



**OREGON
STATE
TREASURY**

Oregon Investment Council

December 4, 2024

Cara Samples
Chair

Tobias Read
State Treasurer

Rex Kim
Chief Investment Officer



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

Agenda

December 4, 2024
9:00 AM

| <u>Time</u> | <u>Tab</u> | | <u>Presenter</u> |
|---------------|------------|---|--|
| 9:00 – 9:05 | 1 | Review & Approval of Minutes October 23, 2024 | Cara Samples <i>OIC Chair</i> |
| 9:05 – 9:10 | 2 | Committee Reports | Rex Kim <i>Chief Investment Officer</i> |
| 9:10 – 10:10 | 3 | Market Environment | Lewis Sanders <i>CEO & Co-CIO, Sanders Capital</i> Frank Speno <i>Partner-Director, Marketing & Client Service, Sanders Capital</i> |
| --- BREAK --- | | | |
| 10:20 – 10:40 | 4 | OPERF Q3 Performance Review | Allan Emkin <i>Managing Principal, Meketa</i> Eric Larsen <i>Senior Investment Analyst, Meketa</i> |

Cara Samples
Chair

Lorraine Arvin
Vice-Chair

Pia Wilson-Body
Member

Alline Akintore Kabbatende
Member

Tobias Read
State Treasurer

Kevin Olineck
PERS Director

OIC Meeting Agenda
December 4, 2024

10:40 – 11:10 5 **Internal Fixed Income Review**

Amy Hsiang-Wei
Senior Investment Officer

11:10 – 11:50 6 **Securities Lending**

Louise Howard
Director of Capital Markets
Mika Malone
Managing Principal, Meketa

--- BREAK ---

After conclusion of scheduled agenda items:

7 **Open Discussion**

OIC Members, Staff, Consultants

8 **Public Comments**



OREGON
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TREASURY

TAB 1

REVIEW & APPROVAL OF MINUTES

State of Oregon

Office of the State Treasurer

16290 SW Upper Boones Ferry Road
Tigard, Oregon 97224

OREGON INVESTMENT COUNCIL

October 23, 2024

Meeting Minutes

Members Present: Treasurer Tobias Read, Cara Samples, Lorraine Arvin, Pia Wilson-Body, Alline Akintore

Staff Present: Rex Kim, Dmitri Palmateer, David Randall, Michael Langdon, Karl Cheng, Louise Howard, Jamie McCreary, Amy Hsiang-Wei, Tim Kane, Debra Day, Michael Makale, Eric Messer, Tim Sayre, Sebrina Gridley, Bryson Pate, Jennifer Kersgaard

Staff Participating Virtually: Oyin Ajayi, Arleen Jacobius, Kenny Bao, Tyler Bernstein, Tan Cao, Andrew Coutu, Kiara Cruz, Bradley Curran, Tara Curran, Karen Davis, Eric Engelson, Brenda Gibson, Alli Gordon, Annie Gregory, Bryan Hernandez, Ian Huculak, Claire Illo, Roy Jackson, Aliese Jacobsen, Young Kim, Amanda Kingsbury, Paul Koch, Carmen Leiva, Ben Mahon, Sommer May, Tim Miller, Dana Millican, Mike Mueller, Bri Naber, George Naughton, Wendi Nelson, Lisa Pettinati, Jen Plett, Jo Recht, Scott Robertson, Monique Sadegh, Aaron Schaffer, Angela Schaffers, Faith Sedberry, Mark Selfridge, Asia Slaughter, Alli Sorensen, Loren Terry, Anna Totdahl, Andrey Voloshinov, Bryon Williams, Eme Wisniewski, Tiffany Zahas

Consultants Present: Allan Emkin, Ashley Woeste, Paola Nealon, Tom Martin, Chip Terhune, Todd Graneto, Greg Kantor, Beau Burggraft

PERS Present: Kevin Olineck

Legal Counsel Present: Steve Marlowe (Department of Justice)

The October 23rd 2024, OIC meeting was called to order at 9:00am by Cara Samples, Chair

| <u>Time</u> | <u>Tab</u> | | <u>Presenter</u> |
|-------------|------------|---|--|
| 9:00 – 9:01 | 1 | Review & Approval of Minutes September 4, 2024 Chair Samples asked for approval of the September 4, 2024, OIC regular meeting minutes. Treasurer Read moved approval at 9:00 am, member Wilson-Body seconded the motion which then passed by a 5/0 vote. | Cara Samples <i>OIC Chair</i> |
| 9:01 – 9:02 | 2 | Committee Reports | Rex Kim <i>Chief Investment Officer</i> |

Cara Samples
Chair

Lorraine Arvin
Vice-Chair

Pia Wilson-Body
Member

Alline Akintore Kabbatende
Member

Tobias Read
State Treasurer

Kevin Olineck
PERS Director

OST Investment Committee

OPERF:

| | | |
|----------------------------|--|------------|
| September 20 th | LBA Logistics Value Fund X, L.P. | \$100M USD |
| September 20 th | LBA Oregon Core Industrial, L.P. | \$100M USD |
| October 3 rd | Stonepeak Global Renewables Fund II LP | \$150M USD |

Staff Discretion

OPERF:

None.

Common School Fund:

None.

9:02 – 10:10

3

State Accident Insurance Fund
(Action Item: Strategic Asset Allocation)

Chip Terhune
President & CEO, SAIF
Todd Graneto
Chief Financial Officer, SAIF
Greg Kantor
Consultant, Principal, RVK
Beau Burggraff
Senior Consultant, Principal, RVK
Jamie McCreary
Service Model Program Manager

Jamie McCreary, Service Model Program Manager, Chip Terhune, President & CEO with SAIF, Todd Graneto, Chief Financial Officer with SAIF, Greg Kantor, Consultant, Principal with RVK, and Beau Burggraff, Senior Consultant, Principal with RVK presented the SAIF review. The presentation included a performance review, SAIF annual update, and an action item.

SAIF's YTD returns outperformed indices .9% and outperformed the 3-year and 5-year benchmarks by .7 %. RVK performed an asset allocation study that was presented to the SAIF board of directors in June and approved. The asset allocation was presented for approval to the OIC in two sections: Asset Allocation and Benchmarking.

The board voted to approve the recommendation to approve asset allocation as outlined. At 10:07am member Arvin moved for approval; member Wilson-Body seconded the motion, which then passed by a vote of 5/0.

The board voted to approve the recommendation to approve benchmarking as outlined. At 10:09am member Pia-Wilson moved for approval; member Arvin seconded the motion, which then passed by a vote of 5/0.

--- BREAK ---

10:20 – 10:41

4

Audit Review

Michael Makale
Chief Audit Officer
David Randall
Chief Investment Operating Officer
Debra Day
Investment Reporting Manager

David Randall, Chief Investment Operating Officer, Michael Makale, Chief Audit Officer, and Debra Day, Investment Reporting Manager, presented the Audit Review. The presentation included an overview of the Internal Audit Team as well as completed and planned investment program audits.

The review reported no significant findings or issues from their 2024 audit of the Capital Markets/Fixed Income Program and received the highest internal audit report rating of Satisfactory.

10:41 – 11:00

5 **Policy Changes**
(Action Item: Approval of Policy Changes)

Jamie McCreary
Service Model Manager
Paola Nealon
Managing Principal, Meketa
Ashley Woeste
Associate Partner, Aon

Jamie McCreary, Service Model Program Manager, Paola Nealon, Managing Principal with Meketa, and Ashley Woeste, Associate Partner with Aon, presented the OIC Investment Guidelines Project. OPERF and SAIF policies were reviewed, and recommendations were presented for both Funds.

The board voted to approve the recommendation to approve OPERF Investment Guidelines as outlined. At 10:53am Member Wilson-Body moved for approval; member Arvin seconded the motion, which then passed by a vote of 5/0.

The board voted to approve the recommendation to approve SAIF Investment Policy Statement revisions and format changes as outlined. At 10:58am Member Arvin moved for approval; member Akintore seconded the motion, which then passed by a vote of 5/0.

--- BREAK ---

11:10 – 11:50

6 **OPERF Pacing**

Karl Cheng
Senior Investment Officer, Portfolio Risk & Research
Michael Langdon
Director of Private Markets
Allan Emkin
Managing Principal, Meketa
Ashley Woeste
Associate Partner, Aon

Karl Cheng, Senior Investment Officer, Portfolio Risk & Research, Michael Langdon, Director of Private Markets, Allan Emkin, Managing Principal with Meketa, and Ashley Woeste, Associate Partner with Aon presented on OPERF Pacing. The presentation included a retrospective of OPERF's allocations and private market activities, pacing models, and a private equity strategic plan.

After conclusion of scheduled agenda items:

7 **Open Discussion**

OIC Members, Staff, Consultants

8 **Public Comments**

Meeting adjourned at 12:38pm



OREGON
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TAB 2
COMMITTEE REPORTS



OREGON
STATE
TREASURY

TAB 3
MARKET
ENVIRONMENT



OREGON
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TREASURY

TAB 4
OPERF Q3
PERFORMANCE REVIEW

Oregon Public Employees Retirement Fund

December 4, 2024

Q3 Performance Update
As of September 30, 2024

Table of Contents

1. Introduction
2. Economic and Market Update as of September 30, 2024
3. Executive Summary
4. Performance Update as of September 30, 2024
5. Disclaimer, Glossary, and Notes

Introduction

OPERF Executive Summary – Notable Items

- Most major asset classes delivered positive returns in the third quarter. Third quarter equity performance was more balanced than the first half of 2024.
 - International Value (+9.3%) provided the strongest absolute returns within the Public Equity portfolio.
 - Additional return drivers were International Market Oriented (Core) (+8.1%) and US Small Cap Growth (+8.1%).
 - Diversifying Strategies lagged other major asset classes for the quarter returning -2.2%.
 - Real Estate assets continue to underperform other asset classes as the higher rate environment combined with shifting sector and regional performance has been a headwind.
 - However, the REITS portfolio was the strongest performing asset for the Total Fund and returned 18.3%.
- OPERF returned 2.7% which lagged most peers and its benchmark in part due to its lower exposure to public equity markets.
- The persistent overweight to Private Equity has been a headwind for the portfolio. Recent underperformance from the asset class has resulted in trailing returns falling below the OPERF Policy benchmark.
- Despite benchmark relative challenges, performance versus peers remains strong over the longer 3-, 5-, and 10-year periods.

Economic and Market Update

Data as of September 30, 2024

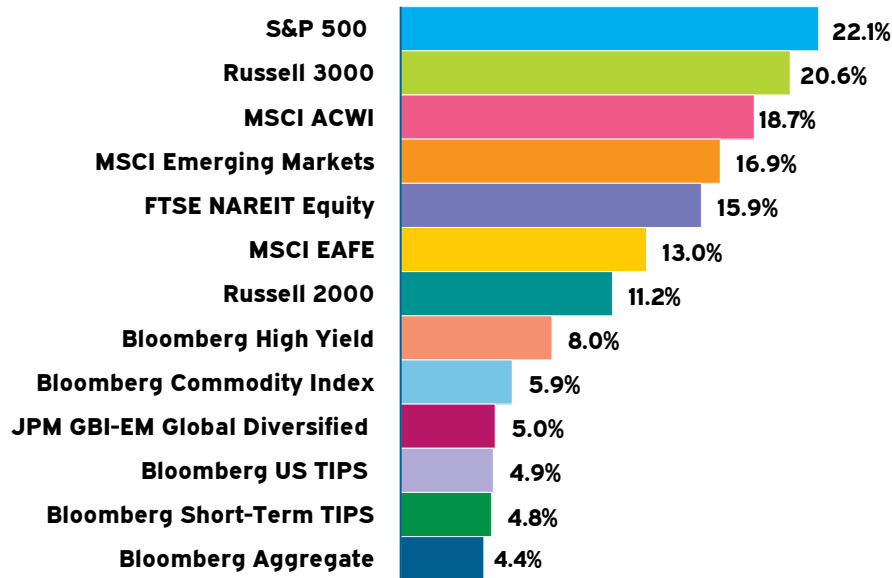
Commentary

In the third quarter, stock and bond markets rallied despite heightened volatility. Central bank indications of future interest rate cuts given declining inflation pressures was a key driver of gains.

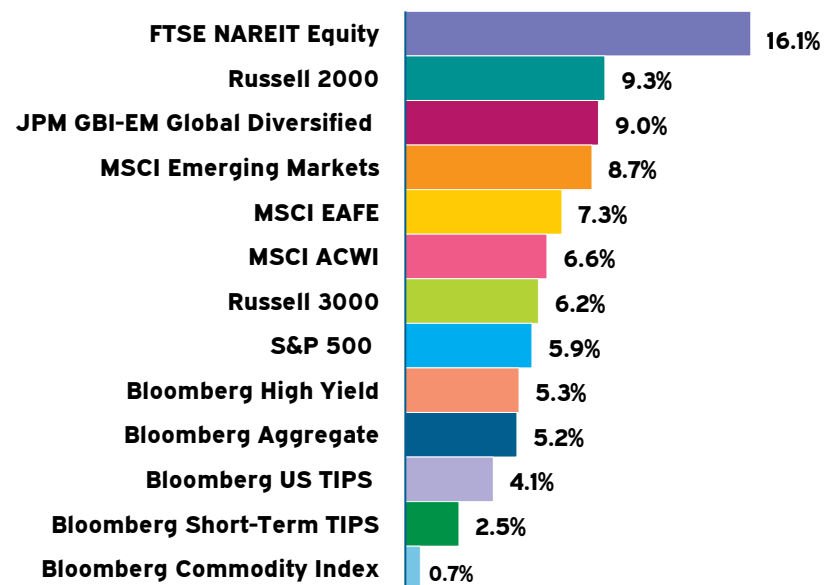
- In September, the Federal Reserve surprised many in the markets with a 50 basis point interest rate cut while the US economy and employment picture remains quite healthy.
- In the third quarter, US equities (Russell 3000) rose 6.2%. The US equity rally broadened, with value and small cap stocks outperforming large cap growth stocks, reversing the narrow leadership trend earlier this year.
- Emerging market stocks (+8.7%) outperformed developed market stocks in the third quarter; in non-US developed markets (+7.3%) value and small cap stocks also beat the broad market.
- After two years of piecemeal policy stimulus, China's policy makers rolled out a significant stimulus package to support equity prices, reduce bank reserve requirements and funding rates, and support current and future mortgage borrowers. In particular, bank loans for listed company share buybacks and purchases drove the MSCI China equity index to rally 23.9% in September and 23.5% for the entire third quarter.
- Fixed income markets also posted positive returns on expectations for additional policy rate cuts this year and next, as inflation pressures recede, and the economy slows.
- Looking ahead, the paths of inflation, labor markets, and monetary policy, China's slowing economy and potential policy stimulus benefits, increased geopolitical tensions, and the looming US election will be key factors.

Index Returns¹

YTD



Q3



→ Major markets finished the third quarter in positive territory despite several spikes in volatility. Falling inflation, resilient growth in the US, and dovish central banks supported stocks and bonds. Rate sensitive sectors, like REITs, particularly benefited from lower interest rates.

→ Year-to-date through September, all major asset classes were positive, led by US equities.

¹ Source: Bloomberg. Data is as of September 30, 2024.

Domestic Equity Returns¹

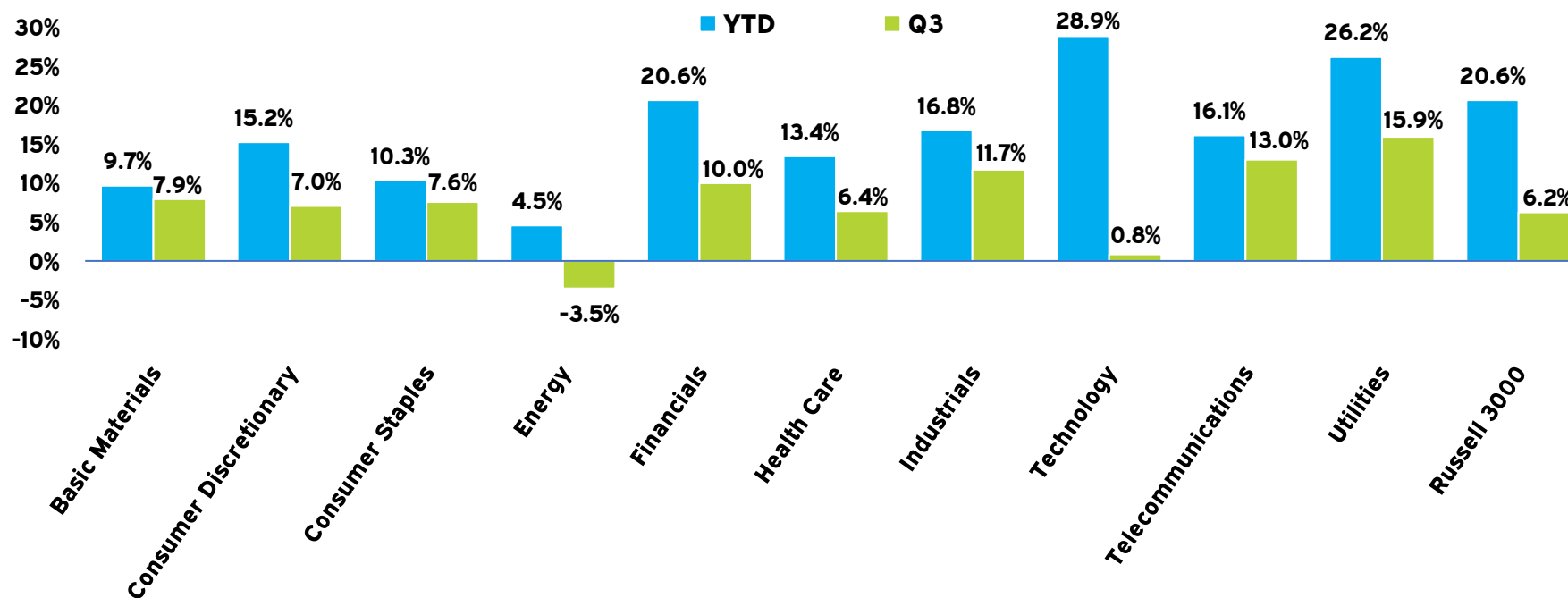
| Domestic Equity | September (%) | Q3 (%) | YTD (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) |
|-----------------------|---------------|--------|---------|----------|----------|----------|-----------|
| S&P 500 | 2.1 | 5.9 | 22.1 | 36.4 | 11.9 | 16.0 | 13.4 |
| Russell 3000 | 2.1 | 6.2 | 20.6 | 35.2 | 10.3 | 15.3 | 12.8 |
| Russell 1000 | 2.1 | 6.1 | 21.2 | 35.7 | 10.8 | 15.6 | 13.1 |
| Russell 1000 Growth | 2.8 | 3.2 | 24.5 | 42.2 | 12.0 | 19.7 | 16.5 |
| Russell 1000 Value | 1.4 | 9.4 | 16.7 | 27.8 | 9.0 | 10.7 | 9.2 |
| Russell MidCap | 2.2 | 9.2 | 14.6 | 29.3 | 5.7 | 11.3 | 10.2 |
| Russell MidCap Growth | 3.3 | 6.5 | 12.9 | 29.3 | 2.3 | 11.5 | 11.3 |
| Russell MidCap Value | 1.9 | 10.1 | 15.1 | 29.0 | 7.4 | 10.3 | 8.9 |
| Russell 2000 | 0.7 | 9.3 | 11.2 | 26.8 | 1.8 | 9.4 | 8.8 |
| Russell 2000 Growth | 1.3 | 8.4 | 13.2 | 27.7 | -0.4 | 8.8 | 8.9 |
| Russell 2000 Value | 0.1 | 10.2 | 9.2 | 25.9 | 3.8 | 9.3 | 8.2 |

US Equities: The Russell 3000 rose +6.2% in the third quarter, bringing the year-to-date results to +20.6%.

- In the third quarter, the previously technology-driven stock rally broadened out as optimism grew over the potential for a “soft landing” of the US economy and as investors reexamined the future of AI-related stocks.
- In this environment, value outperformed growth across the capitalization spectrum and small cap stocks (Russell 2000: +9.3%) outperformed large cap stocks (Russell 1000: +6.1%).
- Despite the third quarter’s rally in value and small cap stocks, large cap growth stocks are the best performing asset class (R1000 Growth: +24.5%) for the year-to-date 2024 due to on-going enthusiasm for AI.

¹ Source: Bloomberg. Data is as of September 30, 2024.

Russell 3000 Sector Returns¹



- With the notable exception of energy stocks, all sectors posted positive returns in the third quarter.
- On the prospect of growing energy demand for cloud computing for AI, utilities were the best performing sector in the third quarter (+15.9%) followed by telecom (+13.0%) and industrials (+11.7%).
- All sectors feature positive returns for the year-to-date period. Technology stocks (+28.9%) continue to lead the broader market, followed by utilities (+26.2%), and financials (+20.6%).

¹ Source: Bloomberg. Data is as of September 30, 2024.

Foreign Equity Returns¹

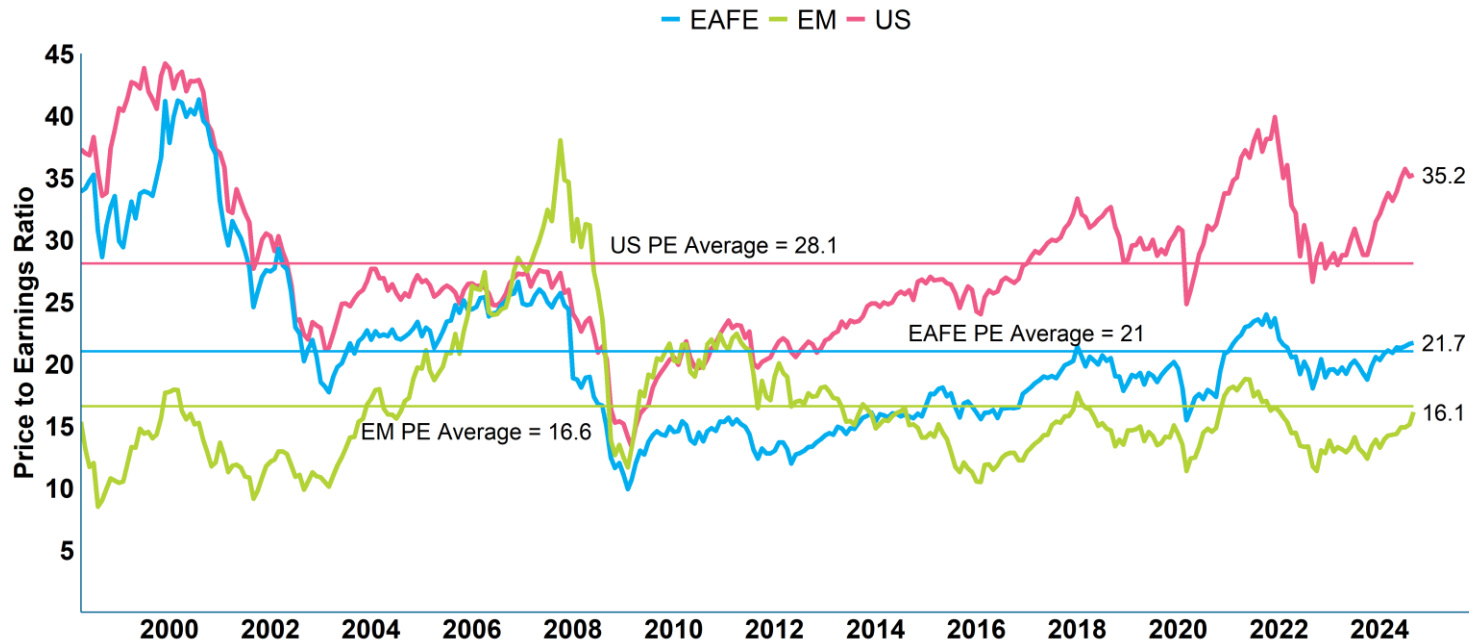
| Foreign Equity | September (%) | Q3 (%) | YTD (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) |
|--|---------------|--------|---------|----------|----------|----------|-----------|
| MSCI ACWI ex. US | 2.7 | 8.1 | 14.2 | 25.4 | 4.1 | 7.6 | 5.2 |
| MSCI EAFE | 0.9 | 7.3 | 13.0 | 24.8 | 5.5 | 8.2 | 5.7 |
| MSCI EAFE (Local Currency) | -0.4 | 0.8 | 12.0 | 17.5 | 7.9 | 8.8 | 7.4 |
| MSCI EAFE Small Cap | 2.6 | 10.5 | 11.1 | 23.5 | -0.4 | 6.4 | 6.2 |
| MSCI Emerging Markets | 6.7 | 8.7 | 16.9 | 26.1 | 0.4 | 5.7 | 4.0 |
| MSCI Emerging Markets (Local Currency) | 5.6 | 6.6 | 18.3 | 25.0 | 2.9 | 7.4 | 6.5 |
| MSCI EM ex. China | 1.3 | 4.0 | 12.7 | 27.4 | 3.4 | 8.4 | 4.8 |
| MSCI China | 23.9 | 23.5 | 29.3 | 23.9 | -5.6 | 0.8 | 3.4 |

Foreign Equity: Developed international equities (MSCI EAFE) rose +7.3% in the third quarter, while emerging market equities (MSCI Emerging Markets) gained 8.7%.

