or building service sector is subject to a collective bargaining agreement with a labor organization, “fair wages” and “fair benefits” will be measured by the applicable master collective bargaining agreement.

The OIC supports and encourages adequate compensation and state-registered apprenticeship training for workers employed by its managers, subject to the strict fiduciary principles applicable to a public pension fund.

II. REQUIREMENTS OF THE RESPONSIBLE CONTRACTOR POLICY

A. Duty of Loyalty. Notwithstanding any other considerations, assets of the Fund shall be managed for the sole and exclusive benefit of Fund beneficiaries. Fiduciary duties owed to Fund beneficiaries shall take precedence over any other responsibility under this Policy.

B. Prudence. Investment funds shall be invested and the investments of those funds managed as a prudent investor would do, under the circumstances then prevailing and in light of the purposes, terms, distribution requirements and laws governing each investment fund. This standard requires the exercise of reasonable care, skill and caution, and is to be applied to investments not in isolation but in the context of each investment fund’s investment portfolio and as a part of an overall investment strategy, which should incorporate risk and return objectives reasonably suitable to the particular investment fund.

C. Competitive Return. To comply with fiduciary duties, including loyalty and prudence, all investments and services must be made and managed in a manner that maximizes a competitive, risk-adjusted return.

D. Compliance with Laws. Each Advisor, property manager, contractor, and subcontractor shall observe all local, state and national laws (including, for example, those pertaining to labor contractors, insurance, withholding taxes, minimum wage, labor relations, health and occupational safety). The practices of wage theft and the use of debarred contractors do not comply with the law.

III. RECOMMENDED PRACTICES OF RESPONSIBLE CONTRACTORS

This Policy supports and strongly encourages the following:

A. Representation. Compliance with federal and state laws applicable to representation.

B. Competitive Bidding. A competitive bidding and selection process when retaining contractors and subcontractors unaffiliated with a building manager to provide construction, maintenance and services. The purpose of this provision is to encourage fair competition and to actively seek bids from all qualified sources within an area, including those identified as Responsible Contractors.

C. Neutrality. A position of neutrality in the event there is a legitimate attempt by a labor organization to organize workers employed in the construction, maintenance, or operations at a OPERF-owned property or asset in an Applicable Investment. Neutrality, in the context of this Policy, specifically means refraining from taking any action or making any statement that will directly or indirectly state or imply any support for or opposition to the selection by employees of a collective bargaining agent, or preference or opposition to any particular union as a bargaining agent. Nothing in this Policy obligates or prohibits any Advisor, property or asset manager or contractor from entering into private neutrality, labor peace or other lawful agreements with a labor organization seeking to represent, or who currently represents, workers at an Applicable Investment. This Policy does not call for any involvement by any Advisor, property or asset manager or contractor in inter-jurisdictional trade disputes.

D. Training. The provision of employer-paid safety training and state-registered apprenticeship programs by contractors to ensure that all employees have the skills and legal certifications necessary to safely perform assigned work, and to understand best practices in the workplace. This Policy strongly encourages every contractor to draft and adhere to a plan to recruit and employ women, minorities and veterans pursuant to Oregon law.

IV. MINIMUM CONTRACT SIZE

The Policy shall apply to all Applicable Investment-related contracts with a minimum size of $ $100,000. Minimum contract size refers to the total project value of the work being contracted for and not to any disaggregation by trade or task. For example, a $100,000 contract to paint two buildings in a single office complex would not be treated as two $50,000 contracts, each below the minimum contract size. Disaggregation designed to evade the requirements of the Policy is not permitted.

V. MONITORING AND ADMINISTRATION

Persons and entities in receipt of this Policy shall act in accordance with its terms, including the following:

A. **Staff** will:

1. Provide a copy of this Policy to all Advisors of Applicable Investments;
2. Exercise appropriate due diligence as to its implementation by such Advisors; and
3. Report on this Policy at a regular meeting of the OIC on an annual basis.

B. **Advisors** in receipt of this Policy will:

1. Communicate this Policy to all property managers providing Services to Applicable Investments; and
2. Exercise appropriate due diligence as to its implementation by such property managers.

C. **Property managers** in receipt of this Policy will:
1. Communicate this Policy in bid documents to contractors seeking to secure construction or building service contracts;
2. Maintain a list, which should include names, addresses, and telephone numbers of potential Responsible Contractors;
3. When possible, use a broadly publicized, competitive bidding process consistent with this Policy in the selection of Responsible Contractors;
4. Maintain documentation of successful bidders;
5. Provide annual property-level summary reports to Staff;
6. Provide a listing for applicable service and construction contracts available for bid for each property or asset under management to all interested parties via prompt electronic notification (a website, email distribution, or other suitable technology, including to the Real Estate Management Tracking System (REMATS) maintained by participating national trades unions). All potential bidders, building and service trade unions and councils, will have access to such electronic notification. Such notice shall be sent as soon as practical prior to the bid due date; and
7. Annually invite input from trade unions/service unions in the development of Responsible Contractor lists.

D. **Contractors** in receipt of this Policy will communicate this Policy to subcontractors.

VI. Enforcement

A. If Staff receives complaints alleging a violation of this Policy, it shall gather information relating to the complaint and forward such information to the Chief Investment Officer and the Director of Compliance. Complaints will be taken seriously. Staff will expect Advisors to provide prompt communication and full information.

B. If Staff becomes aware of a formal determination by a law enforcement or regulatory agency or a court that an Advisor, property or asset manager, or contractor of an Applicable Investment has violated applicable labor laws, regulations, or standards, either directly or by failing to take appropriate steps to prevent or remedy violations and that constitute a violation of this Policy, then Staff will consider all reasonably available remedies and recommend to the Chief Investment Officer and the Director of Compliance any appropriate remedies that they believe will address the violation in a manner consistent with the form of the investment, and that satisfy the fiduciary duties described above.

C. Incidents of non-compliance will be reported to the Chief Investment Officer and the Director of Compliance on a timely basis, and no less than quarterly.

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

Review

Annually.

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 OST 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 205-

INTRODUCTION & OVERVIEW

Summary Policy Statement

This policy articulates the guidelines within which the Oregon Investment Council ("OIC" or "Council") considers existing and potential investments. The statutory standards of prudence and productivity are the *only* standards that apply to the investment of the Oregon Public Employees Retirement Fund (“OPERF”) and all other Oregon public trust funds. ~~The OIC recognizes its obligation to adhere to applicable law and that political, social and legal circumstances in various nations and regions of the world may impact the productivity and prudence of investments made in or connected with those nations and regions.~~

Purpose and Goals

The OIC ~~can~~may only consider investments that meet the productivity objectives of Oregon Revised Statutes (ORS) 293.721 and the prudence standards of ORS 293.726. Each proposed investment is separately evaluated based on its unique structure and potential in accordance with standard OIC and Oregon State Treasury ("OST") investment criteria. The standard stated in 293.721(1) "requires the exercise of reasonable care, skill and caution, and is to be applied to investments not in isolation but in the context of each investment fund's investment portfolio and as a part of an overall investment strategy, which should incorporate risk and return objectives reasonably suitable to the particular investment fund." However, the OIC must adhere to applicable law, and recognizes that political, social and legal circumstances in various nations and regions of the world may impact the productivity and prudence of investments made in or connected with those nations and regions. This policy provides guidance for the OIC and OST staff in reconciling these considerations.

Applicability

Classified represented, management service, unclassified executive service.

Authority

ORS 293.721, 292.726

~~The OIC can only consider investments that meet the productivity objectives of Oregon Revised Statutes (ORS) 293.721 and the prudence standards of ORS 293.726. Each proposed investment is separately evaluated based on its unique structure and potential in accordance with standard OIC and Oregon State Treasury ("OST") investment criteria. The standard stated in 293.721(1) "requires the exercise of reasonable care, skill and caution, and is to be applied to investments not in isolation but in the context of each investment fund's investment portfolio and as a part of an overall investment strategy, which should incorporate risk and return objectives reasonably suitable to the particular investment fund."~~

~~ORS 293.721 states, in part: "Moneys in the investment funds shall be invested and reinvested to achieve the investment objective of the investment funds, which is to make the moneys as productive as possible." Under ORS 293.726 (1) and (2), the OIC and its investment officer (the "Treasurer" or OST) are also required to invest with prudence, reasonable care, skill and caution. Under subsection (4), the OIC and OST must adhere to the fundamental fiduciary duties of loyalty and impartiality.~~

POLICY PROVISIONS

Definitions

Company means any sole proprietorship, organization, firm, association, corporation, utility, partnership, venture, public franchise, franchisor, franchisee or its wholly-~~-~~owned subsidiary that exists for profit-making purposes or otherwise to secure economic advantage.

Invest means to commit funds or other assets to a company. **Invest** includes making a loan or other extension of credit to a company, or owning or controlling a share or interest in a company or a bond or other debt instrument issued by a company.

Investment means the commitment of funds or other assets to a company for an interest in the company. **Investment** includes the ownership or control of a share or interest in a company or of a bond or other debt instrument issued by a company.

~~**Iran** means the Islamic Republic of Iran.~~

Scrutinized company means any company that currently has an investment: 1) in the Republic of Sudan and any territory under the administration, legal or illegal, of Sudan, including but not limited to the Darfur region, from which federal law specifically allows public pension plans to divest; or 2) in the energy sector of the Islamic Republic of Iran as described in section 202(c)(1) of the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 (P.L. 111-195), as further determined by the United States Department of State.

~~**Sudan** means the Republic of the Sudan and any territory under the administration, legal or illegal, of Sudan, including but not limited to the Darfur region.~~

Policy Statements

I. **Consideration of Investments**

The ~~Council~~OIC's statutory duties, as defined in ORS 293.721, to formulate and review investment policies consistent with the productivity objectives set forth in ORS 293.721 and the prudence standards set forth in ORS 293.726, shall take precedence over any other consideration. The ~~Council~~OIC's implementation of these objectives and standards can be stated as follows:

A. Consideration of investments is limited to those which, when judged solely on the basis of economic value, enhance portfolio returns on a risk-adjusted basis;

B. Any benefit an investment may confer, other than meeting the statutory standards of prudence and productivity, is not and shall not be considered the responsibility or within the control of OST, the ~~Council~~OIC, or its agents;

C. For allocation purposes, proposed investments are categorized by asset class and subject to the ~~Council~~OIC's asset allocation guidelines, ranges, and targets;

D. Proposed investments shall be consistent with the ~~Council~~OIC's desired level of portfolio diversification as defined by the OIC's approved mix of asset types and allocations to different economic, industry, and geographic exposures;

E. Investments shall at all times conform to the laws, requirements, policies, and procedures governing the ~~Council~~OIC, OST, and OPERF;

F. Because investments are part of an ~~actively~~ actively-managed portfolio, full due diligence is exercised. This due diligence, conducted by OST staff, designated private managers, consultants, and/or advisors, addresses, at a minimum, (1) legal sufficiency, (2) investment sufficiency, and (3) the identification of any potential conflicts of interest. Only those investment proposals that comply with the ~~Council~~OIC's prescribed proposal format shall be considered. The costs associated with all legal and financial review for each investment proposal shall be addressed pursuant to policy consistent with similar investment types. Where no such policies exist, these costs shall be borne entirely by the proposer. Furthermore, the proposer shall provide all information that the ~~Council~~OIC, OST staff and designated private managers, consultants and/or advisors deem necessary to perform appropriate levels of due diligence and evaluation. If the information is not provided within a specified, reasonable time frame, the ~~Council~~OIC, OST staff, or designated private managers, consultants, and/or advisors may discontinue their individual and collective due diligence and evaluation considerations. All investments that are approved by the ~~Council~~OIC shall be subject to a continuing obligation to disclose certain requested information;

G. Investments shall be valued at current market prices and will be subject to performance measurement at least annually;

H. The ~~Council~~OIC carefully considers investment structures such as partnerships and joint ventures when evaluating an initial investment and ongoing participation with a sponsoring entity. The ~~Council~~OIC will only consider those structures that appropriately align financial rewards and risk among all other partners/participants. OST staff or designated private managers, consultants and/or advisors shall consider and recommend to the ~~Council~~OIC structural features to mitigate investment risks, losses, and liabilities such as federal government credit insurance, personal guarantees, corporate guarantees, cross-corporate collateralization, and other such mechanisms. Furthermore, only those investment proposals that stipulate explicit exit strategies and define the means by which investment returns may be realized shall be considered;

I. Due to resource constraints, investment proposals that may impose unreasonable administrative burdens directly upon the ~~Council~~OIC, OST investment staff, or the State Treasurer shall not be considered;

J. All persons or firms managing, evaluating, or monitoring investments on behalf of the ~~Council~~OIC shall act in a fiduciary capacity when giving advice or information to the ~~Council~~OIC and OST staff;

K. The OIC recognizes that excellent investment opportunities may exist within Oregon.~~,~~ Prudent, local investments may satisfy the exclusive benefit rule for pension plan participants, as well as provide the collateral benefit of encouraging economic development within the state. Accordingly, whenever diversification and quality standards permit, the OIC will endeavor to hire local partners. The risk, return, and liquidity characteristics of investments in Oregon must be consistent with (i.e., meet or exceed) the evaluation criteria, legal standards, and investment policies that govern all OIC investment activity. ~~but specific decisions regarding whether or not investments are made in Oregon-based companies or real property are delegated to third-party managers selected by the OIC;~~

~~L. The Council recognizes that prudent, local investments may satisfy the exclusive benefit rule for pension plan participants, as well as provide the collateral benefit of encouraging economic development within the state. Accordingly, whenever diversification and quality standards permit, the Council will endeavor to hire local partners; and~~

~~The methodology that the Council applies to all its investments also applies and will be applied to investment opportunities within Oregon. Consequently, the risk, return, and liquidity characteristics of investments in Oregon must be consistent with (i.e., meet or exceed) the evaluation criteria, legal standards, and investment policies that govern all Council investment activity.~~

II. **Divestiture Initiatives**

While social, political and legal circumstances material to prudent and productive investment activities should receive appropriate consideration in making and maintaining investments, such factors may not be given undue weight (i.e., weight disproportionate to their impact upon economic prudence and productivity) when implementing the OIC's and OST's investment responsibility to a) act with prudence to make the moneys under their care as productive as possible and b) adhere to their fundamental fiduciary duties of loyalty and impartiality.

The OIC and OST are subject to, and will comply with, applicable federal and state law.

A. The federal government of the United States of America (the "United States") has preeminent governmental power for those subject to its jurisdiction with respect to the conduct of foreign policy and interstate commerce. When the United States sanctions or restricts investment by subject entities in other nations, as when it regulates interstate commerce, the OIC requires all of its business partners, including investment managers, to comply with those regulations, as applicable. The OIC also expects companies in which it invests, that are subject to such regulations, to comply with those regulations.

B. The OIC requires its investment managers to consider all material risks and benefits when making an investment. Material risks or benefits may include those factors that arise from the social, political or legal circumstances affecting regions or governments with or within which companies considered for investment conduct business.

~~C. OST will maintain a dialogue with the OIC's proxy voting agent(s) and investment managers to ascertain how ballot issues and investment decisions related to international investments and compliance with government regulations are addressed.~~

~~D.~~C. When not inconsistent with the policies described above, the OIC prefers that its managers avoid holdings in companies doing business with or in countries where such conduct is prohibited if performed by companies subject to the jurisdiction of the United States.

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

Review

Annually.

Feedback

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INV 205

INTRODUCTION & OVERVIEW

Summary Policy Statement

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Purpose and Goals

The OIC may only consider investments that meet the productivity objectives of Oregon Revised Statutes (ORS) 293.721 and the prudence standards of ORS 293.726. Each proposed investment is separately evaluated based on its unique structure and potential in accordance with standard OIC and Oregon State Treasury ("OST") investment criteria. The standard stated in 293.721(1) "requires the exercise of reasonable care, skill and caution, and is to be applied to investments not in isolation but in the context of each investment fund's investment portfolio and as a part of an overall investment strategy, which should incorporate risk and return objectives reasonably suitable to the particular investment fund." However, the OIC must adhere to applicable law, and recognizes that political, social and legal circumstances in various nations and regions of the world may impact the productivity and prudence of investments made in or connected with those nations and regions. This policy provides guidance for the OIC and OST staff in reconciling these considerations.

Applicability

Classified represented, management service, unclassified executive service.

Authority

ORS 293.721, 292.726

POLICY PROVISIONS

Definitions

Company means any sole proprietorship, organization, firm, association, corporation, utility, partnership, venture, public franchise, franchisor, franchisee or its wholly-owned subsidiary that exists for profit-making purposes or otherwise to secure economic advantage.

Invest means to commit funds or other assets to a company. **Invest** includes making a loan or other extension of credit to a company, or owning or controlling a share or interest in a company or a bond or other debt instrument issued by a company.

Investment means the commitment of funds or other assets to a company for an interest in the company. **Investment** includes the ownership or control of a share or interest in a company or of a bond or other debt instrument issued by a company.

Scrutinized company means any company that currently has an investment: 1) in the Republic of Sudan and any territory under the administration, legal or illegal, of Sudan, including but not limited to the Darfur region, from which federal law specifically allows public pension plans to divest; or 2) in the energy sector of the Islamic Republic of Iran as described in section 202(c)(1) of the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 (P.L. 111-195), as further determined by the United States Department of State.

Policy Statements

I. **Consideration of Investments**
The OIC's statutory duties, as defined in ORS 293.721, to formulate and review investment policies consistent with the productivity objectives set forth in ORS 293.721 and the prudence standards set forth in ORS 293.726, shall take precedence over any other consideration. The OIC's implementation of these objectives and standards can be stated as follows:

A. Consideration of investments is limited to those which, when judged solely on the basis of economic value, enhance portfolio returns on a risk-adjusted basis;
B. Any benefit an investment may confer, other than meeting the statutory standards of prudence and productivity, is not and shall not be considered the responsibility or within the control of OST, the OIC, or its agents;
C. For allocation purposes, proposed investments are categorized by asset class and subject to the OIC's asset allocation guidelines, ranges, and targets;
D. Proposed investments shall be consistent with the OIC's desired level of portfolio diversification as defined by the OIC's approved mix of asset types and allocations to different economic, industry, and geographic exposures;
E. Investments shall at all times conform to the laws, requirements, policies, and procedures governing the OIC, OST, and OPERF;
F. Because investments are part of an actively-managed portfolio, full due diligence is exercised. This due diligence, conducted by OST staff, designated private managers, consultants, and/or advisors, addresses, at a minimum, (1) legal sufficiency, (2) investment sufficiency, and (3) the identification of any potential conflicts of interest. Only those investment proposals that comply with the OIC's prescribed proposal format shall be considered. The costs associated with all legal and financial review for each investment proposal shall be addressed pursuant to policy consistent with similar investment types. Where no such policies exist, these costs shall be borne entirely by the proposer. Furthermore, the proposer shall provide all information that the OIC, OST staff and designated private managers, consultants and/or advisors deem necessary to perform appropriate levels of due diligence and evaluation. If the information is not provided within a specified, reasonable time frame, the OIC, OST staff, or designated private managers, consultants, and/or advisors may discontinue their individual and collective due diligence and evaluation considerations. All investments that are approved by the OIC shall be subject to a continuing obligation to disclose certain requested information;
G. Investments shall be valued at current market prices and will be subject to performance measurement at least annually;
H. The OIC carefully considers investment structures such as partnerships and joint ventures when evaluating an initial investment and ongoing participation with a sponsoring entity. The OIC will only consider those structures that appropriately align financial rewards and risk among all other partners/participants. OST staff or designated private managers, consultants and/or advisors shall consider and recommend to the OIC structural features to mitigate investment risks, losses, and liabilities such as federal government credit insurance, personal guarantees, corporate guarantees, cross-corporate collateralization, and other such mechanisms. Furthermore, only those investment proposals that stipulate explicit exit strategies and define the means by which investment returns may be realized shall be considered;
I. Due to resource constraints, investment proposals that may impose unreasonable administrative burdens directly upon the OIC, OST investment staff, or the State Treasurer shall not be considered;
J. All persons or firms managing, evaluating, or monitoring investments on behalf of the OIC shall act in a fiduciary capacity when giving advice or information to the OIC and OST staff;
K. The OIC recognizes that excellent investment opportunities may exist within Oregon. Prudent, local investments may satisfy the exclusive benefit rule for pension plan participants, as well as provide the collateral benefit of encouraging economic development within the state. Accordingly,

whenever diversification and quality standards permit, the OIC will endeavor to hire local partners. The risk, return, and liquidity characteristics of investments in Oregon must be consistent with (i.e., meet or exceed) the evaluation criteria, legal standards, and investment policies that govern all OIC investment activity.

II. **Divestiture Initiatives**

While social, political and legal circumstances material to prudent and productive investment activities should receive appropriate consideration in making and maintaining investments, such factors may not be given undue weight (i.e., weight disproportionate to their impact upon economic prudence and productivity) when implementing the OIC's and OST's investment responsibility to a) act with prudence to make the moneys under their care as productive as possible and b) adhere to their fundamental fiduciary duties of loyalty and impartiality.

The OIC and OST are subject to, and will comply with, applicable federal and state law.

A. The federal government of the United States of America (the "United States") has preeminent governmental power for those subject to its jurisdiction with respect to the conduct of foreign policy and interstate commerce. When the United States sanctions or restricts investment by subject entities in other nations, as when it regulates interstate commerce, the OIC requires all of its business partners, including investment managers, to comply with those regulations, as applicable. The OIC also expects companies in which it invests, that are subject to such regulations, to comply with those regulations.
B. The OIC requires its investment managers to consider all material risks and benefits when making an investment. Material risks or benefits may include those factors that arise from the social, political or legal circumstances affecting regions or governments with or within which companies considered for investment conduct business.
C. When not inconsistent with the policies described above, the OIC prefers that its managers avoid holdings in companies doing business with or in countries where such conduct is prohibited if performed by companies subject to the jurisdiction of the United States.

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

Review

Annually.

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 OST 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.

Appendix A

Sudan and Iran Divestiture Procedures

January, 2020

This ~~policy~~ procedure document establishes the State Treasurer's role in identifying and divesting from scrutinized companies ~~in Sudan and Iran,~~ and for meeting ~~parameters for annual~~ reporting requirements in Oregon law~~to the State Legislature~~. ~~This policy, including the reporting requirement,~~

Procedures

These procedures will be implemented when, and if, the Legislature appropriates to the State Treasurer sufficient moneys to execute the divestment programs codified in Oregon law~~the State Treasurer available for implementation of this policy~~, not including OPERF assets or moneys described by ORS 293.718.

1. **Identification of Scrutinized Companies.**
   The State Treasurer's staff may engage the services of a specialized research firm to identify scrutinized companies, in accordance with Oregon law, based on its professional judgment.

2. **If a research firm is retained:**
   A. The State Treasurer's staff will work with the retained research firm to review and verify a list of scrutinized companies;

   B. The State Treasurer's staff will provide external managers with the list of scrutinized companies and any updates to the list, as they are identified and verified by the research firm working with the State Treasurer's staff and remind them of the fiduciary parameters within which they may take divestment action in accordance with such notice;

   C. External managers shall advise scrutinized companies that they may comment in writing to the State Treasurer to dispute the identification of the company as a scrutinized company; and

   D. If the State Treasurer determines that a company is not a scrutinized company, the State Treasurer shall notify the relevant manager of the State Treasurer's determination.

3. **Proxy Voting**. OST staff will ~~continue a dialogue with~~monitor its proxy voting agent to ensure that ballot issues related to the disclosure of Sudan investments are properly addressed.

4. **Reporting**. On or before March 15 of each year, the State Treasurer shall make available on the State Treasurer's website a summary of actions taken during the previous year in accordance with ORS 293.811 to 293.817. The summary shall include a list of identified scrutinized companies.

Appendix A

Sudan and Iran Divestiture Procedures

January, 2020

This procedure document establishes the State Treasurer's role in identifying and divesting from scrutinized companies and for meeting reporting requirements in Oregon law.

Procedures

These procedures will be implemented when, and if, the Legislature appropriates to the State Treasurer sufficient moneys to execute the divestment programs codified in Oregon law, not including OPERF assets or moneys described by ORS 293.718.

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TAB 6 – Real Estate Portfolio Review

OPERF

Morgan Stanley

INVESTMENT MANAGEMENT

Disruption in Real Estate

Tony Charles

March 2020

Legal Disclaimer

General. The information contained herein refers to research, but does not constitute an equity research report and is not from Morgan Stanley Equity Research. Unless otherwise indicated, the views expressed are those of the research and strategy team of Morgan Stanley Real Estate Investing ("MSREI") and may differ from those of Morgan Stanley Equity Research and other Morgan Stanley affiliates (including others within MSREI). These views may also differ from investment strategies implemented by MSREI now or in the future. The information (including facts, opinions, estimates or projections) contained herein is based on financial, economic, market and other conditions prevailing as of the date hereof. As such, it remains subject to change at any time. By providing such information, MSREI assumes no obligation to provide any update or supplement to such information following the date hereof. Although reasonable care has been taken to ensure that the information (including facts, opinions, estimates or projections) contained herein is accurate, complete and fair, no warranty, express or implied, is made as to the accuracy, completeness or fairness of such information. Certain economic and market information contained herein may have been obtained from third parties sources. While MSREI believes that such sources are reliable, neither MSREI nor any other Morgan Stanley affiliate has independently verified such information or assumes any responsibility or liability for the accuracy, completeness or fairness of such information or any omission of information.

Past Performance. Past performance is not indicative of future results. Any projected or target returns contained herein are being provided for informational purposes only. Investments in real estate may result in the loss of principal. There can be no assurance that any projected or target returns, or any returns at all, will be achieved.

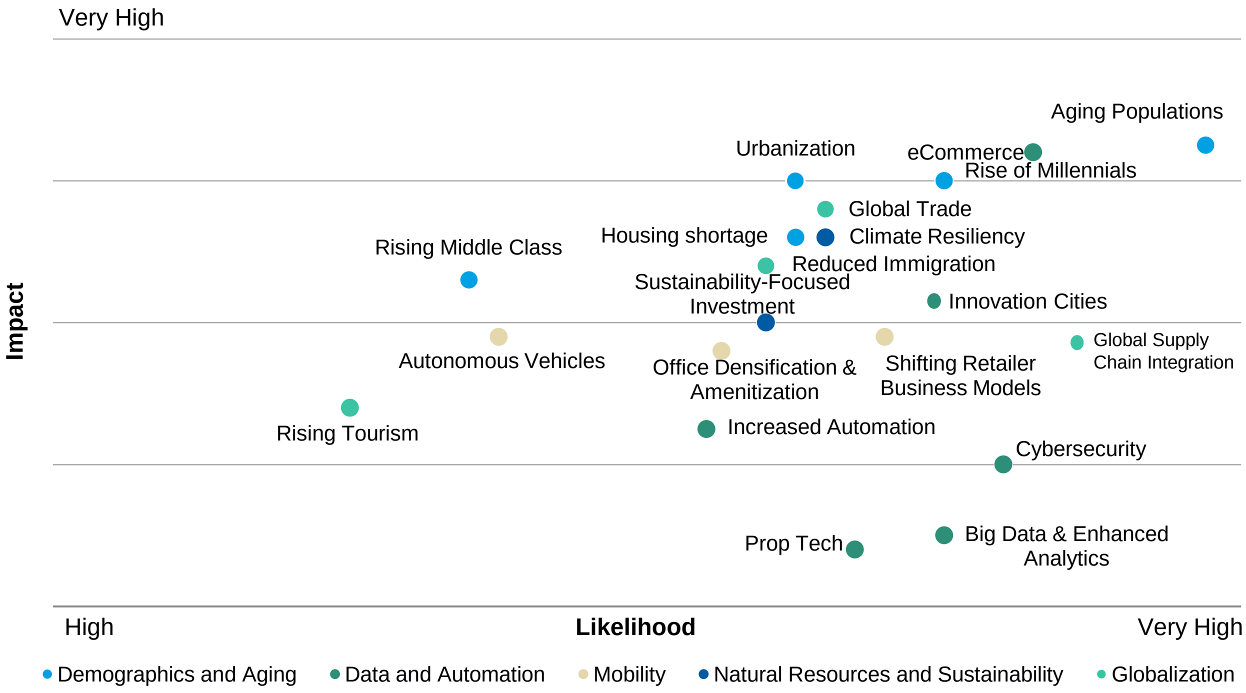
Forward-Looking Statements. These materials contain projections and other forward-looking statements. Any statements that are not historical facts are forward-looking statements that involve risks and are inherently uncertain. Sentences or phrases that use such words as "believe," "anticipate," "plan," "may," "hope," "can," "will," "expect," "should," "goal," "objective," "projected" and similar expressions also identify forward-looking statements, but their absence does not mean that a statement is not forward-looking. Portfolio "profiles" by property type, location, investment structure, leverage or return for blind pool or partially blind pool products should be treated as projections. Projections and other forward-looking statements, including statements regarding MSREI's assessment of the market, are by their nature uncertain insofar as actual realized returns or other projected results can change quickly based on, among other things, unexpected market movements, changes in interest rates, legislative or regulatory developments, errors in strategy execution, acts of God and other asset-level developments. There can be no assurance that projections and other forward-looking information will not change based on subsequent developments and without further notice, and no assurance can be given as to outcome. You should not to place undue reliance on forward-looking statements, including forecasts and projections, and statements regarding the assessment of the market, which speak only as of the date referenced herein.

Limitations on Use/Distribution in Certain Jurisdictions. Offers and sales of interests in any fund referred to herein may not be registered under the laws of any jurisdiction. The distribution of these materials in certain jurisdictions may be restricted by law and persons into whose possession these materials come should inform themselves about, and observe, any such restrictions. Any failure to comply with these restrictions may constitute a violation of the laws of any such jurisdiction.

Investment Risk. Investments in real estate are speculative and include a high degree of risk. Investors could lose their entire investment. Investments in real estate are highly illiquid, and are only suitable for long-term investors willing to forgo liquidity and put capital at risk for an indefinite period of time. Investments in real estate depend on specialized management skills, may not be diversified and may be subject to more abrupt or erratic price movements than the overall securities market. Other risks associated with investments in real estate may include the following: fluctuations in the value of underlying properties; defaults by borrowers or tenants; market saturation; changes in general and local economic conditions; decreases in market rates for rents; increases in competition, property taxes, capital expenditures or operating expenses; and other economic, political or regulatory occurrences affecting the real estate industry.

Consultation of Advisors. These materials do not constitute legal, tax, financial or other advice. The legal, tax and other consequences of any proposed transaction may differ for each recipient as a result of, among other things, the particular financial situation of, and the laws and regulations applicable to, each recipient. You should consult your own legal counsel, accountants and other advisors regarding the information contained herein and the transactions described hereby.