- Non-US developed market stocks saw similar themes as the US, with value and small cap stocks outperforming large cap stocks in the third quarter, as investors anticipated further rate cuts from the European Central Bank and the Bank of England. Japan’s TOPIX index experienced an over 20% decline at the start of August due to the Bank of Japan’s (BoJ) unexpected rate increase and related pressures on the yen carry trade. It subsequently recovered, though, as the BoJ signaled that further rate increases were not likely.
- In late September, China announced significant stimulus measures to support asset prices resulting in Chinese stocks rallying +23.9% just in September. This led to emerging markets having the best quarterly results (+8.7%).
- The weakening US dollar further supported international stocks, particularly in developed markets.

¹ Source: Bloomberg. Data is as September 30, 2024.

Equity Cyclically Adjusted P/E Ratios¹



- The broad global equity rally lifted stocks' cyclically adjusted price/earnings ratios over the quarter, with US stock valuations finishing well above their long-term 28.1 average.
- Non-US developed market valuations increased to slightly above their long-term average while emerging market stocks are now trading close to their long-term average given the strong recent gains.

¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E Source: Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of September 2024. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.

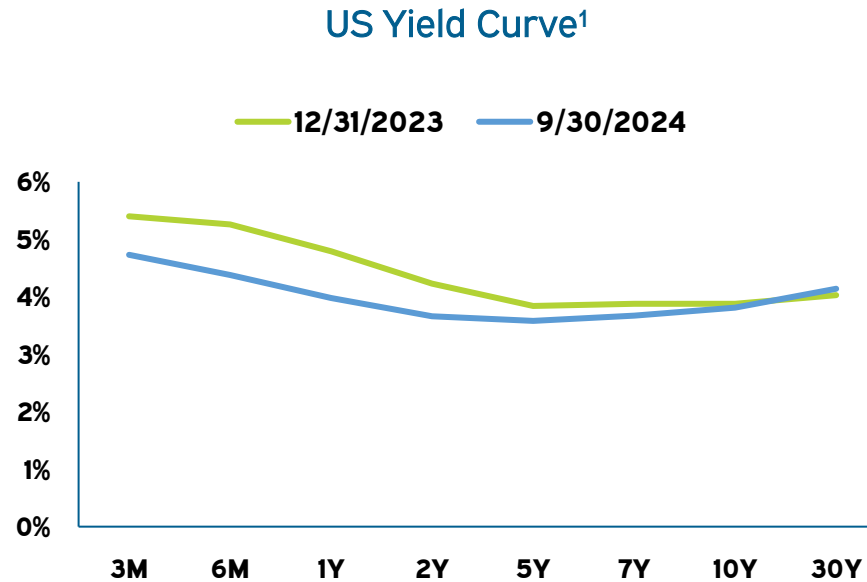
Fixed Income Returns¹

| Fixed Income | September (%) | QTD (%) | YTD (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) | Current Yield (%) | Duration (Years) |
|-------------------------------------|---------------|---------|---------|----------|----------|----------|-----------|-------------------|------------------|
| Bloomberg Universal | 1.4 | 5.2 | 4.9 | 12.1 | -1.0 | 0.7 | 2.1 | 4.5 | 6.0 |
| Bloomberg Aggregate | 1.3 | 5.2 | 4.4 | 11.6 | -1.4 | 0.3 | 1.8 | 4.2 | 6.2 |
| Bloomberg US TIPS | 1.5 | 4.1 | 4.9 | 9.8 | -0.6 | 2.6 | 2.5 | 3.8 | 6.9 |
| Bloomberg Short-term TIPS | 1.0 | 2.5 | 4.8 | 7.5 | 2.5 | 3.6 | 2.4 | 3.9 | 2.4 |
| Bloomberg US Long Treasury | 2.0 | 7.8 | 2.4 | 15.4 | -8.3 | -4.3 | 1.1 | 4.2 | 15.5 |
| Bloomberg High Yield | 1.6 | 5.3 | 8.0 | 15.7 | 3.1 | 4.7 | 5.0 | 7.0 | 3.4 |
| JPM GBI-EM Global Diversified (USD) | 3.4 | 9.0 | 5.0 | 13.4 | 0.6 | 0.6 | 0.6 | -- | -- |

Fixed Income: The Bloomberg Universal index rose 5.2% in the third quarter, bringing the year-to-date return into positive territory (+4.9%).

- Fixed income indexes rose in the quarter as rates fell, driven by a continued decline in inflation. This and the weakening labor market led to the Fed cutting interest rates with more cuts expected.
- The broad US bond market (Bloomberg Aggregate) rose 5.2% over the quarter, with the broad TIPS market gaining 4.1%. The less interest rate sensitive short-term TIPS index increased 2.5%.
- Riskier bonds experienced volatility during the quarter but ultimately posted strong results as risk appetite remained strong. Emerging market debt gained 9.0% and high yield rose 5.3%.

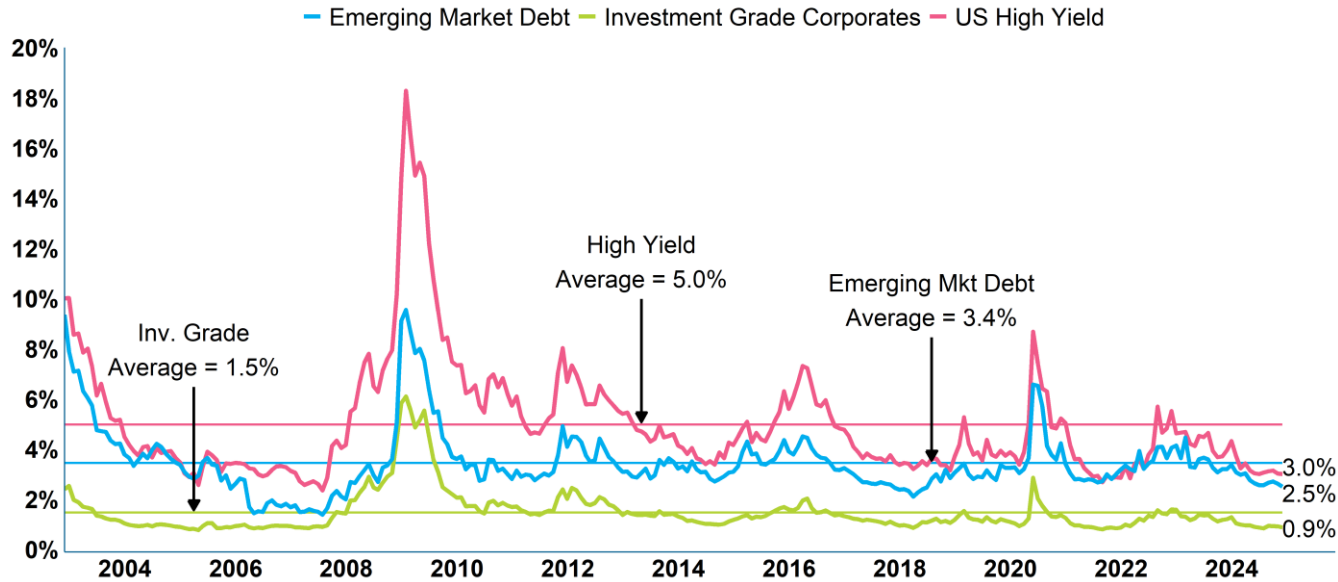
¹ Source: Bloomberg. Data is as of September 30, 2024. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration, respectively. JPM GBI-EM data is from J.P. Morgan. Current yield and duration data is not available.



- US interest rates fell over the quarter as economic data continued to soften and the Fed started its rate cutting cycle.
- The more policy sensitive 2-year Treasury yield declined from 4.75% to 3.64% over the quarter, while the 10-year Treasury yield fell from 4.40% to 3.78% over the same period.
- Notably, the portion of the yield curve from 2-years to 10-years was no longer inverted at the end of September, given policy rate cuts and resilient growth. This trend could continue as the Fed likely continues to cut interest rates.

¹ Source: Bloomberg. Data is as of September 30, 2024.

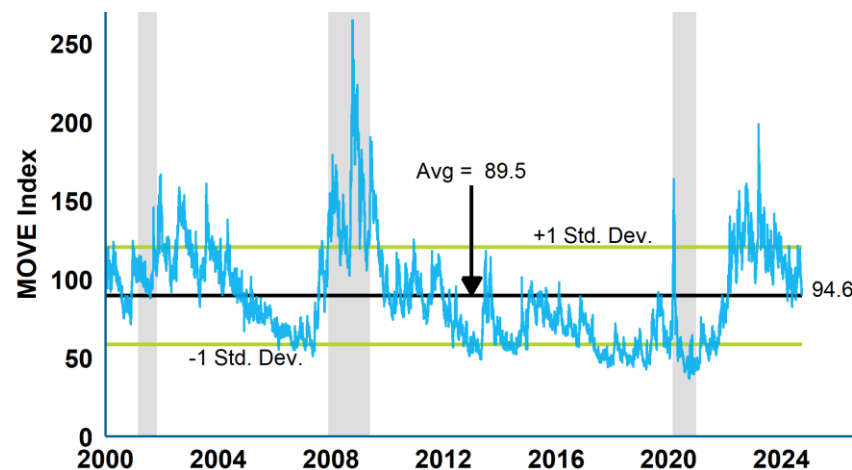
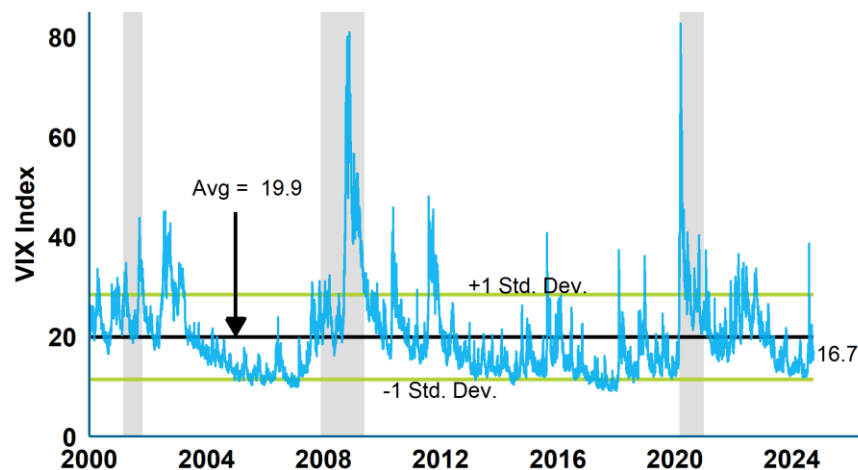
Credit Spreads vs. US Treasury Bonds¹



- Spreads (the yield above a comparable maturity Treasury) widened significantly at the start of the quarter in the volatile environment but declined after, largely finishing where they started.
- All yield spreads remained below their respective long-run averages, particularly high yield.
- Although spreads are relatively tight, yields remain at above-average levels compared to the last two decades, particularly for short-term issues.

¹ Source: Bloomberg. Data is as September 30, 2024. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

Equity and Fixed Income Volatility¹



- In the third quarter, equity and bond market volatility experienced periods of elevation due to concerns over the US labor market, the unwinding of the yen-carry trade, and increased geopolitical tensions. Ultimately, both settled well below their respective peaks as additional economic data and the easing of monetary policy calmed investors.
- Volatility levels (VIX) in the stock market spiked above one standard deviation of its long-term average in early August but finished below the long-term average.
- Bond market volatility (MOVE) also fluctuated through the quarter. Uncertainty in the bond market remains above the long-run average as markets continue to reprice the pace of interest rate cuts.

¹ Equity Volatility – Source: FRED. Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of September 2024. The average line indicated is the average of the VIX and MOVE values between January 2000 and September 2024.

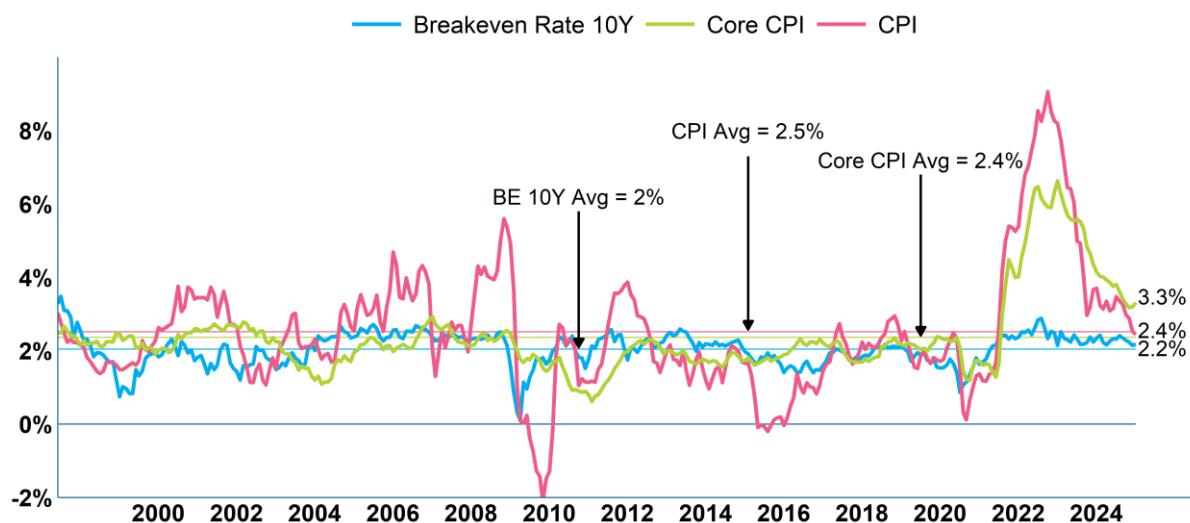
Recent Market Strength: China¹



- On September 24th, Chinese policy makers surprised markets with a suite of policy stimulus measures designed to support stock prices, banks, and mortgage borrowers.
- Banks were asked to extend loans to publicly traded companies for share purchases and buybacks, contributing to significant equity market gains in the last week of the quarter. These policies also contributed to increased foreign demand for Chinese shares.
- The banking sector benefited from a cut to the 1-year medium term lending rate and to their reserve requirement rate.
- Homeowners may also benefit from changes to downpayment minimums and mortgage rate reductions.
- Despite the recent gains in the stock market, questions remain about the ultimate impact of these policies on longer-term growth in China, as well as policy makers' commitment to continue supporting the economy.

¹ Source: Bloomberg. Data as of September 30, 2024.

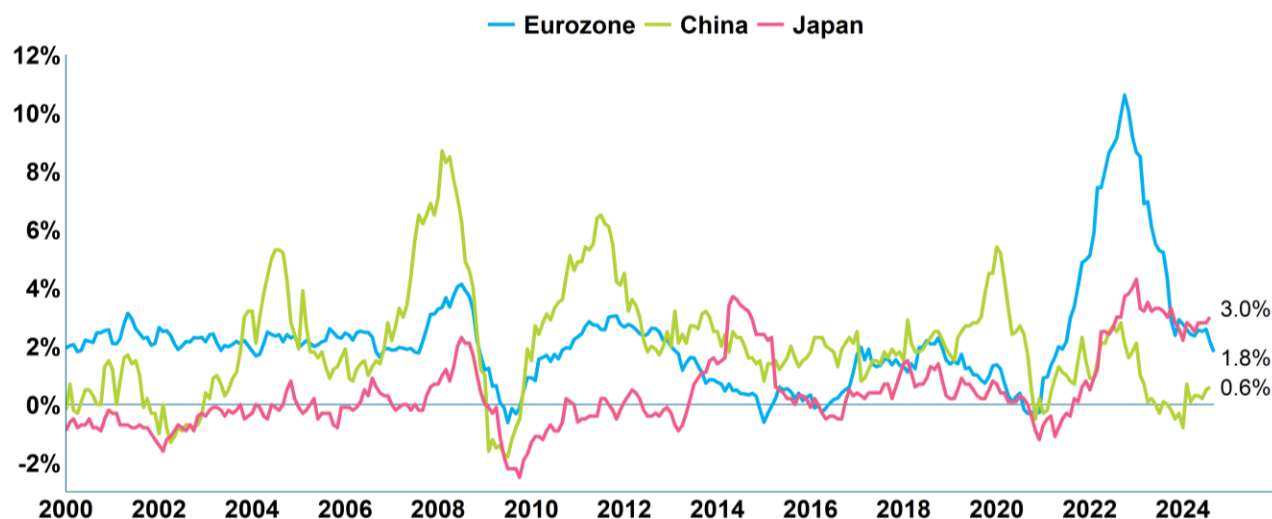
US Ten-Year Breakeven Inflation and CPI¹



- Over the quarter, year-over-year headline inflation continued to decline (3.0% to 2.4%) supporting the Fed's start to cutting policy rates. The 2.4% September level was the lowest since early 2021.
- Month-over-month inflation increased 0.2% each month over the quarter. Food and shelter costs saw monthly increases, while energy prices largely fell.
- Year-over-year core inflation (excluding food and energy) finished the quarter where it started (3.3%). Shelter (+4.9% YoY) and transportation (+8.5% YoY) remain key drivers of stickier core inflation.
- Inflation expectations (breakevens) have been relatively stable over the last several years. They remain below current inflation levels.

¹ Source: FRED. Data is as September 2024. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

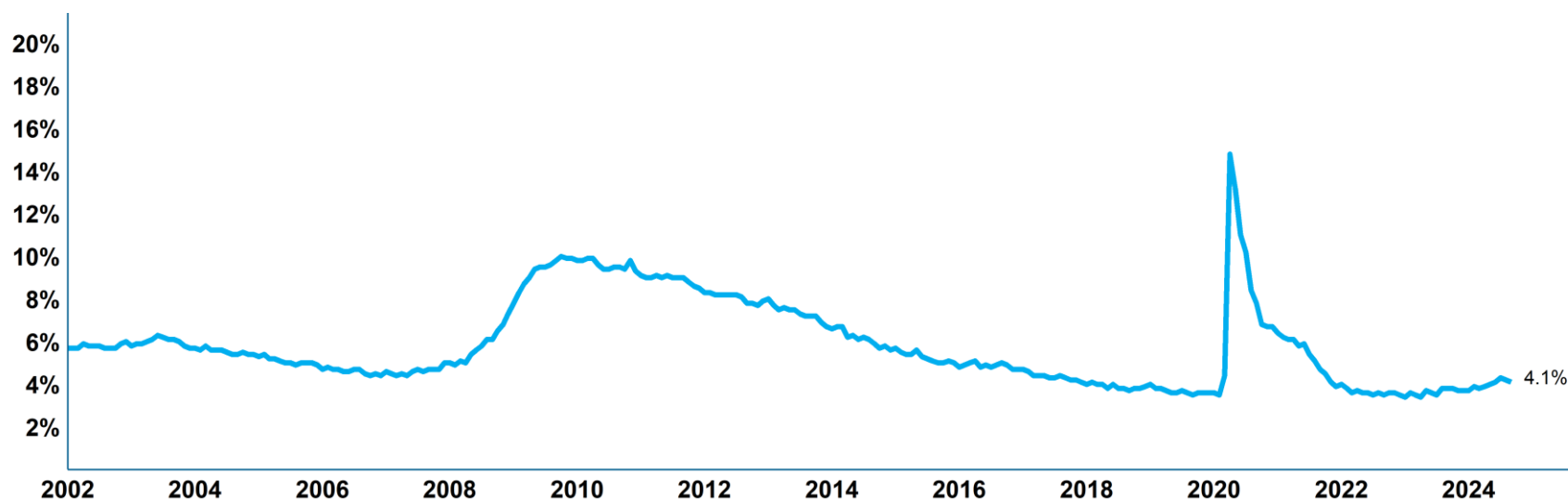
Global Inflation (CPI Trailing Twelve Months)¹



- In the eurozone, inflation fell from 2.5% to 1.8% over the quarter (a level below the US), potentially clearing the way for further rate cuts from the European Central Bank.
- By contrast, inflation in Japan recently increased (2.8% to 3.0%) due in part to higher food, electricity, and gas prices supporting the case for additional interest rate increases by the Bank of Japan.
- In China, inflation increased each of the last seven months, after declines late last year. Recent extreme weather has caused supply issues and contributed to higher prices. Inflation in China remains much lower than in other countries, due to weak consumer spending and as issues in the real estate sector continue to weigh on sentiment.

¹ Source: Bloomberg. Data is as of September 30, 2024, except Japan and China which are as of August 31, 2024.

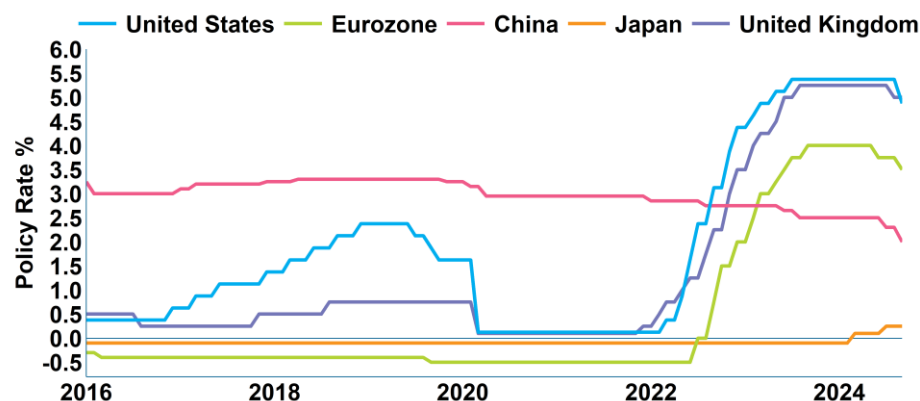
US Unemployment¹



- The US labor market has softened but remains relatively strong. After reaching 4.3% in July, the unemployment rate finished the quarter at the level it started (4.1%), with 6.8 million people looking for work.
- After job gains came in below expectations in July (114k versus 175k) and August (142k versus 165k), contributing to some of the market volatility, they finished strong in September, beating estimates (254k versus 150k). Food services (+69K) and healthcare (+45K) were the largest contributors to the September gains.
- Initial claims for unemployment remain relatively low and year-over-year wage gains remain strong (+4.0%). The number of job openings increased slightly (7.9 to 8.0 million) over the quarter.

¹ Source: FRED. Data is as of September 30, 2024.

Policy Rates¹



- In the US, the Fed reduced interest rates by 0.5% after holding them at a 5.25%-5.50% level for over a year. In their statement they highlighted that they would make additional interest rate cut decisions based on incoming data. Market participants are pricing in roughly two additional cuts in 2024.
- The Bank of England (BoE) and the European Central Bank (ECB) have both started cutting rates. The BoE made a 25 basis points interest rate cut in July while the ECB made two similar cuts in June and September.
- Inflation in Japan remains elevated, prompting Bank of Japan officials to raise the policy rate 0.15% to 0.25% over the quarter after decades at near-zero rates.
- China announced a broad based unexpected stimulus package that included lower interest rates, a reduction in bank reserve requirements, and liquidity for stock investors.

¹ Source: Bloomberg. Data is as of September, 2024. United States rate is the mid-point of the Federal Funds Target Rate range. Eurozone rate is the ECB Deposit Facility Announcement Rate. Japan rate is the Bank of Japan Unsecured Overnight Call Rate Expected. China rate is the China Central Bank 1-Year Medium Term Interest Rate. UK rate is the UK Bank of England Official Bank Rate.

US Dollar vs. Broad Currencies¹



- The US dollar weakened in the third quarter by 4.7% versus other major currencies, influenced by the decline in interest rates and expectations for slower growth.
- It remains at historically strong levels, though, given relatively stronger growth, higher interest rates, and on the prospects of other central banks, potentially easing policy faster than the Fed.
- Looking ahead, the track of policy rates across major central banks will be key for the path of the US dollar from here. If the US economy slows more than expected and the Fed relatedly lowers rates at a faster pace, we could see the dollar weaken further.

¹ Source: Bloomberg. Data as of September 30, 2024.

Summary

Key Trends:

- According to the International Monetary Fund's (IMF) July report, global growth this year is expected to match the 2023 estimate at around 3.2% with most major economies predicted to avoid a recession.
- Key economic data in the US has largely weakened and come in below expectations, causing markets to expect an additional two rate cuts this year after the Fed's initial 0.5% reduction. Uncertainty remains regarding the timing and pace of interest rate cuts in the coming year.
- US consumers could feel pressure as certain components of inflation (e.g., shelter) remain high, borrowing costs stay elevated, and the job market may weaken further.
- A focus for US equities going forward will be whether earnings can remain resilient if growth slows. Also, the future paths of the large technology companies that have driven market gains will be important.
- We have started to see divergences in monetary policy. Some central banks, such as the Fed, European Central Bank, and the Bank of England, have started to cut interest rates and others, like the Bank of Japan, have increased interest rates. This disparity will likely influence capital flows and currencies.
- China appears to have shifted focus to more policy support for the economy/asset prices with a new suite of policy stimulus and signals for more support ahead. It is still not clear what the long-term impact of these policies will be on the economy and if policy makers will remain committed to these efforts.

Executive Summary

Q3 2024

Performance Review Summary

| Category | QTD Results | 5 Year Results |
|---|---|---|
| Performance vs. OPERF Policy Benchmark | Underperform 2.7% vs. 4.1% | Underperform 8.2% vs. 8.9% |
| Performance vs. 6.9% Actuarial Rate | NA | Outperform 8.2% vs. 6.9% |
| Performance vs. InvMetrics All DB > \$5B Net Median | Underperform 2.7% vs. 4.4% | Outperform 8.2% vs. 8.0% |
| Actively Managed Public Markets ¹ vs. Benchmarks | 11 of the 27 actively managed stock and bond portfolios outperformed their respective benchmarks (after fees) | 17 of the 18 actively managed stock and bond portfolios outperformed their respective benchmarks (after fees) |

| Category | Quarter-End | Notes |
|--------------------------------------|-------------------|--|
| Compliance with Targets ² | Out of Compliance | Private Equity remains well above target, while public equity and fixed income are underweight. Real Assets are also overweight. |

→ Per the Russell Overlay Report dated September 27, 2024 allocations including synthetic positions were as follows.

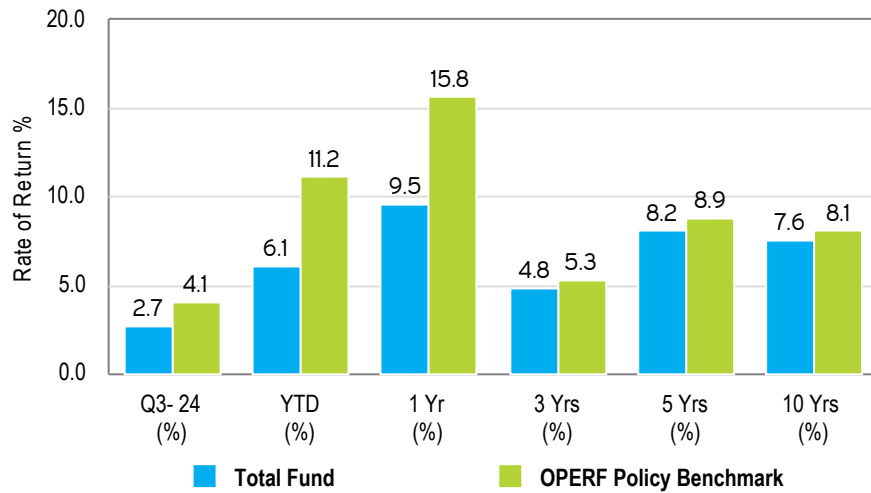
| | Physical | Synthetic | Net | Target | Range |
|----------------|----------|-----------|-------|--------|---------------|
| Public Equity | 19.2% | -2.6% | 16.6% | 27.5% | 22.5% - 32.5% |
| Private Equity | 27.8% | 0.0% | 27.8% | 20.0% | 17.5% - 27.5% |
| Fixed Income | 18.6% | 4.9% | 23.5% | 25.0% | 20.0% - 30.0% |
| Cash | 2.4% | -2.4% | 0.0% | 0.0% | -- |

¹ Actively Managed Public Markets (Public Equity, Fixed Income, and REITS) includes managers with at least one quarter of performance. Managers currently being liquidated are excluded.

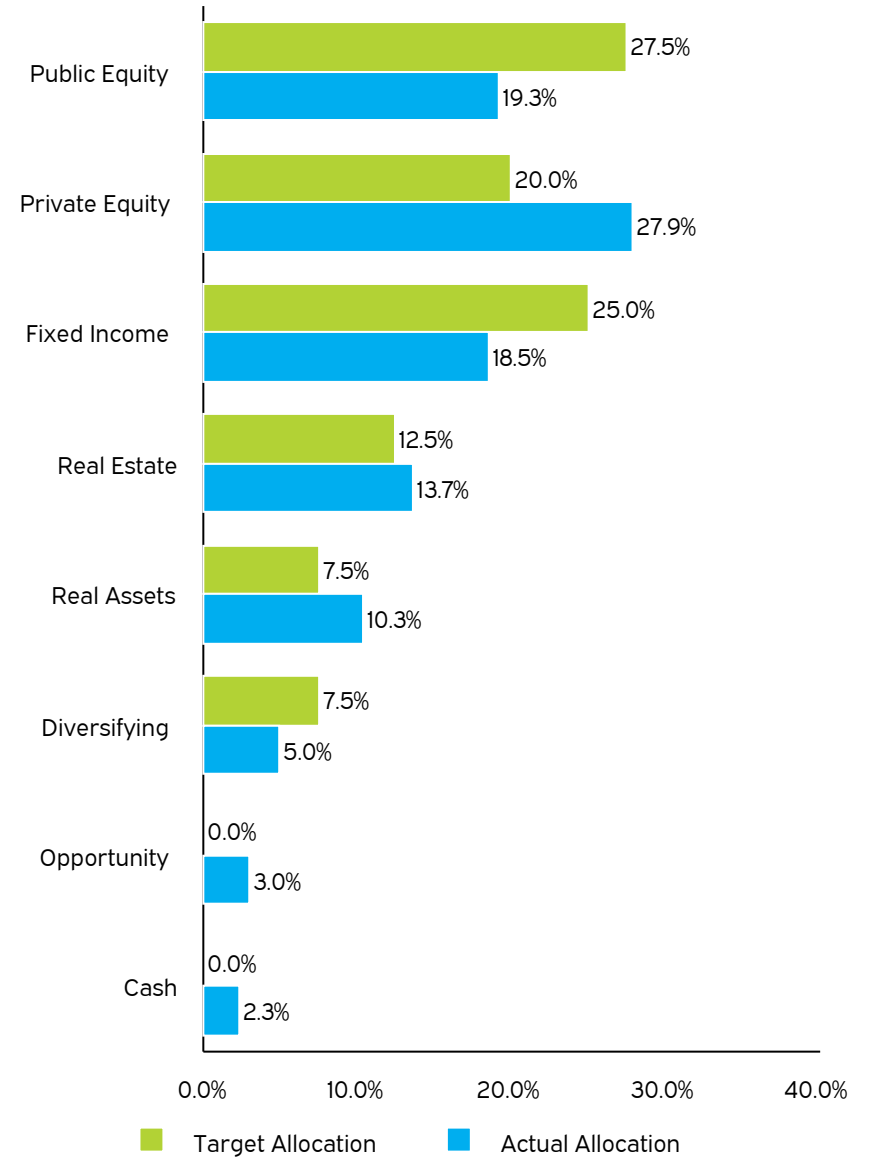
² Compliance with Targets reflects physical allocation not inclusive of overlay positions.

Total Fund | As of September 30, 2024

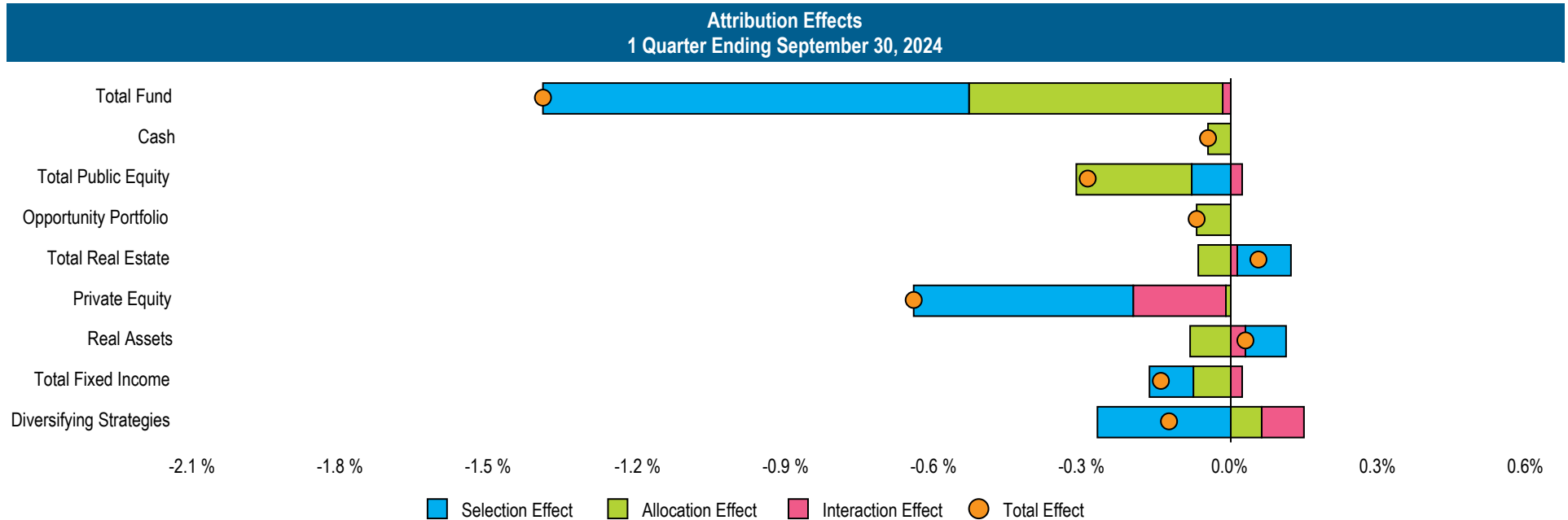
Return Summary Ending September 30, 2024



| | Q3- 24 (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---|------------|-------------|-------------|------------|------------|------------|
| Total Fund | 2.7 | 6.1 | 9.5 | 4.8 | 8.2 | 7.6 |
| <i>OPERF Policy Benchmark</i> | <i>4.1</i> | <i>11.2</i> | <i>15.8</i> | <i>5.3</i> | <i>8.9</i> | <i>8.1</i> |
| Excess Return | -1.4 | -5.1 | -6.3 | -0.5 | -0.7 | -0.5 |
| <i>InvMetrics All DB > \$5B Median</i> | <i>4.4</i> | <i>9.6</i> | <i>17.0</i> | <i>4.7</i> | <i>8.0</i> | <i>7.3</i> |
| Total Fund Rank | 100 | 96 | 100 | 45 | 44 | 30 |



Quarterly Commentary



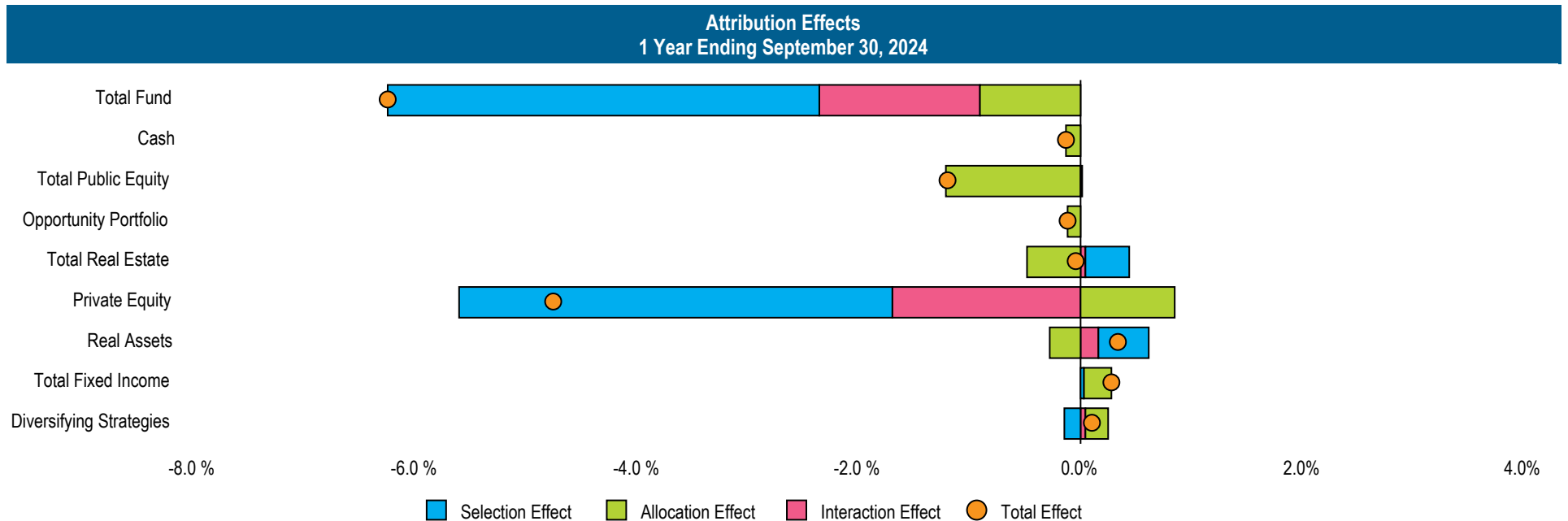
→ Key Contributors

- Real Estate – Manager selection (performance) contributed to relative returns, while overweight to Policy marginally detracted.
- Real Assets – Manager selection (performance) relative to benchmark contributed to returns.

→ Key Detractors

- Private Equity – Manager selection (performance) was primary detractor. Benchmark is a public market equivalent lagged one quarter which can lead to short-term volatility versus the index. This is especially prevalent during a period of strong public equity market returns.
- Public Equity – The underweight to Public Equity assets has been a headwind as markets have continued to rally and outperform private markets asset classes. Manager selection (performance) also detracted from benchmark relative returns.

One Year Commentary



→ Key Contributors

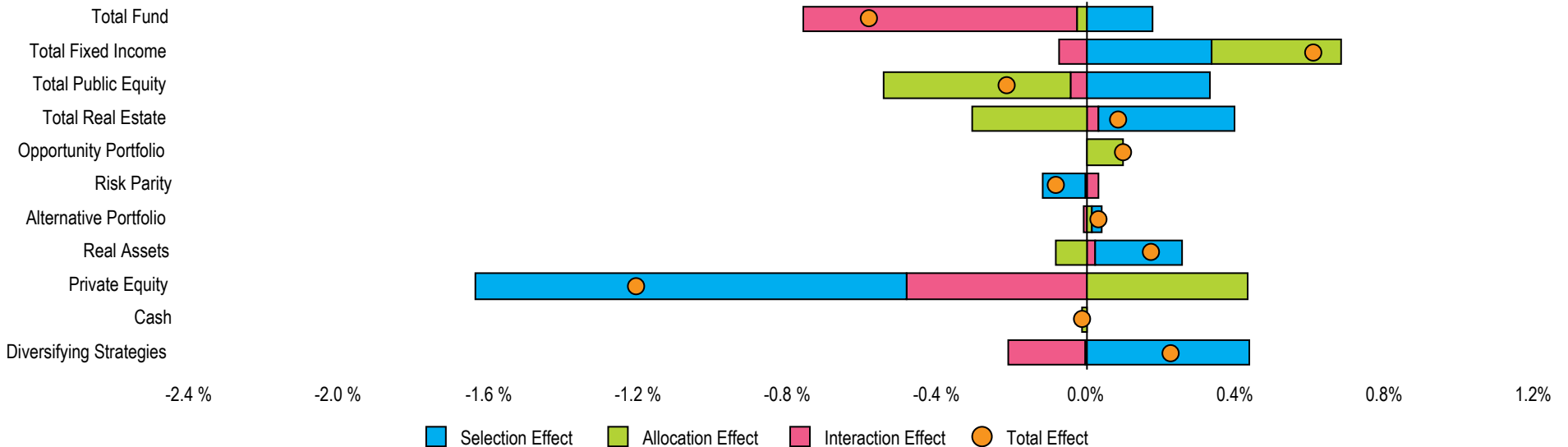
- Real Assets – Manager selection (performance) relative to benchmark contributed to returns.
- Fixed Income – The portfolio underweight to Fixed Income assets contributed to benchmark relative returns. Manager selection (performance) within Core and Non-Core Fixed Income contributed marginally to relative returns.

→ Key Detractors

- Private Equity – Manager selection (performance) was a primary detractor. Benchmark is a public market equivalent lagged one quarter which can lead to short-term volatility versus the index. This is especially prevalent during a period of strong public equity market returns.
- Public Equity – Positive absolute and benchmark relative returns. Underweight vs. Policy (due to Private Equity overweight) detracted from benchmark relative returns.

Three Year Commentary

Attribution Effects
3 Years Ending September 30, 2024



→ Key Contributors

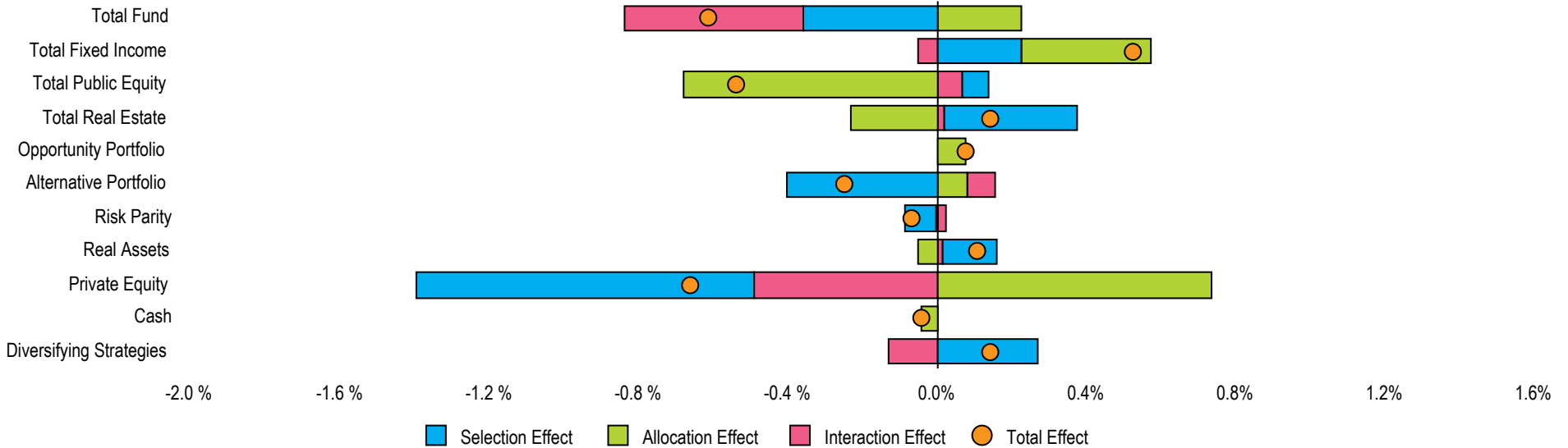
- Fixed Income - Strongest contributor relative to the benchmark. Both the asset class underweight (allocation) and manager selection (performance) contributed meaningfully, Core and Non-Core Fixed Income primarily drove relative outperformance.
- Diversifying Strategies – Strong performance through manager selection has positively impacted Total Fund returns on an absolute and relative basis.

→ Key Detractors

- Private Equity – Weakest performance relative to benchmark. Benchmark is a public market equivalent lagged one quarter. The negative selection attribution was partially offset by the overweight allocation vs target.
- Public Equity - Positive absolute returns. Underweight vs. Policy detracted from benchmark relative returns. Manager selection (performance) was positive relative to benchmark returns.

Five Year Commentary

Attribution Effects
5 Years Ending September 30, 2024



→ Key Contributors

- Total Fixed Income – The portfolio underweight was a contributor to benchmark relative returns. Additionally, selection (performance) within the Core and Non-Core Fixed Income portfolios provided additional tailwinds.
- Diversifying Strategies - Outperformance relative to the benchmark due to manager selection.