Long Term Structural Trends



Major Disruptors

1. Globalization
2. Aging Populations
3. Rising Millennials
4. Housing Shortage
5. Innovation Cities
6. Densification and Amenitization
7. Transportation Revolution
8. eCommerce
9. Shifting Retail Business Models
10. Climate Change

Source: MSREI Strategy, as at January 2020

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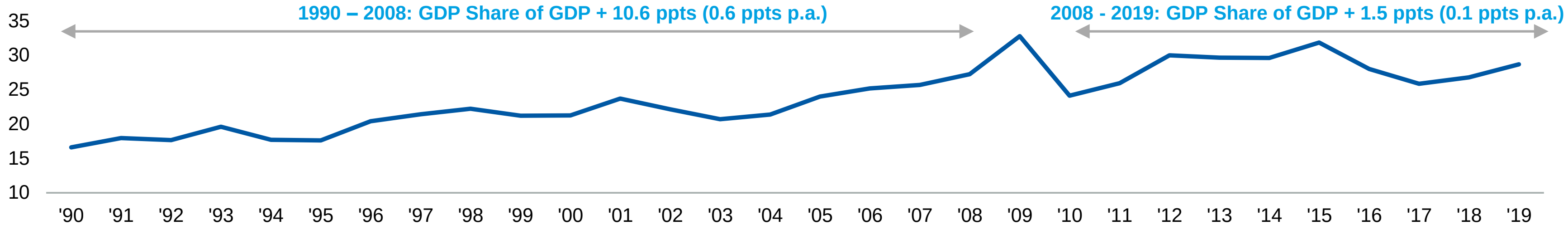
Globalization

Global Trade Integration Stalling

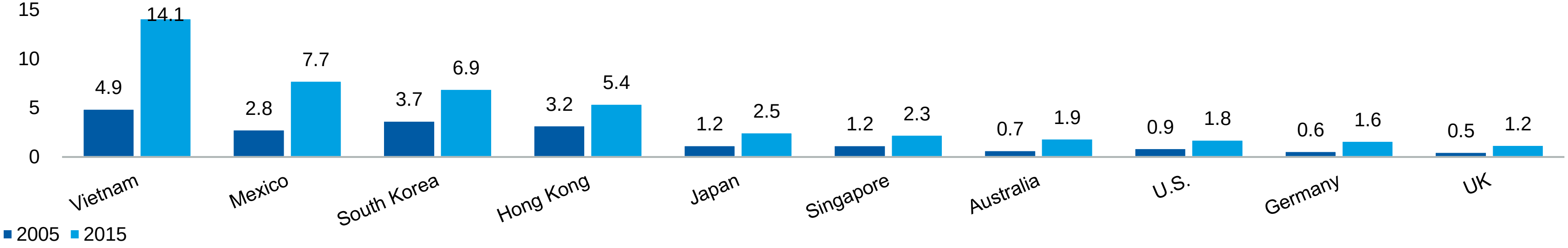
Imports as a % of GDP



Source: World Bank, MSREI Strategy, data as of February 2020

China is a Key Supplier in the Global Value Chain

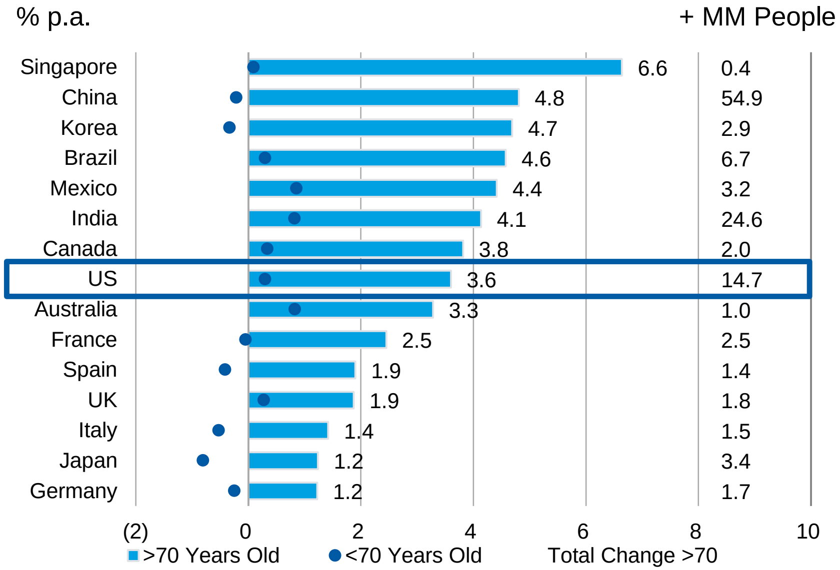
China Domestic Value Added Share of Exports, %



Source: OECD, World Trade Organization, MSREI Strategy, data as of February 2020

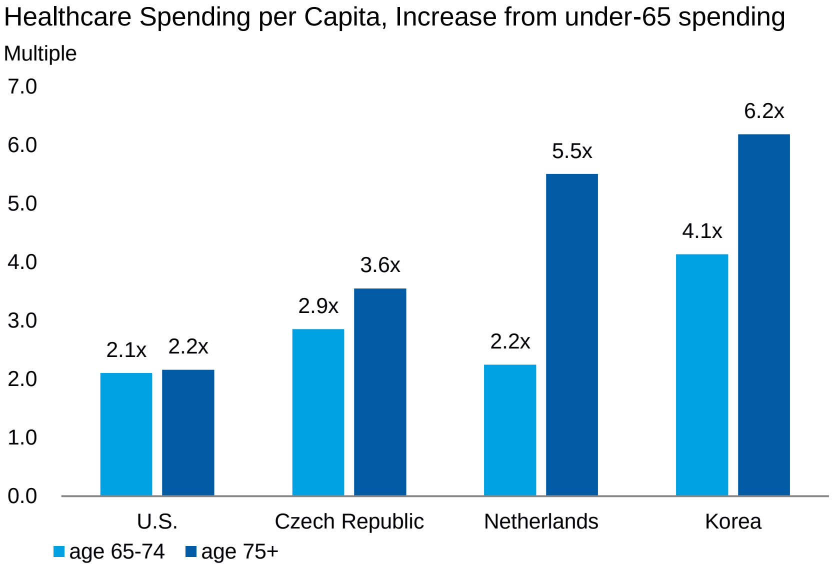
Aging Population Driving Healthcare Demand

2018-2028E, Growth in 70+ Year Old Population



Source: UN Population Division, World Population Prospects, as of May 2019

Aging Populations Consuming More Healthcare



Source: OECD Health Spending Statistics, Bureau of Labor Statistics Consumer Expenditure Survey, MSREI Strategy calculations as of May 2019

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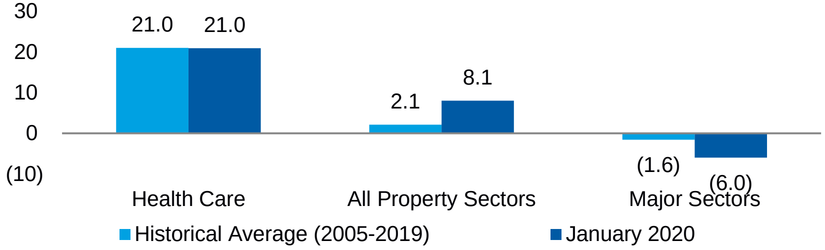
Strong Performance for Healthcare Real Estate

Public Market Pricing, Premium to NAV

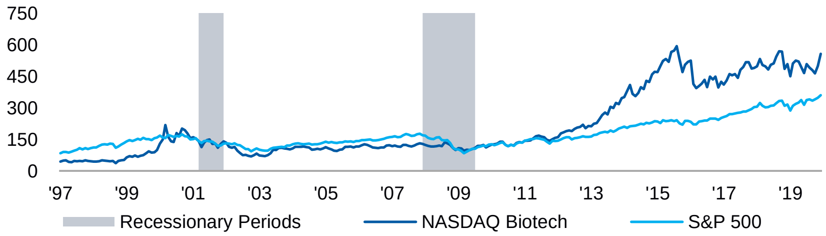
U.S. REITs, as of December, 2019



Source: Green Street Advisors, MSREI Strategy, as of January 2020

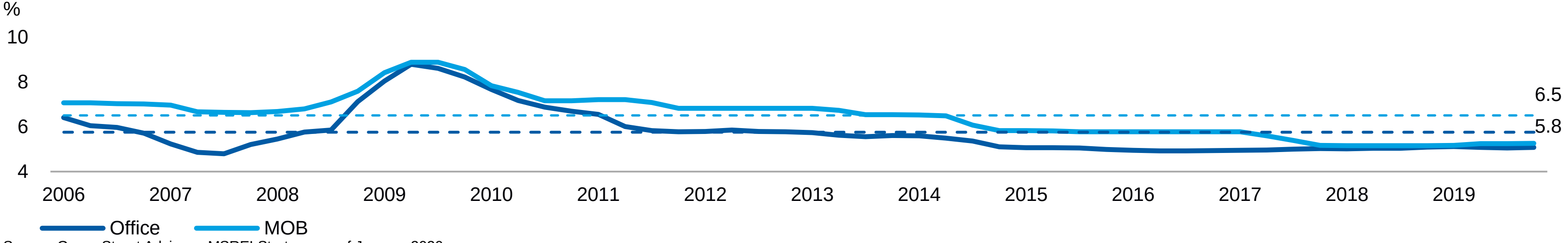
NASDAQ Biotech Index vs S&P 500

With NASDAQ Composite and S&P 500
Index, = 100 in April 2009



Source: NASDAQ, S&P Down Jones Indices, Moody's Analytics, MSREI Strategy, data through January 2020

Healthcare and Office Nominal Cap Rates



Source: Green Street Advisors, MSREI Strategy, as of January 2020

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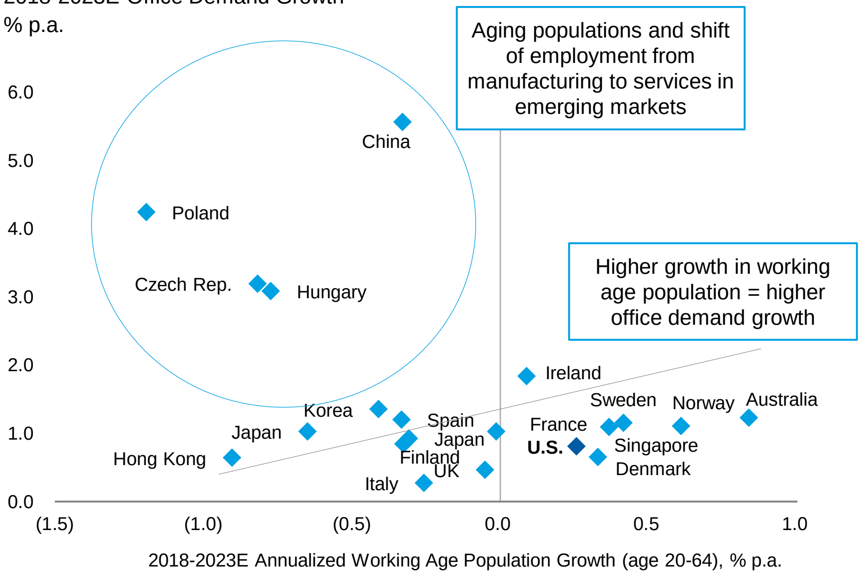
Aging Likely to Reduce Working Age Population and Office Demand

Working Age Population Growth and Office Demand Growth

2018-2023E Office Demand Growth

% p.a.

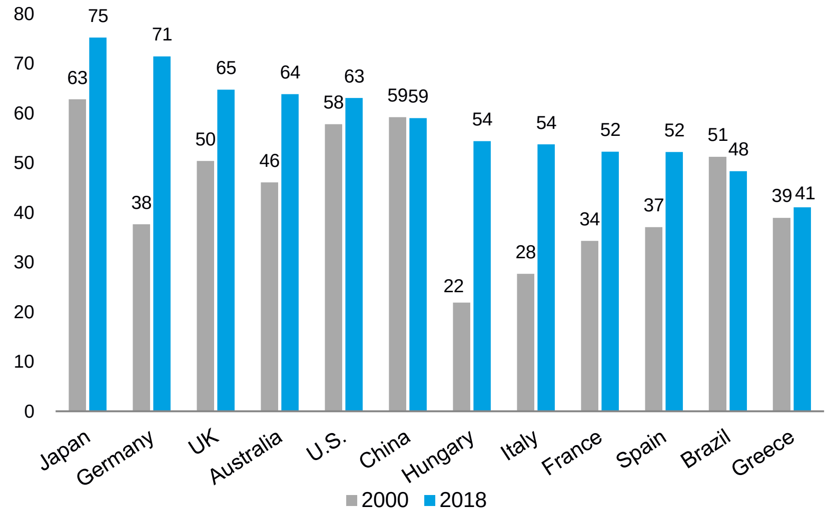


Source: PMA, CoStar, Oxford Economics, MSREI Strategy, as of May 2019

With Age 55-64 Cohort Staying in the Workforce Longer

Age 55-64 Employment Rate, 2000 and 2018

%



Source: OECD, Pensions at a Glance 2019, MSREI Strategy, as of January 2020

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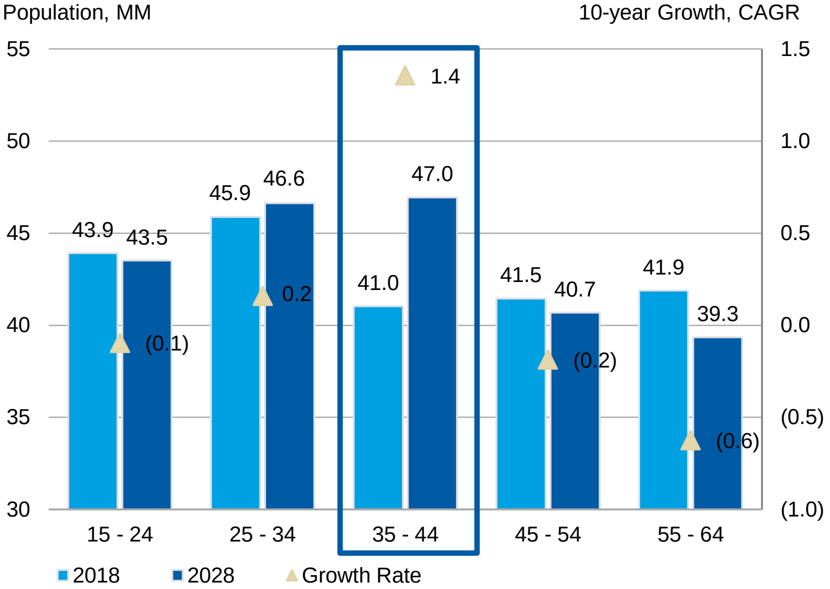
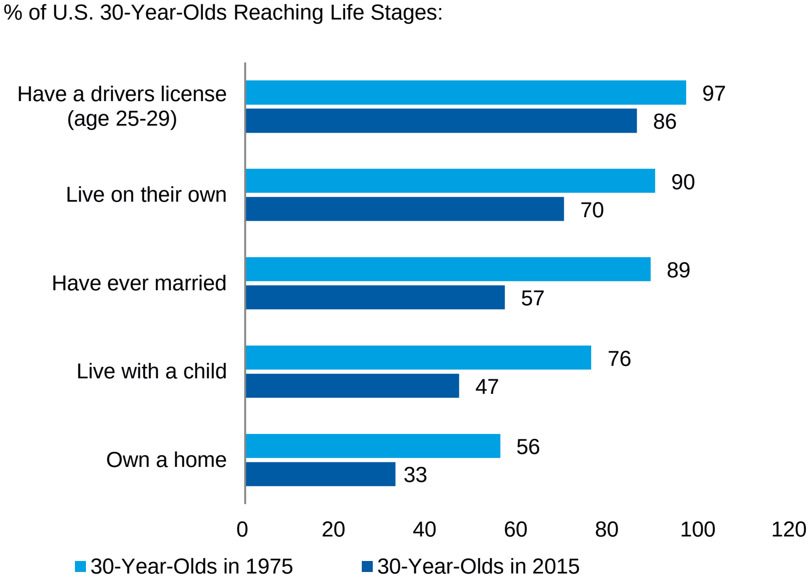
Millennials and Delayed Household Formation

Next Ten Years, Increase by Age Cohort



Source: UN Population Division, World Population Prospects, as of January 2020

Delayed Demand For Household Formation, Homeownership



Source: Invitation Homes, John Burns Real Estate Consulting, U.S. Federal Highway Statistics, MSREI Strategy, February 2019

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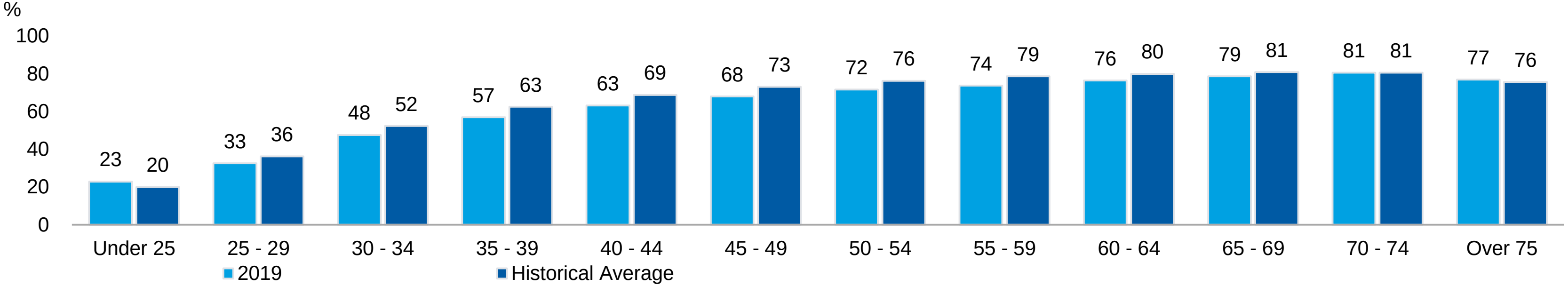
Led to More Renters, Will it Tip Back to Ownership?

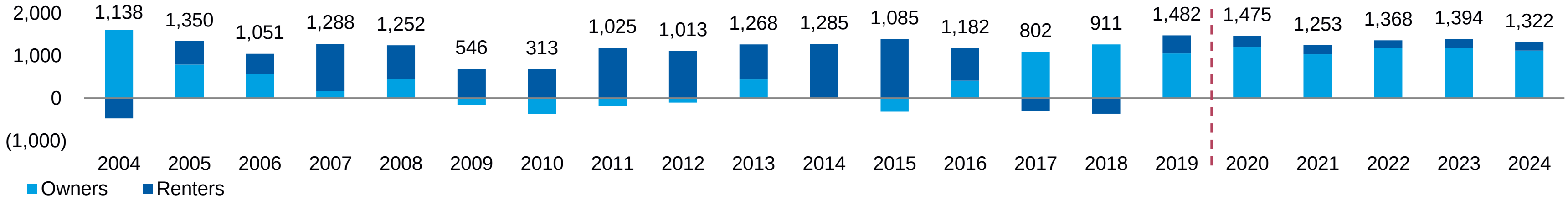
Homeownership Rate by Age Cohort



Source: Census Bureau, MSREI Strategy, data as of January 2020

Owner & Renter Household Formation

U.S., Annual (000's)

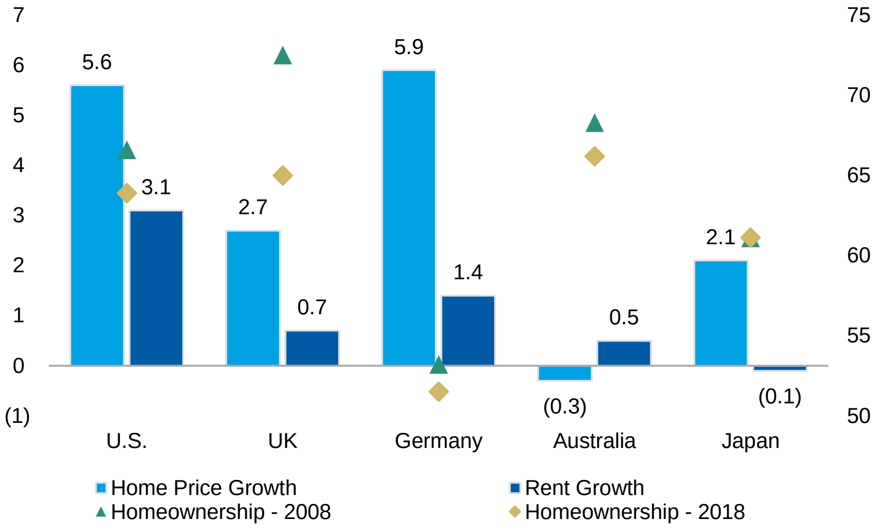


Source: Census Bureau, MSREI Strategy, data as of January 2020

Global Housing Shortage Driving Down Home Ownership Rates

Home Price > Rent Growth Contributing to Fall in Home Ownership

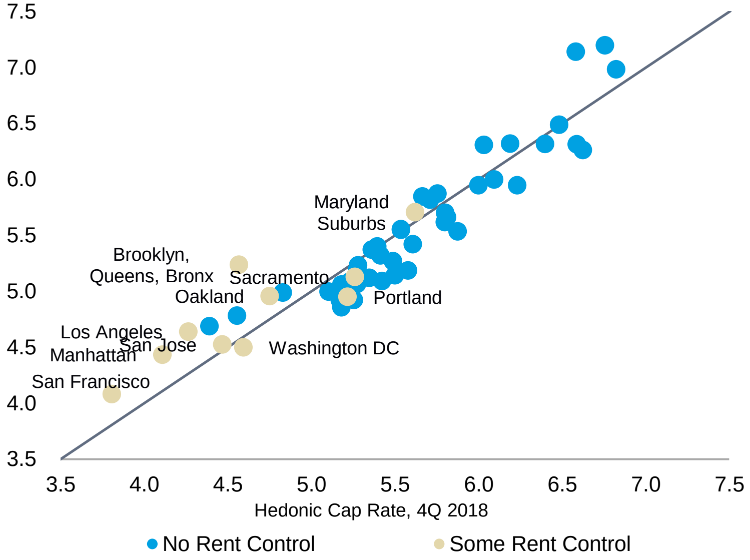
Home Price and Rent Growth, Last 3 Years, Annualized, % Homeownership Rate, %



Source: OECD, EuroStat, Census Bureau, Statistics Bureau of Japan, CoStar, MSREI Strategy, data as of December 2019

However Regulatory Pressure May Have Pricing Impact

Change in U.S. Multifamily Cap Rate 2018 vs 2019



Source: Real Capital Analytics, MSREI Strategy, data as of September 2019

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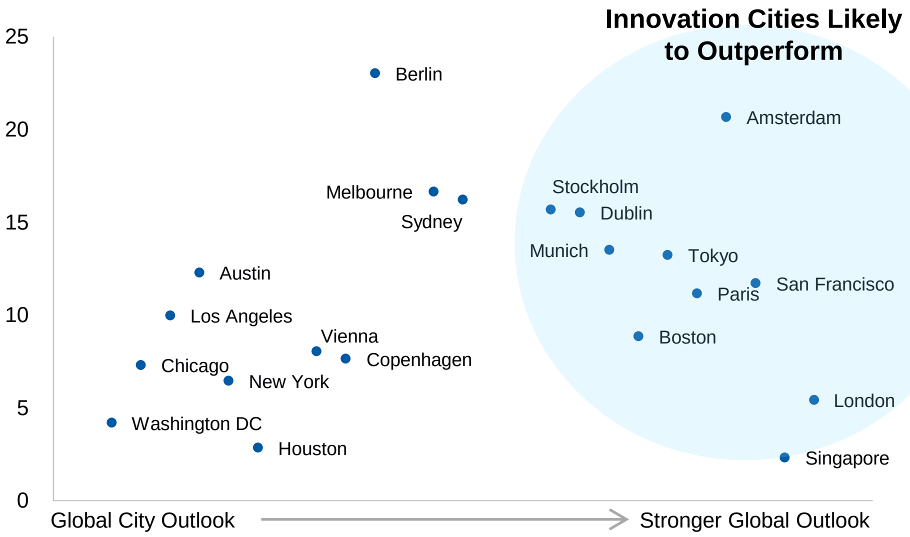
Innovation Cities Likely to Outperform

5-Year CRE Returns

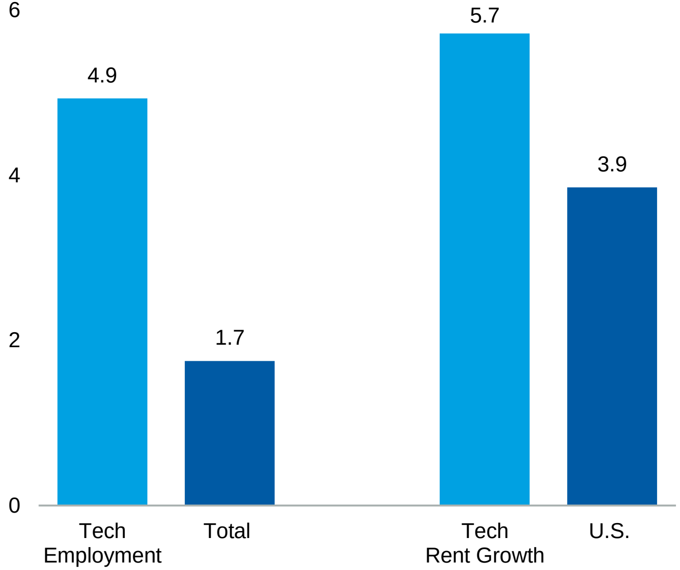
Total Unlevered Return p.a., T5Y to 3Q 2019



Source PMA, NCREIF, AT Kearney Global Cities Index, MSREI Strategy estimates and calculations, as of January 2020

Tech Employment & Rent Growth

Last 5 Years CAGR, %



Source: BLS, Moody's Analytics, CoStar, MSREI Strategy, data as of February 2020

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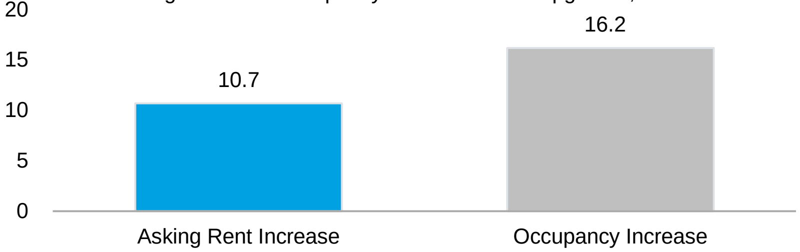
Bifurcation in Office Performance – Location, Amenities and Specs Matter

Amenities Upgrades Increase Tenant Demand and Rents

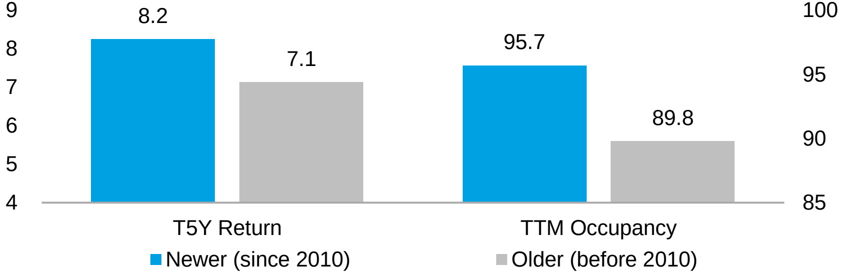
Increase in Asking Rent and Occupancy after Amenities Upgrades, %



Source: JLL, MSREI Strategy, as of February 2020

Strong Performance in Newer Vintage CBD Properties

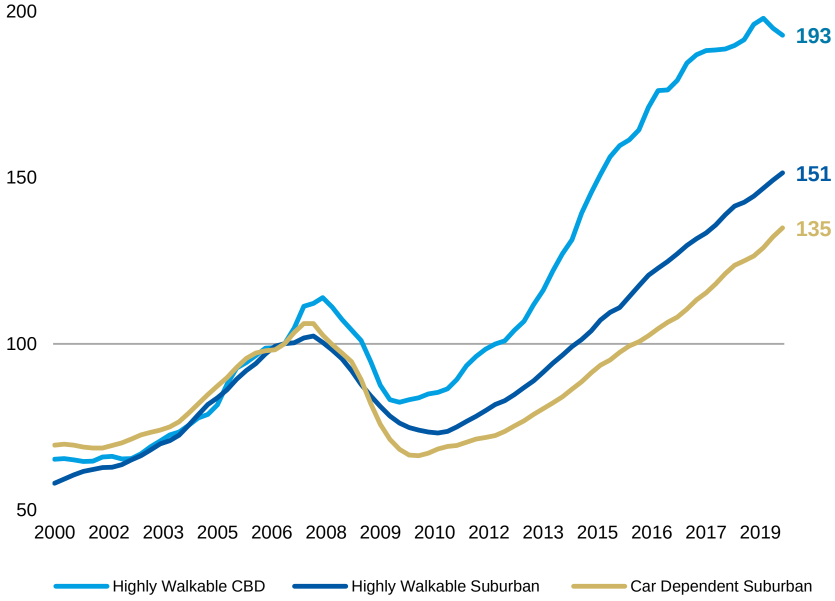
Total Return to 4Q 2019, % TTM Occupancy, %



Source: NCREIF, MSREI Strategy, as of February 2020

Walkability / WalkScore Premium

Commercial Property Price Index, = 100 in 4Q 2006



Source: Real Capital Analytics, WalkScore, MSREI Strategy, as of February 2020

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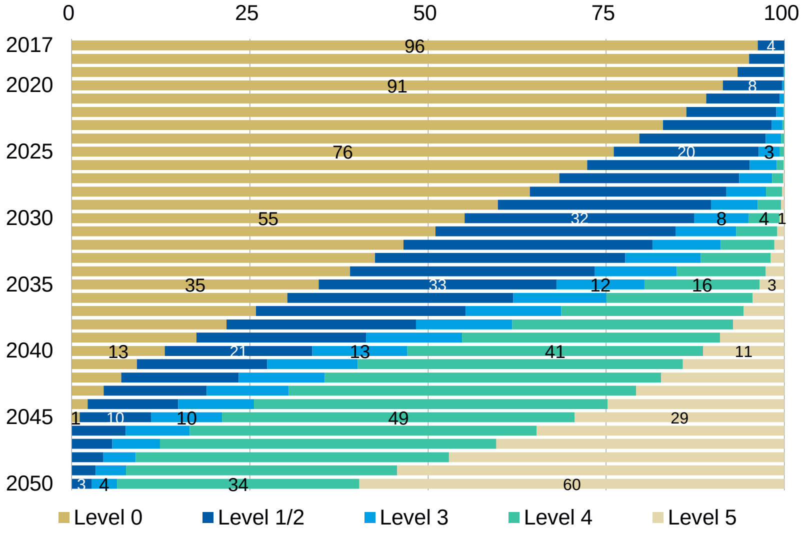
Transportation Revolution = Autonomous+ Electric+ Ride Share

Morgan Stanley Forecast Share of Miles Driven, 2017-2050E

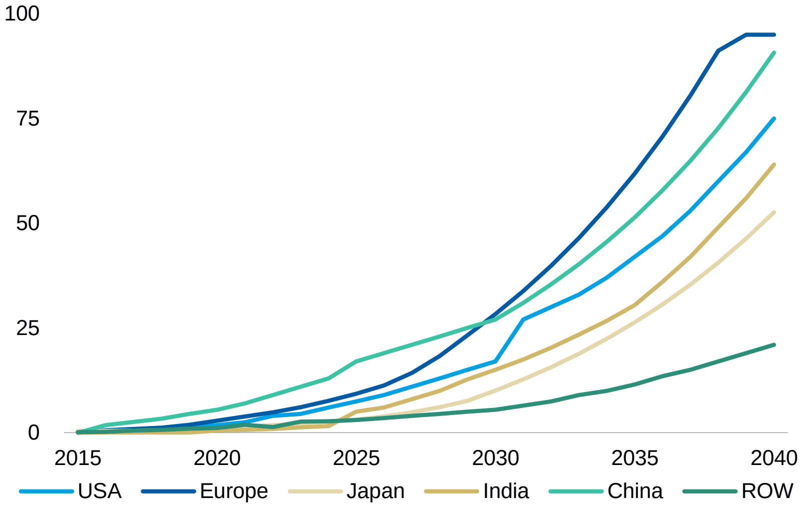
Global Miles, % By Autonomous Level



Source: Morgan Stanley Research, as of May 2018

Pace of EV Adoption

Base Case, 2015-2040E—% of Annual Sales



Source: Morgan Stanley Research, MSREI Strategy, as of April 2018

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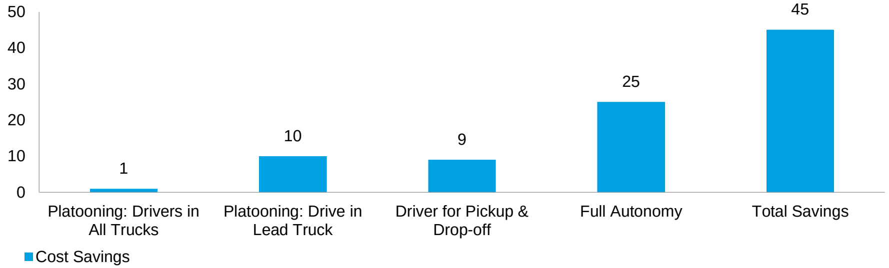
Autonomous Trucking and Parking Implications

Autonomous Trucks Reduce Logistics Costs

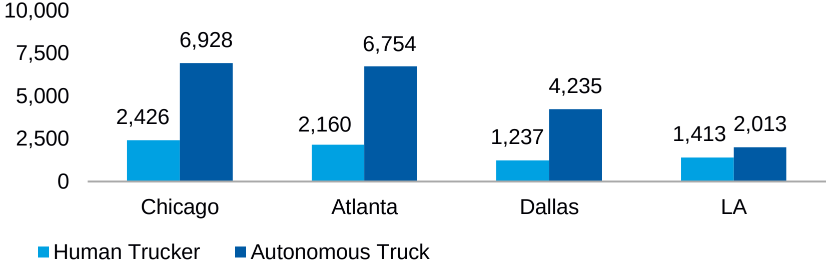
Cost Savings as a % of Existing Total-Cost-of-Ownership, %



Source: Route 2030: The fast track to the future of the commercial vehicle industry, September 2018, McKinsey

Autonomous Trucking May Allow 1-Day Trucking Distance to Double

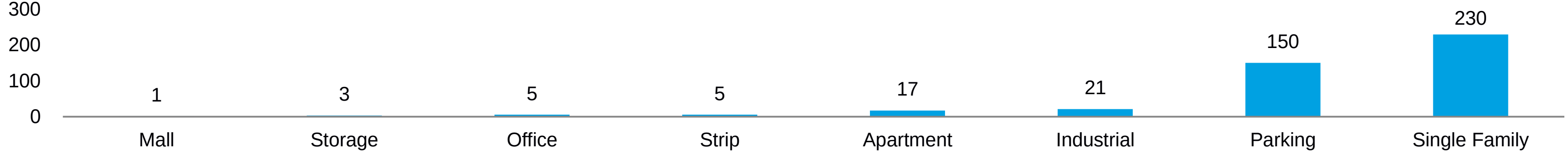
Spending Power Within a 1-Day Drive, 2017—USD (Bn)