→ Key Detractors

- Private Equity – Weakest performance relative to benchmark. Benchmark is a public market equivalent lagged one quarter. The negative selection attribution was partially offset by the overweight allocation vs target.
- Public Equity - Positive absolute returns. Underweight vs. Policy detracted from benchmark relative returns. Manager selection (performance) provided marginal relative return contribution.

| 1 Year Ending September 30, 2024 | | | | | | |
|----------------------------------|--------|--------------------|-------------------|------|--------------|----------------|
| | Return | Standard Deviation | Information Ratio | Beta | Sharpe Ratio | Tracking Error |
| Total Fund | 9.5 | 2.7 | -2.5 | 0.6 | 1.5 | 2.2 |
| OPERF Policy Benchmark | 15.8 | 4.5 | - | 1.0 | 2.1 | 0.0 |

| 3 Years Ending September 30, 2024 | | | | | | |
|-----------------------------------|--------|--------------------|-------------------|------|--------------|----------------|
| | Return | Standard Deviation | Information Ratio | Beta | Sharpe Ratio | Tracking Error |
| Total Fund | 4.8 | 4.3 | -0.2 | 0.6 | 0.3 | 3.2 |
| OPERF Policy Benchmark | 5.3 | 6.7 | - | 1.0 | 0.3 | 0.0 |

| 5 Years Ending September 30, 2024 | | | | | | |
|-----------------------------------|--------|--------------------|-------------------|------|--------------|----------------|
| | Return | Standard Deviation | Information Ratio | Beta | Sharpe Ratio | Tracking Error |
| Total Fund | 8.2 | 5.8 | -0.2 | 0.8 | 1.0 | 3.0 |
| OPERF Policy Benchmark | 8.9 | 6.9 | - | 1.0 | 0.9 | 0.0 |

| 10 Years Ending September 30, 2024 | | | | | | |
|------------------------------------|--------|--------------------|-------------------|------|--------------|----------------|
| | Return | Standard Deviation | Information Ratio | Beta | Sharpe Ratio | Tracking Error |
| Total Fund | 7.6 | 5.2 | -0.2 | 0.8 | 1.1 | 2.3 |
| OPERF Policy Benchmark | 8.1 | 6.0 | - | 1.0 | 1.1 | 0.0 |

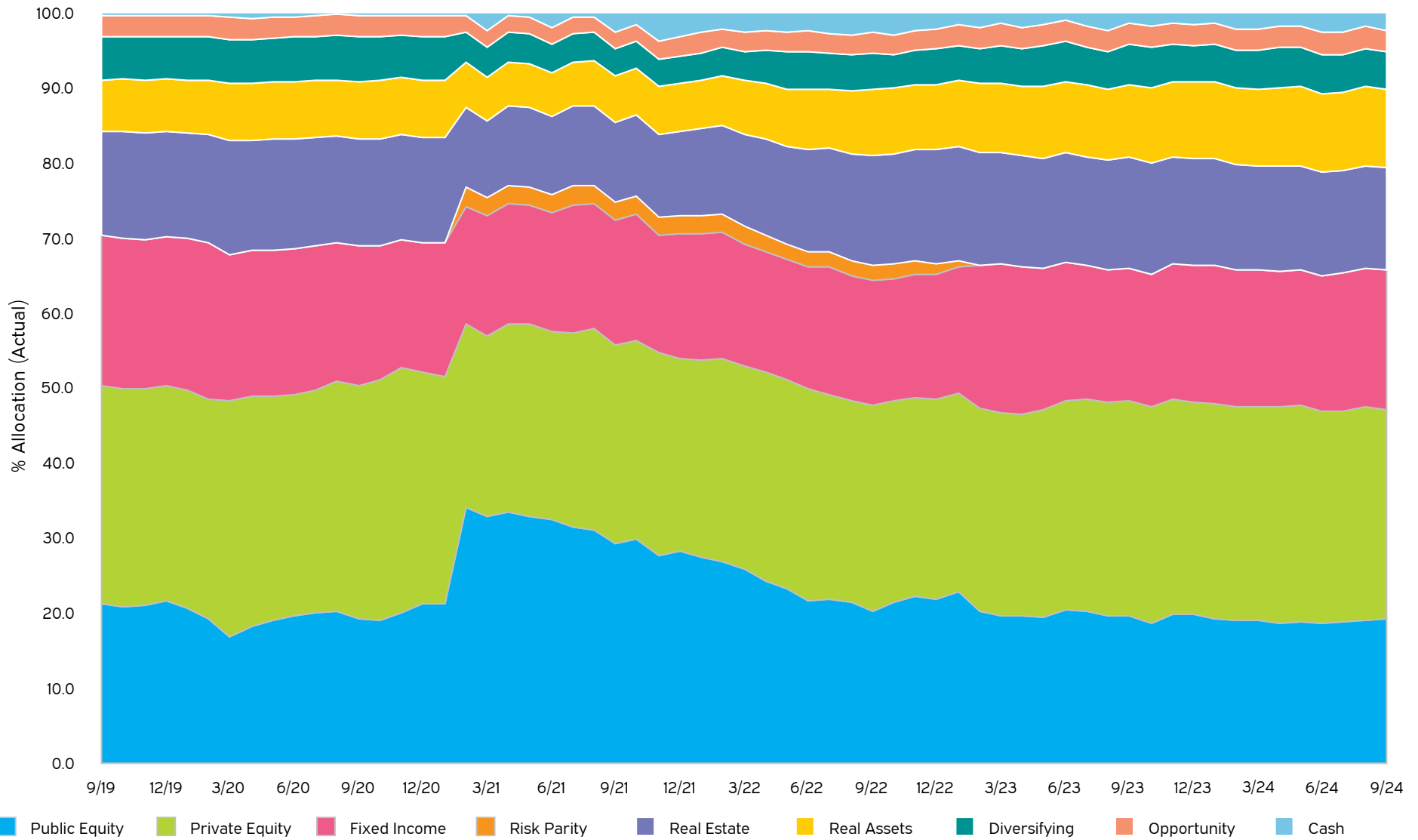
Performance Update
As of September 30, 2024

| Asset Allocation vs Target As of September 30, 2024 | | | | | | |
|--|-----------------------|---------------------------|---------------|-------------------|---------------------|----------------------|
| | Balance (\$) | Current Allocation (%) | Policy (%) | Difference (%) | Policy Range (%) | Within IPS Range? |
| Public Equity | 18,565,400,242 | 19.3 | 27.5 | -8.2 | 22.5 - 32.5 | No |
| Private Equity | 26,847,925,170 | 27.9 | 20.0 | 7.9 | 17.5 - 27.5 | No |
| Fixed Income | 17,855,356,066 | 18.5 | 25.0 | -6.5 | 20.0 - 30.0 | No |
| Real Estate | 13,182,055,607 | 13.7 | 12.5 | 1.2 | 9.0 - 16.5 | Yes |
| Real Assets | 9,957,295,528 | 10.3 | 7.5 | 2.8 | 2.5 - 10.0 | No |
| Diversifying | 4,799,814,072 | 5.0 | 7.5 | -2.5 | 2.5 - 10.0 | Yes |
| Opportunity | 2,860,341,668 | 3.0 | 0.0 | 3.0 | 0.0 - 5.0 | Yes |
| Cash | 2,240,682,817 | 2.3 | 0.0 | 2.3 | 0.0 - 100.0 | Yes |
| Total | 96,308,871,170 | 100.0 | 100.0 | 0.0 | | |

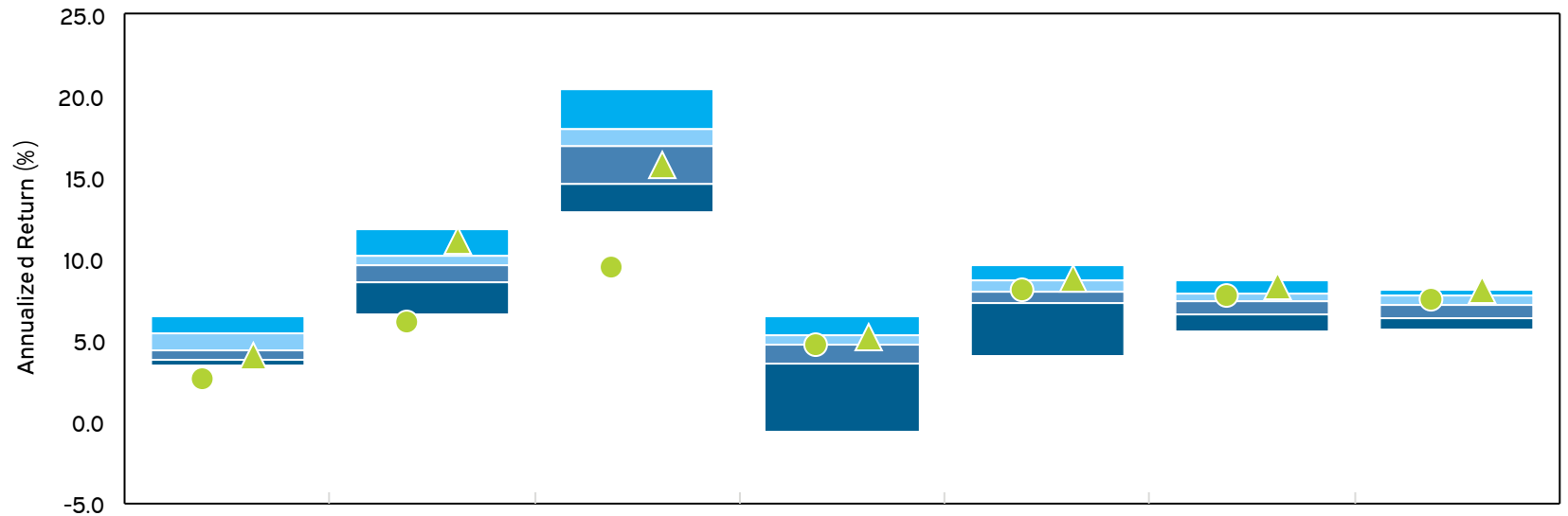
The table above reflects physical asset allocation and excludes Overlay impact.
 Total Public Equity includes Other Equity and Cash includes Russell Overlay Cash Balance for allocation purposes.
 The target allocation was revised effective April 1, 2023. Plan rebalancing is currently underway.

Historical Asset Allocation | 5 Years Ending September 30, 2024

Asset Allocation History
5 Years Ending September 30, 2024



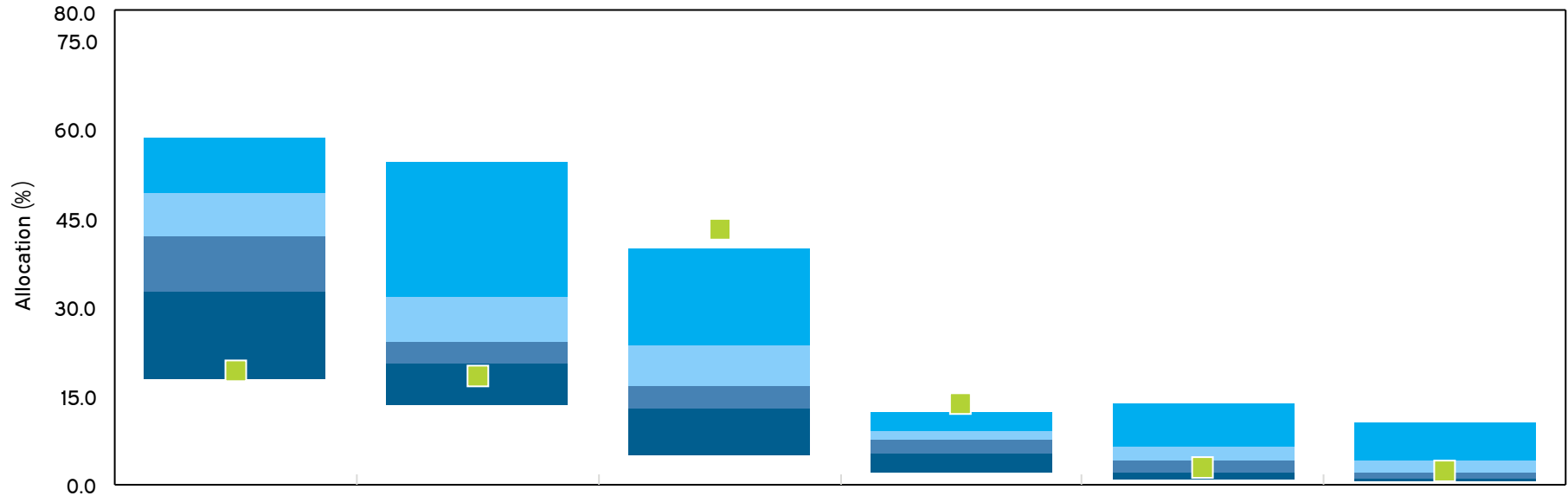
InvMetrics All DB > \$5B Net Return Comparison Ending September 30, 2024



| | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 7 Yrs (%) | 10 Yrs (%) |
|--------------------------|-----------|----------|-----------|-----------|-----------|-----------|------------|
| ● Total Fund | 2.7 (100) | 6.1 (96) | 9.5 (100) | 4.8 (45) | 8.2 (44) | 7.8 (31) | 7.6 (30) |
| ▲ OPERF Policy Benchmark | 4.1 (65) | 11.2 (8) | 15.8 (59) | 5.3 (28) | 8.9 (21) | 8.4 (12) | 8.1 (3) |
| 5th Percentile | 6.6 | 11.8 | 20.4 | 6.5 | 9.6 | 8.7 | 8.1 |
| 1st Quartile | 5.4 | 10.3 | 18.0 | 5.4 | 8.8 | 7.9 | 7.8 |
| Median | 4.4 | 9.6 | 17.0 | 4.7 | 8.0 | 7.4 | 7.3 |
| 3rd Quartile | 3.9 | 8.6 | 14.7 | 3.6 | 7.3 | 6.6 | 6.4 |
| 95th Percentile | 3.5 | 6.6 | 12.9 | -0.6 | 4.1 | 5.5 | 5.6 |
| Population | 48 | 48 | 48 | 47 | 46 | 44 | 44 |

Parentheses contain percentile rankings.

Total Plan Allocation vs. InvMetrics All DB > \$5B



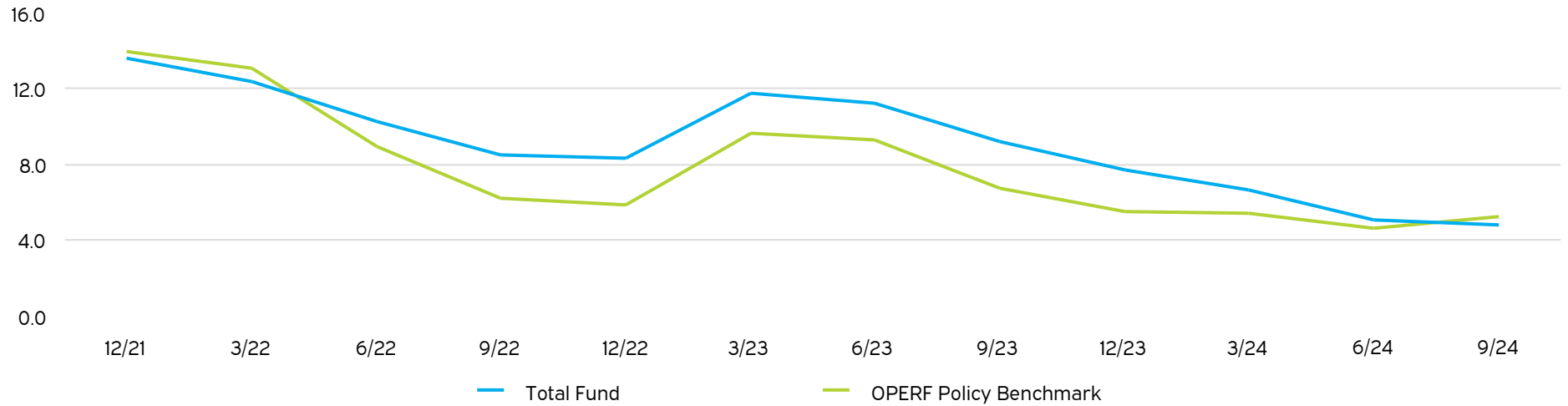
| | Total Equity | Total Fixed Income | Alternatives | Total Real Estate | Multi-Asset | Cash & Equivalents |
|-----------------|--------------|--------------------|--------------|-------------------|-------------|--------------------|
| ■ Total Fund | 19.3 (93) | 18.5 (86) | 43.2 (4) | 13.7 (3) | 2.8 (60) | 2.3 (47) |
| 5th Percentile | 58.6 | 54.5 | 39.9 | 12.4 | 13.7 | 10.6 |
| 1st Quartile | 49.4 | 31.9 | 23.6 | 9.2 | 6.5 | 4.0 |
| Median | 42.1 | 24.3 | 16.6 | 7.7 | 4.2 | 2.0 |
| 3rd Quartile | 32.8 | 20.5 | 12.9 | 5.3 | 2.0 | 1.1 |
| 95th Percentile | 17.9 | 13.3 | 4.9 | 2.1 | 0.8 | 0.6 |

Parentheses contain percentile rankings.

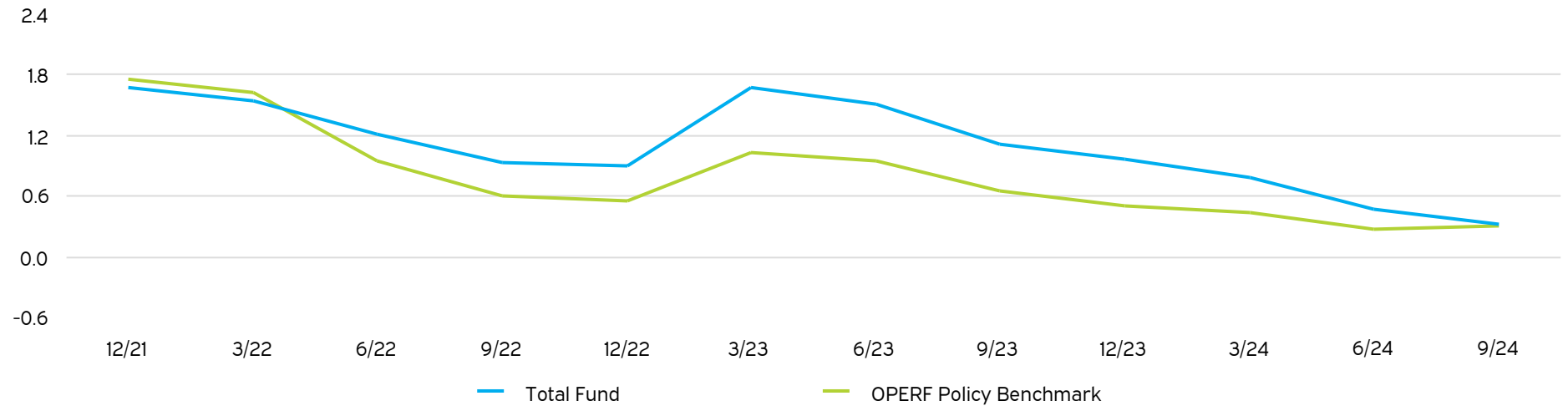
Alternatives is classified to contain the following sub-asset classes: Hedge Funds, Venture Capital, Private Equity, Real Assets, and Commodities.

Multi-Asset is classified to contain the following sub-asset classes: Balanced, Tactical Asset Allocation, and Other.

Rolling 3 Year Annualized Return (%)
Total Fund vs OPERF Policy Benchmark



Rolling 3 Year Sharpe Ratio
Total Fund vs OPERF Policy Benchmark



| Asset Class Performance Summary | | | | | | | | | |
|--|-----------------------|----------------|------------|------------|-------------|-------------|-------------|------------|--|
| | Market Value (\$) | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | |
| Total Fund | 96,308,871,170 | 100.0 | 2.7 | 6.1 | 9.5 | 4.8 | 8.2 | 7.6 | |
| <i>OPERF Policy Benchmark</i> | | | 4.1 | 11.2 | 15.8 | 5.3 | 8.9 | 8.1 | |
| <i>InvMetrics All DB > \$5B Median</i> | | | 4.4 | 9.6 | 17.0 | 4.7 | 8.0 | 7.3 | |
| <i>InvMetrics All DB > \$5B Rank</i> | | | 100 | 96 | 100 | 45 | 44 | 30 | |
| Total Fixed Income | 17,855,356,066 | 18.5 | 4.8 | 5.3 | 11.7 | 0.0 | 1.4 | 2.3 | |
| <i>Oregon Custom FI Benchmark</i> | | | 5.2 | 4.4 | 11.6 | -1.4 | 0.4 | 1.7 | |
| Core Fixed Income | 5,840,665,285 | 6.1 | 5.4 | 5.0 | 12.8 | -1.2 | 0.8 | 2.3 | |
| <i>Oregon Custom External FI BM</i> | | | 5.2 | 4.4 | 11.6 | -1.4 | 0.3 | 1.8 | |
| U.S. Government | 7,739,798,082 | 8.0 | 4.7 | 4.0 | 9.8 | -1.7 | -0.2 | 0.9 | |
| <i>Government Blended Index</i> | | | 4.7 | 3.8 | 9.7 | -1.8 | -0.2 | 0.9 | |
| Non-Core Fixed Income | 1,578,604,627 | 1.6 | 4.1 | 9.0 | 13.4 | 8.1 | 7.2 | 5.8 | |
| <i>Custom Non-Core Fixed Income Index</i> | | | 2.8 | 6.9 | 11.1 | 5.7 | 5.5 | 4.9 | |
| Emerging Markets Debt | 262,774,718 | 0.3 | 6.3 | 9.3 | 19.3 | -0.8 | -- | -- | |
| <i>JPM EMBI Global Diversified</i> | | | 6.2 | 8.6 | 18.6 | -0.4 | 0.9 | 3.3 | |
| Structured Credit Products | 1,544,464,660 | 1.6 | 3.4 | 6.3 | 10.7 | -- | -- | -- | |
| <i>Oregon Structured Credit Products FI BM</i> | | | 4.2 | 6.3 | 11.6 | -- | -- | -- | |
| Investment Grade Credit | 875,600,416 | 0.9 | 6.5 | 6.1 | 17.1 | -- | -- | -- | |
| <i>Bloomberg US Credit</i> | | | 5.7 | 5.2 | 13.8 | -1.1 | 1.1 | 2.8 | |

See appendix for custom Policy Benchmark descriptions.

Total Fund | As of September 30, 2024

| | Market Value (\$) | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---|-----------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total Public Equity | 18,565,400,242 | 19.3 | 6.6 | 18.2 | 31.0 | 8.7 | 12.2 | 9.6 |
| <i>MSCI ACWI IMI Net (Daily)</i> | | | <i>6.8</i> | <i>17.8</i> | <i>31.0</i> | <i>7.4</i> | <i>11.9</i> | <i>9.2</i> |
| U.S. Equity | 10,175,819,047 | 10.6 | 6.3 | 20.0 | 34.0 | 9.8 | 13.9 | 11.7 |
| <i>Russell 3000 Index</i> | | | <i>6.2</i> | <i>20.6</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> | <i>12.8</i> |
| Small Cap Growth | 282,546,877 | 0.3 | 8.1 | 19.9 | 25.8 | 0.1 | 13.5 | 11.3 |
| <i>Russell 2000 Growth Index</i> | | | <i>8.4</i> | <i>13.2</i> | <i>27.7</i> | <i>-0.4</i> | <i>8.8</i> | <i>8.9</i> |
| Market Oriented (CORE) | 9,893,272,170 | 10.3 | 6.2 | 20.2 | 34.5 | 10.0 | 14.2 | 12.1 |
| <i>Russell 3000 Index</i> | | | <i>6.2</i> | <i>20.6</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> | <i>12.8</i> |
| Non-U.S. Equity | 5,749,542,592 | 6.0 | 7.3 | 15.4 | 26.5 | 6.5 | 10.6 | 7.4 |
| <i>Oregon MSCI ACWI Ex US IMI (Net)</i> | | | <i>8.2</i> | <i>13.9</i> | <i>25.1</i> | <i>3.7</i> | <i>7.7</i> | <i>5.3</i> |
| Total International Overlay Accounts | -53,227,102 | -0.1 | | | | | | |
| International Market Oriented (Core) | 2,756,378,672 | 2.9 | 8.1 | 17.9 | 28.0 | 7.2 | 10.7 | 7.6 |
| <i>MSCI World ex U.S. IMI Index (Net)</i> | | | <i>8.1</i> | <i>12.9</i> | <i>24.8</i> | <i>4.8</i> | <i>8.1</i> | <i>5.7</i> |
| International Value | 1,187,515,060 | 1.2 | 9.3 | 16.2 | 27.5 | 9.3 | 11.5 | 7.4 |
| <i>Oregon MSCI ACWI Ex US Value IMI (Net)</i> | | | <i>9.3</i> | <i>14.2</i> | <i>24.0</i> | <i>7.1</i> | <i>7.9</i> | <i>4.5</i> |
| International Growth | 903,809,399 | 0.9 | 5.9 | 10.4 | 26.0 | 2.9 | 8.9 | 8.0 |
| <i>Oregon MSCI WORLD Ex US (Net)</i> | | | <i>7.8</i> | <i>13.1</i> | <i>25.0</i> | <i>5.6</i> | <i>8.4</i> | <i>5.7</i> |
| International Small Cap | 337,569,868 | 0.4 | 6.3 | 10.1 | 20.8 | 4.4 | 10.1 | 6.6 |
| <i>MSCI World ex U.S. Small Value (Net)</i> | | | <i>10.9</i> | <i>12.1</i> | <i>23.3</i> | <i>3.6</i> | <i>7.4</i> | <i>5.6</i> |
| Emerging Markets | 617,496,695 | 0.6 | 2.8 | 12.6 | 22.4 | 4.7 | 10.7 | 6.5 |
| <i>ORE MSCI Emerging Markets IMI (Net)</i> | | | <i>8.2</i> | <i>16.3</i> | <i>25.6</i> | <i>1.0</i> | <i>6.5</i> | <i>4.3</i> |

See appendix for custom Policy Benchmark descriptions.