Source: Census Bureau, MSREI Strategy, data as of June 2018

Declining Parking Needs May Free Up Significant Amounts of Real Estate

Value of Total Square Feet—SF (Bn)



Source: Green Street Advisors, data as of May 2019

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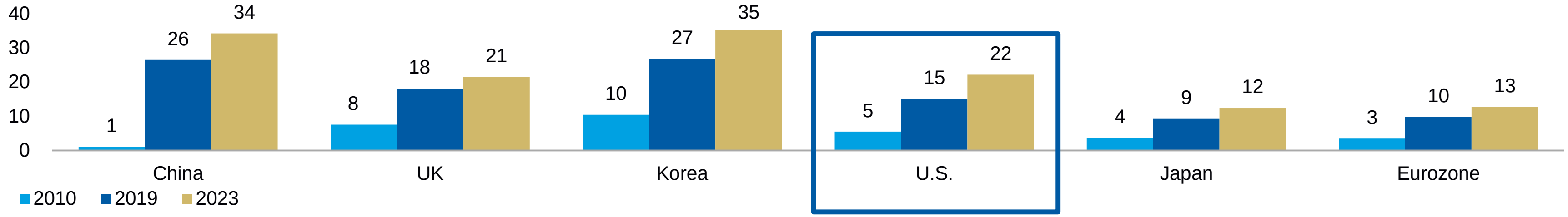
Growing E-Commerce Driving Industrial Sector

Online Sales Penetration Increasing

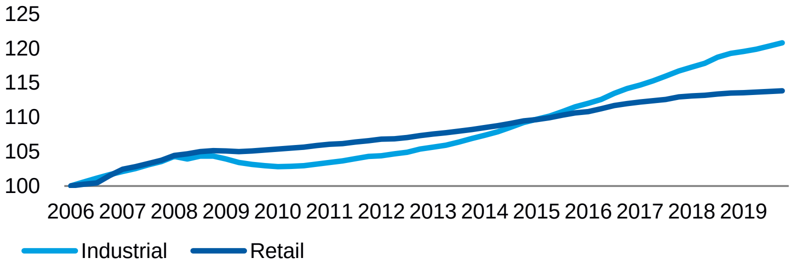
Online Retail as a Percent of Total Retail (%)



Source: PMA, FTI Consulting, Morgan Stanley Research, data as of January 2020

Driving Occupier Demand Into Logistics and Away from Retail

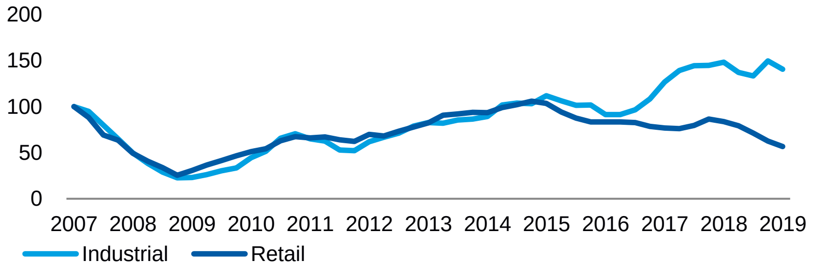
Total Occupied Square Feet, U.S.—1Q 2006 = 100



Source: CoStar, MSREI Strategy, data as of January 2020

While Investor Demand Also Shifts To Industrial Assets

TTM Global Transaction Volume—4Q 2007 = 100



Source: Real Capital Analytics, MSREI Strategy, data as of January 2020

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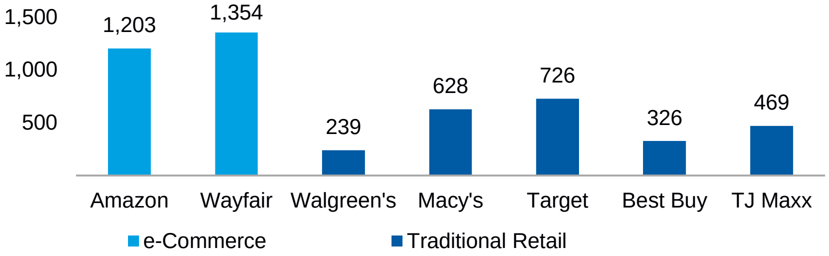
E-Commerce: A Secular Tailwind for Industrial

E-Commerce Needs More Industrial Space than Traditional Retail

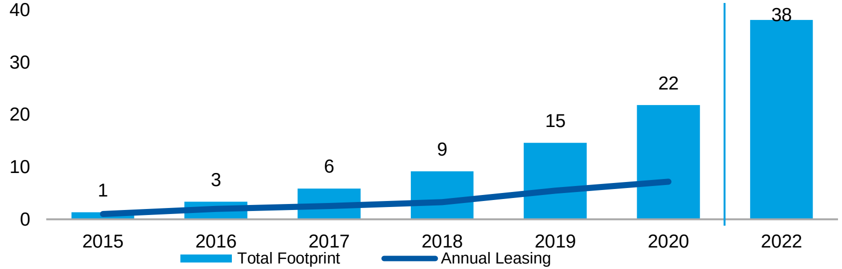
Industrial SF Occupied Per $1Bn in Sales (SF, 000s)



Source: Public Filings, MSREI Strategy, data as of May 2019

Last Mile Leasing Likely to Accelerate

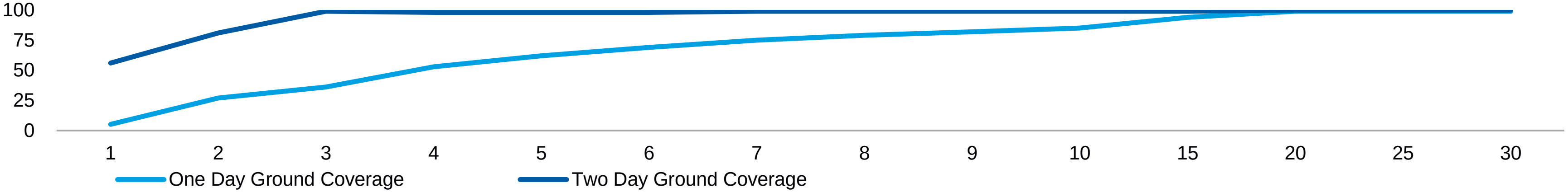
Amazon Last Mile Footprint, MM SF



Source: MWPVL, MSREI Strategy, data as of February 2020

Optimal Distribution Network

Share of U.S. Population Covered by Number of Distribution Centers



Source: UPS, data as of May 2019

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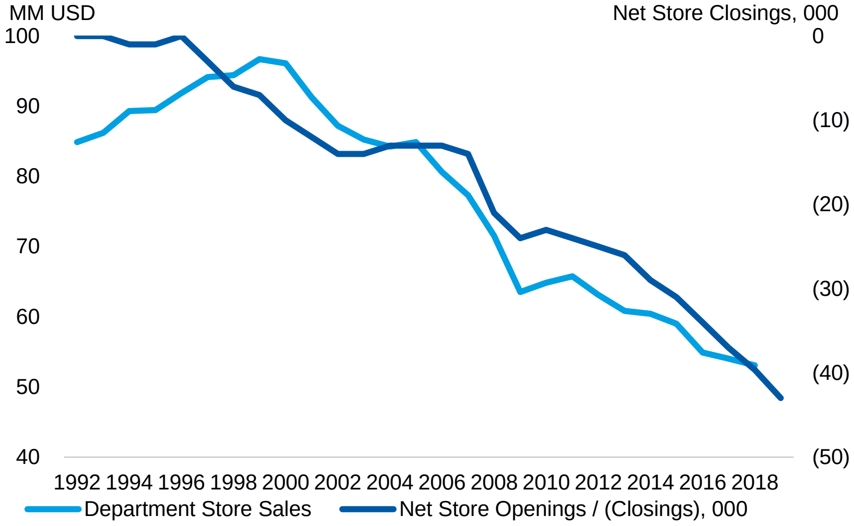
Retail Sector Challenged

Sliding Department Store Sales and More Store Closures

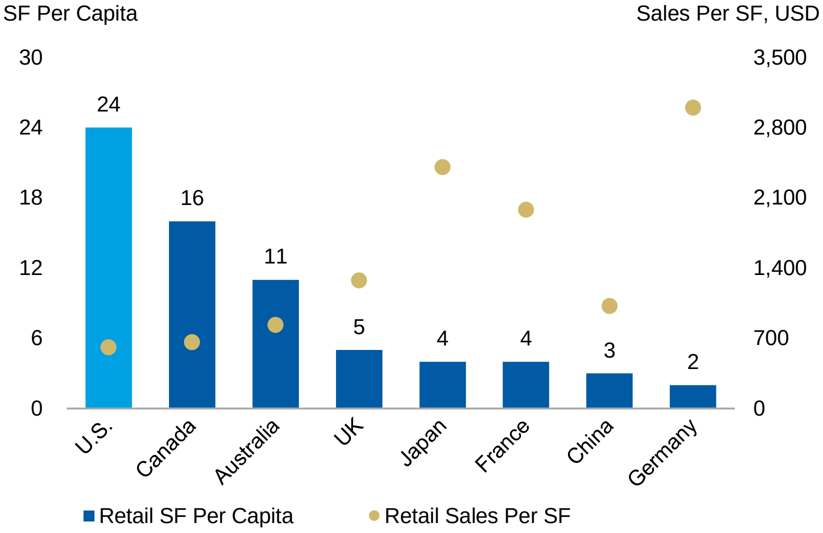
Retail Sales at Conventional and National Chain Department Stores



Source U.S. Census Bureau, Moody's Analytics, ICSC, MSREI Strategy, as of May 2019

U.S. Over Retailed vs. Other Global Markets

Retail SF Per Capita & Sales Per SF



Source: ICSC, Morgan Stanley Research, MSREI Strategy, data as of March 2019

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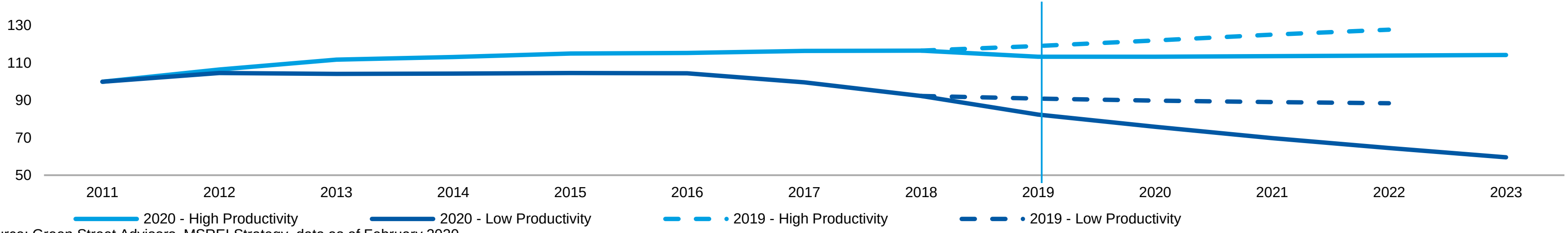
Retail Evolution

Survival of the Fittest in the Mall Sector

Market RevPAF Bifurcation

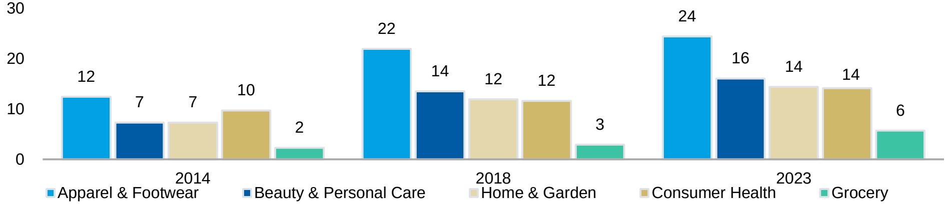
Index, 2011 = 100



Source: Green Street Advisors, MSREI Strategy, data as of February 2020

Accelerating E-commerce Penetration in Apparel

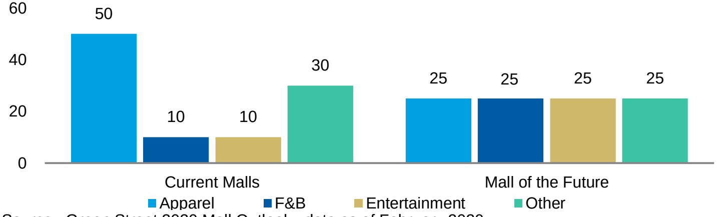
E-Commerce Sales as a Percent of Total Sales, %



Source: Euro monitor, Morgan Stanley Research, data as of October 2019

Shifting Mall Business Model

Tenant Share (%)



Source: Green Street 2020 Mall Outlook, data as of February 2020

1. Proxied by public REITs; as defined by Green Street Advisors. High productivity includes GGP, Macerich, Simon Property Group and Taubman Centers; low productivity includes CBL, Pennsylvania REIT, and Washington Property Group.

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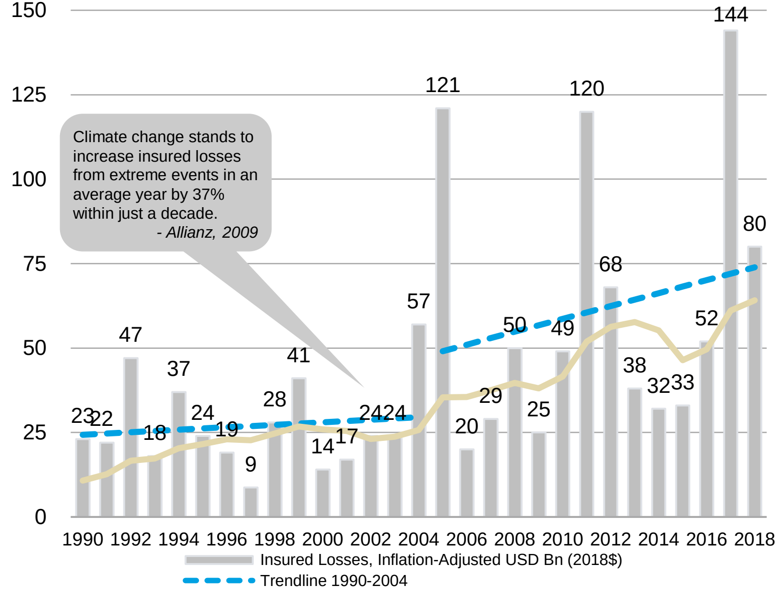
Climate Change is Having a Material Impact on Commercial Real Estate

Global Insured Losses from Natural Catastrophes, 1990-2018

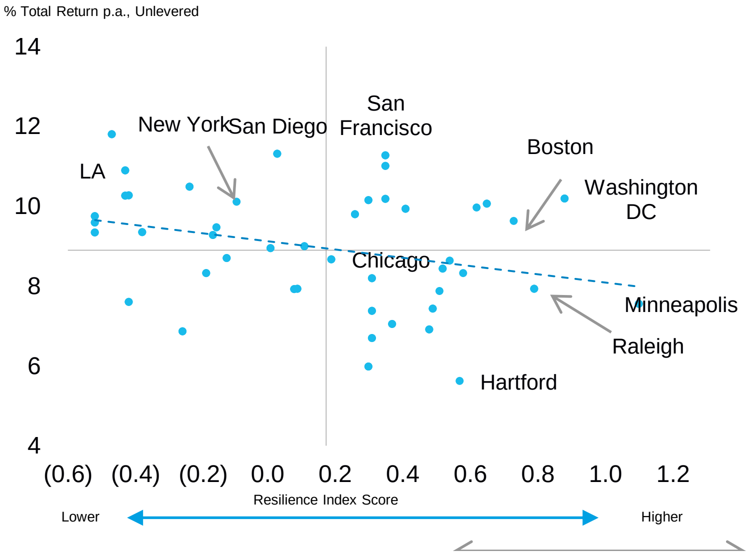
Inflation-Adjusted Insured Losses, USD Bn



Source: Munich Re NatCatService, MSREI Strategy, as of May 2019

Resiliency Negatively Correlated with Returns

Trailing 20 Years



Source: NCREIF, University of California Berkeley, University of Buffalo Regional Institute, MSREI Strategy, April 2018

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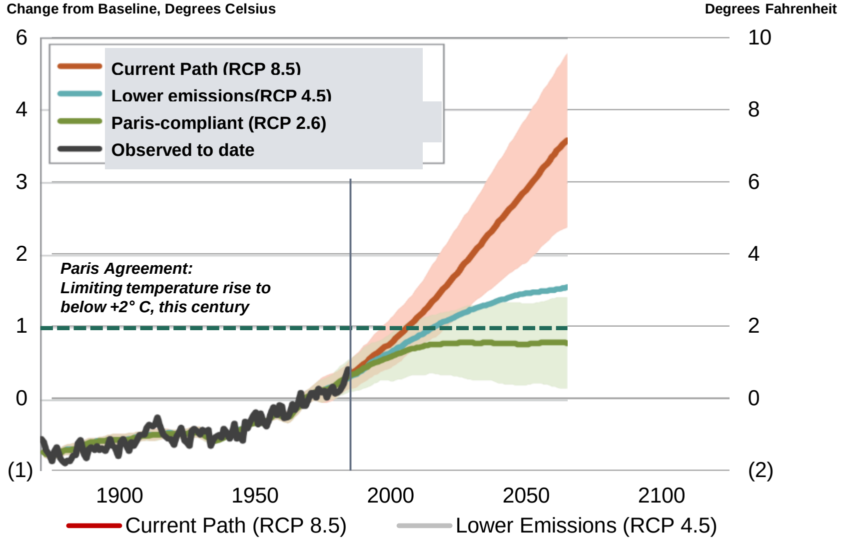
Transition Risk – Climate Scenarios

World is On Track to Hit More Destabilizing Temperature Rises

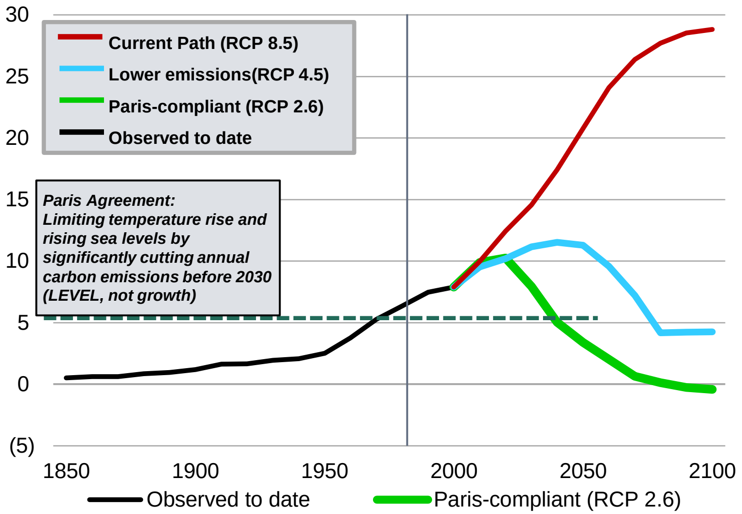
Global Average Temperature Change, November 2018 National Climate Assessment



Source: U.S. Fourth National Climate Assessment, November 2018

…Based on Current Energy Emissions & Unless the 2020s

Global Fossil Fuel Carbon Emissions, Gigatonnes of carbon per Year



Source: U.S. Fourth National Climate Assessment, November 2018

Low Climate Change Scenario (RCP 2.6) – aggressive mitigation actions to halve emissions by 2050. This scenario is likely to result in warming of less than 2°C by 2100

Moderate Climate Change Scenario (RCP 4.5) – strong mitigation actions to reduce emissions to half of current levels by 2080. This scenario is more likely than not to result in warming in excess of 2°C by 2100

High Climate Change Scenario (RCP 8.5) – continuation of business as usual with emissions at current rates. This scenario is expected to result in warming in excess of 4°C by 2100

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Conclusion: Disruptors Reshaping CRE Landscape

1. Supply Chain Integration
2. Aging Populations
3. Rising Millennials
4. Housing Shortage
5. Innovation Cities
6. Densification and Amenitization
7. Transportation Revolution
8. eCommerce
9. Shifting Retail Business Models
10. Climate Change

Questions?

March 11, 2020

OPERF Real Estate Annual Review & 2020 Plan

OREGON STATE TREASURY

Agenda

- **Preface**
- **Executive Summary**
- **Investment Environment**
- **OPERF 2019 Real Estate Year In Review**
- **OPERF Real Estate Performance Review**
- **OPERF Real Estate Portfolio Update**
- **2020 Real Estate Plan**
- **Closing**
- **Consultant Comments**

Preface

- **OPERF's role for real estate is to provide:**

  - Diversification of equity risk
  - Stable and predictable cash yield
  - Inflation protection

  Bass guitar

- **Benchmark:**

  National Council of Real Estate Investment Fiduciaries – Open End Diversified Core Equity Index (NFI-ODCE) + 50 bps (net)

Executive Summary

Key Takeaways…

1. The “shift to core,” started in 2015, is ~~largely~~ complete

2. Primary focus for foreseeable future is the continuation of constructing a balanced portfolio, capable of weathering various cycles and diversified across sectors, markets and strategies

3. Majority of portfolio is constructed around high quality, cash-flowing assets designed to preserve capital in a downturn while diversifying OPERF equity risk, complemented by value-creation strategies for consistent outperformance relative to the benchmark

4. The core portfolio has exhibited sustained, above-benchmark performance, net of all fees and expenses

5. The shift to longer-term hold mandates, renegotiated partnership agreements, and founder LP economics has resulted in significant fee savings

Investment Environment

- **Capital Markets**
  - Capital flows into real estate, both debt and equity, remain strong, commensurate with the continued trend of larger, permanent allocations to the asset class from institutional investors
  - Although appreciation returns via capitalization rate compression have moderated, income returns have demonstrated resilience, real estate fundamentals remain in balance, and leverage levels remain below long term averages
- **Residential**
  - Nearly 10 years post-recession, supply has largely caught up to demand in the higher-end (luxury) rental apartment market
  - Conversely, single-family for-sale housing has become increasingly unaffordable to greater segments of the population, both in the U.S. and abroad, as new housing supply continues to lag in the face of rising construction costs
  - The above cycle trends have created increased demand for the affordable rental housing segment of the market, which remains undersupplied
- **Office**
  - The trend from denser workspaces has shifted to one of flexible, highly amentized space, designed to attract talent and create optimized work environments blending open space for collaboration and private spaces for concentration
  - The time-tested, enduring fundamentals of functionality and location have become critical for long-term investors: properties must be well-located, with proximity to amenities and live/work/play environments coupled with functional designs capable of adapting to flexible space needs
- **Industrial**
  - The global growth of e-commerce has primarily benefited the industrial asset class, with logistic fulfillment centers experiencing rapid growth requirements to meet consumer demand (often at the expense of traditional retail)
  - Increasing tenant needs, coupled with global institutional investors' high demand, have driven transaction yields in this asset class to a level on par with or below the other property sectors
- **Retail**
  - The rapid growth of e-commerce, combined with years of overbuilding in certain markets and shopping venues without differentiated products or experiences, continues to transform the retail asset class
  - Although consumer activity (sales) remains strong, investment opportunities in retail markets have been limited to properties offering necessity-based or online-resistant products and services and well-located grocery-anchored neighborhood centers

Supply & demand remain in balance while appreciation has largely run its course – focus remains on income generation opportunities to achieve returns

Real Estate 2019 Year In Review

2019 was a year of integration with a focus on driving down partnership expenses and ongoing efforts on multi-year projects

- $800 - $1.5 billion in new commitments
- Onboard two new real estate professionals, an Investment Officer and Analyst
- Initiate training program ("Bootcamp") for RE staff and analysts
- Commence mandatory OIC Real Estate Consultant search
- Continue amending existing Separate Account agreements to reflect updated terms and improved LP economics, particularly when scale has been obtained
- Research international core real estate exposures
- Continue enhancements to due diligence and monitoring capabilities
- Research creation of a debt facility for Separate Account portfolio

Real Estate 2019 Year In Review – Approvals

In 2019, 5 real estate commitments were approved, totaling $1.1 billion

Pacing

- The commitments represent the continuation of a multi-year plan to increase exposures to asset classes and strategies that fulfill long-term portfolio construction needs
- Partnership underwriting requirements have entailed significantly lengthier diligence efforts due to: (1) capturing wider investment "landscapes" of comparable alternative investments/partners; and (2) most commitments are to long-term partnerships with evergreen structures and with the intent of scaling over time

Fees

- Continued trend towards lower fees through tailored partnership structures and seed capital negotiations. The gross-to-net spread on the trailing five year period was 32 bps lower in 2019 then 2015, which equates to approximately $27 million in annual fee savings
- $837 million of commitments in 2019 include no carried interest
- $900 million of the 2019 commitments include management fees <100 bps (30-50% below average fee structures prior to 2015 portfolio restructuring)

Strategy

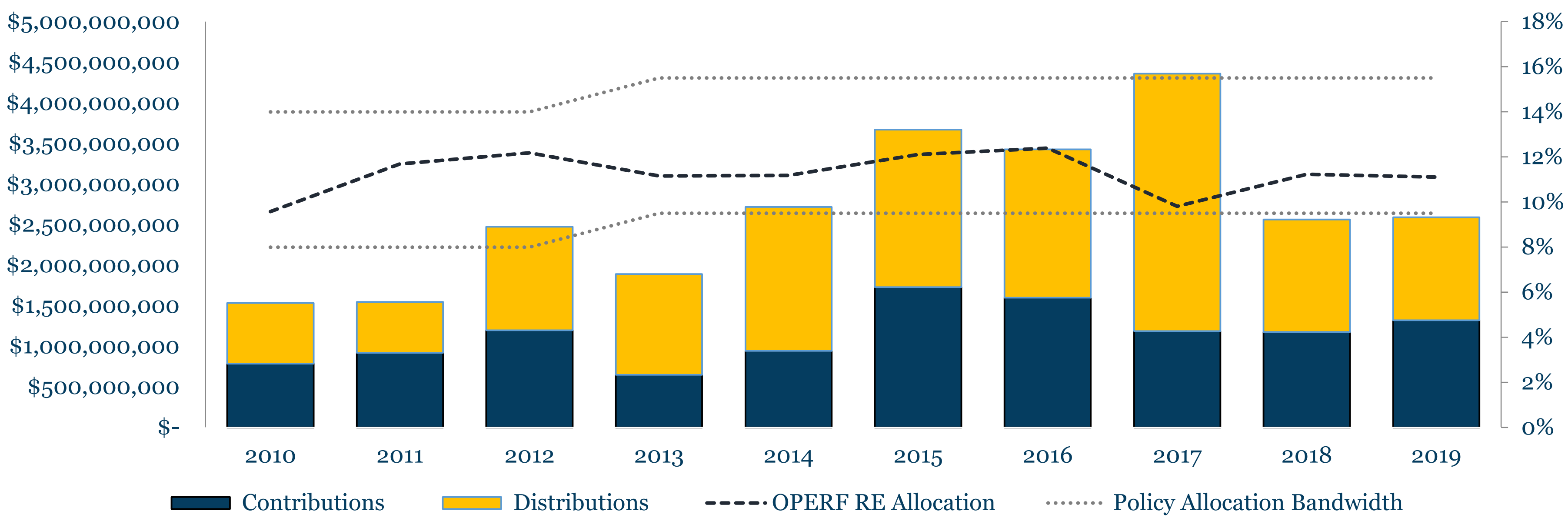
- 2019 commitments represent: (1) a long-term overweight to both industrial and niche real estate assets; (2) a highly tailored joint venture with strong GP-LP alignment; (3) re-ups to existing partners with demonstrated track records, and (4) a lead investor with preferred economics in the formation of a new open ended fund

FUND NAME	STRATEGY	SUB-PORTFOLIO	GEOGRAPHY	COMMITMENT ($ MM)	Funding Status
Prologis Targeted US Logistics Fund	Industrial	Core	Domestic	250	Funded
Harrison Street Core Property Fund Co-Investment	Diversified / Niche	Core	Domestic	150	Funded
LBA Oregon Industrial Core Joint Venture	Industrial	Core	Domestic	250	Unfunded
**LBA Oregon Industrial Value-Add	Industrial	Value-Add	Domestic	Up to 25% of Core Fund	Unfunded
DivcoWest Fund VI	Diversified / Niche	Value-Add	Domestic	200	Unfunded
Walton Street Real Estate Core-Plus Fund	Diversified	Core	Domestic	250	Unfunded
NEW COMMITMENTS SUB-TOTAL				**1,100**	

Real Estate 2019 Year In Review – Allocations

Portfolio allocation has been consistently within policy bandwidth

- The real estate portfolio has contributed $2.6 billion in net cash flows to OPERF over the trailing five year period
- As the core commitments made over the past few years fully invest, and with ~70% of the real estate portfolio in evergreen structures (open-ended funds and separate accounts), distributions will become an increasingly larger component of future portfolio cash flows
- At 11% of the OPERF portfolio, real estate is slightly below its 12.5% target, but well within policy bandwidth



Portfolio strategic weightings to Core = permanent positive cash flow & yield generation

OREGON STATE TREASURY

Source: OST, Private Edge

Performance Review

- OPERF's Core portfolio has shown continued strong long-term performance, having outperformed the new policy benchmark by 202, 437, and 337 bps over the respective 1-, 3-, and 5-year periods, but underperforming by 102 bps for the 10-year period
- Value Add outperformed the policy benchmark by 341, 234, and 405 bps over the 1-, 3-, and 5-year periods, although it underperformed by 26 bps over the trailing 10-year period
- The Opportunistic portfolio underperformed the benchmark by 4, 101, 359, and 205 bps over the trailing 1-, 3-, 5- and 10-year time periods

9/30/2019	1 Year	3 Year	5 Year	10 Year	Since Inception
Total OPERF Income Return	*3.2%*	*3.8%*	*3.9%*	*3.8%*	*4.8%*
Total OPERF Appreciation Return	*3.6%*	*4.1%*	*5.2%*	*5.7%*	*5.6%*
OPERF Real Estate Total Return	**6.9%**	**8.1%**	**9.2%**	**9.7%**	**10.6%**
NFI-ODCE Index + 50 bps[1,3]	5.1%	6.8%	8.9%	10.3%	
Excess (bps)	*172*	*122*	*34*	*(60)*	

All returns represented are net of fees.

[1] Since Inception benchmark data not available due to cash flows not-verifiable for period prior to Private Edge contract commencement Q1 2006

[2] Policy benchmark through March 31, 2016 was NPI; gross of fees, unlevered

[3] NFIC-ODCE +50bps was adopted as Policy benchmark commencing April 1, 2016; net of fees, levered

Source: OST, Private Edge

Performance Review

Vintage Exposure

- Given the robust seller's market experienced over the past 7+ years, coupled with relatively moderate capital pacing from 2006-2008, the real estate "legacy" funds (all funds with a 2008 vintage or older) have a decreasing impact on the portfolio. In aggregate, legacy funds represent:
  - $388 million NAV, comprising 4.5% of portfolio value; and
  - down considerably from 2017, when legacy funds represented $1.1 billion or 13.7% of portfolio NAV

Separate Account & Open-end Portfolio

- Separate Accounts and Open-end Funds have been a positive driver of returns, outperforming the benchmark over all time periods since the portfolio shift started in 2015

	OPERF SMAs	OPERF Open-end Funds	OPERF Total**	ODCE + 50 bps	Excess
1-Year Total Return	7.42%	6.08%	7.08%	5.96%	1.12%
3-Year Total Return	11.64%	8.31%	11.30%	7.11%	4.19%
5-Year Total Return	12.80%	7.82%	12.35%	9.26%	3.09%
10-Year Total Return	9.39%	8.06%	9.21%	9.37%	-0.16%

*All returns represented are net of fees; as of 6/30/2019

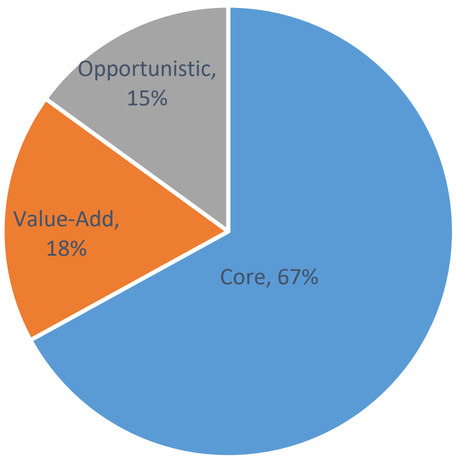
**OPERF Total represents all Separate Accounts and Open-end funds as of 6/30/2019

Source: OST, Private Edge, RERC

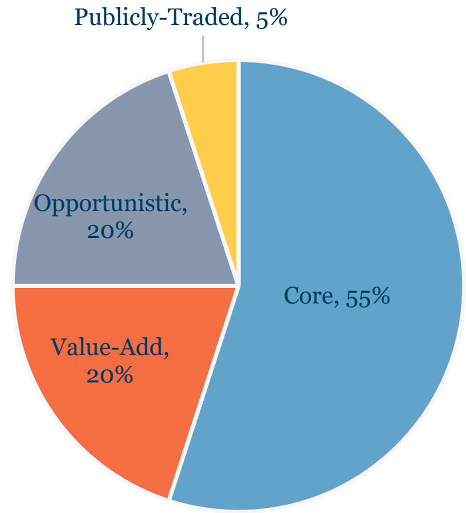
Portfolio Update – Policy Comparison

Risk Allocations

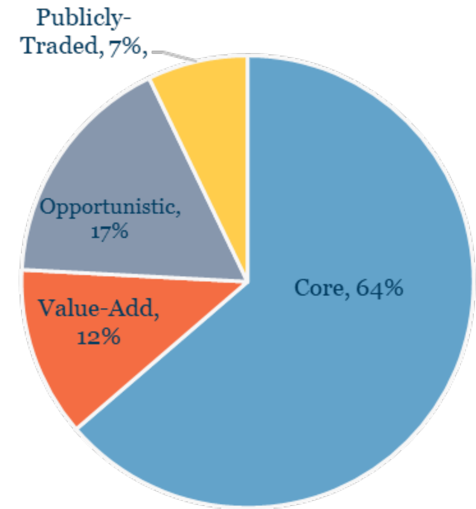
- OPERF slightly riskier than the majority of institutional investors surveyed by Pension Real Estate Association



Peer Group



OPERF Policy (Target)



OPERF (9/30/2019)

- While publicly-traded REITs were not represented in the Peer Group survey, many plans have a blend of private and public
- OPERF policy allocations include bandwidths of +/- 10% from target
- Current Staff objectives include overweight to Core with commensurate underweights to Value Add and Opportunistic

Source: 2019 PREA Investment Intentions Survey

Portfolio Update – Manager Concentration

The Real Estate "Top 10"

Significant portfolio reshaping occurred over the 5-year period 2013-2018, primarily:

- In keeping with reducing portfolio complexity while also leveraging OPERF's scale to achieve preferred economics and improved alignment, the Top 10 managers represent 67% of the portfolio
- As part of Staff's objectives to de-risk the real estate portfolio through lower volatility investments and reducing cyclical risks inherent in Closed-end opportunistic funds, private Core now represents 81% of the Top 10 manager NAV, up from 35% in 2014

Q3 2014 → **Q3 2019**

Q3 2014

Partner	Risk	Structure	Strategy	NAV ($M)
LaSalle	REIT (Domestic)	SMA	Diversified	830
Lone Star	Opportunistic	Closed End	Diversified	634
Clarion	Core	SMA	Office	595
Morgan Stanley	REIT (ex-US)	SMA	Diversified	428
Talmage	CMBS/Debt	SMA/Closed End	Diversified	407
Lincoln	Core	SMA	Industrial	373
Blackstone	Opportunistic	Closed End	Diversified	361
Regency	Core	SMA	Retail	350
Fortress	Opportunistic	Closed End	Diversified	346
GID	Core	SMA	Multifamily	336
			Total Top 10	**4,660**

Q3 2019

Partner	Risk	Structure	Strategy	NAV ($M)
Clarion Partners	Core	SMA	Office	954
GID	Core	SMA	Multifamily	910
Lionstone	Core/Value Add	SMA	Diversified	873
Lincoln Advisors	Core	SMA	Industrial	806
Regency	Core	SMA	Retail	537
Lone Star	Opportunistic	Closed End	Diversified	480
Waterton	Core/Value Add	JV/Closed End	Multifamily	330
DivcoWest	Core/Value Add	JV/Closed End	Office	319
JP Morgan	Core	Open End	Diversified	283
Rockpoint	Opportunistic	Closed End	Diversified	282
			Total Top 10	**5,775**

Core	CRE Debt & High Volatility Core	Non-Core

Source: OST, Private Edge

Portfolio Update – Current Exposures

Portfolio Weightings

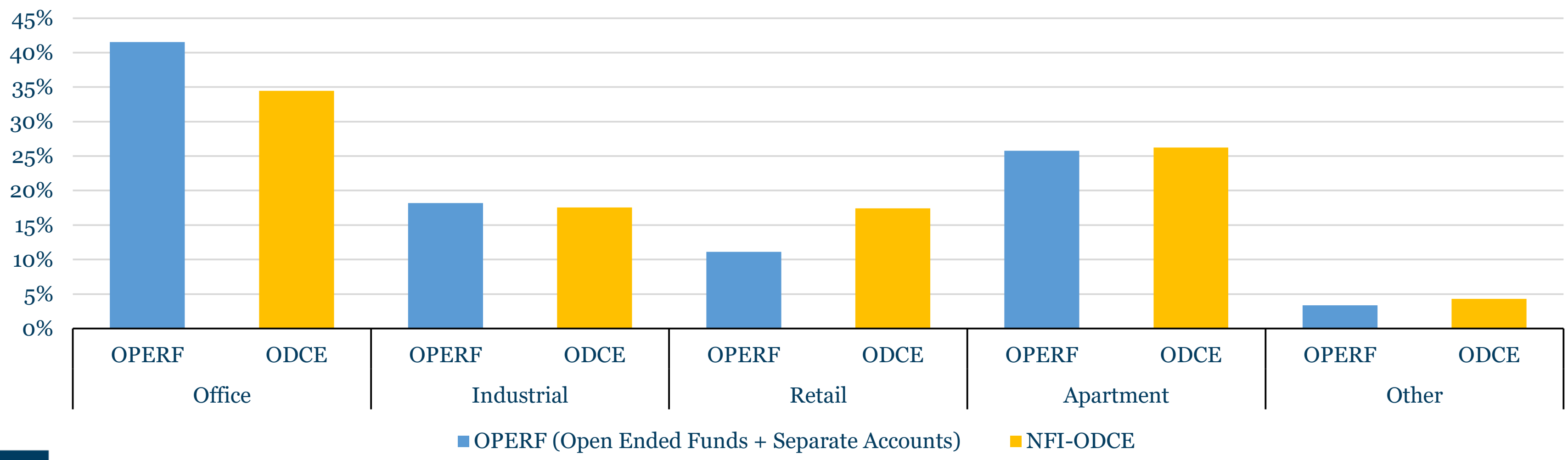
- Staff actively manages portfolio exposures for strategic over and underweights to the benchmark

Core

- Long term: Move to underweight office with continued overweight to industrial and multifamily, and, to a lesser extent, niche assets (i.e., senior living, campus housing, self storage, medical/life science office, etc.)
- Mid term: Maintain underweight to retail

Value Add & Opportunistic

- Continue pursuing strategies and operational expertise not easily replicated within core partnerships. This will entail some exposures to “Other” for mixed-use and transitional assets not defined by the traditional property sectors (land under development, parking, debt, etc.)
- Debt currently comprises 20% of “Other.” Staff expect this exposure to decline as credit strategies are not being pursued as a long term portfolio fit



Portfolio Update – Implementation

Strategy Diversification

- Continue building out a well-balanced portfolio to optimize the long-term role of real estate within the OPERF portfolio, via:

Partnership Strategy	Objective
Strategic Partnerships: Investment mandates based upon long-term fundamentals and cycle-tested strategies (i.e., Core/Core plus/Value add)	• Lower the beta of real estate, relative to a publicly-traded securities portfolio
Value enhancers: Partnerships and investment strategies capable of reacting quicker to prevailing, and changing, market conditions	• Alpha creation to achieve real estate portfolio outperformance relative to the portfolio's NFI-ODCE core benchmark

Tailored & Aligned Partnership Structures

Transfer to Core:

- In an effort to better identify, report and control portfolio risks, maintain targeted property and geographic exposures, while simultaneously reducing overall fee loads, staff has created a "transfer to core" mechanism within a select number of Strategic Partnerships
    - Once a value add asset achieves key milestones (i.e., stabilization) agreed to in advance by Staff, the General Partner recommends the asset for transfer to core
    - Upon approval by staff for portfolio fit, the property is valued via a third party appraisal service, which establishes the valuation for transferring the asset from the value add to the core portfolio as reported by State Street/Private Edge
    - Frictional trading costs normally incurred in a typical property transaction are further netted from the transfer price to determine the value utilized for the GP promote, subject to meeting portfolio performance tests
    - Removing frictional trading costs, and not requiring the sale of an asset upon achieving business plan objectives, results in an approximately 150-200 bps savings to OPERF while enabling a mechanism for the creation of long term core assets at a reduced cost basis and with improved transparency and alignment

Portfolio Update – Implementation

Asset Type Diversification

- Portfolio shift to long-term structures allows Staff to actively control asset class weightings for optimized portfolio exposures. Further, the relative performance of the different property types can vary considerably over time, hence the need for diversification of asset types in portfolio construction
- Staff will continue to implement strategic partnerships and asset class exposures to diversify portfolio while taking into account sector over and under weights to the benchmark

NCREIF TOTAL RETURNS BY SECTOR[1]

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
13.7%	17.1%	23.0%	21.2%	19.1%	20.5%	-4.1%	-10.9%	18.2%	15.5%	11.6%	12.9%	13.4%	15.3%	12.3%	13.1%	14.3%	13.4%
8.8%	8.9%	13.0%	20.3%	17.0%	14.9%	-5.8%	-17.5%	12.6%	14.6%	11.2%	12.3%	13.1%	14.9%	9.0%	6.2%	6.9%	6.6%
6.7%	8.2%	12.1%	20.0%	14.6%	13.5%	-7.3%	-17.9%	11.7%	13.8%	10.7%	10.4%	11.5%	12.5%	7.3%	6.0%	6.1%	5.5%
2.8%	5.7%	12.0%	19.5%	13.3%	11.4%	-7.3%	-19.1%	9.4%	13.8%	9.5%	9.9%	10.3%	12.0%	6.2%	5.7%	2.2%	1.9%

Apartment   Industrial   Retail   Office

(1) Source: NPI as of December 2019; DWS

2020 Plan – Pacing

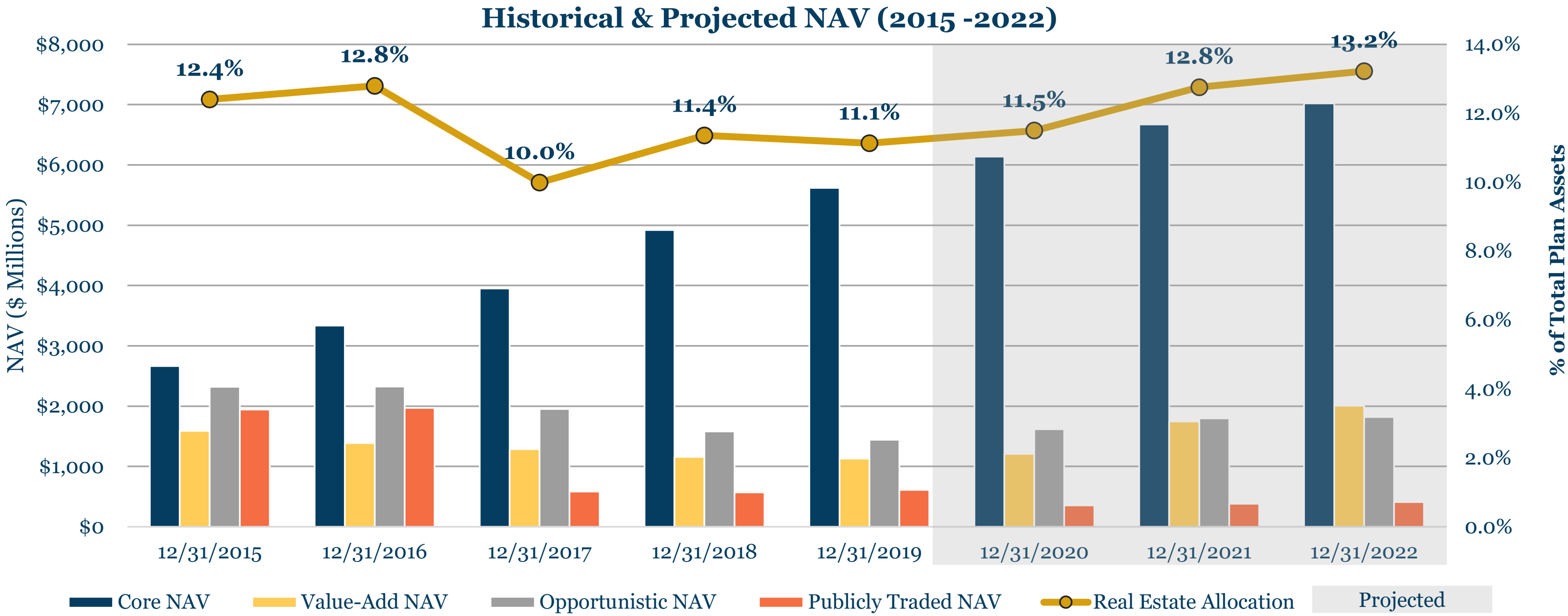
Investment strategies Staff will be seeking, for both short-and long-term portfolio diversification, include:

- **CORE**
  - **Multifamily** – Reviewing Separate Account managers for a mid-market multifamily partnership to complement current portfolio holdings
  - **Retail** – Given the considerable transformation that retail is undergoing, research on viable, long-term strategies that could complement current holdings will be pursued. Extensive diligence on separate account and open-ended structures with partners who have proven operational expertise will be conducted
- **VALUE ADD**
  - Given the current ~12% weighting to Value Add, which is down from 15% in 2018, and relative to the 20% target, Staff is selectively reviewing Strategic Partners capable of executing on value enhancement strategies for the "transfer to core" program and potential closed ended fund managers with differentiated strategies and proven track records
- **OPPORTUNISTIC**
  - Continue underweighting to this sector, allowing existing and legacy opportunistic funds to liquidate....thereby providing "dry powder" for future commitments should distress or an opportunistic-rich environment emerge
  - Mixed Use Development – Staff is reviewing club structures and managers with the ability to create long term value through the development of high quality, synergistic, mixed use, real estate to be retained as core holds

2020 Plan – Pacing

Maintaining target real estate exposures will rely on allocation management of strategic partnerships

- With ~70% of the portfolio weighted towards separate accounts and open-ended structures, Staff has greater control of capital pacing through scaling successful partnerships which in turn gives Staff more negotiating leverage to reduce fees as partnership AUM grows
- At 20%-30% of the portfolio, closed-end funds will have a reduced impact on capital pacing considerations and will be limited to very select non-core strategies



Source: OST

OREGON STATE TREASURY

2020 Plan – Initiatives

Partnerships / Portfolio Diligence

- $1.0 - $1.4 billion in new commitments
  - 7-9 commitments of $100-350 million
  - Gap fill strategies to complement existing portfolio exposures
- Continue amending existing Separate Account agreements to reflect updated terms and improved LP economics
  - On a trailing five-year look back, the real estate portfolio has achieved a 32 bps reduction in gross-to-net spreads. The portfolio is projected to realize a further 40 bps in fee savings by 2024, which equates to an approximate $53 million reduction in annual fees when compared to the portfolio in 2015
- Continue integration of ESG factors into diligence and monitoring process
- Present international real estate research findings to senior leadership

Administrative

- Work jointly with Legal to restructure separate account partnership entities
  - Once completed, Staff will continue diligence on an internally-managed debt facility to optimize asset-level flexibility, improve portfolio liquidity, and enhance performance attribution through unlevered GP return analytics
- Commence RFP for portfolio reporting services
- Continue enhancements to due diligence and monitoring capabilities
  - Enhanced data capture and monitoring output remain the focus

2020 Plan – Initiatives

Personnel

- Integrate additional personnel resources
- Continue strides made in training program ("Bootcamp") for RE staff and analysts
  - 60-hour program, over three phases; leveraging GP platforms, skillsets, and training
- Promote and enhance Oregon's brand through industry participation:
  - Board Member: PREA-NCREIF Reporting Standards Board
  - Board Member: Institute for Real Estate Operating Companies (iREOC)
  - Member: PREA Closed End Value Add Task Force
  - Editorial Advisory Board Member: Institutional Real Estate Americas
  - Conference Co-Chair: IREI Visions Insights & Perspectives 2020
  - Board Member: Portland Alternative Investment Association (PAIA)

Best Practices

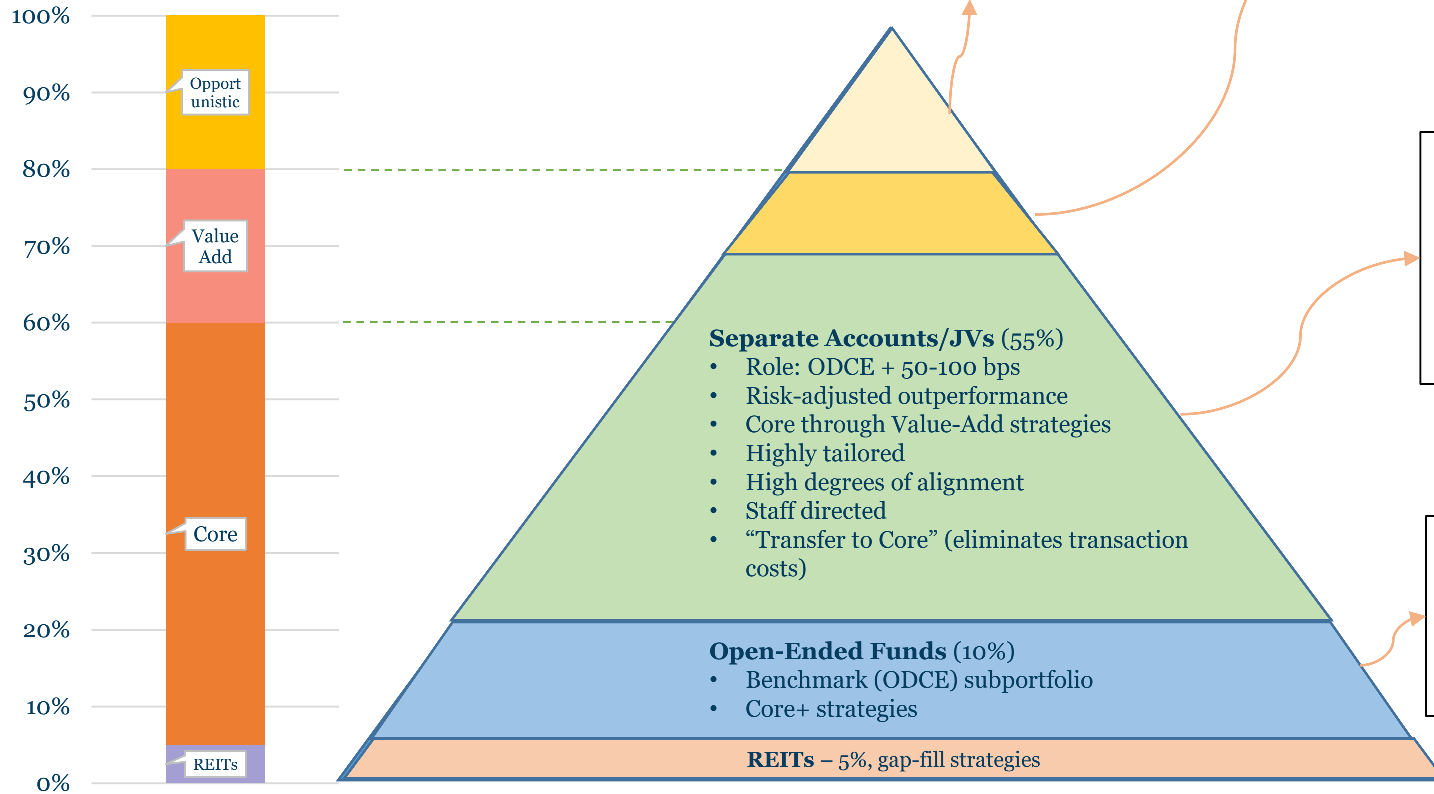
- Annual Oregon Partners Meeting
- Annual Business Plan Reviews

2020 Plan – Long Term Construction

Opportunistic (Closed Ended Funds)
- Allocation Range: 10-30%
- Objective: Tactical/ODCE + 300 bps
- Optimized portfolio:
  - 8-10 relationships
  - $200MM min / fund
- 2020 focus: Active

Value-Add (Closed Ended Funds)
- Allocation Target: 10-30%
- Objective: ODCE + 100 bps
- Optimized portfolio:
  - 4-6 relationships
  - $200MM min / fund
- 2020 focus: Active

Policy Allocations



Separate Accounts
- Objective: ODCE + 50 bps
  ODCE + 100 bps (VA)
- Optimized portfolio
  - 4-6 relationships (Core)
  - 2-4 relationships (VA)
- +$400M / SMA
- 2020 focus: Active

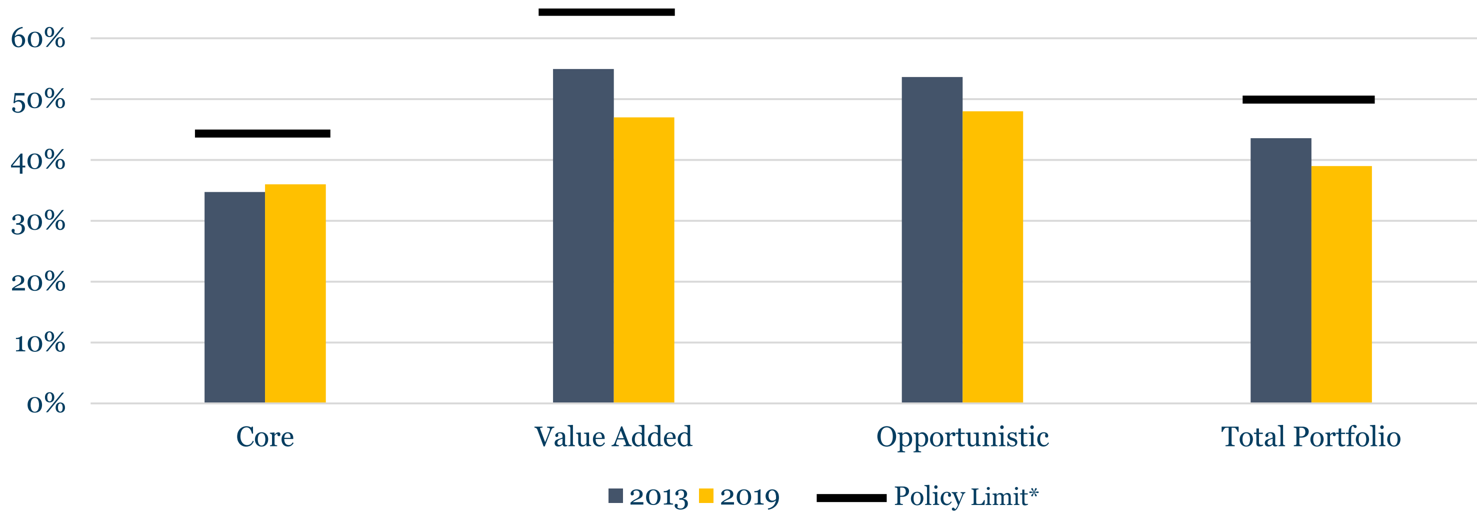
Open-Ended Portfolio (Core)
- Allocation Target: 10%
- Optimized portfolio
  - 7-9 funds
  - $200+MM / SMA
- Benchmark: ODCE
- 2020 focus: Monitoring

OREGON STATE TREASURY

2020 Plan – Housekeeping / Policy Reporting

Leverage

- Leverage holding steady and at modest levels now that portfolio shift is nominally completed
- Staff continues to actively negotiate lower leverage mandates within Separate Accounts
- ODCE, the portfolio benchmark, continues to operate at a historically low average LTV of 21.7% and there has been pressure to move this upwards



2019 Non-Mandate Activity

Partner	Partnership	Acquisition Type	Acquisition Price ($M)	Location	Strategy
Lincoln	Columbia Industrial Properties	Office	$38.0 M (Equity)	Denver, CO	Core

*No LTV policy limit exists for Opportunistic

Sources: OST, Private Edge

Closing

Key takeaways from above…

1. Performance has been strong, particularly with the core portfolio, both on an absolute basis and relative to the policy benchmark
2. Substantial fee savings have been achieved over the past five years and will continue to trend downward as many of the legacy partnerships are replaced with better aligned and tailored fee structures
3. Portfolio remains at lower end of target bandwidth; current pacing plans project the portfolio will be at target midpoint by year-end 2021
4. With the shift to core and evergreen structures, the real estate portfolio should remain cash flow positive to the broader OPERF portfolio
5. Significant enhancements to the staffing model, underwriting process, and portfolio analytics allow for optimized portfolio oversight and long term program success

And looking forward…

1. Continue seeking strongly aligned strategic partnerships and leveraging OPERF's scale to drive down fees
2. With scalable strategic partnerships, complemented by tactical strategies, the portfolio is well-positioned to deliver on its role of lowering OPERF's equity beta while creating alpha relative to the policy benchmark

Meketa: SWOT Analysis – OPERF RE Program

Strengths

- Investment mission complimentary to overall portfolio
- Strategic re-alignment of investments substantially completed
- Excellent performance over medium and long term
- Better alignment with managers and reduction in fees
- Experienced, cohesive team with bench strength

Weaknesses

- Costs of maintaining and improving assets are increasing
- Limited control over constraints that impact ability to deploy capital
- Required rates of return
- Integration of third-party data providers to better understand portfolio performance

Opportunities

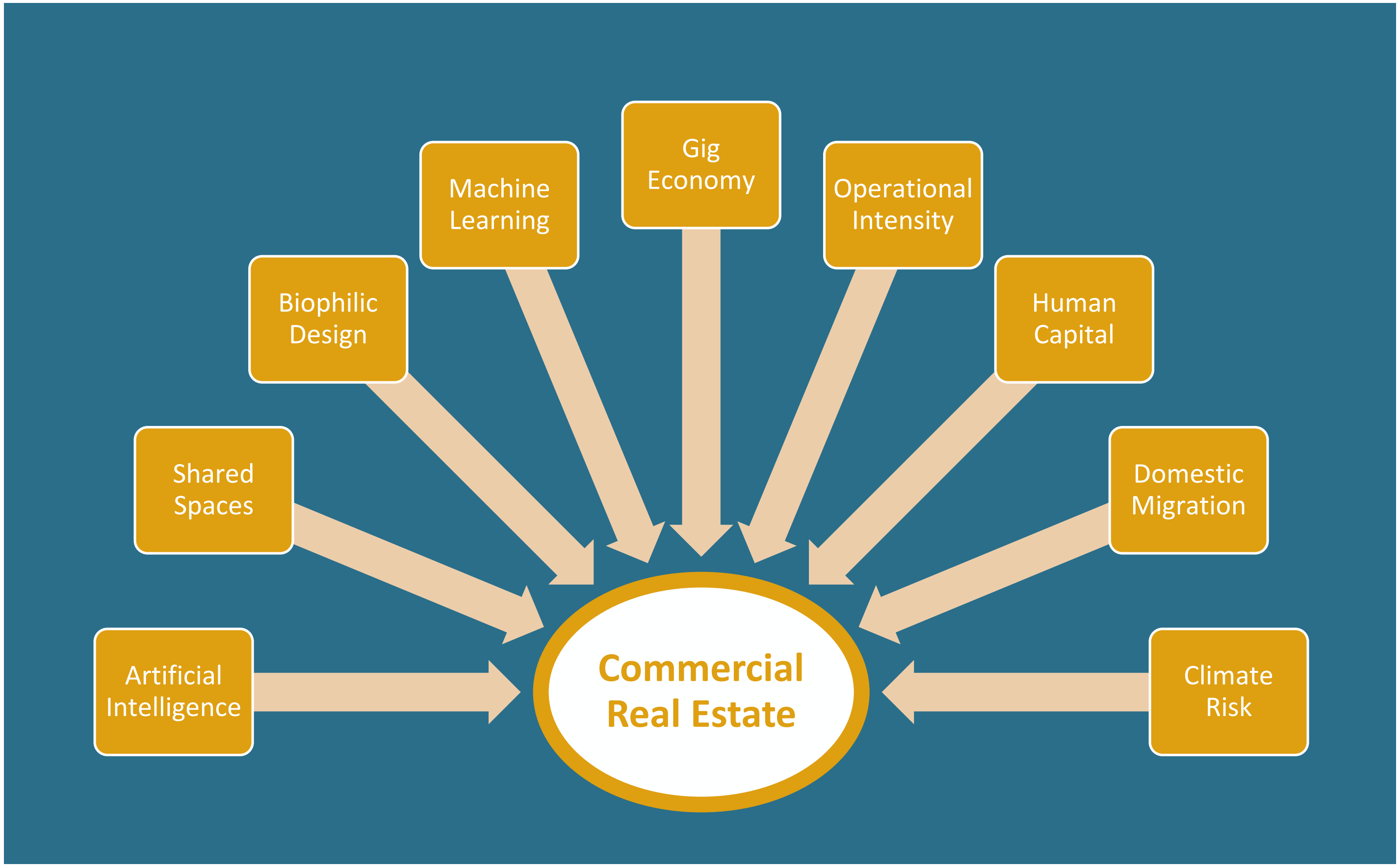
- Placing capital with partners who can add value at the operational level
- Influences changing the way people interact with the built environment
- Increased use of data analytics in portfolio management
- ESG initiatives
- Current position at lower end of target allocation

Threats

- Organizational change
- Competition for high-quality assets
- Technology changes, space use disruption/innovation, and obsolescence
- Retention of professionals
- Desire to invest in private assets, combined with low borrowing rates and lighter covenants, may result in bursts of speculative overbuilding

Sources: PCA

Meketa: Commercial real estate at the nexus of many dynamic influences



Sources: PCA

OREGON
STATE
TREASURY

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Oregon State Treasurer

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oregon.gov/treasury

TAB 7 – Q4 2018 Performance & Risk Report

OPERF

Callan

March 11, 2020

Oregon Investment Council

Fourth Quarter 2019
Performance Review

Global Economic Update 2020

The big picture

- **Central bank policy front and center**
  - The Fed was alone on a path to normalize interest rates, with nine rate hikes in two years; euro zone sat out. U.S. rates have been substantially higher than developed markets globally for an extended period.
  - Fed reversed course in January. Rates held constant through Q2; rates cut twice in Q3, and once more in Q4, but the Fed signaled no more rate cuts in 2020. Bond market now in agreement with the Fed, believes rates may come down another 25 bps.
- **Rest of the global economy is slowing, but U.S. remains strong; labor market very tight, reaching the limits of full employment.**
  - Solid Q1 GDP growth (3.2%) moderated in Q2 (2.0%), but held up surprisingly well in Q3 (2.1%) and again in Q4 (2.1%), despite slowing global growth and trade uncertainty; growth totaled 2.3% for the year.
  - Slower growth seemed inevitable after the impact of 2018 fiscal stimulus faded and full impact of nine rate hikes fed through the economy; Fed pivot has reduced probability of recession in 2020 substantially.
  - Switch to dovish Fed policy boosted consumer and business confidence and juiced stock market; drop in borrowing costs expected to sustain consumption growth and soften slowdown.
  - Policy reversal simultaneously stoked fears of coming slowdown and fed a rally in bonds, which enjoyed an “outlier” year in 2019.
  - Odds of a recession will rise once growth falls below trend; prospects for 2020 are for one more year of above-trend growth.
- **Slowdown in Europe and China weighing on global growth**
  - Euro zone unemployment has dropped, but economic growth stalled (GDP below 1.5%).
  - China has suffered through a dramatic slowdown in growth: industrial output, retail sales, implied GDP.
  - Resolution of trade uncertainty crucial to resumption of growth—far more important to China than the U.S.
- **Inflation stuck below 2% in U.S.; even weaker overseas**
  - Wage pressures in U.S. have yet to translate into headline inflation; low inflation gave the Fed cover to cut rates.

Does Strong 2019 Spell Problems for 2020 and Beyond?

Did we just ‘steal’ the expected return for the next 18 months?

Equity markets around the globe surged in Q4, and closed the year with outsized returns.
- S&P up 31.5%, World ex USA up 22.5%, even Emerging Markets up 18.4%. One-year results look particularly strong thanks to the sharp drop in Q4 2018—lower starting point.

Fed rate cuts, solid corporate fundamentals, and even lower unemployment propelled U.S. equity markets in Q4.

Fixed income markets enjoyed an “outlier” year.
- Aggregate up 8.7%, contrary to all forecasts
- Investment grade credit the strongest performer in the U.S.; long credit up 22.4%
- Yield curve shifted lower across maturities; inverted from 90-day to 10-year in April, then from 2- to 10-year in August, but ended the year no longer inverted.