Total Fund | As of September 30, 2024

| | Market Value (\$) | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|--|-----------------------|----------------|-------------|-------------|--------------|-------------|-------------|-------------|
| Global Equity | 2,625,338,940 | 2.7 | 6.0 | 18.3 | 31.0 | 10.2 | 10.8 | 8.9 |
| <i>MSCI ACWI IMI Net (Daily)</i> | | | <i>6.8</i> | <i>17.8</i> | <i>31.0</i> | <i>7.4</i> | <i>11.9</i> | <i>9.2</i> |
| Global Equity Low Volatility | 1,147,462,499 | 1.2 | 4.9 | 16.6 | 25.7 | 9.3 | 10.3 | -- |
| <i>MSCI AC World (Daily Const)</i> | | | <i>6.6</i> | <i>18.7</i> | <i>31.8</i> | <i>8.1</i> | <i>12.2</i> | <i>9.4</i> |
| Other Equity | 14,699,662 | 0.0 | | | | | | |
| Total Real Estate | 13,182,055,607 | 13.7 | 0.2 | -4.5 | -7.4 | 3.9 | 5.0 | 7.1 |
| <i>NCREIF ODCE (Custom) (Adj.)</i> | | | <i>-0.7</i> | <i>-8.1</i> | <i>-10.0</i> | <i>1.0</i> | <i>2.3</i> | <i>5.4</i> |
| Real Estate excluding REITS | 12,846,932,630 | 13.3 | -0.2 | -5.0 | -8.2 | 3.9 | 5.1 | 7.6 |
| Total REITS | 335,122,977 | 0.3 | 18.3 | 19.5 | 38.1 | 7.8 | 7.0 | 6.6 |
| Opportunity Portfolio | 2,860,341,668 | 3.0 | 1.8 | 8.3 | 11.9 | 9.2 | 11.8 | 8.7 |
| <i>Opportunity Custom Benchmark</i> | | | <i>4.1</i> | <i>11.2</i> | <i>15.8</i> | <i>12.1</i> | <i>10.6</i> | <i>8.6</i> |
| Alternative Portfolio | 14,757,109,600 | 15.3 | 0.9 | 6.7 | 9.6 | 11.3 | 7.3 | 4.1 |
| <i>CPI +4%</i> | | | <i>1.3</i> | <i>5.8</i> | <i>6.5</i> | <i>8.8</i> | <i>8.3</i> | <i>6.9</i> |
| Diversifying Strategies | 4,799,814,072 | 5.0 | -2.2 | 5.3 | 4.4 | 9.4 | 3.6 | 2.8 |
| <i>HFRI FOF Conservative Index</i> | | | <i>1.4</i> | <i>4.8</i> | <i>6.8</i> | <i>3.7</i> | <i>5.2</i> | <i>3.6</i> |
| Real Assets | 9,957,295,528 | 10.3 | 2.4 | 7.4 | 12.3 | 12.6 | 10.1 | 5.5 |
| <i>CPI +4%</i> | | | <i>1.3</i> | <i>5.8</i> | <i>6.5</i> | <i>8.8</i> | <i>8.3</i> | <i>6.9</i> |
| Private Equity | 26,847,925,170 | 27.9 | 1.8 | 5.3 | 6.3 | 5.6 | 13.0 | 12.3 |
| <i>Russell 3000 + 300 BPS QTR LAG (Adj.)</i> | | | <i>4.0</i> | <i>29.4</i> | <i>26.1</i> | <i>11.1</i> | <i>17.4</i> | <i>15.4</i> |
| Cash | 1,630,240,708 | 1.7 | 1.5 | 4.4 | 6.1 | 3.4 | 2.5 | 2.0 |
| <i>ICE BofA 3 Month U.S. T-Bill</i> | | | <i>1.4</i> | <i>4.0</i> | <i>5.5</i> | <i>3.5</i> | <i>2.3</i> | <i>1.6</i> |

See appendix for custom Policy Benchmark descriptions.

Asset Allocation & Performance | As of September 30, 2024

| Trailing Net Performance | | | | | | | | |
|--|-----------------------|----------------|------------|------------|-------------|-------------|-------------|------------|
| | Market Value \$ | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
| Total Fund | 96,308,871,170 | 100.0 | 2.7 | 6.1 | 9.5 | 4.8 | 8.2 | 7.6 |
| <i>OPERF Policy Benchmark</i> | | | 4.1 | 11.2 | 15.8 | 5.3 | 8.9 | 8.1 |
| <i>60% MSCI ACWI / 40% Bloomberg Aggregate</i> | | | 6.0 | 12.8 | 23.4 | 4.4 | 7.6 | 6.5 |
| <i>70% MSCI ACWI/30% Barclays Agg</i> | | | 6.2 | 14.3 | 25.4 | 5.3 | 8.7 | 7.3 |
| <i>InvMetrics All DB > \$5B Median</i> | | | 4.4 | 9.6 | 17.0 | 4.7 | 8.0 | 7.3 |
| <i>InvMetrics All DB > \$5B Rank</i> | | | 100 | 96 | 100 | 45 | 44 | 30 |
| Total Fixed Income | 17,855,356,066 | 18.5 | 4.8 | 5.3 | 11.7 | 0.0 | 1.4 | 2.3 |
| <i>Oregon Custom FI Benchmark</i> | | | 5.2 | 4.4 | 11.6 | -1.4 | 0.4 | 1.7 |
| <i>Blmbg. U.S. Aggregate Index</i> | | | 5.2 | 4.4 | 11.6 | -1.4 | 0.3 | 1.8 |
| <i>Fixed Income Weighted BM</i> | | | 4.7 | 4.5 | 10.7 | -0.7 | 0.7 | 2.0 |
| Core Fixed Income | 5,840,665,285 | 6.1 | 5.4 | 5.0 | 12.8 | -1.2 | 0.8 | 2.3 |
| <i>Oregon Custom External FI BM</i> | | | 5.2 | 4.4 | 11.6 | -1.4 | 0.3 | 1.8 |
| Blackrock | 1,908,012,451 | 2.0 | 5.2 | 5.0 | 12.3 | -1.2 | 0.9 | 2.2 |
| <i>Oregon Custom External FI BM</i> | | | 5.2 | 4.4 | 11.6 | -1.4 | 0.3 | 1.8 |
| Wellington | 1,980,552,564 | 2.1 | 5.3 | 5.7 | 13.1 | -1.0 | 1.1 | 2.5 |
| <i>Oregon Custom External FI BM</i> | | | 5.2 | 4.4 | 11.6 | -1.4 | 0.3 | 1.8 |
| Western Asset | 1,952,100,269 | 2.0 | 5.6 | 4.4 | 12.9 | -1.6 | 0.7 | 2.4 |
| <i>Oregon Custom External FI BM</i> | | | 5.2 | 4.4 | 11.6 | -1.4 | 0.3 | 1.8 |
| U.S. Government | 7,739,798,082 | 8.0 | 4.7 | 4.0 | 9.8 | -1.7 | -0.2 | 0.9 |
| <i>Government Blended Index</i> | | | 4.7 | 3.8 | 9.7 | -1.8 | -0.2 | 0.9 |
| Government Portfolio | 7,739,798,082 | 8.0 | 4.7 | 4.0 | 9.8 | -1.7 | -0.2 | -- |
| <i>Government Blended Index</i> | | | 4.7 | 3.8 | 9.7 | -1.8 | -0.2 | 0.9 |
| Non-Core Fixed Income | 1,578,604,627 | 1.6 | 4.1 | 9.0 | 13.4 | 8.1 | 7.2 | 5.8 |
| <i>Custom Non-Core Fixed Income Index</i> | | | 2.8 | 6.9 | 11.1 | 5.7 | 5.5 | 4.9 |
| Oak Hill | 1,163,907,498 | 1.2 | 4.0 | 9.8 | 13.5 | 8.8 | 7.7 | 6.4 |
| <i>Oak Hill Custom Lev Loan & Bond Index</i> | | | 2.5 | 6.8 | 10.5 | 6.0 | 5.6 | 4.9 |

Asset Allocation & Performance | As of September 30, 2024

| | Market Value \$ | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|--|----------------------|----------------|-------------------|-------------------|---------------------|---------------------|------------------|------------------|
| Beach Point <i>Beachpoint Custom FI Benchmark</i> | 414,697,129 | 0.4 | 4.4 <i>5.3</i> | 7.1 <i>9.0</i> | 14.8 <i>14.4</i> | -- <i>--</i> | -- <i>--</i> | -- <i>--</i> |
| Emerging Markets Debt | 262,774,718 | 0.3 | 6.3 | 9.3 | 19.3 | -0.8 | -- | -- |
| <i>JPM EMBI Global Diversified</i> | | | <i>6.2</i> | <i>8.6</i> | <i>18.6</i> | <i>-0.4</i> | <i>0.9</i> | <i>3.3</i> |
| Global Evolution EMD <i>JPM EMBI Global Diversified</i> | 133,000,978 | 0.1 | 6.5 <i>6.2</i> | 9.5 <i>8.6</i> | 19.8 <i>18.6</i> | 0.5 <i>-0.4</i> | -- <i>0.9</i> | -- <i>3.3</i> |
| PGIM EMD <i>JPM EMBI Global Diversified</i> | 129,773,740 | 0.1 | 6.2 <i>6.2</i> | 9.1 <i>8.6</i> | 18.6 <i>18.6</i> | -0.4 <i>-0.4</i> | -- <i>0.9</i> | -- <i>3.3</i> |
| Structured Credit Products | 1,544,464,660 | 1.6 | 3.4 | 6.3 | 10.7 | -- | -- | -- |
| <i>Oregon Structured Credit Products FI BM</i> | | | <i>4.2</i> | <i>6.3</i> | <i>11.6</i> | <i>--</i> | <i>--</i> | <i>--</i> |
| Schroders SCP <i>ICE BofA AA-BBB US Asset Backed Sec Idx</i> | 902,052,316 | 0.9 | 3.1 <i>3.5</i> | 5.7 <i>7.1</i> | 9.7 <i>11.2</i> | -- <i>2.2</i> | -- <i>2.6</i> | -- <i>3.1</i> |
| Guggenheim SCP <i>ICE BofA AA-BBB US Asset Backed Sec Idx</i> | 642,412,344 | 0.7 | 3.8 <i>3.5</i> | 7.2 <i>7.1</i> | 11.8 <i>11.2</i> | -- <i>2.2</i> | -- <i>2.6</i> | -- <i>3.1</i> |
| Investment Grade Credit | 875,600,416 | 0.9 | 6.5 | 6.1 | 17.1 | -- | -- | -- |
| <i>Bloomberg US Credit</i> | | | <i>5.7</i> | <i>5.2</i> | <i>13.8</i> | <i>-1.1</i> | <i>1.1</i> | <i>2.8</i> |
| Fidelity <i>Bloomberg US Credit</i> | 875,600,416 | 0.9 | 6.5 <i>5.7</i> | 6.1 <i>5.2</i> | 17.1 <i>13.8</i> | -- <i>-1.1</i> | -- <i>1.1</i> | -- <i>2.8</i> |

Asset Allocation & Performance | As of September 30, 2024

| | Market Value \$ | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|--|-----------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total Public Equity | 18,565,400,242 | 19.3 | 6.6 | 18.2 | 31.0 | 8.7 | 12.2 | 9.6 |
| <i>MSCI ACWI IMI Net (Daily)</i> | | | <i>6.8</i> | <i>17.8</i> | <i>31.0</i> | <i>7.4</i> | <i>11.9</i> | <i>9.2</i> |
| U.S. Equity | 10,175,819,047 | 10.6 | 6.3 | 20.0 | 34.0 | 9.8 | 13.9 | 11.7 |
| <i>Russell 3000 Index</i> | | | <i>6.2</i> | <i>20.6</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> | <i>12.8</i> |
| Small Cap Growth | 282,546,877 | 0.3 | 8.1 | 19.9 | 25.8 | 0.1 | 13.5 | 11.3 |
| <i>Russell 2000 Growth Index</i> | | | <i>8.4</i> | <i>13.2</i> | <i>27.7</i> | <i>-0.4</i> | <i>8.8</i> | <i>8.9</i> |
| EAM MicroCap Growth | 282,546,877 | 0.3 | 8.1 | 19.9 | 25.8 | 0.1 | 13.5 | 11.3 |
| <i>Russell Microcap Growth Index (Daily)</i> | | | <i>8.6</i> | <i>9.3</i> | <i>26.4</i> | <i>-8.3</i> | <i>6.9</i> | <i>5.4</i> |
| Market Oriented (CORE) | 9,893,272,170 | 10.3 | 6.2 | 20.2 | 34.5 | 10.0 | 14.2 | 12.1 |
| <i>Russell 3000 Index</i> | | | <i>6.2</i> | <i>20.6</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> | <i>12.8</i> |
| Russell 2000 Synthetic - OST managed | 320,804,491 | 0.3 | 10.1 | 9.4 | 26.0 | 4.0 | 10.4 | 9.5 |
| <i>S&P 600 Custom</i> | | | <i>10.1</i> | <i>9.3</i> | <i>25.9</i> | <i>4.0</i> | <i>10.2</i> | <i>9.1</i> |
| S&P 500 - OST managed | 4,173,734,387 | 4.3 | 5.9 | 22.0 | 36.3 | 11.9 | 16.0 | 13.4 |
| <i>S&P 500 Index (Daily)</i> | | | <i>5.9</i> | <i>22.1</i> | <i>36.4</i> | <i>11.9</i> | <i>16.0</i> | <i>13.4</i> |
| S&P 400 - OST managed | 593,210,551 | 0.6 | 6.9 | 13.5 | 26.8 | 7.5 | 11.8 | 10.5 |
| <i>S&P 400 Midcap Index (Daily)</i> | | | <i>6.9</i> | <i>13.5</i> | <i>26.8</i> | <i>7.5</i> | <i>11.8</i> | <i>10.3</i> |
| OST Risk Premia Strategy | 8,008 | 0.0 | | | | | | |
| BR Russell 3000 | 3,318,348,587 | 3.4 | 6.3 | 20.6 | 35.2 | -- | -- | -- |
| <i>Russell 3000 Index</i> | | | <i>6.2</i> | <i>20.6</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> | <i>12.8</i> |
| DFA All Cap Core | 1,487,174,153 | 1.5 | 6.1 | 20.4 | 34.2 | -- | -- | -- |
| <i>Russell 3000 Index</i> | | | <i>6.2</i> | <i>20.6</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> | <i>12.8</i> |

Asset Allocation & Performance | As of September 30, 2024

| | Market Value \$ | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---|----------------------|----------------|------------|-------------|-------------|------------|-------------|------------|
| Non-U.S. Equity | 5,749,542,592 | 6.0 | 7.3 | 15.4 | 26.5 | 6.5 | 10.6 | 7.4 |
| <i>Oregon MSCI ACWI Ex US IMI (Net)</i> | | | <i>8.2</i> | <i>13.9</i> | <i>25.1</i> | <i>3.7</i> | <i>7.7</i> | <i>5.3</i> |
| Total International Overlay Accounts | -53,227,102 | -0.1 | | | | | | |
| PERS-Adrian Lee Active Currency | -41,316,893 | 0.0 | | | | | | |
| PERS-P/E Global Active Currency | -11,910,210 | 0.0 | | | | | | |
| International Market Oriented (Core) | 2,756,378,672 | 2.9 | 8.1 | 17.9 | 28.0 | 7.2 | 10.7 | 7.6 |
| <i>MSCI World ex U.S. IMI Index (Net)</i> | | | <i>8.1</i> | <i>12.9</i> | <i>24.8</i> | <i>4.8</i> | <i>8.1</i> | <i>5.7</i> |
| Arrowstreet Capital | 801,035,568 | 0.8 | 4.4 | 19.8 | 29.8 | 12.5 | 15.3 | 11.3 |
| <i>Oregon MSCI ACWI Ex US IMI (Net)</i> | | | <i>8.2</i> | <i>13.9</i> | <i>25.1</i> | <i>3.7</i> | <i>7.7</i> | <i>5.3</i> |
| Lazard International CEF | 524,957,966 | 0.5 | 9.6 | 16.9 | 28.6 | -0.8 | 8.1 | 7.0 |
| <i>Oregon MSCI ACWI Ex US (Net)</i> | | | <i>8.1</i> | <i>14.2</i> | <i>25.4</i> | <i>4.1</i> | <i>7.6</i> | <i>5.2</i> |
| OST Int'l Risk Premia | 1,430,385,138 | 1.5 | 9.6 | 17.6 | 26.7 | 9.4 | 10.6 | -- |
| <i>MSCI World x US Custom Div Multiple-Factor</i> | | | <i>9.6</i> | <i>17.4</i> | <i>26.3</i> | <i>9.1</i> | <i>10.2</i> | <i>--</i> |
| <i>MSCI World ex USA Net Index</i> | | | <i>7.8</i> | <i>13.1</i> | <i>25.0</i> | <i>5.6</i> | <i>8.4</i> | <i>5.7</i> |
| International Value | 1,187,515,060 | 1.2 | 9.3 | 16.2 | 27.5 | 9.3 | 11.5 | 7.4 |
| <i>Oregon MSCI ACWI Ex US Value IMI (Net)</i> | | | <i>9.3</i> | <i>14.2</i> | <i>24.0</i> | <i>7.1</i> | <i>7.9</i> | <i>4.5</i> |
| Acadian Asset Management | 768,982,695 | 0.8 | 7.6 | 18.1 | 28.8 | 7.3 | 11.8 | 8.1 |
| <i>Oregon MSCI ACWI Ex US Value IMI (Net)</i> | | | <i>9.3</i> | <i>14.2</i> | <i>24.0</i> | <i>7.1</i> | <i>7.9</i> | <i>4.5</i> |
| Brandes Investment Partners | 418,532,365 | 0.4 | 12.5 | 13.3 | 25.3 | 11.6 | 11.2 | 6.8 |
| <i>Oregon MSCI ACWI Ex US Value (Net)</i> | | | <i>9.3</i> | <i>14.4</i> | <i>24.0</i> | <i>7.5</i> | <i>7.8</i> | <i>4.3</i> |

Asset Allocation & Performance | As of September 30, 2024

| | Market Value \$ | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|--|--------------------|----------------|--------------------|---------------------|---------------------|---------------------|---------------------|-------------------|
| International Growth | 903,809,399 | 0.9 | 5.9 | 10.4 | 26.0 | 2.9 | 8.9 | 8.0 |
| <i>Oregon MSCI WORLD Ex US (Net)</i> | | | <i>7.8</i> | <i>13.1</i> | <i>25.0</i> | <i>5.6</i> | <i>8.4</i> | <i>5.7</i> |
| Walter Scott Management <i>Oregon MSCI WORLD Ex US (Net)</i> | 903,809,399 | 0.9 | 5.9 <i>7.8</i> | 10.4 <i>13.1</i> | 26.0 <i>25.0</i> | 2.9 <i>5.6</i> | 8.9 <i>8.4</i> | 8.5 <i>5.7</i> |
| International Small Cap | 337,569,868 | 0.4 | 6.3 | 10.1 | 20.8 | 4.4 | 10.1 | 6.6 |
| <i>MSCI World ex U.S. Small Value (Net)</i> | | | <i>10.9</i> | <i>12.1</i> | <i>23.3</i> | <i>3.6</i> | <i>7.4</i> | <i>5.6</i> |
| Harris Associates <i>MSCI AC World ex USA Small Value (Net)</i> | 167,164,792 | 0.2 | 12.4 <i>9.4</i> | 10.1 <i>12.7</i> | 22.8 <i>24.1</i> | 4.9 <i>4.7</i> | 10.2 <i>8.6</i> | 7.0 <i>5.9</i> |
| EAM International Micro Cap <i>Oregon FTSE Global Ex US Micro Cap</i> | 170,405,076 | 0.2 | 1.0 <i>6.7</i> | 11.0 <i>11.8</i> | 19.5 <i>21.8</i> | 0.4 <i>1.0</i> | 11.7 <i>10.9</i> | 8.3 <i>6.7</i> |
| Emerging Markets | 617,496,695 | 0.6 | 2.8 | 12.6 | 22.4 | 4.7 | 10.7 | 6.5 |
| <i>ORE MSCI Emerging Markets IMI (Net)</i> | | | <i>8.2</i> | <i>16.3</i> | <i>25.6</i> | <i>1.0</i> | <i>6.5</i> | <i>4.3</i> |
| Arrowstreet Emerging Markets <i>ORE MSCI Emerging Markets IMI (Net)</i> | 274,454,859 | 0.3 | 3.3 <i>8.2</i> | 15.6 <i>16.3</i> | 24.6 <i>25.6</i> | 7.7 <i>1.0</i> | 15.2 <i>6.5</i> | 8.7 <i>4.3</i> |
| Westwood Global Investment <i>MSCI Emerging Markets IMI (Net)</i> | 153,189,665 | 0.2 | 2.2 <i>8.2</i> | 2.6 <i>16.3</i> | 13.0 <i>25.6</i> | 5.8 <i>1.0</i> | 8.5 <i>6.5</i> | 5.3 <i>4.2</i> |
| William Blair and Company <i>MSCI Emerging Markets Growth (Net)</i> | 189,852,171 | 0.2 | 2.6 <i>9.3</i> | 16.7 <i>18.5</i> | 28.0 <i>27.6</i> | -5.0 <i>-2.3</i> | 7.2 <i>5.5</i> | 5.3 <i>4.8</i> |

Asset Allocation & Performance | As of September 30, 2024

| | Market Value \$ | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|--|----------------------|----------------|------------|-------------|-------------|-------------|-------------|------------|
| Global Equity | 2,625,338,940 | 2.7 | 6.0 | 18.3 | 31.0 | 10.2 | 10.8 | 8.9 |
| <i>MSCI ACWI IMI Net (Daily)</i> | | | <i>6.8</i> | <i>17.8</i> | <i>31.0</i> | <i>7.4</i> | <i>11.9</i> | <i>9.2</i> |
| Cantillion | 1,013,419,370 | 1.1 | 9.7 | 17.7 | 35.5 | -- | -- | -- |
| <i>MSCI ACWI IMI Net (Daily)</i> | | | <i>6.8</i> | <i>17.8</i> | <i>31.0</i> | <i>7.4</i> | <i>11.9</i> | <i>9.2</i> |
| GQG Global Equity | 464,457,071 | 0.5 | 0.9 | 25.0 | 37.2 | -- | -- | -- |
| <i>Oregon MSCI ACWI Ex US (Net)</i> | | | <i>8.1</i> | <i>14.2</i> | <i>25.4</i> | <i>4.1</i> | <i>7.6</i> | <i>5.2</i> |
| Global Equity Low Volatility | 1,147,462,499 | 1.2 | 4.9 | 16.6 | 25.7 | 9.3 | 10.3 | -- |
| <i>MSCI AC World (Daily Const)</i> | | | <i>6.6</i> | <i>18.7</i> | <i>31.8</i> | <i>8.1</i> | <i>12.2</i> | <i>9.4</i> |
| LACM Global Equity Low Volatility | 580,777,763 | 0.6 | 6.6 | 17.7 | 27.1 | 7.0 | 10.2 | -- |
| <i>MSCI AC World (Daily Const)</i> | | | <i>6.6</i> | <i>18.7</i> | <i>31.8</i> | <i>8.1</i> | <i>12.2</i> | <i>9.4</i> |
| Arrowstreet Global Low Volatility | 566,684,735 | 0.6 | 3.3 | 15.5 | 24.2 | 11.2 | 13.3 | -- |
| <i>MSCI ACWI IMI Net (Daily)</i> | | | <i>6.8</i> | <i>17.8</i> | <i>31.0</i> | <i>7.4</i> | <i>11.9</i> | <i>9.2</i> |
| Other Equity | 14,699,662 | 0.0 | | | | | | |
| Transitional & Closed Accounts | 14,585,270 | 0.0 | | | | | | |
| Transition & Closed Accounts II - International Equity | 114,392 | 0.0 | | | | | | |

Asset Allocation & Performance | As of September 30, 2024

| | Market Value \$ | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|-------------------------------------|-----------------------|----------------|-------------|-------------|--------------|-------------|-------------|------------|
| Total Real Estate | 13,182,055,607 | 13.7 | 0.2 | -4.5 | -7.4 | 3.9 | 5.0 | 7.1 |
| <i>NCREIF ODCE (Custom) (Adj.)</i> | | | <i>-0.7</i> | <i>-8.1</i> | <i>-10.0</i> | <i>1.0</i> | <i>2.3</i> | <i>5.4</i> |
| Real Estate excluding REITS | 12,846,932,630 | 13.3 | -0.2 | -5.0 | -8.2 | 3.9 | 5.1 | 7.6 |
| <i>NCREIF ODCE (Custom) (Adj.)</i> | | | <i>-0.7</i> | <i>-8.1</i> | <i>-10.0</i> | <i>1.0</i> | <i>2.3</i> | <i>5.4</i> |
| Total REITS | 335,122,977 | 0.3 | 18.3 | 19.5 | 38.1 | 7.8 | 7.0 | 6.6 |
| ABKB - LaSalle Advisors | 335,122,977 | 0.3 | 18.3 | 19.3 | 39.0 | 8.4 | 8.9 | 10.9 |
| <i>FTSE NAREIT All Equity REITs</i> | | | <i>16.8</i> | <i>14.2</i> | <i>34.8</i> | <i>3.5</i> | <i>5.1</i> | <i>8.0</i> |
| Opportunity Portfolio | 2,860,341,668 | 3.0 | 1.8 | 8.3 | 11.9 | 9.2 | 11.8 | 8.7 |
| <i>Opportunity Custom Benchmark</i> | | | <i>4.1</i> | <i>11.2</i> | <i>15.8</i> | <i>12.1</i> | <i>10.6</i> | <i>8.6</i> |
| <i>OPERF Policy Benchmark</i> | | | <i>4.1</i> | <i>11.2</i> | <i>15.8</i> | <i>5.3</i> | <i>8.9</i> | <i>8.1</i> |
| Portfolio Holdings - Opportunity | 141,251,234 | 0.1 | -1.5 | 9.7 | 20.0 | 9.5 | -- | -- |
| Alternative Portfolio | 14,757,109,600 | 15.3 | 0.9 | 6.7 | 9.6 | 11.3 | 7.3 | 4.1 |
| <i>CPI +4%</i> | | | <i>1.3</i> | <i>5.8</i> | <i>6.5</i> | <i>8.8</i> | <i>8.3</i> | <i>6.9</i> |
| Diversifying Strategies | 4,799,814,072 | 5.0 | -2.2 | 5.3 | 4.4 | 9.4 | 3.6 | 2.8 |
| <i>HFRI FOF Conservative Index</i> | | | <i>1.4</i> | <i>4.8</i> | <i>6.8</i> | <i>3.7</i> | <i>5.2</i> | <i>3.6</i> |
| Diversifying Strategies | 4,799,814,072 | 5.0 | -2.2 | 5.3 | 4.4 | 9.4 | 3.6 | -- |
| <i>HFRI FOF Conservative Index</i> | | | <i>1.4</i> | <i>4.8</i> | <i>6.8</i> | <i>3.7</i> | <i>5.2</i> | <i>3.6</i> |
| Real Assets | 9,957,295,528 | 10.3 | 2.4 | 7.4 | 12.3 | 12.6 | 10.1 | 5.5 |
| <i>CPI +4%</i> | | | <i>1.3</i> | <i>5.8</i> | <i>6.5</i> | <i>8.8</i> | <i>8.3</i> | <i>6.9</i> |
| Infrastructure | 6,895,138,291 | 7.2 | 2.4 | 7.1 | 12.8 | 10.8 | 10.8 | -- |
| <i>CPI +4%</i> | | | <i>1.3</i> | <i>5.8</i> | <i>6.5</i> | <i>8.8</i> | <i>8.3</i> | <i>6.9</i> |
| Natural Resources | 3,062,157,237 | 3.2 | 2.4 | 8.2 | 11.1 | 16.3 | 9.2 | -- |
| <i>CPI +4%</i> | | | <i>1.3</i> | <i>5.8</i> | <i>6.5</i> | <i>8.8</i> | <i>8.3</i> | <i>6.9</i> |

The Opportunity Portfolio benchmark changed from CPI +5% to OPERF Policy Benchmark beginning April 1, 2023.

Asset Allocation & Performance | As of September 30, 2024

| | Market Value \$ | % of Portfolio | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) |
|---|-----------------------|----------------|------------|------------|------------|------------|-------------|-------------|
| Private Equity | 26,847,925,170 | 27.9 | 1.8 | 5.3 | 6.3 | 5.6 | 13.0 | 12.3 |
| <i>Russell 3000 + 300 BPS QTR LAG (Adj)</i> | | | 4.0 | 29.4 | 26.1 | 11.1 | 17.4 | 15.4 |
| <i>MSCI ACWI+3% (1 quarter lagged)</i> | | | 3.6 | 26.4 | 23.0 | 8.6 | 14.1 | 11.7 |
| Cash | 1,630,240,708 | 1.7 | 1.5 | 4.4 | 6.1 | 3.4 | 2.5 | 2.0 |
| <i>ICE BofA 3 Month U.S. T-Bill</i> | | | 1.4 | 4.0 | 5.5 | 3.5 | 2.3 | 1.6 |
| PERS-Russell Overlay Cash Balance | 610,442,109 | 0.6 | | | | | | |

Asset Allocation & Performance | As of September 30, 2024

| | Calendar Year Performance | | | | | | | | | |
|--|---------------------------|--------------|-------------|------------|-------------|-------------|-------------|-------------|------------|------------|
| | 2023 (%) | 2022 (%) | 2021 (%) | 2020 (%) | 2019 (%) | 2018 (%) | 2017 (%) | 2016 (%) | 2015 (%) | 2014 (%) |
| Total Fund | 6.0 | -1.5 | 20.0 | 7.7 | 13.6 | 0.5 | 15.4 | 7.1 | 2.0 | 7.3 |
| <i>OPERF Policy Benchmark</i> | 11.4 | -8.6 | 15.6 | 12.4 | 14.0 | 1.2 | 15.6 | 9.0 | 1.6 | 8.2 |
| <i>60% MSCI ACWI / 40% Bloomberg Aggregate</i> | 15.4 | -16.0 | 10.2 | 13.5 | 19.4 | -5.5 | 15.4 | 5.9 | -1.0 | 5.0 |
| <i>70% MSCI ACWI/30% Barclays Agg</i> | 17.1 | -16.6 | 12.2 | 14.3 | 21.2 | -6.5 | 17.5 | 6.4 | -1.3 | 4.8 |
| <i>InvMetrics All DB > \$5B Median</i> | 10.6 | -10.1 | 15.3 | 12.3 | 17.1 | -2.7 | 16.0 | 7.8 | 0.3 | 6.5 |
| <i>InvMetrics All DB > \$5B Rank</i> | 98 | 1 | 9 | 95 | 91 | 10 | 64 | 85 | 12 | 30 |
| Total Fixed Income | 7.0 | -11.3 | -0.9 | 7.7 | 8.8 | 0.3 | 3.7 | 2.8 | 0.6 | 3.5 |
| <i>Oregon Custom FI Benchmark</i> | 5.5 | -13.0 | -0.9 | 7.3 | 8.3 | 0.3 | 3.3 | 2.5 | 0.2 | 3.0 |
| Core Fixed Income | 6.7 | -13.9 | -1.1 | 8.7 | 9.8 | -0.2 | 4.6 | 3.4 | 0.6 | 6.9 |
| <i>Oregon Custom External FI BM</i> | 5.5 | -13.0 | -1.5 | 7.5 | 8.7 | 0.0 | 3.5 | 2.7 | 0.6 | 6.0 |
| Blackrock | 6.2 | -13.2 | -1.4 | 9.1 | 8.9 | 0.1 | 3.8 | 2.8 | 0.9 | 6.7 |
| <i>Oregon Custom External FI BM</i> | 5.5 | -13.0 | -1.5 | 7.5 | 8.7 | 0.0 | 3.5 | 2.7 | 0.6 | 6.0 |
| Wellington | 6.7 | -14.3 | -0.9 | 9.6 | 9.8 | -0.4 | 4.6 | 4.0 | 0.8 | 6.5 |
| <i>Oregon Custom External FI BM</i> | 5.5 | -13.0 | -1.5 | 7.5 | 8.7 | 0.0 | 3.5 | 2.7 | 0.6 | 6.0 |
| Western Asset | 6.9 | -14.9 | -1.2 | 9.4 | 11.6 | -0.7 | 5.6 | 3.7 | 0.4 | 7.0 |
| <i>Oregon Custom External FI BM</i> | 5.5 | -13.0 | -1.5 | 7.5 | 8.7 | 0.0 | 3.5 | 2.7 | 0.6 | 6.0 |
| U.S. Government | 4.1 | -12.5 | -2.3 | 8.1 | 6.9 | 0.9 | 2.3 | -1.6 | 0.9 | 1.0 |
| <i>Government Blended Index</i> | 4.1 | -12.5 | -2.3 | 8.0 | 6.9 | 0.9 | 2.3 | -1.3 | 0.7 | 0.8 |
| Government Portfolio | 4.1 | -12.5 | -2.3 | 8.1 | 6.9 | 0.9 | -- | -- | -- | -- |
| <i>Government Blended Index</i> | 4.1 | -12.5 | -2.3 | 8.0 | 6.9 | 0.9 | 2.3 | -1.3 | 0.7 | 0.8 |
| Non-Core Fixed Income | 14.7 | 0.3 | 6.4 | 3.7 | 10.5 | 0.1 | 4.9 | 10.1 | 0.2 | 2.4 |
| <i>Custom Non-Core Fixed Income Index</i> | 13.4 | -3.3 | 5.3 | 3.9 | 10.1 | -0.2 | 5.0 | 12.0 | -1.7 | 1.8 |

Asset Allocation & Performance | As of September 30, 2024

| | 2023 (%) | 2022 (%) | 2021 (%) | 2020 (%) | 2019 (%) | 2018 (%) | 2017 (%) | 2016 (%) | 2015 (%) | 2014 (%) |
|--|-------------|--------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|------------|
| Oak Hill | 14.8 | 1.3 | 5.7 | 4.9 | 10.5 | 0.5 | 6.3 | 11.2 | 0.9 | 2.2 |
| <i>Oak Hill Custom Lev Loan & Bond Index</i> | <i>13.4</i> | <i>-2.2</i> | <i>5.2</i> | <i>3.6</i> | <i>9.5</i> | <i>0.0</i> | <i>4.6</i> | <i>11.2</i> | <i>-1.3</i> | <i>1.7</i> |
| Beach Point | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Beachpoint Custom FI Benchmark</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> |
| Emerging Markets Debt | 10.5 | -18.4 | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>JPM EMBI Global Diversified</i> | <i>11.1</i> | <i>-17.8</i> | <i>-1.8</i> | <i>5.3</i> | <i>15.0</i> | <i>-4.3</i> | <i>10.3</i> | <i>10.2</i> | <i>1.2</i> | <i>7.4</i> |
| Global Evolution EMD | 11.8 | -16.6 | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>JPM EMBI Global Diversified</i> | <i>11.1</i> | <i>-17.8</i> | <i>-1.8</i> | <i>5.3</i> | <i>15.0</i> | <i>-4.3</i> | <i>10.3</i> | <i>10.2</i> | <i>1.2</i> | <i>7.4</i> |
| PGIM EMD | 10.5 | -17.6 | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>JPM EMBI Global Diversified</i> | <i>11.1</i> | <i>-17.8</i> | <i>-1.8</i> | <i>5.3</i> | <i>15.0</i> | <i>-4.3</i> | <i>10.3</i> | <i>10.2</i> | <i>1.2</i> | <i>7.4</i> |
| Structured Credit Products | 7.0 | -9.3 | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Oregon Structured Credit Products FI BM</i> | <i>7.3</i> | <i>-9.0</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> |
| Schroders SCP | 8.1 | -6.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>ICE BofA AA-BBB US Asset Backed Sec Idx</i> | <i>8.3</i> | <i>-7.6</i> | <i>1.7</i> | <i>4.2</i> | <i>5.2</i> | <i>3.0</i> | <i>4.2</i> | <i>3.4</i> | <i>2.0</i> | <i>3.2</i> |
| Putnam SCP | -2.0 | -14.9 | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Blmbg. U.S. Mortgage Backed Securities</i> | <i>5.0</i> | <i>-11.8</i> | <i>-1.0</i> | <i>3.9</i> | <i>6.4</i> | <i>1.0</i> | <i>2.5</i> | <i>1.7</i> | <i>1.5</i> | <i>6.1</i> |
| Guggenheim SCP | 9.2 | -5.9 | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>ICE BofA AA-BBB US Asset Backed Sec Idx</i> | <i>8.3</i> | <i>-7.6</i> | <i>1.7</i> | <i>4.2</i> | <i>5.2</i> | <i>3.0</i> | <i>4.2</i> | <i>3.4</i> | <i>2.0</i> | <i>3.2</i> |
| Investment Grade Credit | 10.6 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Bloomberg US Credit</i> | <i>8.2</i> | <i>-15.3</i> | <i>-1.1</i> | <i>9.4</i> | <i>13.8</i> | <i>-2.1</i> | <i>6.2</i> | <i>5.6</i> | <i>-0.8</i> | <i>7.5</i> |
| Fidelity | 10.6 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Bloomberg US Credit</i> | <i>8.2</i> | <i>-15.3</i> | <i>-1.1</i> | <i>9.4</i> | <i>13.8</i> | <i>-2.1</i> | <i>6.2</i> | <i>5.6</i> | <i>-0.8</i> | <i>7.5</i> |

Asset Allocation & Performance | As of September 30, 2024

| | 2023 (%) | 2022 (%) | 2021 (%) | 2020 (%) | 2019 (%) | 2018 (%) | 2017 (%) | 2016 (%) | 2015 (%) | 2014 (%) |
|--|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|
| Total Public Equity | 19.8 | -14.3 | 20.0 | 12.7 | 25.3 | -10.5 | 24.5 | 9.8 | -1.7 | 3.3 |
| <i>MSCI ACWI IMI Net (Daily)</i> | <i>21.6</i> | <i>-18.4</i> | <i>18.2</i> | <i>16.3</i> | <i>26.4</i> | <i>-10.1</i> | <i>24.0</i> | <i>8.3</i> | <i>-2.1</i> | <i>3.8</i> |
| U.S. Equity | 20.4 | -16.0 | 27.2 | 13.6 | 29.0 | -7.9 | 20.3 | 14.9 | -0.8 | 9.8 |
| <i>Russell 3000 Index</i> | <i>26.0</i> | <i>-19.2</i> | <i>25.7</i> | <i>20.9</i> | <i>31.0</i> | <i>-5.2</i> | <i>21.1</i> | <i>12.7</i> | <i>0.5</i> | <i>12.6</i> |
| Small Cap Growth | 3.6 | -23.9 | 19.6 | 38.9 | 33.9 | -4.7 | 26.8 | 6.3 | -5.0 | -3.6 |
| <i>Russell 2000 Growth Index</i> | <i>18.7</i> | <i>-26.4</i> | <i>2.8</i> | <i>34.6</i> | <i>28.5</i> | <i>-9.3</i> | <i>22.2</i> | <i>11.3</i> | <i>-1.4</i> | <i>5.6</i> |
| EAM MicroCap Growth | 3.6 | -23.9 | 19.6 | 38.9 | 33.9 | -4.7 | 26.8 | 6.3 | -5.7 | 1.8 |
| <i>Russell Microcap Growth Index (Daily)</i> | <i>9.1</i> | <i>-29.8</i> | <i>0.9</i> | <i>40.1</i> | <i>23.3</i> | <i>-14.2</i> | <i>16.7</i> | <i>6.9</i> | <i>-3.9</i> | <i>4.3</i> |
| Market Oriented (CORE) | 21.2 | -16.3 | 26.6 | 15.2 | 30.1 | -7.1 | 22.0 | 14.8 | -1.7 | 11.1 |
| <i>Russell 3000 Index</i> | <i>26.0</i> | <i>-19.2</i> | <i>25.7</i> | <i>20.9</i> | <i>31.0</i> | <i>-5.2</i> | <i>21.1</i> | <i>12.7</i> | <i>0.5</i> | <i>12.6</i> |
| Russell 2000 Synthetic - OST managed | 16.2 | -16.2 | 27.1 | 11.8 | 23.4 | -11.3 | 14.5 | 23.4 | -3.6 | 5.8 |
| <i>S&P 600 Custom</i> | <i>16.1</i> | <i>-16.1</i> | <i>26.8</i> | <i>11.3</i> | <i>22.8</i> | <i>-11.0</i> | <i>14.7</i> | <i>21.3</i> | <i>-4.4</i> | <i>4.9</i> |
| S&P 500 - OST managed | 26.3 | -18.2 | 28.7 | 18.4 | 31.7 | -4.4 | 21.8 | 12.0 | 1.5 | 13.7 |
| <i>S&P 500 Index (Daily)</i> | <i>26.3</i> | <i>-18.1</i> | <i>28.7</i> | <i>18.4</i> | <i>31.5</i> | <i>-4.4</i> | <i>21.8</i> | <i>12.0</i> | <i>1.4</i> | <i>13.7</i> |
| S&P 400 - OST managed | 16.5 | -13.0 | 24.6 | 13.5 | 26.6 | -10.9 | 16.7 | 21.1 | -2.0 | 10.0 |
| <i>S&P 400 Midcap Index (Daily)</i> | <i>16.4</i> | <i>-13.1</i> | <i>24.8</i> | <i>13.7</i> | <i>26.2</i> | <i>-11.1</i> | <i>16.3</i> | <i>20.7</i> | <i>-2.2</i> | <i>9.8</i> |
| OST Risk Premia Strategy | 19.5 | -17.6 | 24.3 | 15.8 | 31.3 | -5.5 | 27.1 | 10.8 | 4.5 | 13.0 |
| <i>MSCI USA Index</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>21.4</i> | <i>31.6</i> | <i>-4.5</i> | <i>22.0</i> | <i>11.6</i> | <i>1.3</i> | <i>13.4</i> |
| BR Russell 3000 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Russell 3000 Index</i> | <i>26.0</i> | <i>-19.2</i> | <i>25.7</i> | <i>20.9</i> | <i>31.0</i> | <i>-5.2</i> | <i>21.1</i> | <i>12.7</i> | <i>0.5</i> | <i>12.6</i> |
| DFA All Cap Core | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Russell 3000 Index</i> | <i>26.0</i> | <i>-19.2</i> | <i>25.7</i> | <i>20.9</i> | <i>31.0</i> | <i>-5.2</i> | <i>21.1</i> | <i>12.7</i> | <i>0.5</i> | <i>12.6</i> |
| Non-U.S. Equity | 19.5 | -14.3 | 12.7 | 13.5 | 22.6 | -14.9 | 30.4 | 4.6 | -2.6 | -2.9 |
| <i>Oregon MSCI ACWI Ex US IMI (Net)</i> | <i>15.6</i> | <i>-16.6</i> | <i>8.5</i> | <i>11.1</i> | <i>21.6</i> | <i>-14.8</i> | <i>27.8</i> | <i>4.4</i> | <i>-4.6</i> | <i>-3.9</i> |

Asset Allocation & Performance | As of September 30, 2024

| | 2023 (%) | 2022 (%) | 2021 (%) | 2020 (%) | 2019 (%) | 2018 (%) | 2017 (%) | 2016 (%) | 2015 (%) | 2014 (%) |
|---|-------------|--------------|-------------|-------------|-------------|--------------|-------------|------------|--------------|-------------|
| Total International Overlay Accounts | | | | | | | | | | |
| PERS-Adrian Lee Active Currency | | | | | | | | | | |
| PERS-P/E Global Active Currency | | | | | | | | | | |
| International Market Oriented (Core) | 17.5 | -13.5 | 13.1 | 12.5 | 23.2 | -14.3 | 31.0 | 2.5 | -1.2 | -2.6 |
| <i>MSCI World ex U.S. IMI Index (Net)</i> | <i>17.2</i> | <i>-15.3</i> | <i>12.4</i> | <i>8.3</i> | <i>22.9</i> | <i>-14.7</i> | <i>25.2</i> | <i>3.0</i> | <i>-2.0</i> | <i>-4.5</i> |
| Arrowstreet Capital | 21.7 | -5.5 | 24.5 | 9.1 | 23.2 | -10.3 | 35.4 | 4.7 | 0.4 | 0.8 |
| <i>Oregon MSCI ACWI Ex US IMI (Net)</i> | <i>15.6</i> | <i>-16.6</i> | <i>8.5</i> | <i>11.1</i> | <i>21.6</i> | <i>-14.8</i> | <i>27.8</i> | <i>4.4</i> | <i>-4.6</i> | <i>-3.9</i> |
| Lazard International CEF | 10.5 | -25.7 | 4.5 | 30.2 | 29.0 | -17.2 | 39.8 | 0.1 | -0.2 | 0.6 |
| <i>Oregon MSCI ACWI Ex US (Net)</i> | <i>15.6</i> | <i>-16.0</i> | <i>7.8</i> | <i>10.7</i> | <i>21.5</i> | <i>-14.2</i> | <i>27.2</i> | <i>4.5</i> | <i>-5.5</i> | <i>-3.9</i> |
| OST Int'l Risk Premia | 19.8 | -11.5 | 15.6 | 7.7 | 22.8 | -12.0 | -- | -- | -- | -- |
| <i>MSCI World x US Custom Div Multiple-Factor</i> | <i>19.3</i> | <i>-11.8</i> | <i>15.0</i> | <i>7.3</i> | <i>22.4</i> | <i>-12.3</i> | <i>--</i> | <i>--</i> | <i>--</i> | <i>--</i> |
| <i>MSCI World ex USA Net Index</i> | <i>17.9</i> | <i>-14.3</i> | <i>12.6</i> | <i>7.6</i> | <i>22.5</i> | <i>-14.1</i> | <i>24.2</i> | <i>2.8</i> | <i>-3.0</i> | <i>-4.3</i> |
| International Value | 23.2 | -10.9 | 18.0 | 4.9 | 17.8 | -12.4 | 25.7 | 9.8 | -4.5 | -4.3 |
| <i>Oregon MSCI ACWI Ex US Value IMI (Net)</i> | <i>17.3</i> | <i>-9.3</i> | <i>11.0</i> | <i>-0.1</i> | <i>16.3</i> | <i>-14.6</i> | <i>23.6</i> | <i>8.8</i> | <i>-8.9</i> | <i>-5.0</i> |
| Acadian Asset Management | 16.5 | -13.9 | 21.7 | 11.5 | 19.4 | -15.4 | 35.1 | 11.8 | -7.2 | -3.7 |
| <i>Oregon MSCI ACWI Ex US Value IMI (Net)</i> | <i>17.3</i> | <i>-9.3</i> | <i>11.0</i> | <i>-0.1</i> | <i>16.3</i> | <i>-14.6</i> | <i>23.6</i> | <i>8.8</i> | <i>-8.9</i> | <i>-5.0</i> |
| Brandes Investment Partners | 32.3 | -7.4 | 14.1 | -1.3 | 16.4 | -9.4 | 16.3 | 7.9 | -1.6 | -5.0 |
| <i>Oregon MSCI ACWI Ex US Value (Net)</i> | <i>17.3</i> | <i>-8.6</i> | <i>10.5</i> | <i>-0.8</i> | <i>15.7</i> | <i>-14.0</i> | <i>22.7</i> | <i>8.9</i> | <i>-10.1</i> | <i>-5.1</i> |
| International Growth | 19.2 | -21.0 | 12.4 | 19.9 | 28.1 | -6.4 | 27.5 | 1.3 | 1.9 | -4.3 |
| <i>Oregon MSCI WORLD Ex US (Net)</i> | <i>17.9</i> | <i>-14.3</i> | <i>12.6</i> | <i>7.6</i> | <i>22.5</i> | <i>-14.1</i> | <i>24.2</i> | <i>2.8</i> | <i>-3.0</i> | <i>-4.3</i> |
| Walter Scott Management | 19.2 | -21.0 | 12.4 | 19.9 | 28.0 | -6.3 | 27.5 | 6.4 | 1.2 | -3.1 |
| <i>Oregon MSCI WORLD Ex US (Net)</i> | <i>17.9</i> | <i>-14.3</i> | <i>12.6</i> | <i>7.6</i> | <i>22.5</i> | <i>-14.1</i> | <i>24.2</i> | <i>2.8</i> | <i>-3.0</i> | <i>-4.3</i> |
| International Small Cap | 19.8 | -15.0 | 18.1 | 9.3 | 24.1 | -24.3 | 30.2 | 4.9 | 6.1 | -6.5 |
| <i>MSCI World ex U.S. Small Value (Net)</i> | <i>14.7</i> | <i>-14.0</i> | <i>13.3</i> | <i>2.6</i> | <i>22.8</i> | <i>-18.4</i> | <i>27.9</i> | <i>7.9</i> | <i>1.1</i> | <i>-5.9</i> |
| Harris Associates | 20.7 | -13.8 | 20.1 | 5.0 | 33.4 | -24.1 | 27.2 | 7.1 | 1.0 | -6.7 |
| <i>MSCI AC World ex USA Small Value (Net)</i> | <i>17.2</i> | <i>-13.6</i> | <i>14.2</i> | <i>4.7</i> | <i>20.3</i> | <i>-18.2</i> | <i>29.7</i> | <i>8.2</i> | <i>-1.3</i> | <i>-4.5</i> |