Returns for Periods ended December 31, 2019

	1 Quarter	1 Year	5 Years	10 Years	25 Years
U.S. Equity					
Russell 3000	9.10	31.02	11.24	13.42	10.21
S&P 500	9.07	31.49	11.70	13.56	10.22
Russell 2000	9.94	25.52	8.23	11.83	9.35
Global ex-U.S. Equity					
MSCI World ex USA	7.86	22.49	5.42	5.32	5.31
MSCI Emerging Markets	11.84	18.44	5.61	3.68	--
MSCI ACWI ex USA Small Cap	11.01	22.42	7.04	6.92	5.93
Fixed Income					
Bloomberg Barclays Aggregate	0.18	8.72	3.05	3.75	5.56
90-day T-Bill	0.46	2.28	1.07	0.58	2.47
Bloomberg Barclays Long Gov/Credit	-1.12	19.59	5.42	7.59	7.90
Bloomberg Barclays Global Agg ex-US	0.67	5.09	1.62	1.50	4.38
Real Estate					
NCREIF Property	1.55	6.42	8.25	10.17	9.34
FTSE Nareit Equity	-0.76	26.00	7.21	11.94	10.64
Alternatives					
CS Hedge Fund	2.44	9.31	2.65	4.25	7.84
Cambridge Private Equity*	0.90	9.50	12.37	13.75	15.30
Bloomberg Commodity	4.42	7.69	-3.92	-4.73	1.70
Gold Spot Price	3.41	18.87	5.16	3.34	5.66
Inflation - CPI-U	0.08	2.29	1.82	1.75	2.18

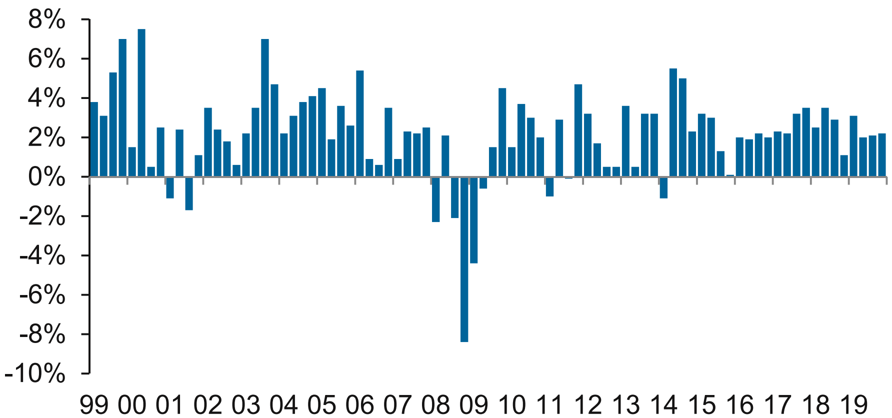
*Cambridge PE data through September 30, 2019.

Source: Callan

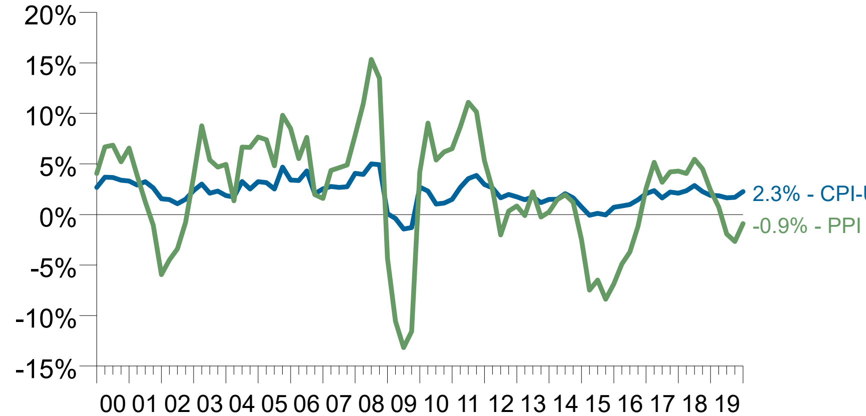
U.S. Economy—Summary

For periods ended December 31, 2019

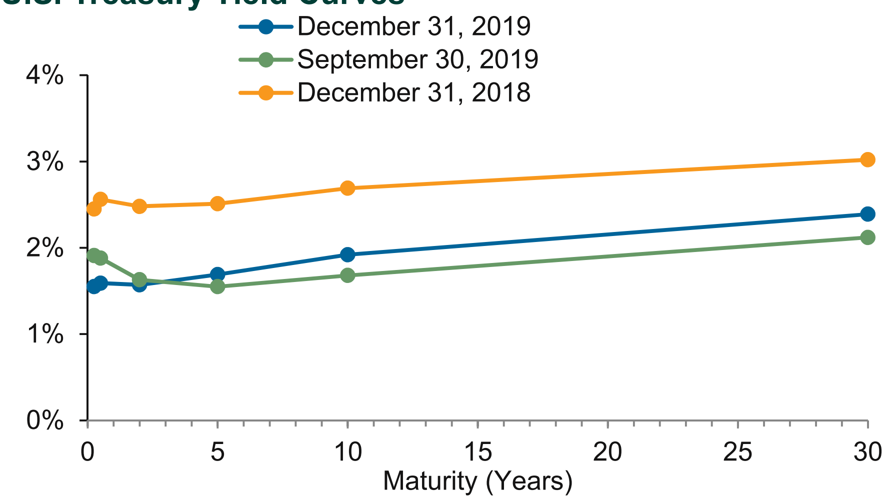
Quarterly Real GDP Growth



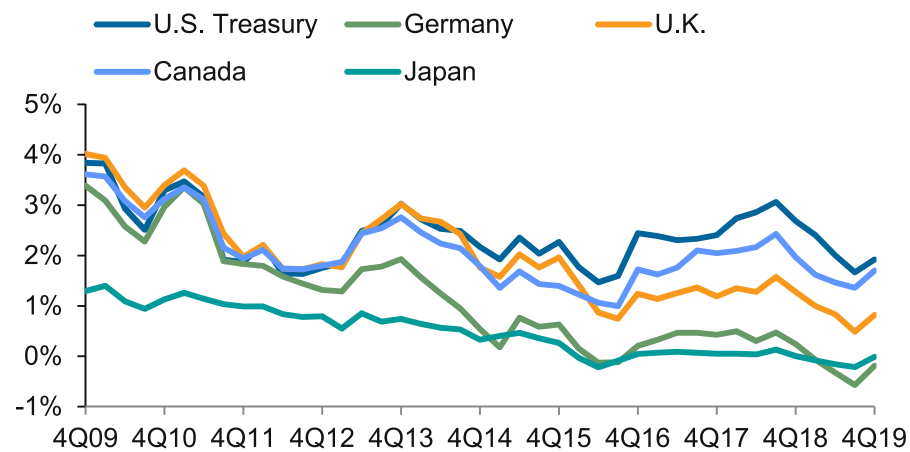
Inflation Year-Over-Year



U.S. Treasury Yield Curves



10-Year Global Government Bond Yields



Sources: Bloomberg, Bureau of Labor Statistics, Callan

Callan Periodic Table of Investment Returns

Returns for Key Indices

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Emerging Market Equity 34.00%	Real Estate 42.12%	Emerging Market Equity 39.38%	U.S. Fixed Income 5.24%	Emerging Market Equity 78.51%	Small Cap Equity 26.85%	U.S. Fixed Income 7.84%	Real Estate 27.73%	Small Cap Equity 38.82%	Real Estate 15.02%	Large Cap Equity 1.38%	Small Cap Equity 21.31%	Emerging Market Equity 37.28%	Cash Equivalent 1.87%	Large Cap Equity 31.49%
Real Estate 15.35%	Emerging Market Equity 32.17%	Non-U.S. Equity 12.44%	Non-U.S. Fixed Income 4.39%	High Yield 58.21%	Real Estate 19.63%	High Yield 4.98%	Emerging Market Equity 18.23%	Large Cap Equity 32.39%	Large Cap Equity 13.69%	U.S. Fixed Income 0.55%	High Yield 17.13%	Non-U.S. Equity 24.21%	U.S. Fixed Income 0.01%	Small Cap Equity 25.52%
Non-U.S. Equity 14.47%	Non-U.S. Equity 25.71%	Non-U.S. Fixed Income 11.03%	Cash Equivalent 2.06%	Real Estate 37.13%	Emerging Market Equity 18.88%	Non-U.S. Fixed Income 4.36%	Non-U.S. Equity 16.41%	Non-U.S. Equity 21.02%	U.S. Fixed Income 5.97%	Cash Equivalent 0.05%	Large Cap Equity 11.96%	Large Cap Equity 21.83%	High Yield -2.08%	Non-U.S. Equity 22.49%
Large Cap Equity 4.91%	Small Cap Equity 18.37%	U.S. Fixed Income 6.97%	High Yield -26.16%	Non-U.S. Equity 33.67%	High Yield 15.12%	Large Cap Equity 2.11%	Small Cap Equity 16.35%	High Yield 7.44%	Small Cap Equity 4.89%	Real Estate -0.79%	Emerging Market Equity 11.19%	Small Cap Equity 14.65%	Non-U.S. Fixed Income -2.15%	Real Estate 21.91%
Small Cap Equity 4.55%	Large Cap Equity 15.79%	Large Cap Equity 5.49%	Small Cap Equity -33.79%	Small Cap Equity 27.17%	Large Cap Equity 15.06%	Cash Equivalent 0.10%	Large Cap Equity 16.00%	Real Estate 3.67%	High Yield 2.45%	Non-U.S. Equity -3.04%	Real Estate 4.06%	Non-U.S. Fixed Income 10.51%	Large Cap Equity -4.38%	Emerging Market Equity 18.44%
Cash Equivalent 3.07%	High Yield 11.85%	Cash Equivalent 5.00%	Large Cap Equity -37.00%	Large Cap Equity 26.47%	Non-U.S. Equity 8.95%	Small Cap Equity -4.18%	High Yield 15.81%	Cash Equivalent 0.07%	Cash Equivalent 0.03%	Small Cap Equity -4.41%	Non-U.S. Equity 2.75%	Real Estate 10.36%	Real Estate -5.63%	High Yield 14.32%
High Yield 2.74%	Non-U.S. Fixed Income 8.16%	High Yield 1.87%	Non-U.S. Equity -43.56%	Non-U.S. Fixed Income 7.53%	U.S. Fixed Income 6.54%	Real Estate -6.46%	U.S. Fixed Income 4.21%	U.S. Fixed Income -2.02%	Emerging Market Equity -2.19%	High Yield -4.47%	U.S. Fixed Income 2.65%	High Yield 7.50%	Small Cap Equity -11.01%	U.S. Fixed Income 8.72%
U.S. Fixed Income 2.43%	Cash Equivalent 4.85%	Small Cap Equity -1.57%	Real Estate -48.21%	U.S. Fixed Income 5.93%	Non-U.S. Fixed Income 4.95%	Non-U.S. Equity -12.21%	Non-U.S. Fixed Income 4.09%	Emerging Market Equity -2.60%	Non-U.S. Fixed Income -3.09%	Non-U.S. Fixed Income -6.02%	Non-U.S. Fixed Income 1.49%	U.S. Fixed Income 3.54%	Non-U.S. Equity -14.09%	Non-U.S. Fixed Income 5.09%
Non-U.S. Fixed Income -8.65%	U.S. Fixed Income 4.33%	Real Estate -7.39%	Emerging Market Equity -53.33%	Cash Equivalent 0.21%	Cash Equivalent 0.13%	Emerging Market Equity -18.42%	Cash Equivalent 0.11%	Non-U.S. Fixed Income -3.08%	Non-U.S. Equity -4.32%	Emerging Market Equity -14.92%	Cash Equivalent 0.33%	Cash Equivalent 0.86%	Emerging Market Equity -14.57%	Cash Equivalent 2.28%

- S&P 500 Index
- Russell 2000 Index
- MSCI World ex USA
- MSCI Emerging Markets
- Bloomberg Barclays US Aggregate Bond
- Bloomberg Barclays High Yield Bond Index
- Bloomberg Barclays Global Aggregate ex US Bond Index
- FTSE EPRA/NAREIT Developed REIT Index
- 3-month Treasury Bill

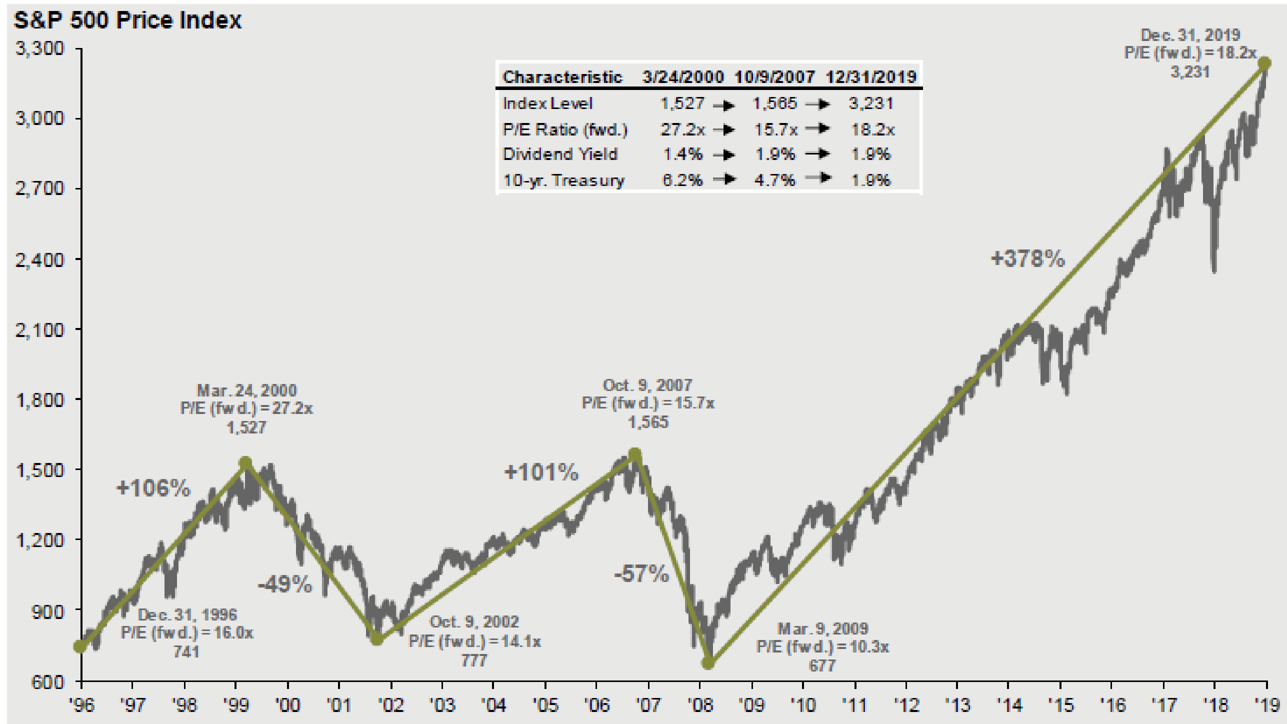
Sources: Bloomberg Barclays, FTSE Russell, MSCI, Standard & Poor's

U.S. Stock Markets Renew Surge Through Q4 2019

New record for the S&P 500 reached in Q4 2019.
- 9% gain in Q4, after slowing to 1.7% in Q3; 31.5% total return for 2019

Forward valuation jumped to 18.2 in Q4, well above its 25-year average (16.2).
- Still nowhere near the peak set in 2000

Yield on 10-year Treasury inched back to the level of the dividend yield on stocks.
- Prior to GFC, Treasury yield typically exceeded that of the stock dividend; two yields were very close for eight years following GFC.
- Gap began to widen with Fed tightening in 2017, but narrowed again in Q2 with reversal of Fed policy.
- Vastly different relationship between stock and bond yields in 2000 and 2007



Source: Compustat, FactSet, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management.
Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat. Forward price to earnings ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.
Guide to the Markets – U.S. Data are as of December 31, 2019.

Source: JPMorgan Asset Management

Inside the U.S. Markets

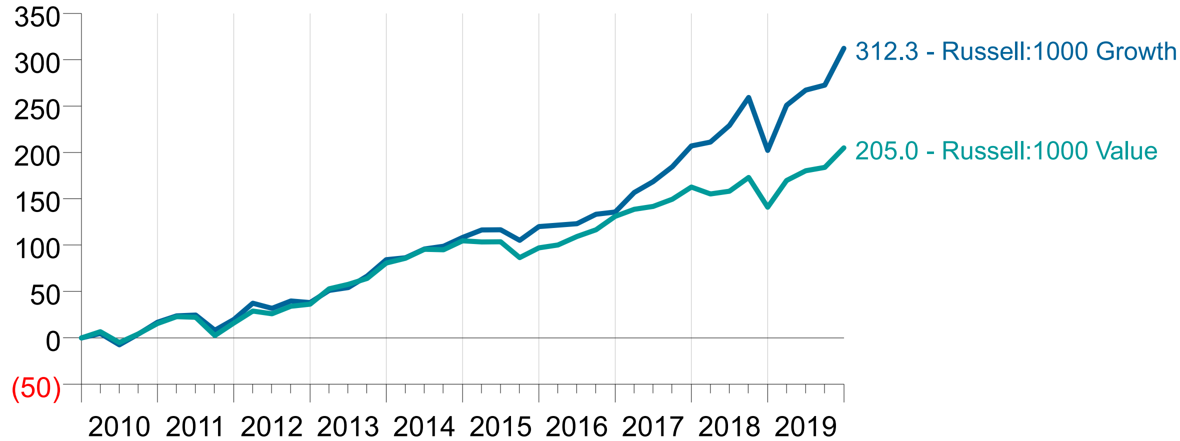
– Russell 1000 Growth Index outperformed the Russell 1000 Value Index by approximately 1,000 basis points during 2019.

– Over 10 years, the RU1G has outpaced the RU1V – especially since the beginning of 2015.

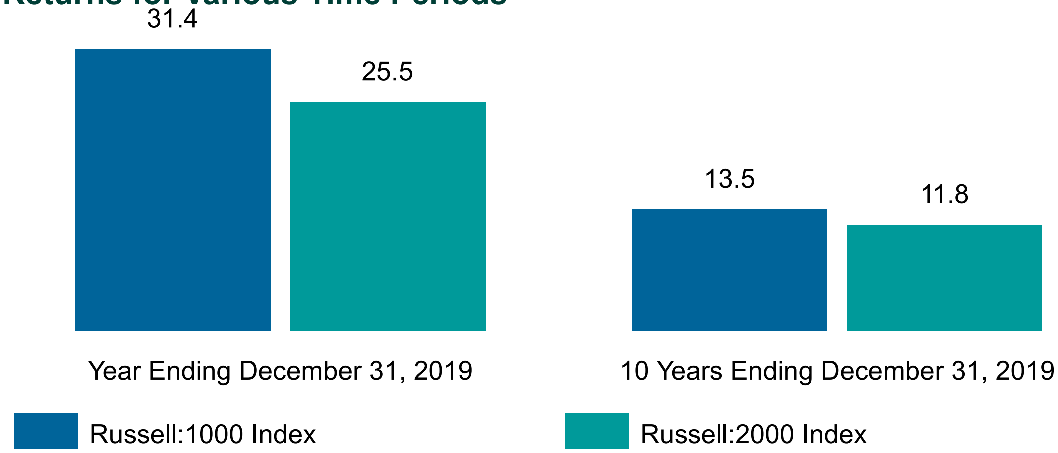
– Current forward P/E's for the growth and value indices are 25.6x and 16.6x, respectively. This valuation gap has only been wider 7% of the time.

– Even though small cap outperformed large cap in the fourth quarter, large cap has significantly outperformed small cap during 2019 and for the last 10 years.

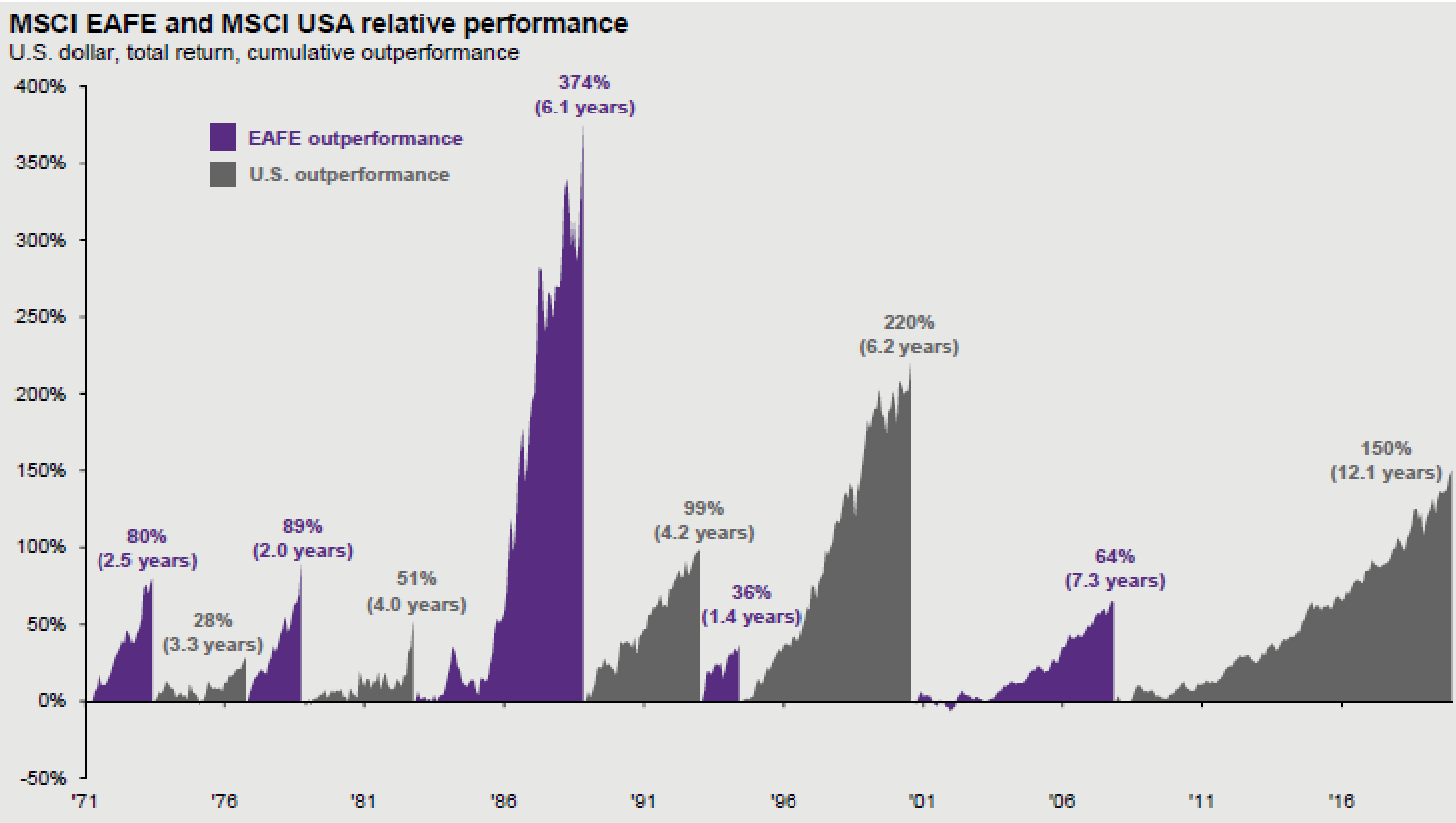
Cumulative Returns for 10 Years Ended 12/31/19



Returns for Various Time Periods



US and International Equity



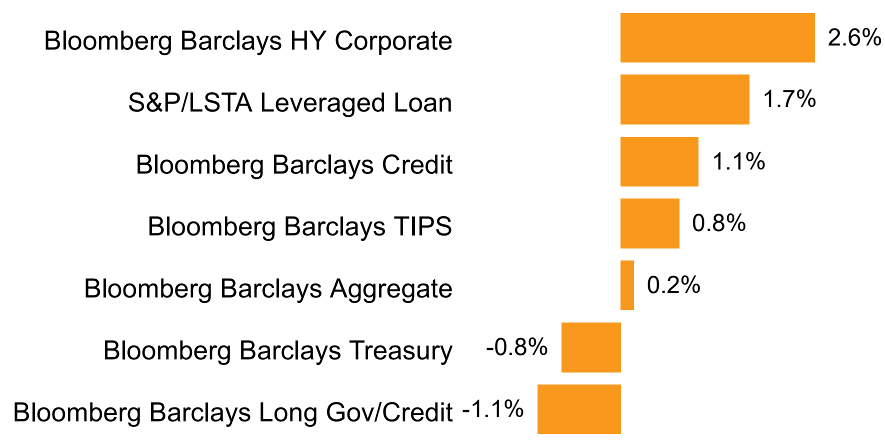
Source: MSCI, FactSet, J.P. Morgan Asset Management.
*Cycles of outperformance include a qualitative component to determine turning points in leadership.
Guide to the Markets – U.S. Data are as of December 31, 2019.

Source: JPMorgan: On the Bench, December 31, 2019

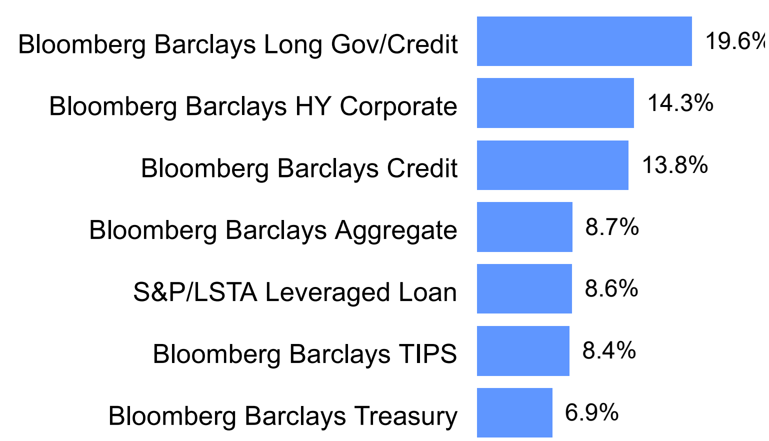
U.S. Fixed Income Performance

- For the quarter, the Treasury index declined 0.8% with rising rates - yields fell on short end and rose modestly on intermediate to long end of the curve.
- Spread between the 2-year and 10-year Treasuries remained positive, ending the year at 34 bps.
- TIPS outperformed nominal Treasuries as inflation expectations rose; 10-year breakeven spread was 1.77% as of quarter-end, up from 1.53% as of Sept. 30.
- Below investment grade credit performed best over the quarter and second best for the year.
- Long Gov/Credit was best performing over the year given falling rates.

U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: Annual Returns



Sources: Bloomberg Barclays, S&P Dow Jones Indices

OPERF Total Regular Account

Performance Summary for the Fourth Quarter 2019

Total Fund:

For the quarter ended December 31, 2019, the Total Regular Account rose 3.60% (+3.48% net of fees), lagging behind the 3.97% return of the Policy Benchmark, and ranked in the fourth quartile of Callan's $10B+ public fund peer group. For the twelve months ended December, the Total Regular Account gained 14.10% (+13.56% net of fees), short of the return for the Policy Target, and ranked 95th in Callan's $10B+ public fund peer group. Longer term results against the Policy Target were mixed, however, peer group ranks placed in the top quartile.

Asset Classes:

— **Total Fixed Income:** The Fixed Income Portfolio added 0.34% (+0.31% net of fees) for the quarter versus a gain of 0.12% for the Custom Fixed Income Benchmark, and ranked in the 73rd percentile of Callan's Public Funds $10B+ US Fixed income (Gross) peer group. For the trailing year, the Portfolio rose 8.98% (+8.84% net of fees), ahead of the 8.27% return of the benchmark, and ranked in the 79th percentile of the peer group. Ten year results were ahead of the benchmark and ranked in the 27th percentile of the peer group.

— **Total Public Equity:** Total Public Equity portfolio returned 8.58% (+8.52% net of fees) for the quarter versus 9.05% increase in the MSCI ACWI IMI Net benchmark, and ranked in the 59th percentile of its peer group. For the trailing year, the portfolio rose 25.53% (+25.25% net of fees), behind the 26.35% return of the benchmark and ranked in the 66th percentile of peer group.

- **U.S. Equity:** The U.S. Equity Portfolio increased 9.02% (+9.00% net of fees) for the quarter, approximately inline with the Russell 3000 Index return of 9.10%, and ranked in the 48th percentile of Callan's Public Fund: $10B+ Domestic Equity (gross) peer group. On a trailing 12 month basis, the Portfolio rose 29.08% (+28.99% net of fees) versus a return of 31.02% for the benchmark and ranked in the 75th percentile of the peer group. Ten year results of 12.99% (+12.78% net of fees) lagged the benchmark return of 13.42% and ranked in the 79th percentile of the peer group.

- **International Equity:** The International Equity Portfolio registered returns of 9.55% (+9.45% net of fees) for the quarter, exceeding the 9.20% return of the MSCI ACWI ex-U.S. IMI Index, and ranked in the 62nd percentile of Callan's Public Fund: $10B+ International Equity (gross) peer group. For the trailing year, the Portfolio returned 23.10% (+22.61% net of fees) outperforming the benchmark return of 21.63%, and ranked in the 48th percentile in the peer group. Ten year results remained comfortably ahead of the benchmark (+6.49% net of fees versus +5.21%) and continued to rank in the top quartile of the peer group.

— **Total Real Estate:** The Real Estate Portfolio continued to show competitive absolute results over the last decade with an annualized return of 9.53% net of fees.

— **Opportunity Portfolio:** The Opportunity Portfolio's results over the last ten years continued to be favorable with an annualized return of 8.56% net of fees.

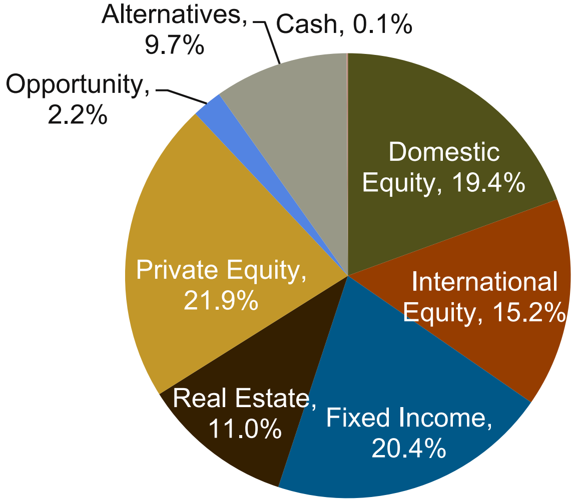
— **Alternative Portfolio:** The Alternative Portfolio returned 1.24% per annum net of fees over the last five years.

— **Total Private Equity:** The Private Equity Portfolio's returns remained strong with an annualized return of 13.39% net of fees over the last ten years.

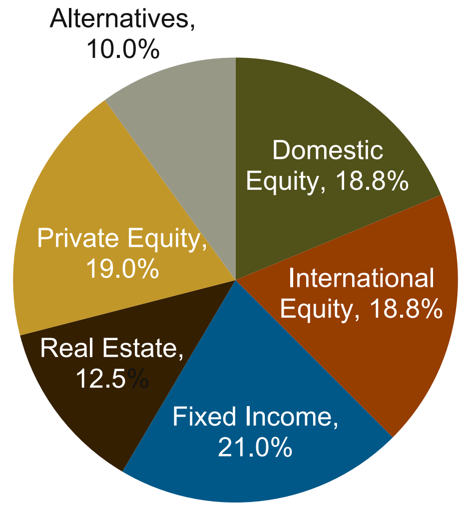
OPERF Total Regular Account

Asset Allocation

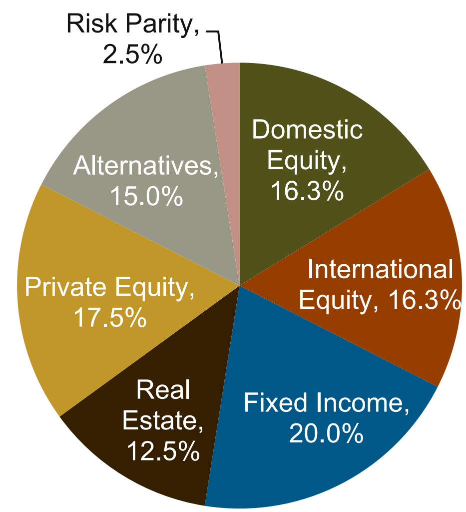
Actual Allocation as of 12/31/2019



Interim Policy Target*



Strategic Policy Target**



Asset Class	$000s Actual	Weight*** Actual	Target	Percent Difference	$000s Difference
Total Fixed Income	16,149,467	20.4%	21.0%	(0.6%)	(454,330)
U.S. Equity Portfolio	15,333,992	19.4%	18.8%	0.6%	509,173
Non-U.S. Equity Portfolio	12,035,159	15.2%	18.8%	(3.5%)	(2,789,660)
Total Real Estate	8,728,646	11.0%	12.5%	(1.5%)	(1,154,567)
Opportunity Portfolio	1,715,831	2.2%	0.0%	2.2%	1,715,831
Alternative Portfolio	7,688,993	9.7%	10.0%	(0.3%)	(217,578)
Total Private Equity	17,322,313	21.9%	19.0%	2.9%	2,299,830
Cash	91,300	0.1%	0.0%	0.1%	91,300
Total	79,065,700	100.0%	100.0%		

*Interim policy target adopted January 1, 2019 **Strategic policy target adopted April 24, 2019 ***Totals provided by OST Staff

OPERF Total Regular Account

Net Cumulative Performance by Asset Class as of December 31, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Regular Account	**3.48%**	**13.56%**	**9.60%**	**7.54%**	**8.91%**
Total Regular Account ex-Overlay	3.43%	13.19%	9.47%	7.39%	8.78%
OPERF Policy Benchmark*	3.97%	13.99%	10.09%	8.10%	9.22%
Total Fixed Income	**0.31%**	**8.84%**	**4.20%**	**3.23%**	**4.75%**
Custom FI Benchmark	0.12%	8.27%	3.91%	2.87%	3.79%
Callan Public Fund > $10bn U.S. Fixed	0.53%	9.61%	4.49%	3.72%	4.41%
Total Public Equity	**8.52%**	**25.25%**	**11.74%**	**8.54%**	**9.41%**
MSCI ACWI IMI Net	9.05%	26.35%	12.09%	8.34%	8.91%
U.S. Equity Portfolio	**9.00%**	**28.99%**	**12.68%**	**10.26%**	**12.78%**
Russell 3000 Index	9.10%	31.02%	14.57%	11.24%	13.42%
Callan Large Public > $10bn U.S. Equity	8.97%	30.37%	14.14%	10.90%	13.31%
Non-U.S. Equity Portfolio	**9.45%**	**22.61%**	**10.77%**	**6.74%**	**6.49%**
MSCI ACWI ex-US IMI Index	9.20%	21.63%	9.84%	5.71%	5.21%
Callan Large Public > $10bn Non-U.S. Equity	9.66%	22.99%	10.78%	6.57%	6.20%
Total Real Estate	**1.49%**	**7.25%**	**8.44%**	**8.61%**	**9.53%**
Total Real Estate ex REITs	1.87%	7.27%	9.10%	9.99%	9.44%
Oregon Custom Real Estate Benchmark	1.08%	4.64%	6.34%	8.24%	9.61%
Callan Public Plan - Real Estate	1.62%	7.39%	7.88%	8.84%	10.75%
Opportunity Portfolio	**3.40%**	**6.15%**	**7.47%**	**6.11%**	**8.56%**
CPI + 5%	1.30%	7.32%	7.09%	6.73%	6.70%
Alternative Portfolio	**-0.66%**	**-1.32%**	**1.40%**	**1.24%**	**-**
CPI + 4%	1.07%	6.37%	6.18%	5.89%	-
Total Private Equity	**1.89%**	**11.10%**	**15.48%**	**12.02%**	**13.39%**
OIC - Russell 3000 + 300 BPS Qtr Lag	1.91%	6.00%	16.18%	13.73%	16.44%

*Current Policy Benchmark = 37.5%, MSCI ACWI IMI, 21.0% OPERF Custom Total FI Benchmark, 19.0% Russell 3000 + 300 bps Qtr Lag, 12.5% Oregon Custom Real Estate Benchmark and 10.0% CPI + 400 bps
Target 12/18= 39.0%, MSCI ACWI IMI, 22.0% OPERF Custom Total FI Benchmark, 19.0% Russell 3000 + 300 bps Qtr Lag, 12.5% Oregon Custom Real Estate Benchmark and 7.5% CPI + 400 bps

OPERF Total Regular Account

Net Calendar Year Performance by Asset Class

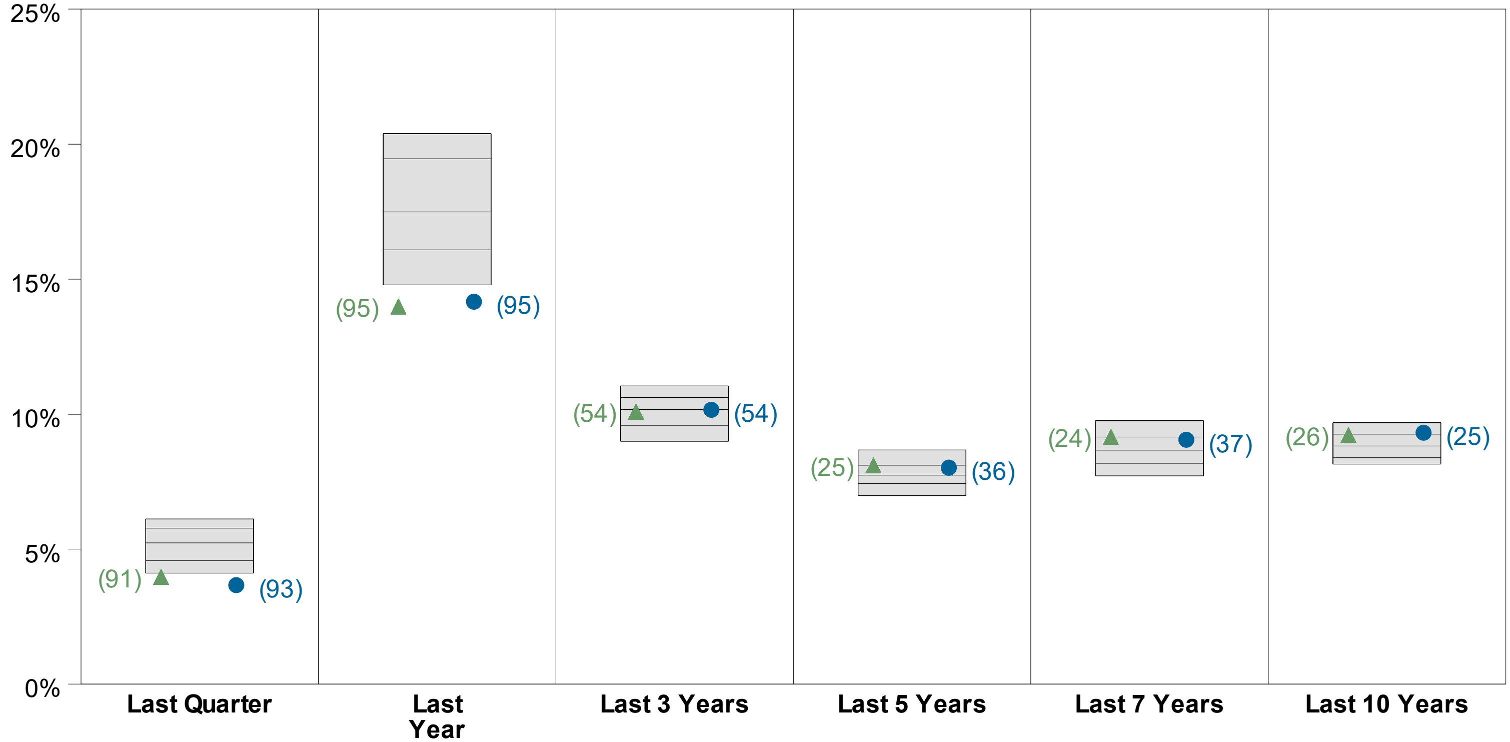
	2019	2018	2017	2016	2015
Total Regular Account	**13.56%**	**0.48%**	**15.39%**	**7.11%**	**2.01%**
Total Regular Account ex-Overlay	13.19%	0.45%	15.38%	6.73%	2.02%
OPERF Policy Benchmark*	13.99%	1.22%	15.64%	8.95%	1.57%
Total Fixed Income	**8.84%**	**0.25%**	**3.70%**	**3.06%**	**0.54%**
Custom FI Benchmark	8.27%	0.31%	3.32%	2.52%	0.16%
Callan Public Fund > $10bn U.S. Fixed	9.61%	-0.58%	4.61%	4.82%	-0.06%
Total Public Equity	**25.25%**	**-10.47%**	**24.41%**	**9.89%**	**-1.75%**
MSCI ACWI IMI Net	26.35%	-10.08%	23.95%	8.36%	-2.19%
U.S. Equity Portfolio	**28.99%**	**-7.87%**	**20.40%**	**14.90%**	**-0.87%**
Russell 3000 Index	31.02%	-5.24%	21.13%	12.74%	0.48%
Callan Large Public > $10bn U.S. Equity	30.37%	-5.76%	21.28%	12.60%	0.40%
Non-U.S. Equity Portfolio	**22.61%**	**-14.88%**	**30.23%**	**4.67%**	**-2.59%**
MSCI ACWI ex-US IMI Index	21.63%	-14.76%	27.81%	4.41%	-4.60%
Callan Large Public > $10bn Non-U.S. Equity	22.99%	-14.03%	29.70%	5.16%	-3.22%
Total Real Estate	**7.25%**	**8.03%**	**10.05%**	**7.88%**	**9.90%**
Total Real Estate ex REITs	7.27%	8.87%	11.19%	10.01%	12.67%
Oregon Custom Real Estate Benchmark	4.64%	7.71%	6.70%	8.88%	13.48%
Callan Public Plan - Real Estate	7.39%	7.98%	7.70%	8.50%	12.31%
Opportunity Portfolio	**6.15%**	**5.85%**	**10.47%**	**6.12%**	**2.14%**
CPI + 5%	7.32%	6.77%	7.18%	6.99%	5.39%
Alternative Portfolio	**-1.32%**	**-2.44%**	**8.30%**	**6.61%**	**-4.32%**
CPI + 4%	6.37%	5.98%	6.19%	6.16%	4.76%
Total Private Equity	**11.10%**	**18.15%**	**17.32%**	**6.26%**	**7.79%**
OIC - Russell 3000 + 300 BPS Qtr Lag	6.00%	21.06%	22.22%	18.37%	2.49%

*Current Policy Benchmark = 37.5%, MSCI ACWI IMI, 21.0% OPERF Custom Total FI Benchmark, 19.0% Russell 3000 + 300 bps Qtr Lag, 12.5% Oregon Custom Real Estate Benchmark and 10.0% CPI + 400 bps
Target 12/18= 39.0%, MSCI ACWI IMI, 22.0% OPERF Custom Total FI Benchmark, 19.0% Russell 3000 + 300 bps Qtr Lag, 12.5% Oregon Custom Real Estate Benchmark and 7.5% CPI + 400 bps

OPERF Total Regular Account

Gross Performance and Peer Group Rankings* as of December 31, 2019

Performance vs Callan Public Fund Spons- V Lg DB (>10B) (Gross)

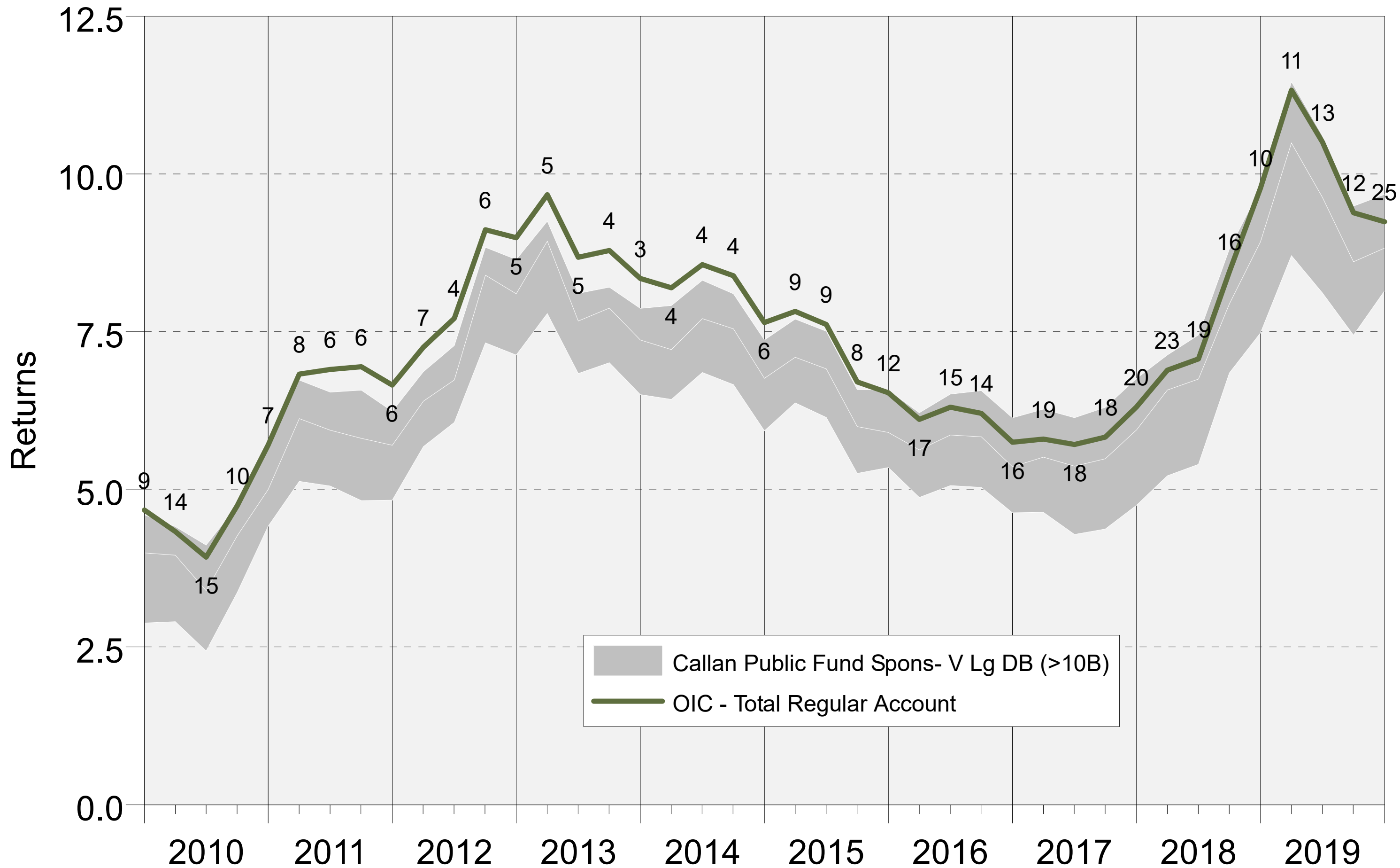


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	6.12	20.38	11.04	8.67	9.76	9.68
25th Percentile	5.78	19.45	10.62	8.11	9.15	9.26
Median	5.23	17.49	10.18	7.74	8.66	8.82
75th Percentile	4.59	16.08	9.59	7.43	8.18	8.39
90th Percentile	4.11	14.78	9.00	6.98	7.71	8.15
Total Regular Account ●	3.60	14.10	10.09	7.95	8.98	9.24
Policy Target ▲	3.97	13.99	10.09	8.10	9.16	9.22

*Versus Callan's Very Large Public Funds (> $10 billion) Peer Group (35 funds)

OPERF Rolling 10 Year Returns and Rankings

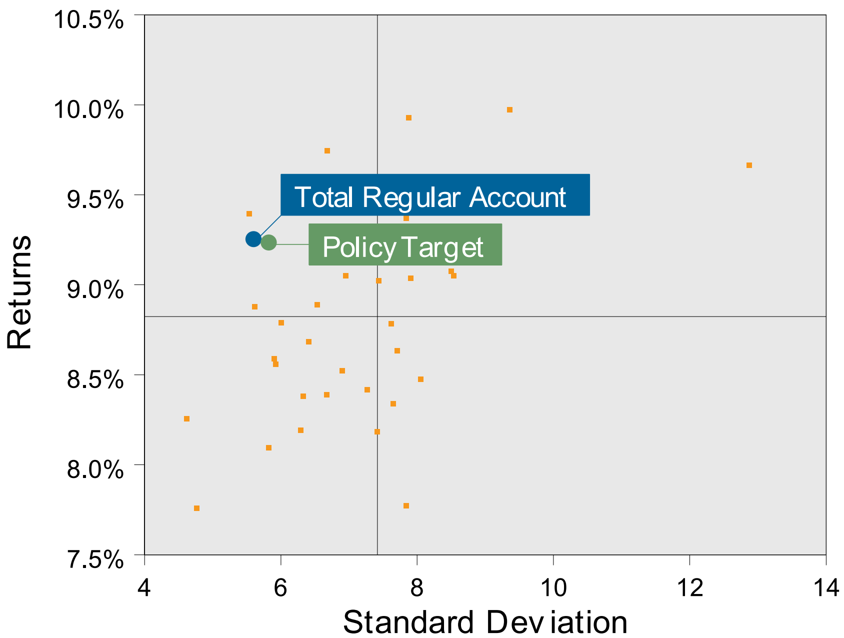
Rolling 40 Quarter Gross of Fee Returns
for 10 Years Ended December 31, 2019



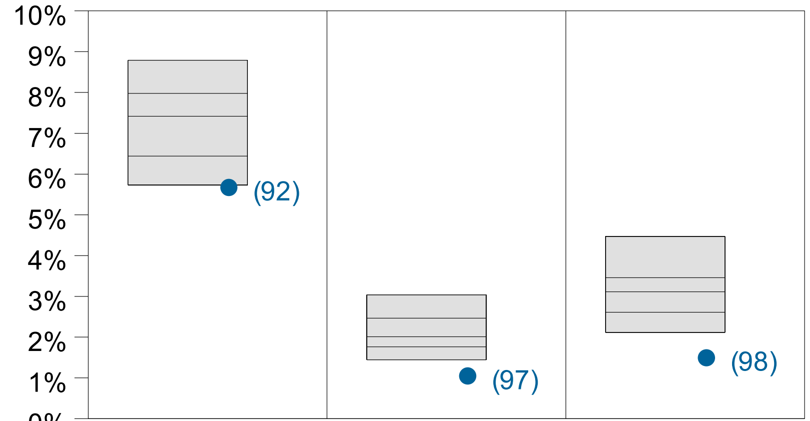
OPERF Total Regular Account

Risk vs Return

Callan Public Fund Spons- V Lg DB (>10B) (Gross)
Annualized Ten Year Risk vs Return



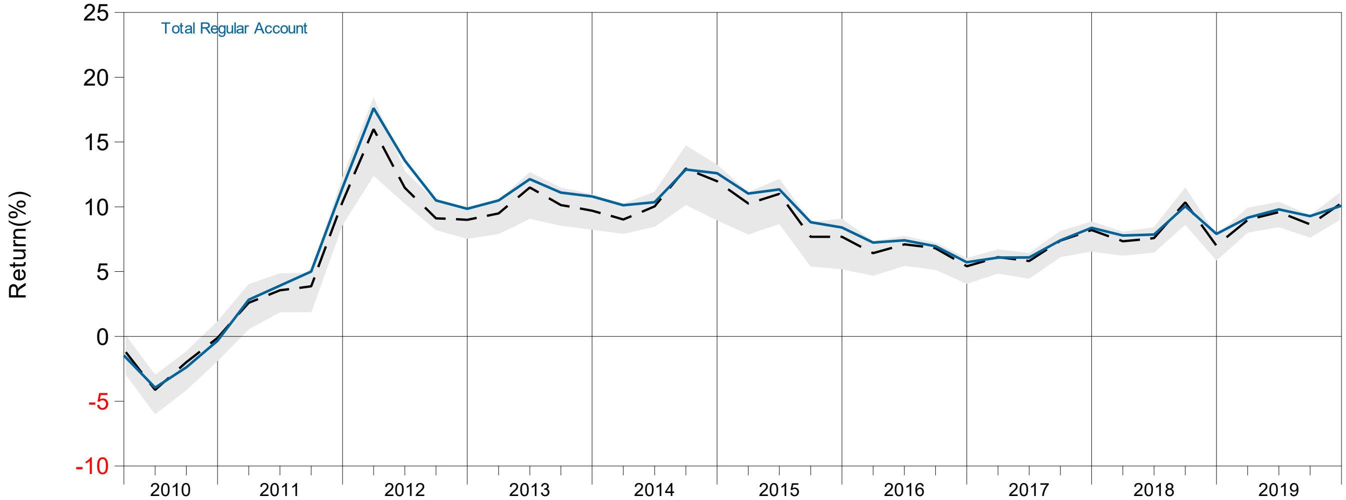
Risk Statistics Rankings vs Policy Target
Rankings Against Callan Public Fund Sponsor- V Lg DB (>10B) (Gross)
Ten Years Ended December 31, 2019



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	8.79	3.04	4.47
25th Percentile	7.98	2.46	3.46
Median	7.42	2.01	3.11
75th Percentile	6.44	1.76	2.61
90th Percentile	5.73	1.44	2.12
Total Regular Account ●	5.63	0.99	1.45

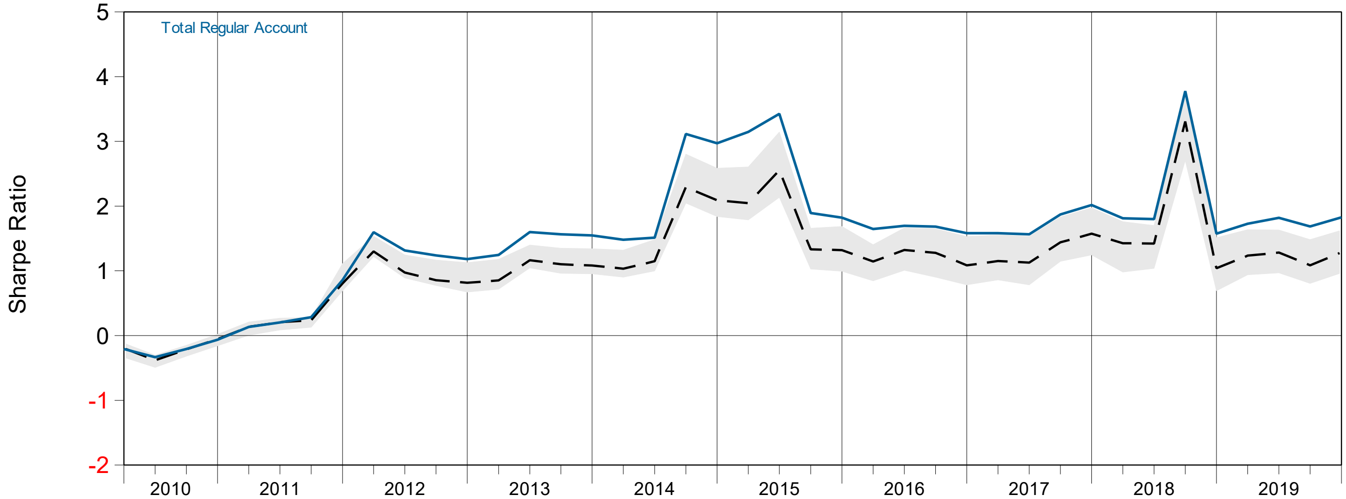
Total Fund Consistency

Rolling Three Year Return(%) Relative to Policy Target
Ten Years Ended December 31, 2019



Rolling Three Year Period Analysis	Median	Portfolio
Average Annual Return(%)	7.57%	8.10%
% Positive Periods	90%	90%
Average Ranking	50	31

Rolling Three Year Sharpe Ratio Relative to Policy Target
Ten Years Ended December 31, 2019



Rolling Three Year Period Analysis	Median	Portfolio
Average Annual Sharpe Ratio	1.12%	1.52%
% Positive Periods	90%	90%
Average Ranking	50	13

Callan

Appendix

U.S. Equity: Risk on Environment Continues

Shift away from defensive sectors toward cyclicals

- Utilities, Real Estate, and Staples took a back seat to cyclically oriented sectors during the fourth quarter.
- Investors harnessed three interest rate cuts, a potential U.S.-China trade armistice, and some clarity around Brexit in the risk-on environment.

Small caps outpaced large for quarter but lagged on year.

- Heightened new drug approvals and M&A activity within Health Care's biotech and pharma industries propelled small caps.
- While small cap prevailed in the fourth quarter, large caps led for the third straight year, owing much of the gains to the Tech sector (+50.3%) and Communication Services (+32.7%).
- Apple (+85%) and Microsoft (+54%) hit over $1 trillion in market cap, accounting for 15% of the S&P 500's annual advance.

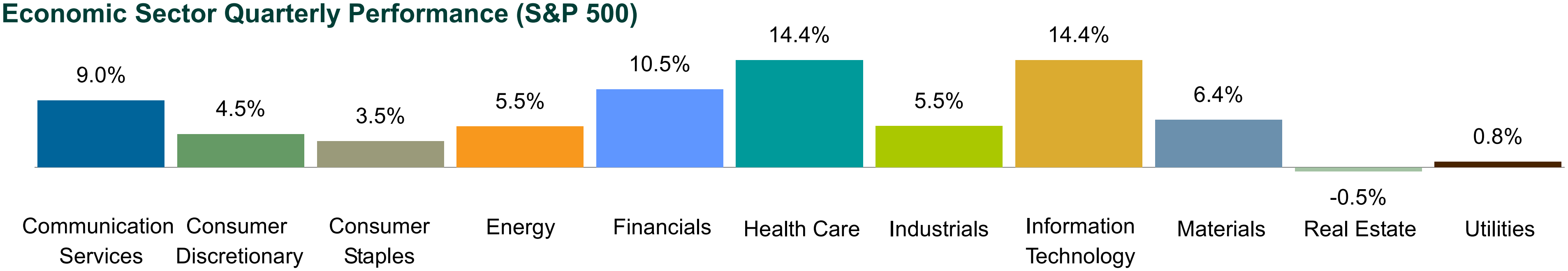
Growth vs. value

- Growth continued its dominance over value during the quarter across the market cap spectrum, closing out a decade-long trend supported by a low-rate environment.

U.S. Equity: Quarterly Returns

U.S. Equity: One-Year Returns

Economic Sector Quarterly Performance (S&P 500)

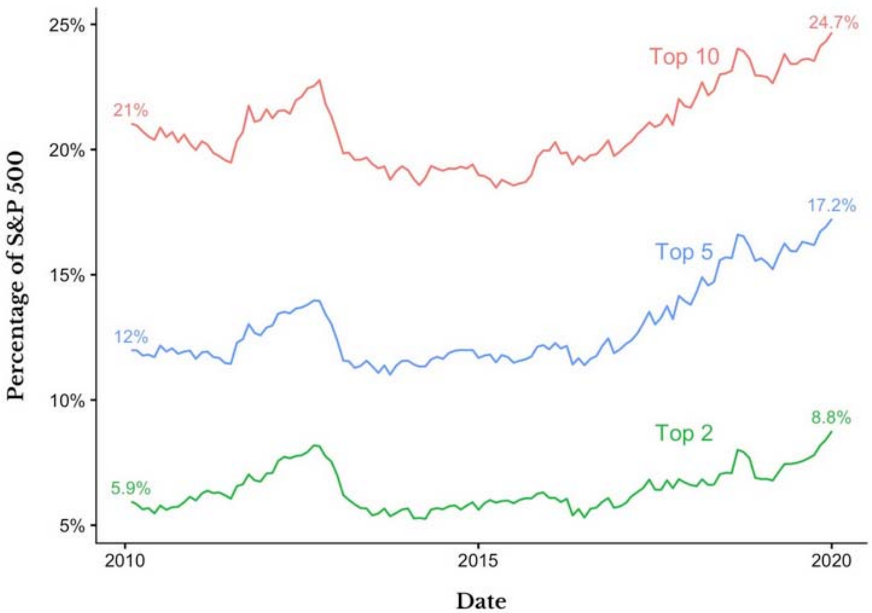


Sources: FTSE Russell, S&P Dow Jones Indices

Index Concentration

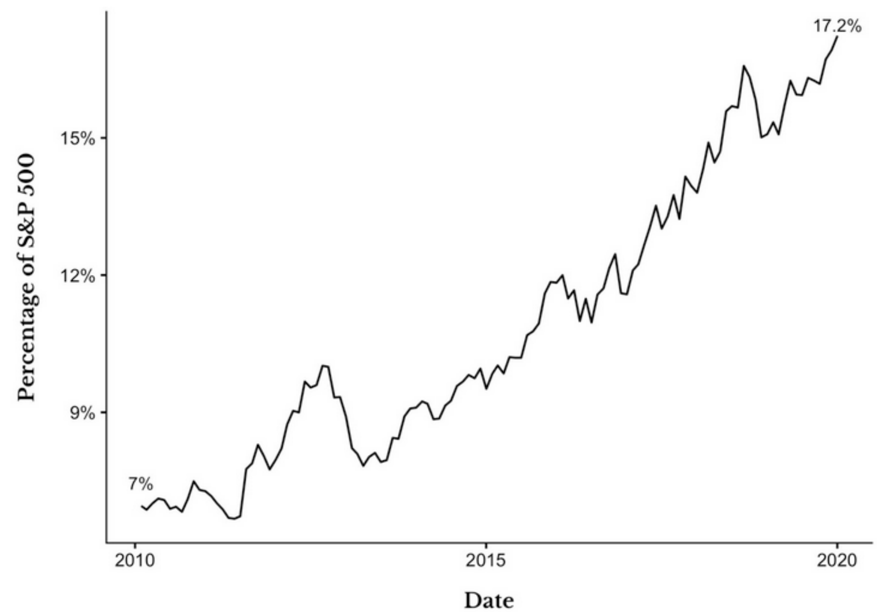
A 'Nifty 50' sentiment

Share of Largest Companies in the S&P 500



Source: YCharts, 2010-2019 (OfDollarsAndData.com)

FAAMG Stocks Percent Share of the S&P 500



Source: YCharts, 2010-2019 (OfDollarsAndData.com)

- FAANG + Microsoft contribution to return in 2019: 25% (S&P 500); 40% (R1000 Growth)
- Information Technology had a 50% return for 2019 and accounted for 31% of the S&P 500 Index return for the calendar year.
- The IT sector is trading for about 22 times forward earnings estimates, up from 15.7x a year ago.
- The disproportionate increased index weighting continues to grow as passive and price-indifferent strategies and vehicles gain investor capital and interest.
- While there are good fundamental reasons for Technology leadership, the recent six-month spike may be driven by a "herd" mentality and may have created an overbought environment.

Global ex-U.S. Equity Performance

Trade war de-escalation and Brexit clarity turned global ex-U.S. markets positive.

- The “phase one” trade deal triggered a “risk-on” market environment.
- The Conservative Party gained command of Parliament in December, adding further clarity to the Brexit withdrawal plan and sparking the pound to rally.
- China soared 14.7% with easing trade tensions and expected fiscal and monetary stimulus packages in 2020.

Trade-related sectors prevailed.

- Technology, specifically within Asia, fueled the market as trade tensions receded.
- Factor performance favored risk, including beta and volatility, reflecting risk-on market environment.

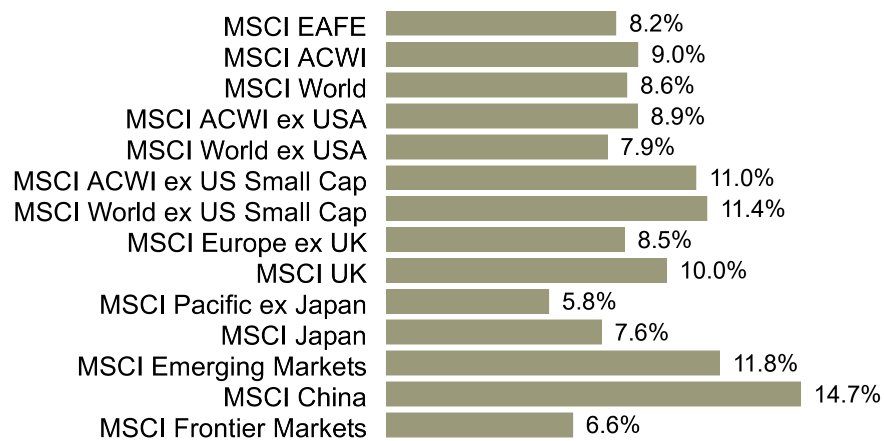
U.S. dollar vs. other developed and emerging market currencies

- Major developed and emerging market currencies declined vs. the dollar as optimism replaced market anxiety as the phase one trade deal neared.

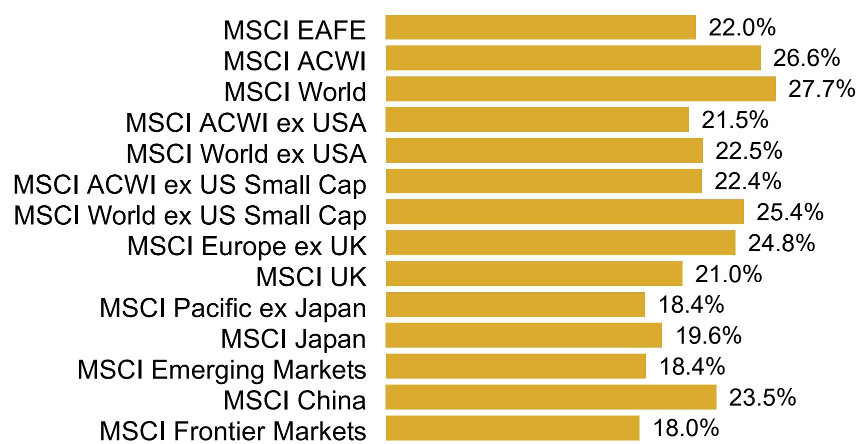
Growth vs. value

- Growth continued to outperform value within markets and capitalizations, supported by Technology and Health Care.