Asset Allocation & Performance | As of September 30, 2024

| | 2023 (%) | 2022 (%) | 2021 (%) | 2020 (%) | 2019 (%) | 2018 (%) | 2017 (%) | 2016 (%) | 2015 (%) | 2014 (%) |
|--|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|-------------|
| EAM International Micro Cap | 17.5 | -25.2 | 17.8 | 38.4 | 20.3 | -33.6 | 45.3 | 2.2 | 23.5 | -- |
| <i>Oregon FTSE Global Ex US Micro Cap</i> | <i>14.5</i> | <i>-21.1</i> | <i>18.0</i> | <i>27.9</i> | <i>16.6</i> | <i>-20.0</i> | <i>31.4</i> | <i>6.0</i> | <i>2.9</i> | <i>--</i> |
| Emerging Markets | 24.3 | -16.9 | 4.3 | 23.5 | 22.1 | -17.4 | 35.7 | 10.3 | -14.5 | 1.2 |
| <i>ORE MSCI Emerging Markets IMI (Net)</i> | <i>11.7</i> | <i>-19.8</i> | <i>-0.3</i> | <i>18.4</i> | <i>17.6</i> | <i>-15.0</i> | <i>37.0</i> | <i>9.9</i> | <i>-13.9</i> | <i>-1.8</i> |
| Arrowstreet Emerging Markets | 21.3 | -10.5 | 9.6 | 32.1 | 23.7 | -19.5 | 35.4 | 11.2 | -15.8 | 1.1 |
| <i>ORE MSCI Emerging Markets IMI (Net)</i> | <i>11.7</i> | <i>-19.8</i> | <i>-0.3</i> | <i>18.4</i> | <i>17.6</i> | <i>-15.0</i> | <i>37.0</i> | <i>9.9</i> | <i>-13.9</i> | <i>-1.8</i> |
| Westwood Global Investment | 22.8 | -4.1 | 3.6 | 10.1 | 9.8 | -9.3 | 29.5 | 19.0 | -16.1 | 0.2 |
| <i>MSCI Emerging Markets IMI (Net)</i> | <i>11.7</i> | <i>-19.8</i> | <i>-0.3</i> | <i>18.4</i> | <i>17.7</i> | <i>-15.0</i> | <i>36.8</i> | <i>9.9</i> | <i>-13.9</i> | <i>-1.8</i> |
| William Blair and Company | 10.7 | -33.3 | 4.4 | 41.4 | 29.1 | -21.6 | 50.2 | 1.9 | -14.1 | 5.7 |
| <i>MSCI Emerging Markets Growth (Net)</i> | <i>5.8</i> | <i>-24.0</i> | <i>-8.4</i> | <i>31.3</i> | <i>25.1</i> | <i>-18.3</i> | <i>46.8</i> | <i>7.6</i> | <i>-11.3</i> | <i>-0.3</i> |
| Global Equity | 19.3 | -9.8 | 15.5 | 7.4 | 21.6 | -7.9 | 22.3 | 9.4 | -3.3 | 6.9 |
| <i>MSCI ACWI IMI Net (Daily)</i> | <i>21.6</i> | <i>-18.4</i> | <i>18.2</i> | <i>16.3</i> | <i>26.4</i> | <i>-10.1</i> | <i>24.0</i> | <i>8.3</i> | <i>-2.1</i> | <i>3.8</i> |
| Cantillon | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>MSCI ACWI IMI Net (Daily)</i> | <i>21.6</i> | <i>-18.4</i> | <i>18.2</i> | <i>16.3</i> | <i>26.4</i> | <i>-10.1</i> | <i>24.0</i> | <i>8.3</i> | <i>-2.1</i> | <i>3.8</i> |
| GQG Global Equity | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Oregon MSCI ACWI Ex US (Net)</i> | <i>15.6</i> | <i>-16.0</i> | <i>7.8</i> | <i>10.7</i> | <i>21.5</i> | <i>-14.2</i> | <i>27.2</i> | <i>4.5</i> | <i>-5.5</i> | <i>-3.9</i> |
| Global Equity Low Volatility | 17.2 | -9.2 | 15.2 | 7.9 | 21.7 | -5.5 | 22.5 | -- | -- | -- |
| <i>MSCI AC World (Daily Const)</i> | <i>22.2</i> | <i>-18.4</i> | <i>18.5</i> | <i>16.3</i> | <i>26.6</i> | <i>-9.4</i> | <i>24.0</i> | <i>7.9</i> | <i>-2.4</i> | <i>4.2</i> |
| LACM Global Equity Low Volatility | 15.8 | -14.9 | 15.4 | 15.0 | 23.1 | -6.6 | 22.7 | -- | -- | -- |
| <i>MSCI AC World (Daily Const)</i> | <i>22.2</i> | <i>-18.4</i> | <i>18.5</i> | <i>16.3</i> | <i>26.6</i> | <i>-9.4</i> | <i>24.0</i> | <i>7.9</i> | <i>-2.4</i> | <i>4.2</i> |
| Arrowstreet Global Low Volatility | 20.0 | -2.7 | 15.1 | 12.6 | 22.3 | -2.7 | -- | -- | -- | -- |
| <i>MSCI ACWI IMI Net (Daily)</i> | <i>21.6</i> | <i>-18.4</i> | <i>18.2</i> | <i>16.3</i> | <i>26.4</i> | <i>-10.1</i> | <i>24.0</i> | <i>8.3</i> | <i>-2.1</i> | <i>3.8</i> |
| Other Equity | | | | | | | | | | |
| Transitional & Closed Accounts | | | | | | | | | | |
| Transition & Closed Accounts II - International Equity | | | | | | | | | | |

Asset Allocation & Performance | As of September 30, 2024

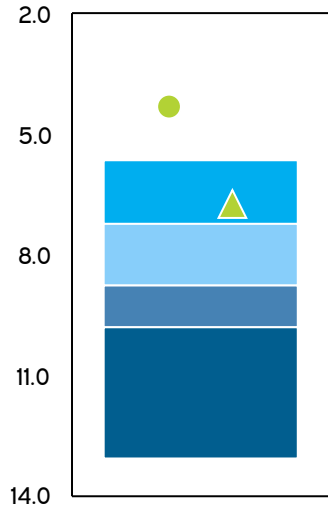
| | 2023 (%) | 2022 (%) | 2021 (%) | 2020 (%) | 2019 (%) | 2018 (%) | 2017 (%) | 2016 (%) | 2015 (%) | 2014 (%) |
|-------------------------------------|--------------|--------------|-------------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|
| Total Real Estate | -10.2 | 20.0 | 19.0 | 2.7 | 7.2 | 8.0 | 10.0 | 7.9 | 9.9 | 14.2 |
| <i>NCREIF ODCE (Custom) (Adj.)</i> | <i>-12.9</i> | <i>21.0</i> | <i>13.6</i> | <i>0.6</i> | <i>4.7</i> | <i>7.7</i> | <i>6.7</i> | <i>8.9</i> | <i>13.5</i> | <i>11.3</i> |
| Real Estate excluding REITS | -10.7 | 21.6 | 18.6 | 3.0 | 7.3 | 8.9 | 11.2 | 10.0 | 12.7 | 12.0 |
| <i>NCREIF ODCE (Custom) (Adj.)</i> | <i>-12.9</i> | <i>21.0</i> | <i>13.6</i> | <i>0.6</i> | <i>4.7</i> | <i>7.7</i> | <i>6.7</i> | <i>8.9</i> | <i>13.5</i> | <i>11.3</i> |
| Total REITS | 14.4 | -16.4 | 28.2 | -0.9 | 7.2 | -2.0 | 9.8 | 1.1 | 2.0 | 22.2 |
| ABKB - LaSalle Advisors | 15.6 | -18.6 | 36.2 | 3.0 | 29.9 | 3.2 | 7.4 | 5.4 | 2.9 | 32.1 |
| <i>FTSE NAREIT All Equity REITs</i> | <i>11.4</i> | <i>-24.9</i> | <i>41.3</i> | <i>-5.1</i> | <i>28.7</i> | <i>-4.0</i> | <i>8.7</i> | <i>8.6</i> | <i>2.8</i> | <i>28.0</i> |
| Opportunity Portfolio | 13.9 | 1.3 | 22.7 | 10.2 | 6.2 | 5.8 | 10.5 | 6.1 | 2.1 | 8.8 |
| <i>Opportunity Custom Benchmark</i> | <i>10.1</i> | <i>11.7</i> | <i>12.4</i> | <i>6.4</i> | <i>7.4</i> | <i>7.0</i> | <i>7.2</i> | <i>7.2</i> | <i>5.8</i> | <i>5.8</i> |
| <i>OPERF Policy Benchmark</i> | <i>11.4</i> | <i>-8.6</i> | <i>15.6</i> | <i>12.4</i> | <i>14.0</i> | <i>1.2</i> | <i>15.6</i> | <i>9.0</i> | <i>1.6</i> | <i>8.2</i> |
| Portfolio Holdings - Opportunity | 37.8 | -15.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| Alternative Portfolio | 5.3 | 19.1 | 14.8 | -6.6 | -1.3 | -2.4 | 8.3 | 6.6 | -4.3 | 4.4 |
| <i>CPI +4%</i> | <i>7.5</i> | <i>10.4</i> | <i>11.3</i> | <i>5.4</i> | <i>6.4</i> | <i>6.0</i> | <i>6.2</i> | <i>6.2</i> | <i>4.8</i> | <i>4.8</i> |
| Diversifying Strategies | 0.8 | 21.4 | 8.7 | -12.1 | -1.0 | -11.5 | 8.0 | 0.5 | 6.4 | 9.0 |
| <i>HFRI FOF Conservative Index</i> | <i>5.5</i> | <i>0.1</i> | <i>7.6</i> | <i>6.5</i> | <i>6.3</i> | <i>-0.9</i> | <i>4.1</i> | <i>1.9</i> | <i>0.4</i> | <i>3.1</i> |
| Diversifying Strategies | 0.8 | 21.4 | 8.7 | -12.1 | -1.0 | -11.5 | 8.0 | -- | -- | -- |
| <i>HFRI FOF Conservative Index</i> | <i>5.5</i> | <i>0.1</i> | <i>7.6</i> | <i>6.5</i> | <i>6.3</i> | <i>-0.9</i> | <i>4.1</i> | <i>1.9</i> | <i>0.4</i> | <i>3.1</i> |

Asset Allocation & Performance | As of September 30, 2024

| | 2023 (%) | 2022 (%) | 2021 (%) | 2020 (%) | 2019 (%) | 2018 (%) | 2017 (%) | 2016 (%) | 2015 (%) | 2014 (%) |
|--|------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|
| Real Assets | 7.8 | 18.2 | 19.0 | -2.0 | -1.6 | 4.9 | 8.4 | 9.0 | -7.9 | 3.1 |
| <i>CPI +4%</i> | 7.5 | 10.4 | 11.3 | 5.4 | 6.4 | 6.0 | 6.2 | 6.2 | 4.8 | 4.8 |
| Infrastructure | 8.6 | 13.9 | 16.6 | 5.6 | 8.9 | -- | -- | -- | -- | -- |
| <i>CPI +4%</i> | 7.5 | 10.4 | 11.3 | 5.4 | 6.4 | 6.0 | 6.2 | 6.2 | 4.8 | 4.8 |
| Natural Resources | 5.9 | 27.7 | 23.9 | -12.8 | -12.5 | -- | -- | -- | -- | -- |
| <i>CPI +4%</i> | 7.5 | 10.4 | 11.3 | 5.4 | 6.4 | 6.0 | 6.2 | 6.2 | 4.8 | 4.8 |
| Private Equity | 6.4 | 1.2 | 41.8 | 12.7 | 11.1 | 18.1 | 17.3 | 6.3 | 7.3 | 15.9 |
| <i>Russell 3000 + 300 BPS QTR LAG (Adj.)</i> | 24.0 | -15.1 | 35.7 | 18.4 | 6.0 | 21.1 | 22.2 | 18.4 | 2.5 | 21.2 |
| <i>MSCI ACWI+3% (1 quarter lagged)</i> | 24.4 | -18.3 | 31.3 | 13.8 | 4.4 | 13.1 | 22.2 | 15.3 | -3.9 | 14.7 |
| Cash | 5.5 | 0.5 | 0.1 | 1.6 | 3.3 | 2.0 | 1.3 | 1.2 | 0.5 | 0.5 |
| <i>ICE BofA 3 Month U.S. T-Bill</i> | 5.0 | 1.5 | 0.0 | 0.7 | 2.3 | 1.9 | 0.9 | 0.3 | 0.1 | 0.0 |

PERS-Russell Overlay Cash Balance

**Annualized Standard Deviation
3 Years Ending September 30, 2024**

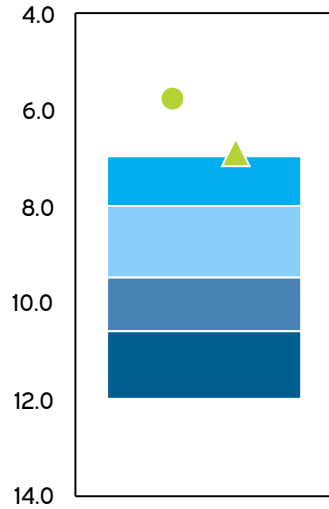


| | |
|------------------------|----------|
| Total Fund | 4.3 (1) |
| OPERF Policy Benchmark | 6.7 (12) |

| | |
|-----------------|------|
| 5th Percentile | 5.7 |
| 1st Quartile | 7.3 |
| Median | 8.8 |
| 3rd Quartile | 9.8 |
| 95th Percentile | 13.1 |

| | |
|------------|----|
| Population | 47 |
|------------|----|

**Annualized Standard Deviation
5 Years Ending September 30, 2024**

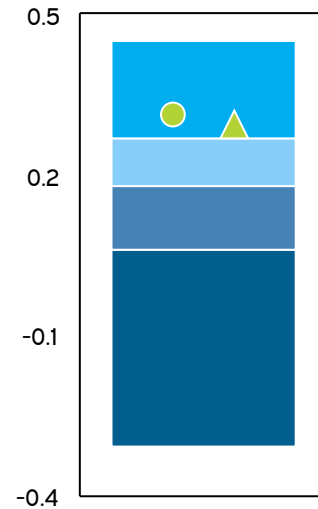


| | |
|------------------------|---------|
| Total Fund | 5.8 (1) |
| OPERF Policy Benchmark | 6.9 (4) |

| | |
|-----------------|------|
| 5th Percentile | 7.0 |
| 1st Quartile | 8.0 |
| Median | 9.5 |
| 3rd Quartile | 10.6 |
| 95th Percentile | 12.0 |

| | |
|------------|----|
| Population | 46 |
|------------|----|

**Sharpe Ratio
3 Years Ending September 30, 2024**

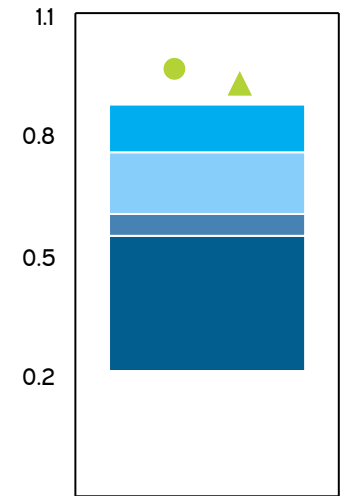


| | |
|------------------------|----------|
| Total Fund | 0.3 (20) |
| OPERF Policy Benchmark | 0.3 (22) |

| | |
|-----------------|------|
| 5th Percentile | 0.5 |
| 1st Quartile | 0.3 |
| Median | 0.2 |
| 3rd Quartile | 0.1 |
| 95th Percentile | -0.3 |

| | |
|------------|----|
| Population | 47 |
|------------|----|

**Sharpe Ratio
5 Years Ending September 30, 2024**



| | |
|------------------------|---------|
| Total Fund | 1.0 (1) |
| OPERF Policy Benchmark | 0.9 (1) |

| | |
|-----------------|-----|
| 5th Percentile | 0.9 |
| 1st Quartile | 0.8 |
| Median | 0.6 |
| 3rd Quartile | 0.5 |
| 95th Percentile | 0.2 |

| | |
|------------|----|
| Population | 46 |
|------------|----|

Parentheses contain percentile rankings.

Benchmark History

Total Fixed Income

| | | |
|------------|------------|--|
| 10/01/2021 | Present | 100.0% Blmbg. U.S. Aggregate Index |
| 03/01/2016 | 10/01/2021 | 46.0% Blmbg. U.S. Aggregate Index, 37.0% Blmbg. U.S. Treasury Index, 4.0% ICE BofA U.S. High Yield Index, 13.0% Morningstar LSTA U.S. Leveraged Loan |

Total Public Equity

| | | |
|------------|---------|---------------------------|
| 07/01/1997 | Present | MSCI ACWI IMI Net (Daily) |
|------------|---------|---------------------------|

Total Real Estate

| | | |
|------------|---------|-----------------------------|
| 07/01/1997 | Present | NCREIF ODCE (Custom) (Adj.) |
|------------|---------|-----------------------------|

Opportunity Portfolio

| | | |
|------------|------------|-------------------------------|
| 04/01/2023 | Present | 100.0% OPERF Policy Benchmark |
| 09/01/2006 | 04/01/2023 | 100.0% CPI + 5% |

Diversifying Strategies

| | | |
|------------|---------|-------------------------------------|
| 12/31/2010 | Present | 100.0% HFRI FOF: Conservative Index |
|------------|---------|-------------------------------------|

Real Assets

| | | |
|------------|---------|---------|
| 07/01/2011 | Present | CPI +4% |
|------------|---------|---------|

Private Equity

| | | |
|------------|---------|---------------------------------------|
| 07/01/1997 | Present | Russell 3000 + 300 BPS QTR LAG (Adj.) |
|------------|---------|---------------------------------------|

Cash

| | | |
|------------|---------|------------------------------|
| 12/01/1989 | Present | ICE BofA 3 Month U.S. T-Bill |
|------------|---------|------------------------------|

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security).

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} * (\text{market return} - \text{Risk Free Rate})]$.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a “basis book.” For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.



To: The Oregon Investment Council

From: Karl Cheng, Senior Investment Officer, Portfolio Risk & Research

Re: Third Quarter 2024 Risk Report for the Oregon Public Employees Retirement Fund

Executive Summary

This memo summarizes OPERF’s predicted volatility, as estimated by Aladdin, Treasury’s end-to-end investment analytics platform built by BlackRock. As of September 30, 2024, OPERF has an estimated return volatility of 14.7%, higher than that for the OIC-approved target allocation, last presented by Meketa Investment Group (“Meketa”) at the December 2022 meeting. This elevated volatility is primarily driven by the overallocations versus the OIC-approved targets to private market asset classes.

The predicted active risks for the Public Equity and Fixed Income Portfolios are within the respective OIC-approved guideline limit. Predicted risks for both Portfolios have declined significantly from where they were approximately 18 months ago due to a combination of staff-directed portfolio rebalancing and decline in factor – such as interest rates, equity value & size – volatilities.

OPERF Asset Allocation

One of the Council’s Investment Beliefs is “*Asset Allocation Drives Risk and Return*”. Shown in the table below are OPERF’s target allocations approved by the Council at the December 2022 meeting.

Table 1. OPERF Target Asset Allocation

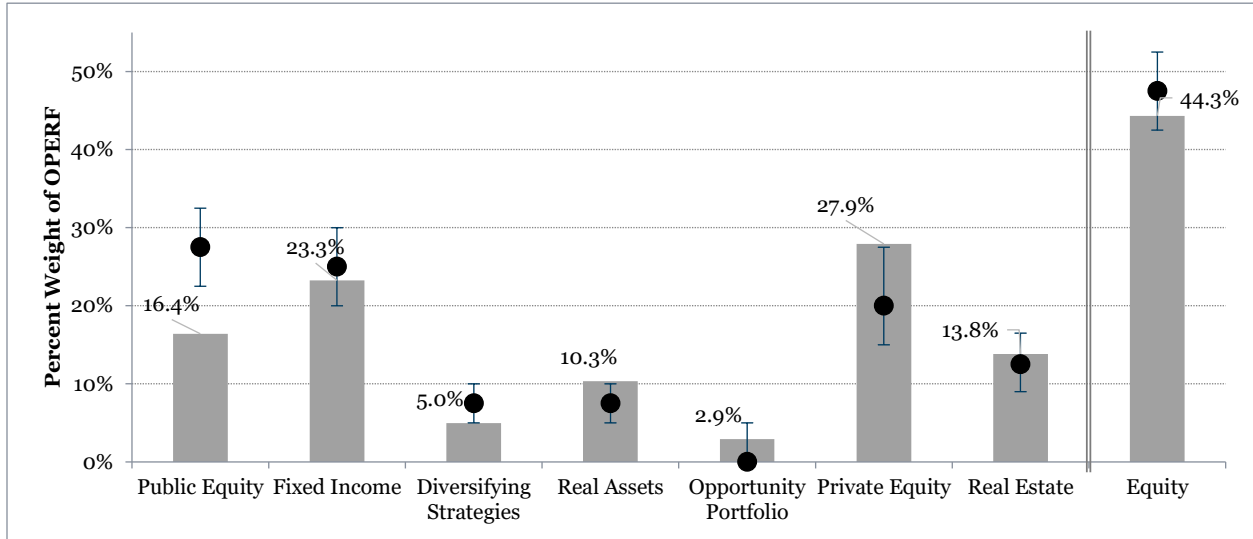
| Asset Class | Target Allocation (%) | Rebalancing Range (%) |
|-------------------------|------------------------------|------------------------------|
| Public Equity | 27.5 | 22.5 – 32.5 |
| Private Equity | 20.0 | 15.0 – 27.5 |
| <i>Equity</i> | <i>47.5</i> | <i>42.5 – 52.5</i> |
| Fixed Income | 25.0 | 20.0 – 30.0 |
| Real Estate | 12.5 | 9.0 – 16.5 |
| Real Assets | 7.5 | 5.0 – 10.0 |
| Diversifying Strategies | 7.5 | 5.0 – 10.0 |
| Total Fund | 100.0 | |

Including the synthetic overlays exposures managed by Russell Investments, Figure 1 below shows OPERF’s allocation. OPERF Private Markets Allocation – Private Equity, Real Asset, Real Estate, and Opportunity Portfolios – is 54.9%, slightly lower than the 55.2% allocation as of December 31, 2023. This occurred in the same period where the Public Equity Portfolio gained 18.2% YTD. Although private market cash flow



improved (see “OPERF Cash Flow” below), \$1.5 billion was raised from OPERF Capital Markets Allocation to meet net pension benefit payment.

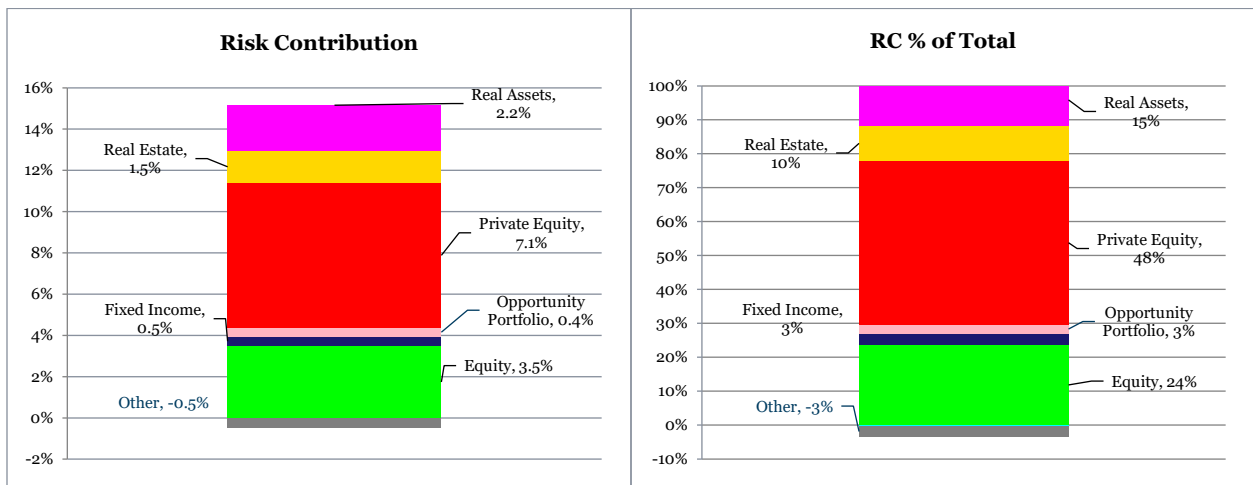
Figure 1. OPERF Actual Allocation versus Target



OPERF Predicted Risk

The risk estimates are shown in the charts below.

Figure 2. OPERF Risk Contribution by Asset Class and Risk Contribution as a percent of total OPERF predicted risk



In Figure 2 above, the negative risk contribution of “Other” are mainly due to the Synthetic and Currency Overlay Programs, with Risk Contributions of -0.4% and -0.1% respectively. OPERF has a persistent over-allocation to “Equity” (the total of Public and Private) and under-allocation to Fixed Income in “physical” investments. The Synthetic Overlay Program overlays the Fund’s “free” cash and systematically rebalances OPERF back to the target allocations using liquid exchange-traded futures. As of the end of the quarter, the Synthetic Overlay Program was long \$4.5 billion of Fixed Income and short \$2.7 billion of Public Equity, which in aggregate results in a large negative correlation to “Equity”. By design, the Currency Overlay Program is long U.S. dollar and short foreign currencies, which Aladdin also estimates a negative correlation to “Equity”.