Global Equity: Quarterly Returns



Global Equity: Annual Returns



Source: MSCI

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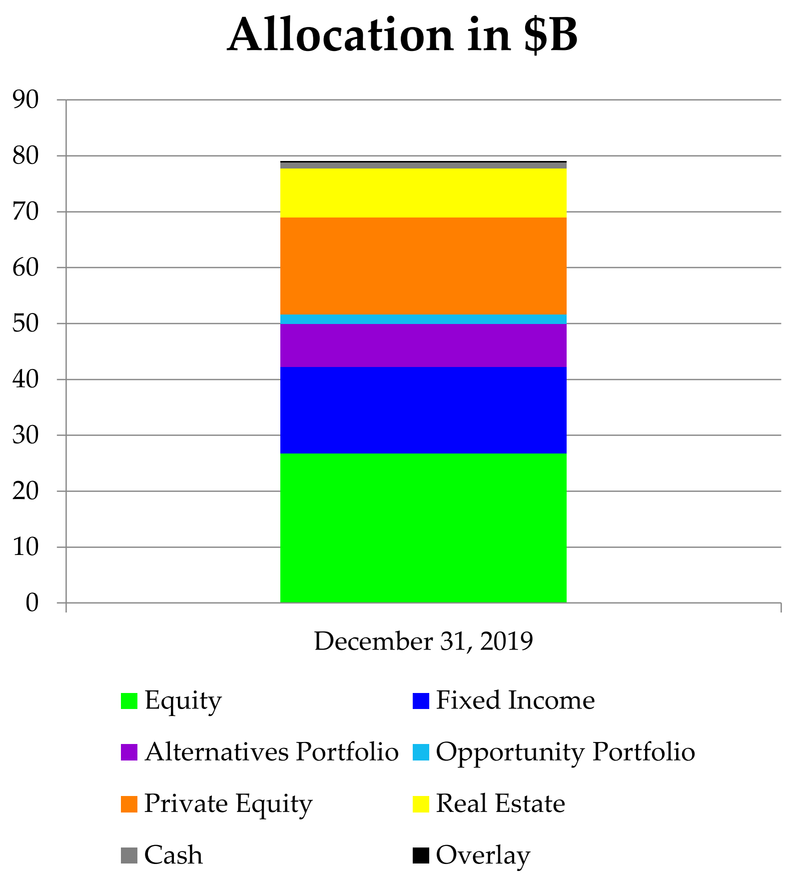
March 11, 2020

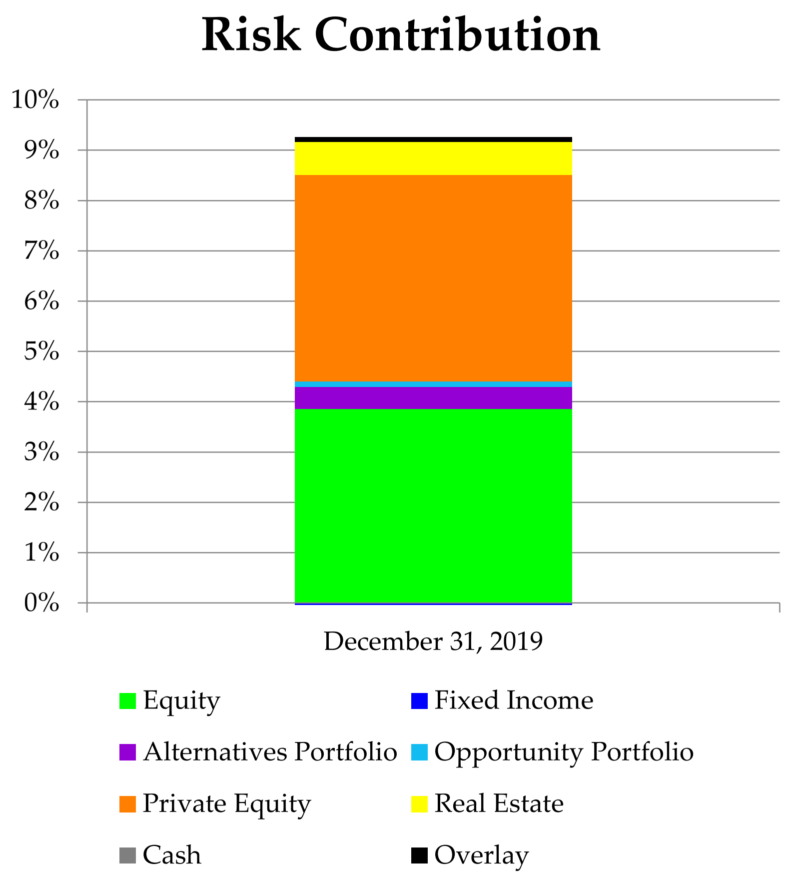
OPERF Risk Dashboard

2019 Q4

OREGON
STATE
TREASURY

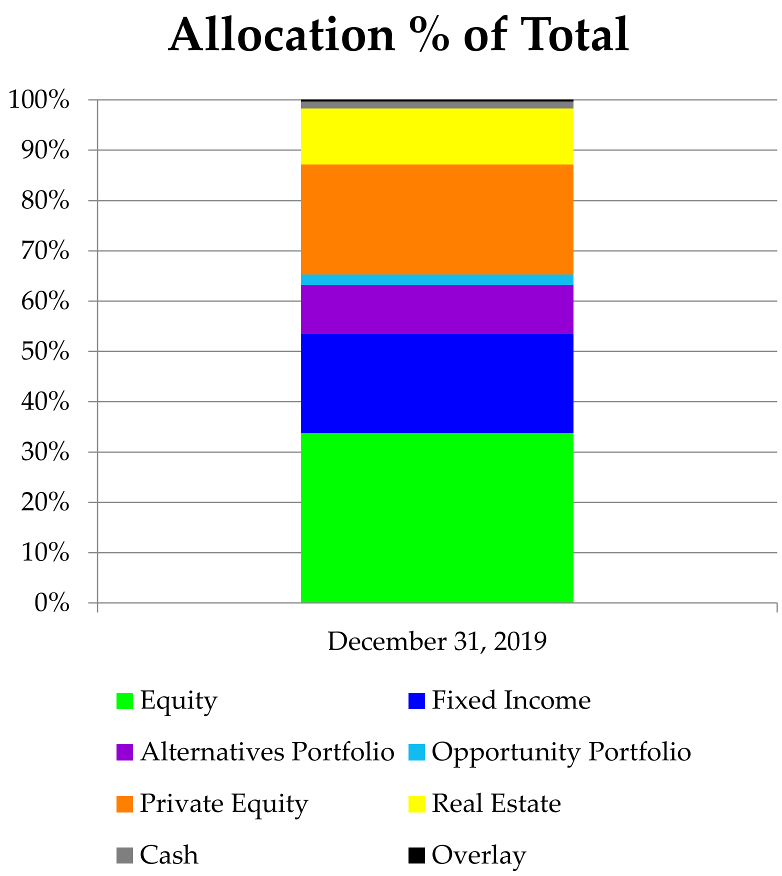
Allocation & Risk Contribution by Asset Class

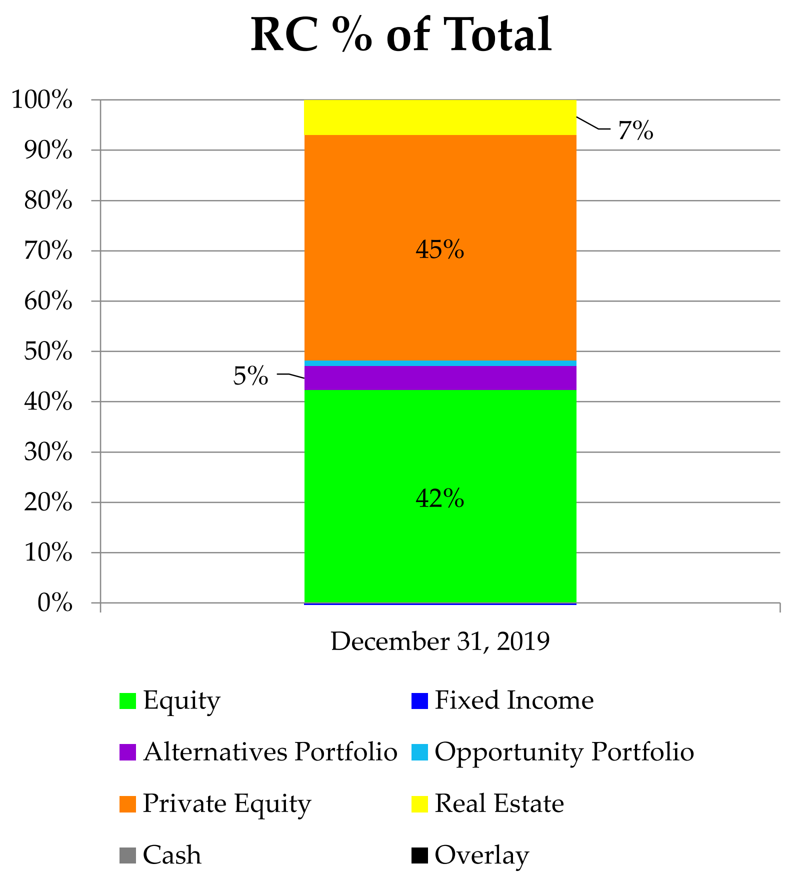




OREGON STATE TREASURY

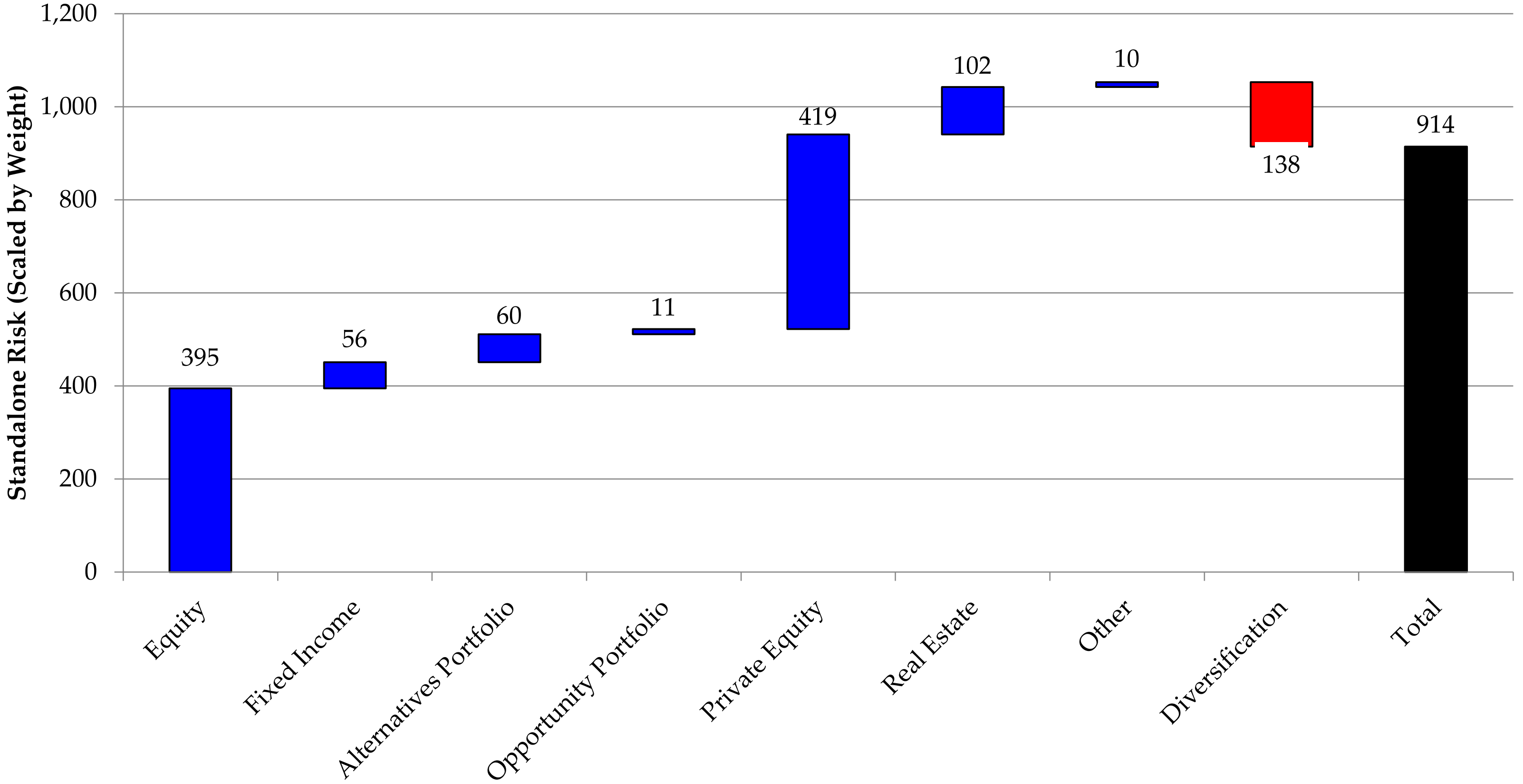
Allocation & Risk Contribution by Asset Class





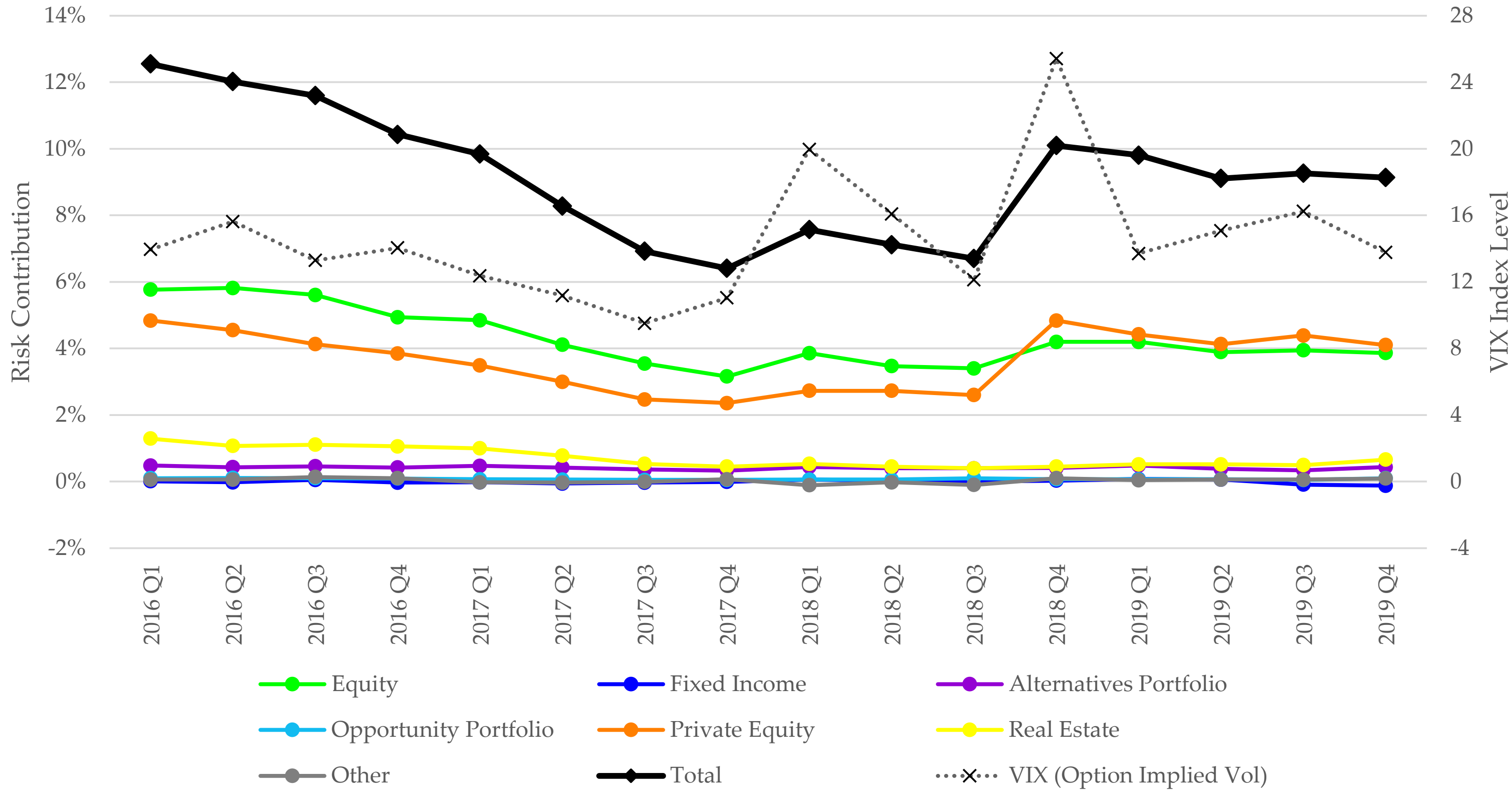
OREGON STATE TREASURY

Stand-alone Risk by Asset Class



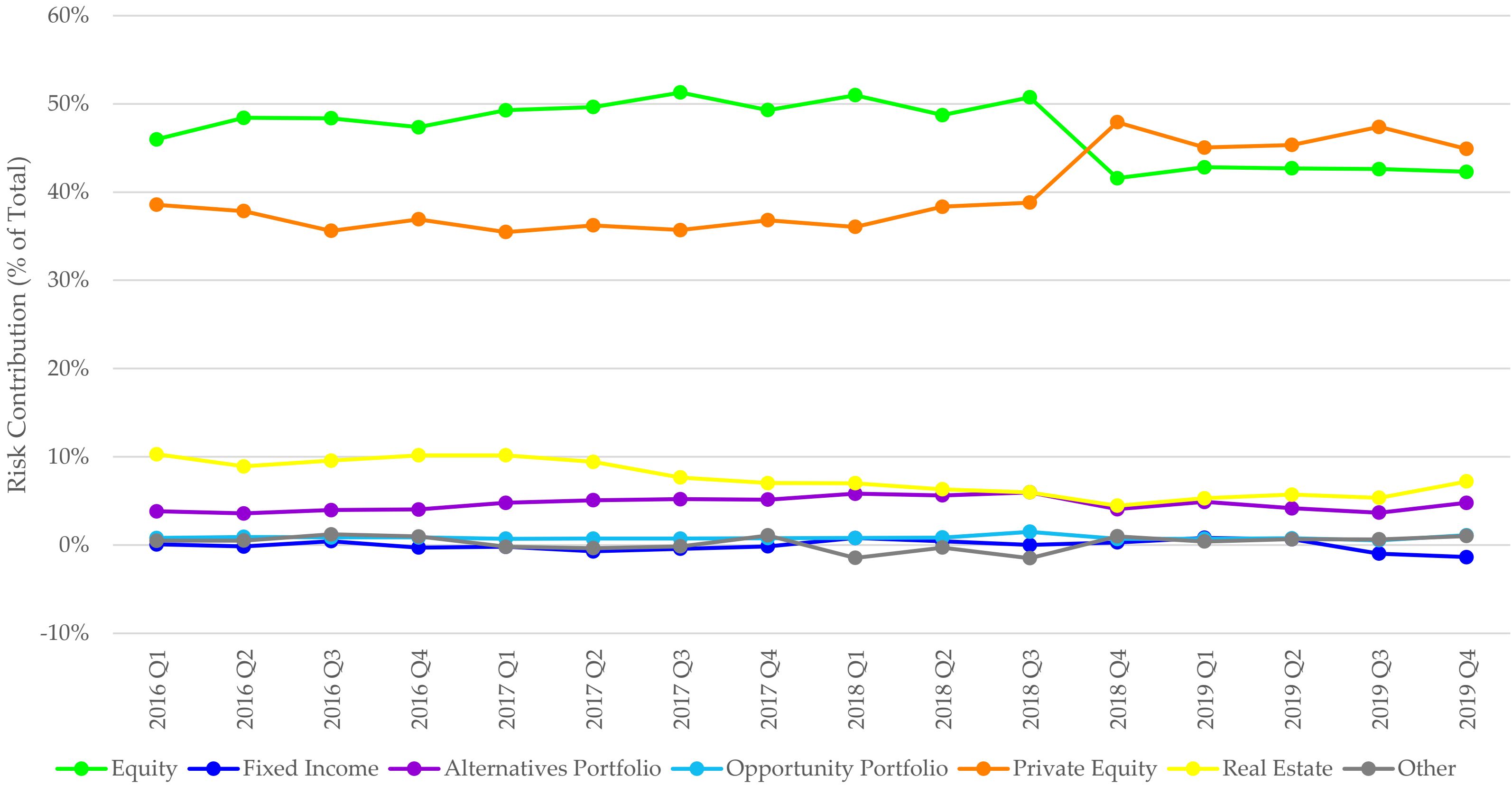
OREGON STATE TREASURY

16-Quarter Risk Contribution Time Series



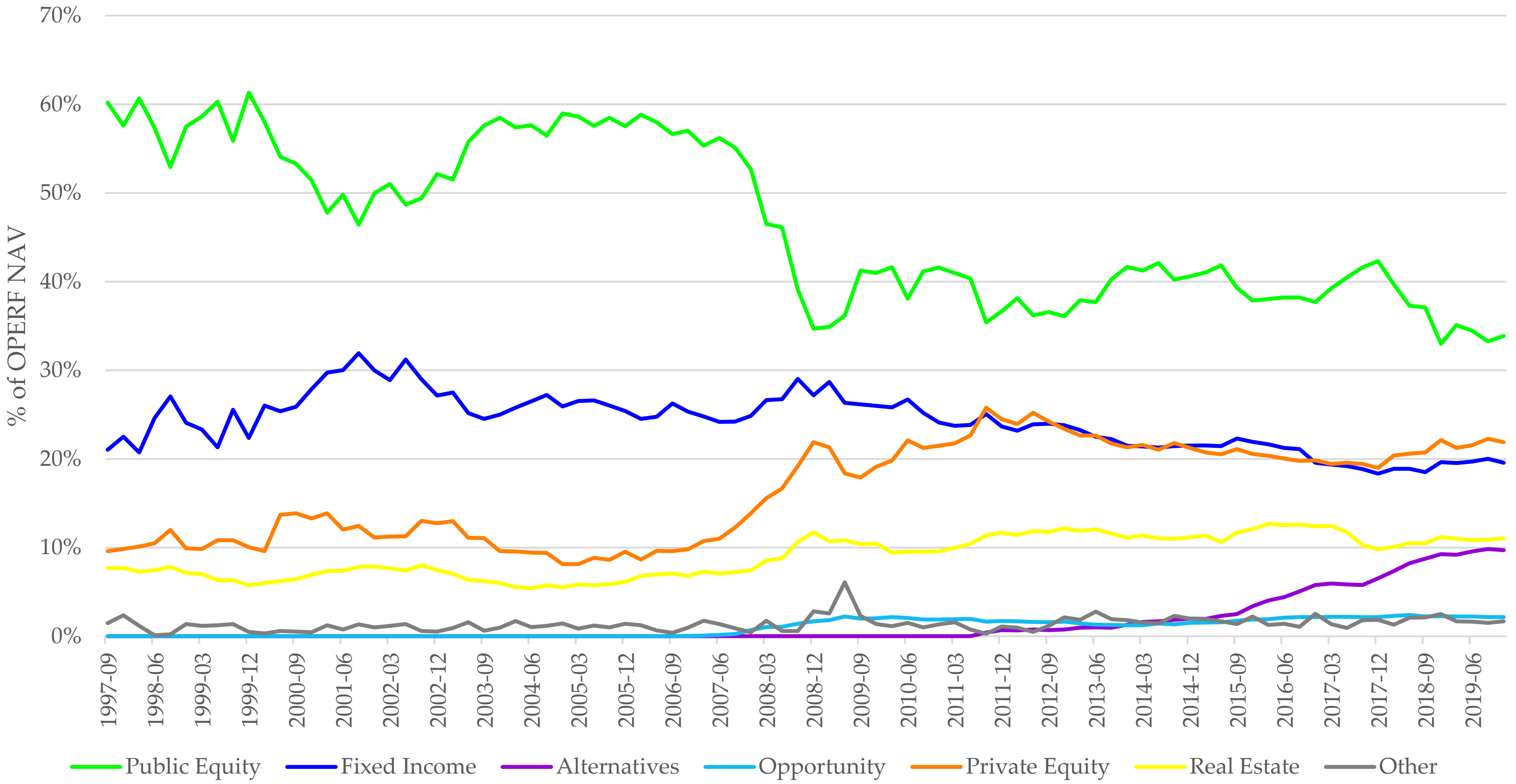
OREGON STATE TREASURY

16-Quarter Risk Contribution Time Series



OREGON STATE TREASURY

Historical Asset Allocation



OREGON STATE TREASURY

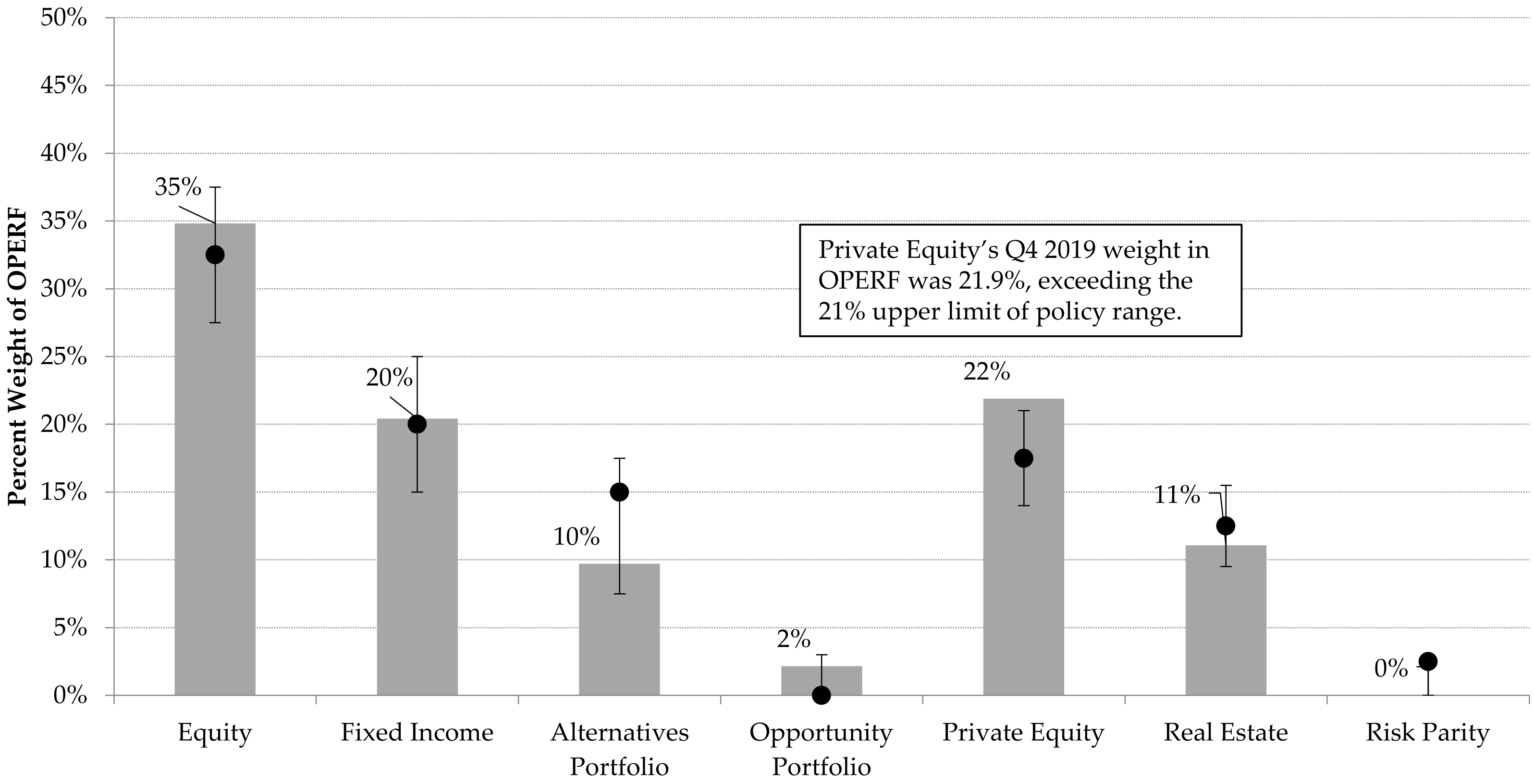
Correlation Matrix by Asset Class

Expected Return	Expected Risk	Predicted Risk[1]	Dec 31, 2019	Equity	Fixed Income	Alternatives Portfolio	Opportunity Portfolio	Private Equity	Real Estate	**OPERF**
7.3%	18.8%	11.7%	Equity	1.00	-0.31	0.68	0.87	0.96	0.53	**0.98**
3.8%	3.8%	2.9%	Fixed Income		1.00	-0.13	-0.23	-0.33	0.10	**-0.22**
7.0%	9.1%	6.2%	Alternatives Portfolio			1.00	0.64	0.67	0.50	**0.73**
		5.2%	Opportunity Portfolio				1.00	0.88	0.64	**0.90**
9.2%	26.3%	19.1%	Private Equity					1.00	0.55	**0.98**
7.0%	12.2%	9.2%	Real Estate						1.00	**0.65**
7.3%	**12.5%**	**9.1%**	**OPERF**							**1.00**

Capital Market Assumptions from Callan

[1] Ex-Ante, holdings-based correlations between asset classes as estimated by Aladdin

OPERF Allocations



OREGON STATE TREASURY

Liquidity Report

	Liquidity ($M)					
Asset Class	**1 Week**	**1 Month**	**1 Quarter**	**∞**	**Uncalled Commitment**	**Next 12 Months**
Cash & Overlay	1,342					
Public Equity	23,901	*1,763*	*557*	*557*		
Fixed Income	12,817	*2,668*				
Private Equity				17,322	-10,198	
Real Estate	*602*			8,128	-2,319	
Alternatives	1,054	1,425	965	4,244	-3,954	
Opportunity	400		242	1,073	-669	
Proj PERS Cash Flow						-3,600
Total	40,117	5,856	1,765	31,325	-17,140	-3,600

Public Equity - 1 Month = AQR 130/30, Arrowstreet 130/30, & Callan US Micro Cap Value portfolios
Public Equity - 1 Quarter = 50% Lazard Closed-End Fund portfolio
Public Equity - ∞ = 50% Lazard Closed-End Fund portfolio
Fixed Income - 1 Month = Below Investment Grade
Real Estate - 1 Week = REIT composite

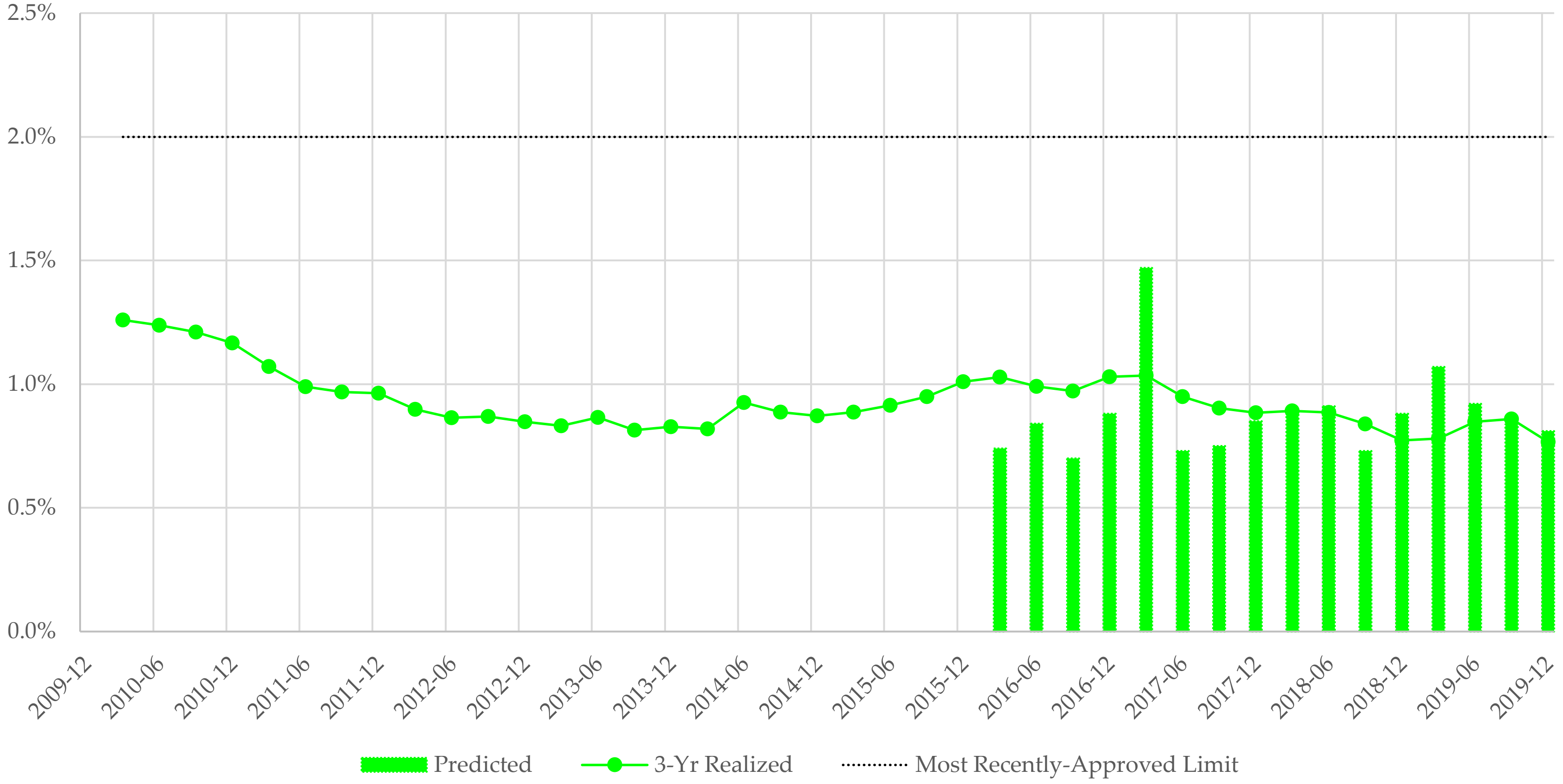
Table periods approximate the time required to liquidate different OPERF allocations.

OREGON STATE TREASURY

Top 10 Exposures by Investment Firm

Rank	Asset Manager	Mkt Val ($mm)	Mkt Val Weight	Asset Class
1	Internally-Managed	15,202	19.2%	Cash, Fixed Income, Public Equity
2	Dimensional Fund Advisors	4,715	6.0%	Public Equity
3	AQR	3,162	4.0%	Alternatives, Public Equity
4	KKR	3,133	4.0%	Fixed Income, Private Equity
5	Arrowstreet Capital	2,711	3.4%	Public Equity
6	AllianceBernstein	2,375	3.0%	Fixed Income, Public Equity
7	BlackRock	2,252	2.8%	Alternatives, Fixed Income
8	Lazard	1,882	2.4%	Public Equity
9	Western Asset Management Co	1,853	2.3%	Fixed Income
10	Wellington	1,808	2.3%	Fixed Income

Public Equity Portfolio Active Risk



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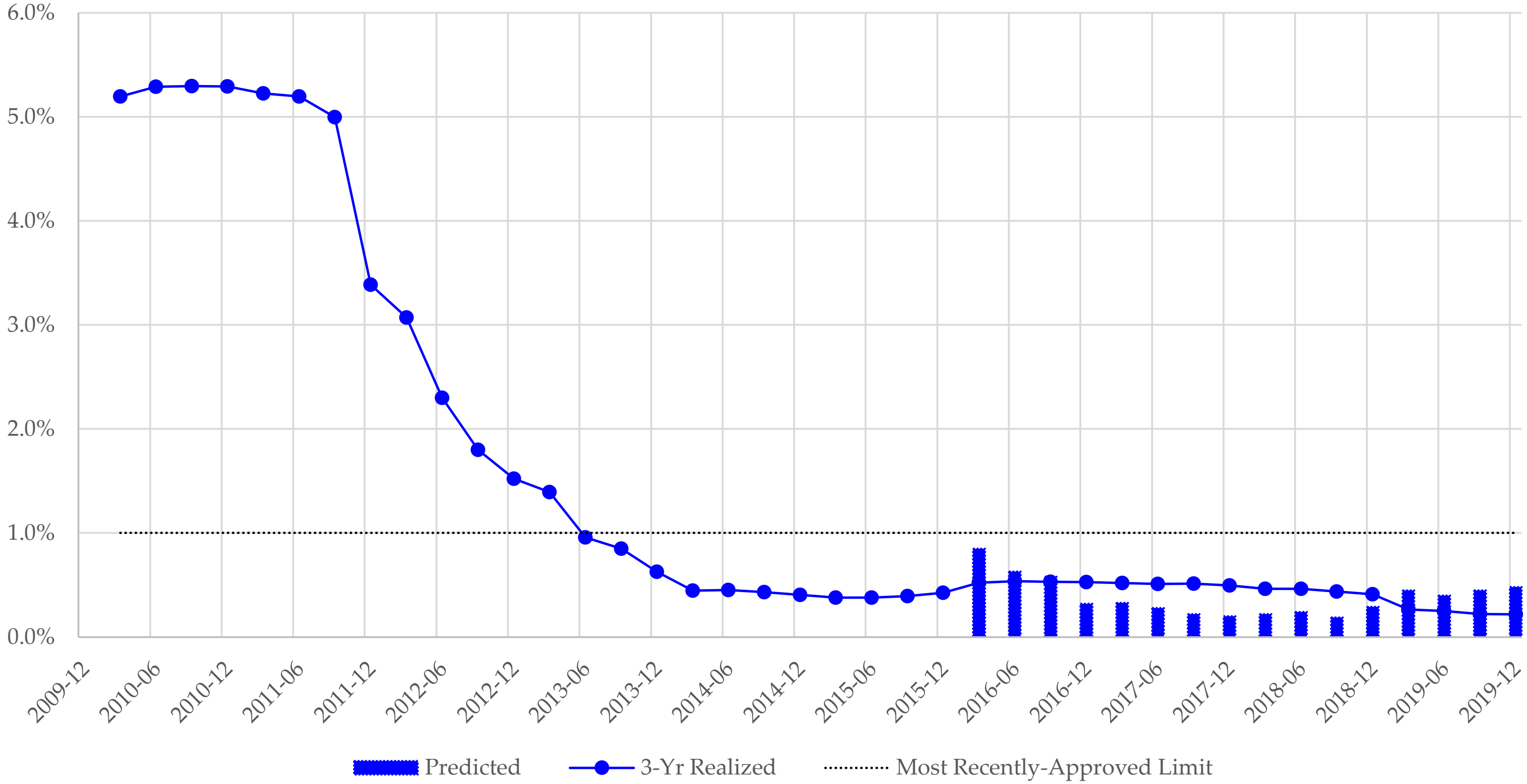
Fixed Income Portfolio Active Risk



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Public Equity Portfolio Currency Exposures

		Currency Exposure			
	Currency	**Public Equity Portfolio ex-FX Hedge**	***MSCI ACWI IMI***	**Currency Overlay Program**	**Public Equity Portfolio (Net)**
USD	U.S. Dollar	60.4%	*56.3%*	4.4%	64.8%
EUR	Euro	7.4%	*9.2%*	-1.6%	5.8%
JPY	Japanese Yen	7.4%	*7.6%*	-1.2%	6.1%
GBP	British Pound	4.5%	*5.0%*	-0.4%	4.2%
HKD	Hong Kong Dollar	2.8%	*3.3%*	-0.1%	2.7%
CAD	Canadian Dollar	2.3%	*3.0%*	0.0%	2.2%
CHF	Swiss Franc	2.2%	*2.6%*	-0.9%	1.3%
AUD	Australian Dollar	1.9%	*2.1%*	0.1%	1.9%
KRW	Korean Won	1.7%	*1.5%*	0.0%	1.7%
BRL	Brazilian Real	1.3%	*0.9%*	0.0%	1.3%
Other	Other Currencies	8.1%	*8.5%*	-0.2%	7.9%
	Total	**100.0%**	***100.0%***	**0.0%**	**100.0%**

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Framework to Calculating Active Beta

- Take the estimated Active Factor Exposures and Factor Volatilities from Aladdin, e.g., an Active Exposure of -0.27 to Size and a Factor Volatility of 144 bps; and
- Scale by the Market Volatility of 1,070 bps to produce a "Beta".

As an example, applying the above approach to a portfolio of Russell 2000 U.S. Small Cap Index against a benchmark of Russell 3000 U.S. All Cap Index result in active exposures of:

- Beta to Value of +0.031,
- Beta to Momentum of -0.070, and
- Beta to Size of -0.268.

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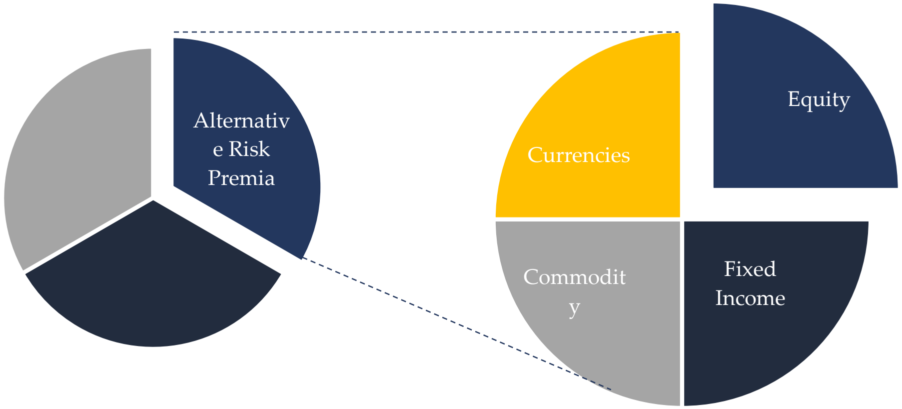
“What Are The Active Factor Betas in the Public Equity Portfolio?”

- Beta to Value of +0.029 due to allocations to systematic managers such as DFA and internally-managed strategies,
- Beta to Momentum of +0.002,
- Beta to Size of -0.036 due to long-term Small Cap tilt, and
- Beta to Volatility of +0.008 due to the modelling of the closed-end fund portfolio, offset by allocation to global low-volatility managers.

“What Are The Active Factor Betas in the Diversifying Strategies Sleeve?”

Apply the same framework to a portion of the Diversifying Strategies Sleeve of the Alternatives Portfolio.



Analysis focuses just on this portion

Aladdin does not estimate “style” factors for non-equity asset classes as used by Alternative Risk Premia managers.

Pie charts for illustrative purpose only and not indicative of actual allocations

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"What Are The Active Factor Betas in the Diversifying Strategies Sleeve?"

- Beta to Value of +0.192,
- Beta to Momentum of +0.104, and
- Beta to Volatility of -0.312.

Betas to the above factors in the Diversifying Strategies Sleeve are greater than those in the Public Equity Portfolio. That is due to different implementation (long-short levered mandates) and objective (delivering alternative risk premia returns as opposed to market returns with factor tilts).

"What Are The Active Factor Betas in OPERF?"

Scale the Betas by the ratio of Alternative Risk Premia net asset value to Public Equity Portfolio net asset value.

	Public Equity	Div Strategies	Total
Value	+0.029	+0.012	+0.041
Momentum	+0.002	+0.006	+0.008
Size	-0.036	+0.004	-0.032
Volatility	+0.008	-0.019	-0.010

The takeaway is that the aggregate tilts to equity factors such as Value, Momentum, and Volatility remain small and do not meaningfully add to OPERF's total risk.

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Oregon State Treasurer

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TAB 8 – Asset Allocation & NAV Updates

Asset Allocations at January 31, 2020

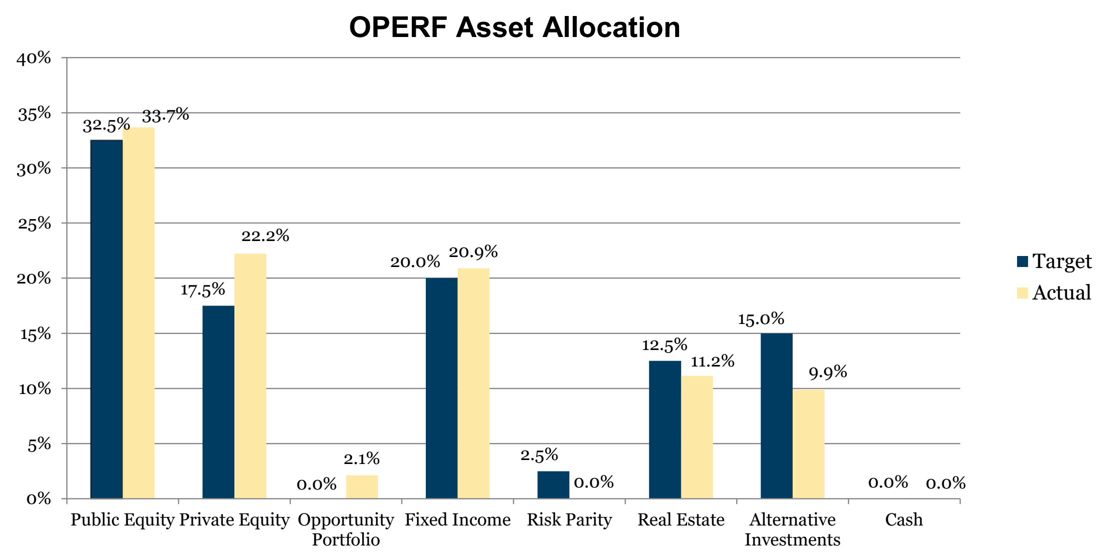
			Regular Account					Target Date Funds	Variable Fund	Total Fund
OPERF	**Policy**	**Target[1]**	**$ Thousands**	**Pre-Overlay**	**Overlay**	**Net Position**	**Actual**	**$ Thousands**	**$ Thousands**	**$ Thousands**
Public Equity	27.5-37.5%	32.5%	25,499,580	32.5%	928,577	26,428,157	33.7%	1,186,021	470,815	28,084,993
Private Equity	13.5-21.5%	17.5%	17,429,039	22.2%		17,429,039	22.2%			17,429,039
Total Equity	**45.0-55.0%**	**50.0%**	**42,928,618**	**54.7%**	**928,577**	**43,857,196**	**55.9%**			**45,514,032**
Opportunity Portfolio	**0-3%**	**0.0%**	**1,673,326**	**2.1%**		**1,673,326**	2.1%			**1,673,326**
Fixed Income	**15-25%**	**20.0%**	**15,779,825**	**20.1%**	**617,679**	**16,397,504**	20.9%	1,521,799		**17,919,303**
Risk Parity	**0.0-2.5%**	**2.5%**	**-**	**0.0%**		**-**	0.0%			**-**
Real Estate	**9.5-15.5%**	**12.5%**	**8,750,519**	**11.2%**	**(1,300)**	**8,749,219**	11.2%			**8,749,219**
Alternative Investments	**7.5-17.5%**	**15.0%**	**7,749,138**	**9.9%**		**7,749,138**	9.9%			**7,749,138**
Cash[2]	**0-3%**	**0.0%**	**1,581,373**	**2.0%**	**(1,544,957)**	**36,416**	0.0%		8,537	**44,953**
TOTAL OPERF		**100%**	**$ 78,462,799**	**100.0%**	**$ -**	**$ 78,462,799**	**100.0%**	**$ 2,707,820**	**$ 479,352**	**$ 81,649,971**

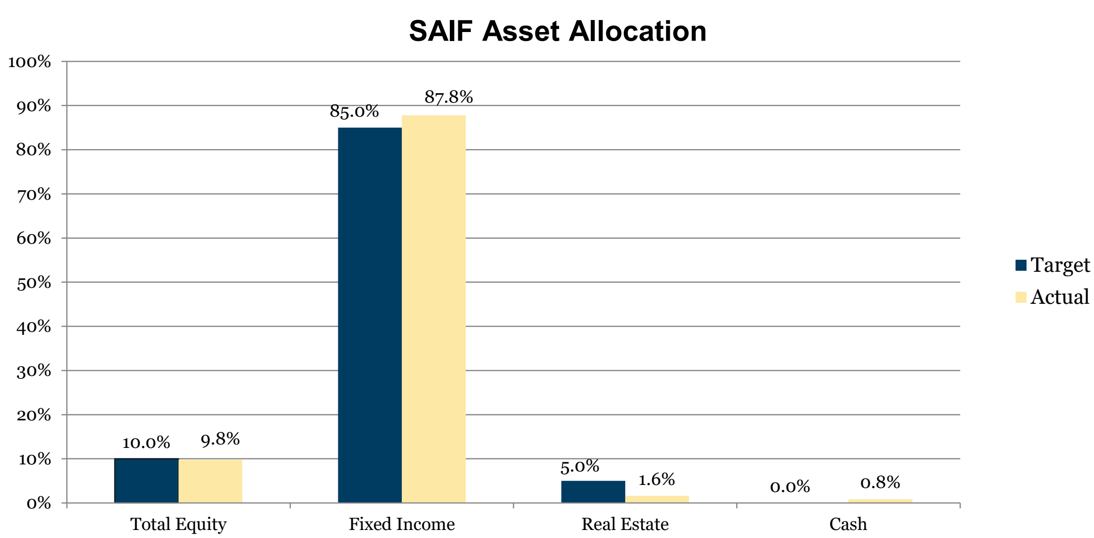
[1]Targets established in April 2019. Interim policy benchmark effective January 1, 2019, consists of: 37.5% MSCI ACWI IMI Net, 21% Custom FI Benchmark, 19% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF ODCE net (1 quarter lagged), & 10% CPI+400bps.

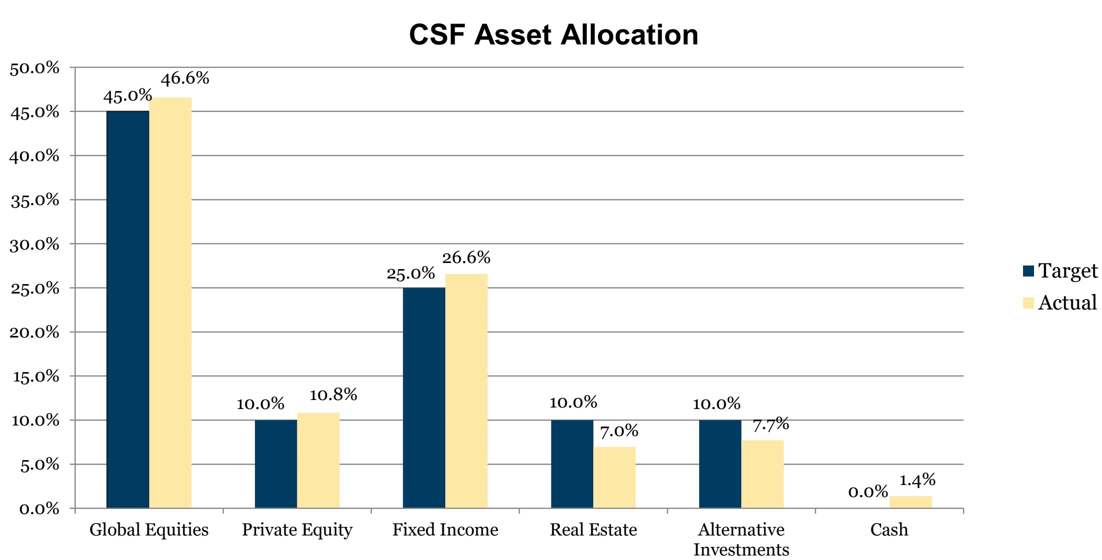
[2] Includes cash held in the policy implementation overlay program.

SAIF	**Policy**	**Target**	**$ Thousands**	**Actual**
Total Equity	**7-13%**	**10.0%**	**486,111**	**9.8%**
Fixed Income	**80-90%**	**85.0%**	**4,374,724**	**87.8%**
Real Estate	**0-7%**	**5.0%**	**80,000**	**1.6%**
Cash	**0-3%**	**0.0%**	**41,951**	**0.8%**
TOTAL SAIF			**$ 4,982,787**	**100.0%**

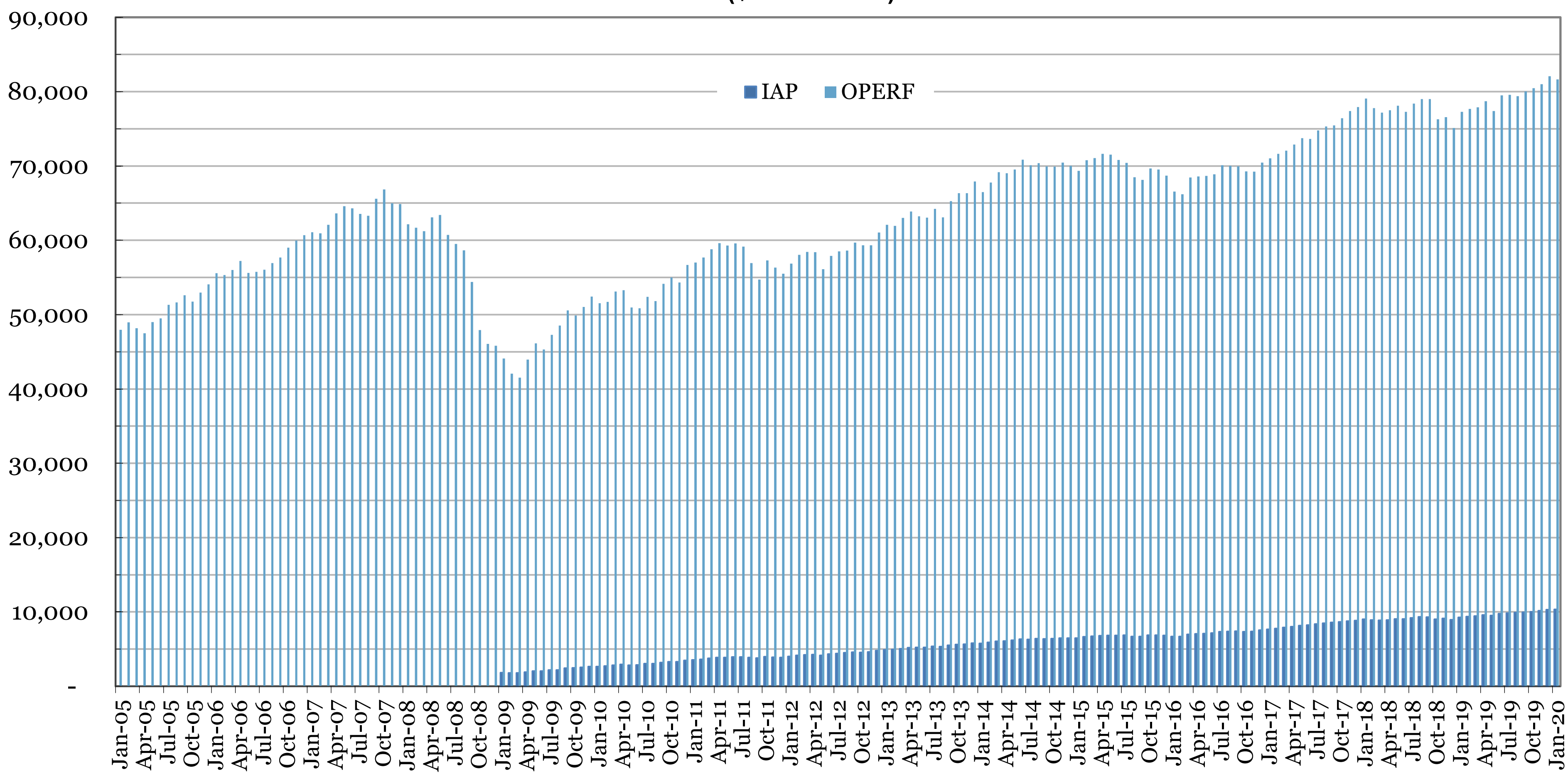
CSF	**Policy**	**Target**	**$ Thousands**	**Actual**
Global Equities	40-50%	45.0%	873,535	46.6%
Private Equity	8-12%	10.0%	203,054	10.8%
Total Equity	**58-62%**	**55.0%**	**1,076,588**	**57.4%**
Fixed Income	**25-35%**	**25.0%**	**498,167**	**26.6%**
Real Estate	**8-12%**	**10.0%**	**130,696**	**7.0%**
Alternative Investments	**8-12%**	**10.0%**	**144,675**	**7.7%**
Cash	**0-3%**	**0.0%**	**25,757**	**1.4%**
TOTAL CSF			**$ 1,875,883**	**100.0%**


OPERF Asset Allocation
40%
35%
30%
25%
20%
15%
10%
5%
0%
32.5%
33.7%
17.5%
22.2%
0.0%
2.1%
20.0%
20.9%
2.5%
0.0%
12.5%
11.2%
15.0%
9.9%
0.0%
0.0%
Public Equity
Private Equity
Opportunity Portfolio
Fixed Income
Risk Parity
Real Estate
Alternative Investments
Cash
Target
Actual

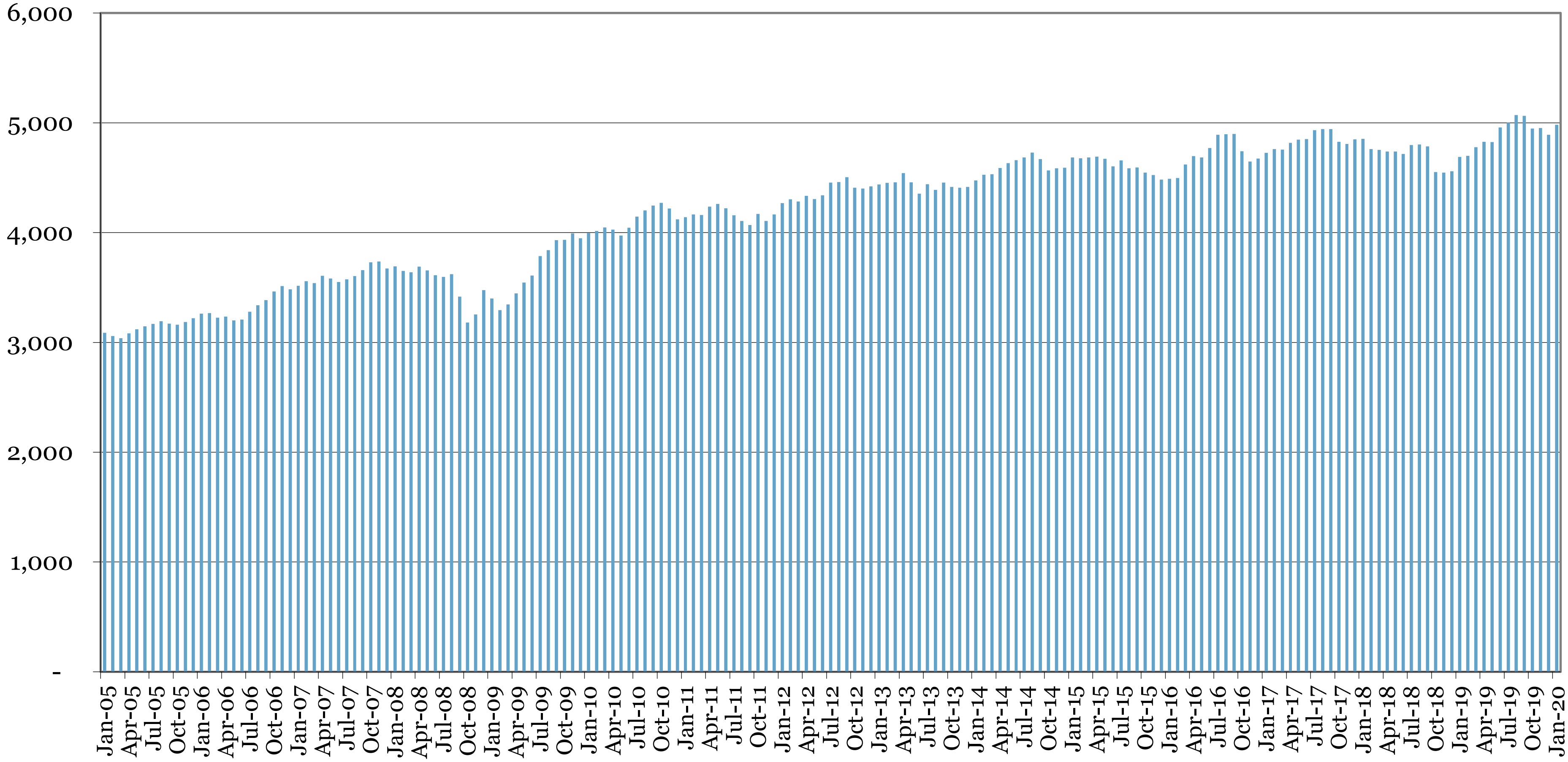

SAIF Asset Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
10.0%
9.8%
85.0%
87.8%
5.0%
1.6%
0.0%
0.8%
Total Equity
Fixed Income
Real Estate
Cash
Target
Actual


CSF Asset Allocation
50.0%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
45.0%
46.6%
10.0%
10.8%
25.0%
26.6%
10.0%
7.0%
10.0%
7.7%
0.0%
1.4%
Global Equities
Private Equity
Fixed Income
Real Estate
Alternative Investments
Cash
Target
Actual

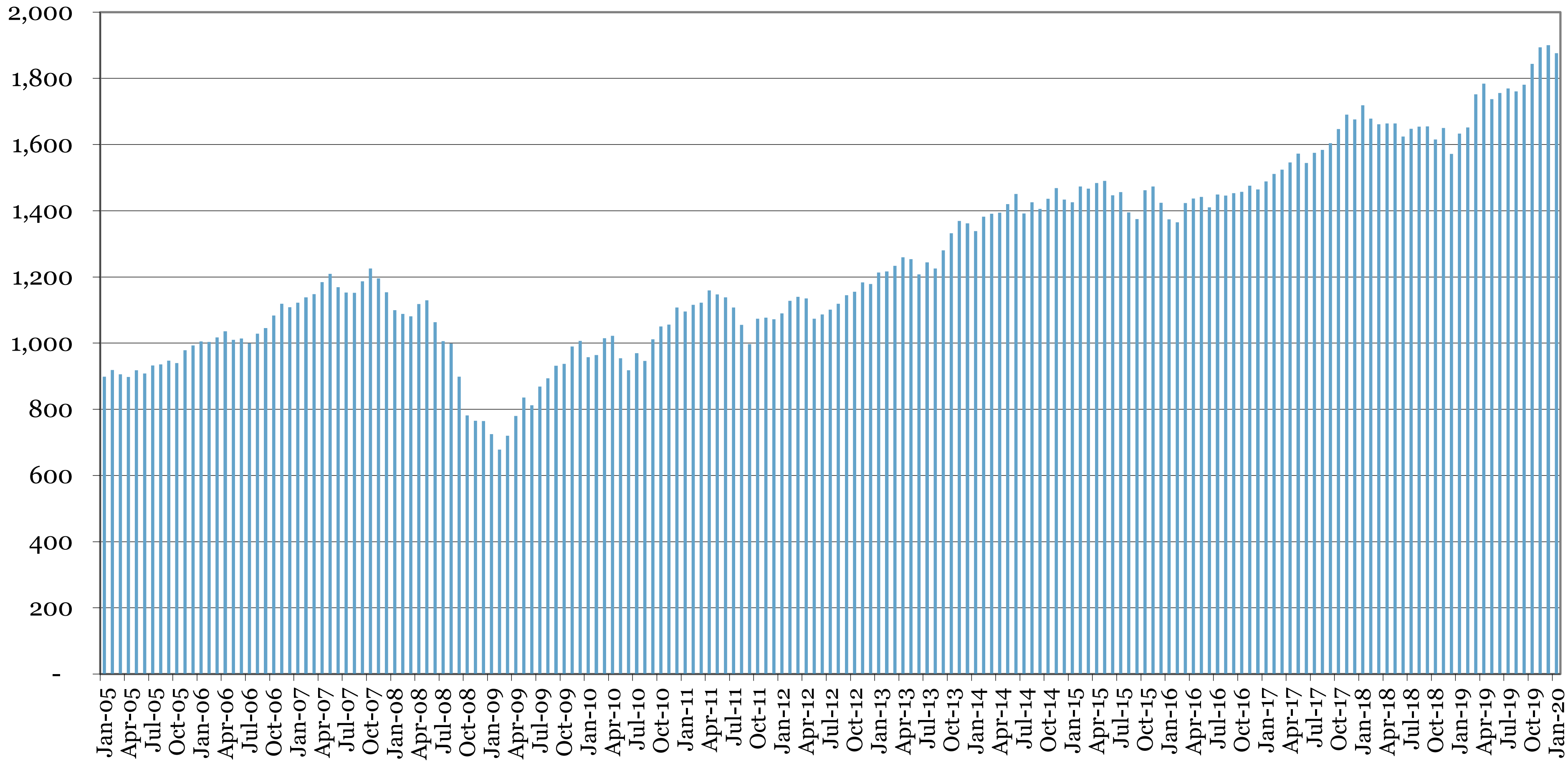
OPERF NAV
15 years ending January 31, 2020
($ in Millions)



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



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



TAB 9 – Calendar — Future Agenda Items

2020/21 OIC Forward Calendar and Planned Agenda Topics

April 22, 2020	Asset Allocation & Capital Market Assumptions Update Real Estate Consultant Recommendation Overlay Review Fixed Income Manager Recommendations
June 3, 2020	Alternatives Portfolio Review Securities Lending Update Q1 Performance & Risk Report Operations Update
July 22, 2020	OSGP Annual Review ESG Update
September 9, 2020	Corporate Governance Update Q2 Performance & Risk Report SAIF Annual Review
October 28, 2020	Opportunity Portfolio Review Currency Overlay Review Public Equity Program Review
December 9, 2020	Fixed Income Program Review Q3 Performance & Risk Report Policy Updates
January 28, 2021	2022 OIC Calendar Approval Private Equity Program Review Placement Agent Report IAP Update
March 10, 2021	Real Estate Portfolio Review CSF Annual Review Q4 Performance & Risk Report