Another item of note from Figure 2 is that “equity” risk, that is the predicted risk contributions from the Public Equity and Private Equity Portfolios, is estimated to be 72% of OPERF’s predicted risk, the largest risk contributor to OPERF. This is consistent with one of the OIC’s Investment Beliefs: *“Over the long-term, equity-oriented investments provide return premiums relative to risk-free investments.”*

The total predicted **standard deviation, or volatility**, for OPERF is 14.7% as of September 30, 2024. To put that in context, Meketa, the OIC’s investment consultant, estimated OPERF’s long-term volatility to be 11.4% using their 2022 Capital Market Assumptions, which are a blend of 10- to 20-year assumptions from staff, Meketa, and Aon Investments, the Council’s secondary investment consultant. Aladdin’s model uses a medium-term, five-year lookback period so there will almost always be some difference between the two estimates. OPERF’s current “excess” volatility relative to the Capital Market Assumptions can be attributed to two sources: elevated estimated market volatilities relative to the long-term assumptions; and the Fund’s overallocation to private market asset classes. Modeling a “what if” portfolio using the Strategic Asset Allocation and the September 2024 risk estimates produces a predicted risk of 13.4%. A very rough interpretation is that, relative to the Capital Market Assumptions, the current market environment added 2.0% (13.4% minus 11.4%) to the estimated risk while the Fund’s misweights added another 1.3% (14.7% minus 13.4%).

The OIC-approved changes to asset allocation, mainly lowering the allocation to Public Equity and raising those of Real Assets and Diversifying Strategies, have reduced OPERF’s realized volatility. Figure 3 below plots OPERF’s rolling 20-quarter realized beta to MSCI ACWI IMI, a global public equity index, as well as that of the “Reference Portfolio”, which is a blend of 67.5% MSCI ACWI IMI & 32.5% Bloomberg U.S. Aggregate Index, a U.S. fixed income index. OPERF’s realized beta hovered around +0.60 in the earlier portion of the analysis period before starting a steady decline. A significant contributor to that decline is the increasing allocation to illiquid investments, which have performance smoothing, but also provide diversification.

It is worth noting that the 20-quarter beta of the Reference Portfolio increased over the past few years due to increasing correlation between the two component indices.

Figure 3. OPERF's Beta to MSCI ACWI IMI

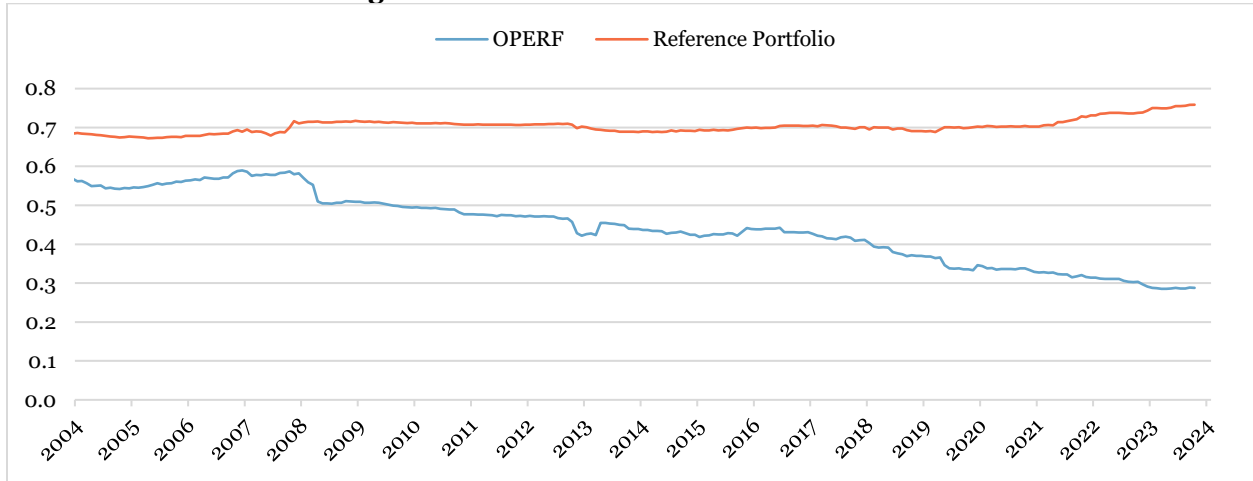
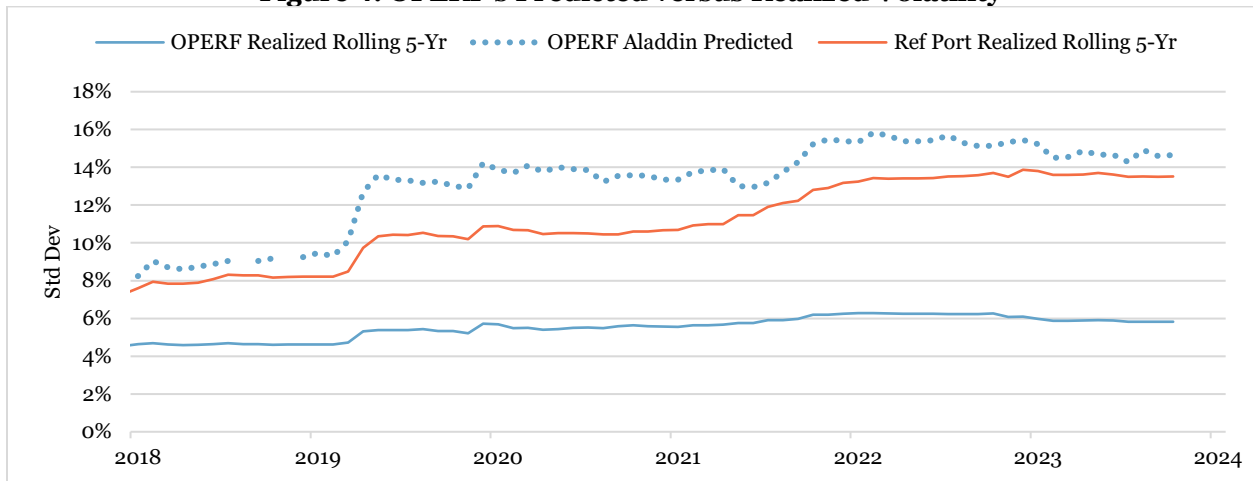


Figure 4 below plots OPERF's predicted volatility from Aladdin over the past six years. The recent estimates are much higher than where they were five years ago for similar reasons described above; OPERF's overweights to private markets and a marked change in the market environment. For comparison, the realized rolling five-year volatility for the Reference Portfolio also increased over the same period.

Figure 4. OPERF's Predicted versus Realized Volatility



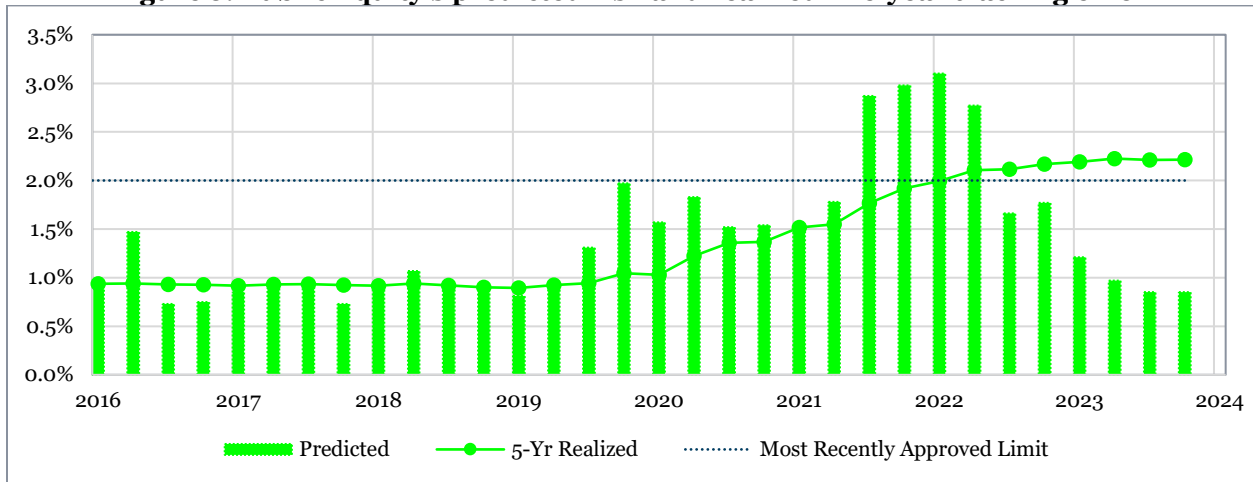
Capital Markets

Public Equity

The Public Equity Portfolio has an OIC-approved **tracking error** range of 0.75% to 2.00%. Using monthly performance data from State Street, the custodian bank, the five-year *ex post* tracking error for the Portfolio through September, 30 2024 is 2.2%, slightly above the upper end of the approved range. There were

outsized active returns of approximately -4%, +2%, +4%, and -2% in the past four calendar years. However, Aladdin estimates an *ex ante* active risk of 0.9%, substantially lower than the peak of 3.1% reached on December 31, 2022. The Public Equity team’s rebalancing activities in conjunction with the moderation of factor correlations lowered the predicted active risk of the Portfolio.

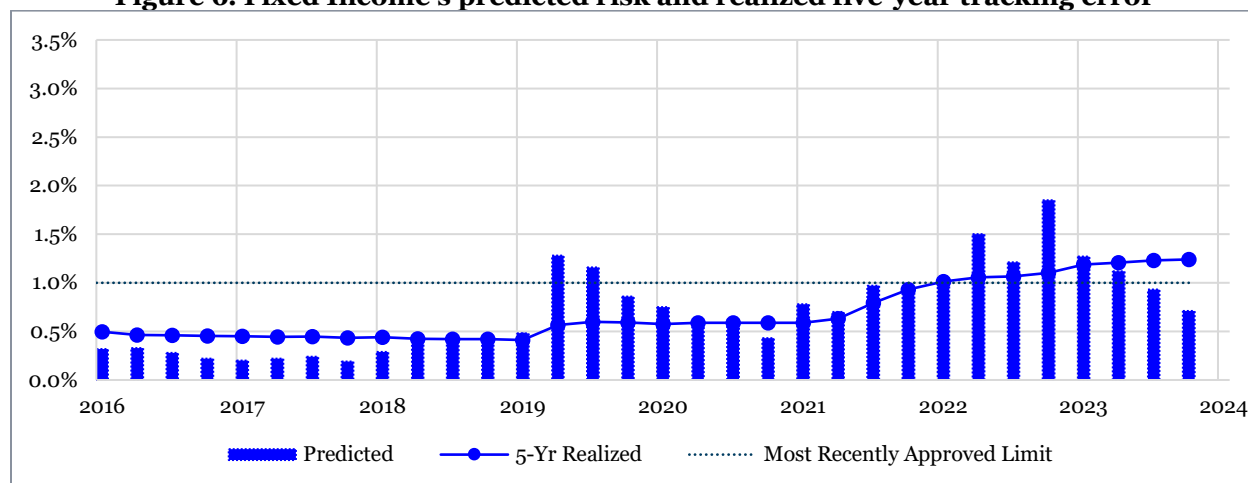
Figure 5. Public Equity's predicted risk and realized five-year tracking error



Fixed Income

The Fixed Income Portfolio has an OIC-approved **tracking error** of up to 1.0%. Using monthly performance data from State Street, the five-year tracking error for the Portfolio through September 30, 2024 is 1.2%, slightly above the upper end of the approved range. This is due to the Portfolio’s strong active returns of +1.7% and +1.5% in the past two calendar years. However, the predicted active risk of 0.7% is below the approved range and the peak of 1.9% reached on September 30, 2023. The Portfolio has a short duration exposure of -0.5 relative to its benchmark, roughly where it has been over the past two years. The volatilities of the interest rate factors in Aladdin are substantially lower than where they were over a year ago, resulting in a lower predicted active risk.

Figure 6. Fixed Income's predicted risk and realized five-year tracking error



OPERF Cash Flow

Table 2 below summarizes approximate net investment cash flow and pension cash flow for Year-to-Date 2024 and for the past five years. YTD net cash flow for OPERF Private Markets Allocation is much improved versus that of 2023. Table 2 below reported a net inflow to OPERF of \$508 million from private markets. In the same period in 2023, the Allocation produced a net *outflow* of \$1,788 million.

Table 2. OPERF Net Cash Flow by Portfolio by Time Period

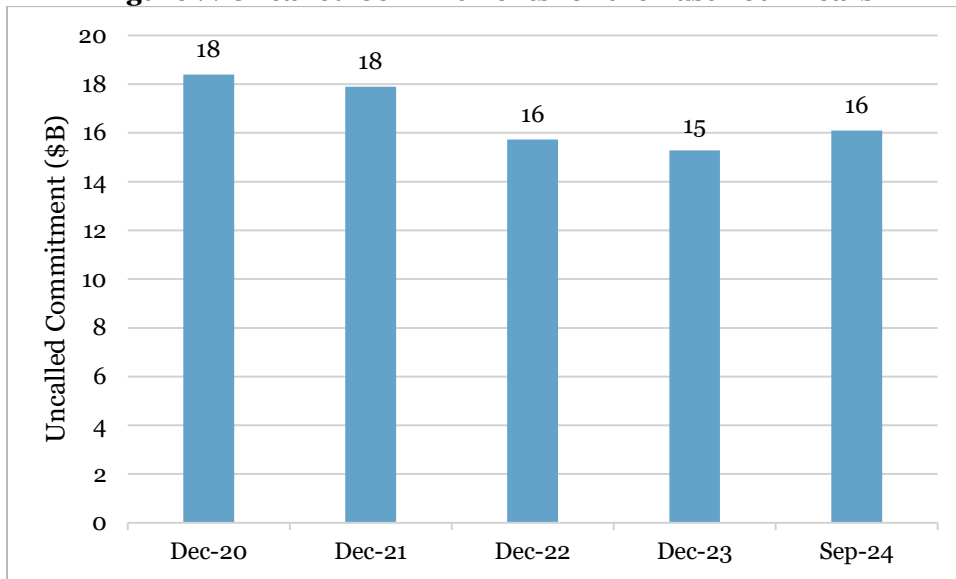
| Asset Class | Net Cash Flow (\$M) | | | | | |
|-------------------------|---------------------|--------------|--------------|--------------|--------------|--------------|
| | YTD (2024) | 2023 | 2022 | 2021 | 2020 | 2019 |
| Public Equity | 1,176 | 4,536 | 3,327 | 4,047 | 3,436 | 2,813 |
| Fixed Income | 302 | -1,384 | -1,544 | -2,653 | 3,154 | 327 |
| Diversifying Strategies | 49 | -3 | -11 | 381 | -621 | -490 |
| Other* | -361 | 961 | 663 | -227 | -2,249 | 283 |
| <i>Capital Markets</i> | 1,166 | 4,110 | 2,434 | 1,548 | 3,720 | 2,933 |
| Private Equity | 843 | -542 | 464 | 2,503 | 50 | 285 |
| Real Estate | -484 | -930 | -883 | -396 | 15 | -48 |
| Real Assets | 188 | -804 | -706 | -572 | -509 | -578 |
| Opportunity | -39 | 122 | -165 | -248 | 86 | 26 |
| <i>Private Markets</i> | 508 | -2,154 | -1,290 | 1,288 | -358 | -316 |
| Total Fund | 1,673 | 1,956 | 1,144 | 2,836 | 3,362 | 2,617 |
| Net Pension | -2,035 | -2,742 | -2,605 | -1,743 | -3,041 | -2,659 |

*Includes cash flows from the Synthetic Overlay Program, the Currency Overlay Program, and the terminated OPERF Risk Parity Portfolio.

The estimated uncalled commitments for the private market portfolios are tabulated below.

| Asset Class Portfolio | Uncalled Commitment (\$B) |
|------------------------------|----------------------------------|
| Private Equity | \$7.6 |
| Real Assets | \$4.5 |
| Real Estate | \$2.8 |
| Opportunity | \$1.3 |
| Total | \$16.1 |

Figure 7. Uncalled Commitments for the Past Four Years





OREGON
STATE
TREASURY

TAB 5
INTERNAL FIXED INCOME
REVIEW

December 4, 2024

Fixed Income Portfolio Management (Internal) 2024 Annual Review

Amy Hsiang-Wei

Senior Investment Officer, Fixed Income



OREGON
STATE
TREASURY



Internally-managed Fixed Income Policy

INV 402:

- Summary policy statement:
 - Internally-managed, publicly-traded investments in debt securities are permitted in the Oregon Investment Council (“OIC”) Statement of Fund Governance, and the strategic role of those investments is delineated in the OIC Statement of Investment Objectives and Policy Framework for the Oregon Public Employees Retirement Fund (“OPERF”).

INV 402A-G:

- Overall Policy Objectives and Strategies
 - Achieve a stable and predictable yield with principal preservation while providing sufficient liquidity to meet agency-related cash flow requirements.
 - Investment objectives, constraints, compliance and reporting requirements for individual Agency participants are presented in the form of an Investment Policy Statement and attached to this policy. Oregon State Treasury fixed income investment staff will maintain a well-diversified portfolio, managed to maximize yield or total return as mandated in each Agency’s Investment Policy Statement.

Fixed Income Team

Amy Hsiang-Wei
Senior Investment Officer
Team Lead
<1 year with OST / 23 years Industry

John Lutkehaus, CFA
Investment Officer 3
PM / Trader for OITP, PUF Core Bond,
and Government Portfolio
4 years with OST / 24 years Industry

Perrin Lim
Investment Officer 3
PM / Trader for OSTF
22 years with OST / 36 years Industry

Will Hampson, CFA
Investment Officer 1
PM / Trader for OSTF, OITP, PUF Core
Bond, and Government Portfolio
5 years with OST / 15 years Industry

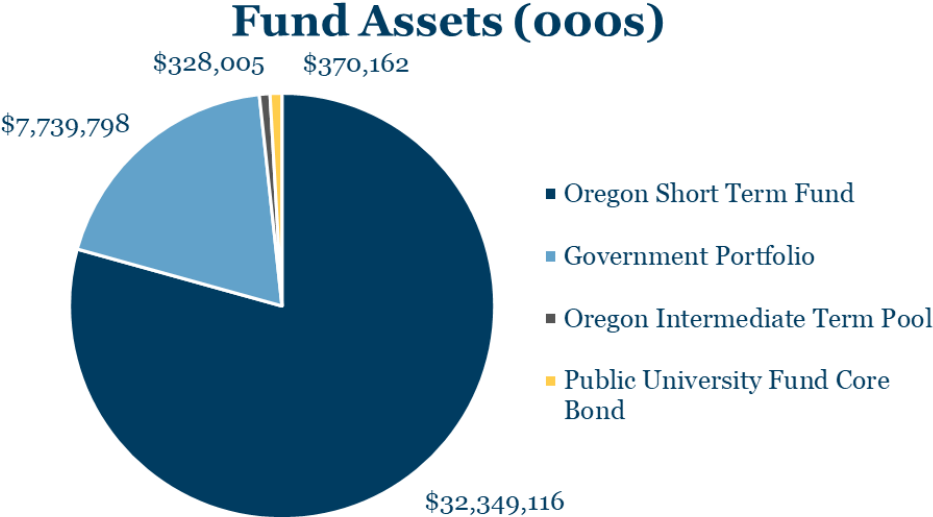
Andrew Coutu
Senior Investment Analyst
Trade Support for OSTF
8 years with OST / 26 years Industry

Tan Cao, CFA, CIPM
Investment Analyst 3
Trade Support for OSTF
4 years with OST / 10 years Industry

Patrick Deptula, CFA
Investment Analyst 3
Trade Support for OSTF
<1 years with OST / 12 years Industry

Internal Actively Managed Fixed Income

- More than **\$40 billion** in internally managed fixed income assets



Primary Investors

| Oregon Short Term Fund | Government Fund | Oregon Intermediate Term Pool | Public University Fund Core Bond |
|---|-----------------|---|----------------------------------|
| OPERF Oregon Local Govt's* Common School Fund SAIF DAS DCBS Veterans' Affairs ODOT | OPERF | DCBS Veterans' Affairs ODOT Oregon Cultural Trust Special Public Works Fund OR Institute of Tech | OR University System |

* 1,081 Oregon local government participants as of September 30, 2024.

| Fund | Short Name | Primary Objective | Current Benchmark |
|----------------------------------|----------------------|----------------------|-------------------------------------|
| Oregon Short Term Fund | OSTF | Capital Preservation | 91-Day T-Bill |
| Government Fund | Government Portfolio | U.S. Treasury | BBG US Treasury |
| Oregon Intermediate Term Pool | OITP | Total Return | BBG US Intermediate US Gov't/Credit |
| Public University Fund Core Bond | PUF | Total Return | BBG US Intermediate US Gov't/Credit |



Source: Bloomberg, State Street, and Aladdin. All data as of September 30, 2024 unless otherwise noted.

Oregon Short Term Fund (OSTF)

Objective – The investment objectives of the Oregon Short Term Fund (“OSTF”) are, in priority order, preservation of principal, maintenance of a sufficient level of liquidity to meet all state agency and local government operating requirements and attainment of a yield greater than money market and other short-term alternatives through investments in high-quality, U.S. dollar-denominated fixed income securities. The fund serves as a short-term cash investment vehicle for agencies and local government entities in the State of Oregon, including OPERF.

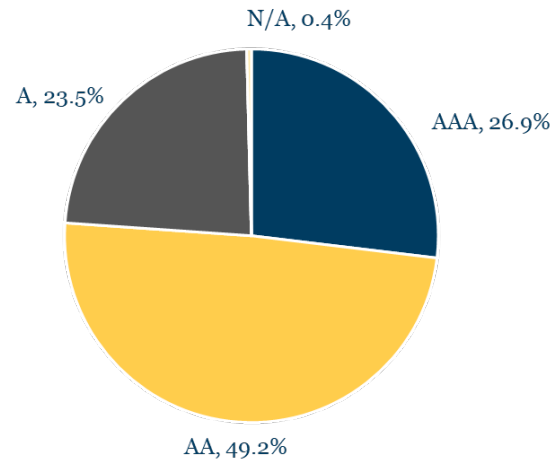
Strategy – OSTF is invested consistent with the fund’s objectives by creating a diversified portfolio of a broad range of fixed income investments. Securities may include the following: U.S. government securities, including U.S. Treasuries and securities issued by U.S. Agencies and instrumentalities; securities issued by foreign governments and instrumentalities; certificates of deposit and time deposits in qualified depositories; commercial paper; corporate bonds; asset-backed securities; municipal securities; bankers’ acceptances; repurchase agreements; and investments in the Oregon Local Government Intermediate Fund. Investments may be made in securities that are issued at a discount or pay interest based on a fixed or floating rate coupon. All securities are denominated in U.S. dollars.

Benchmark – 3-Month U.S. T-Bill Index

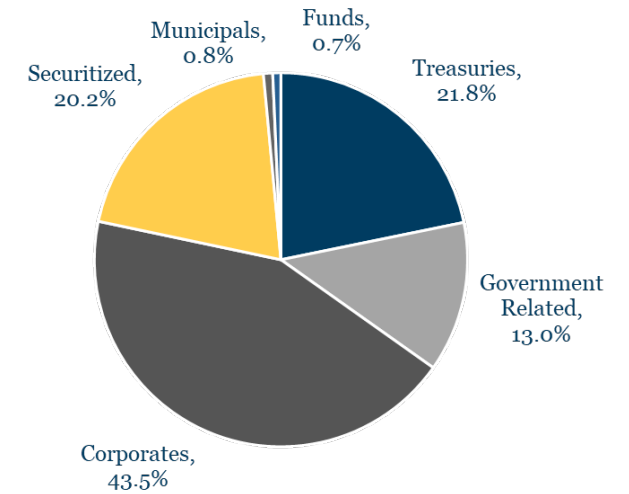
| | Market Value (000s) | 1 Mth | 3 Mth | YTD | 1 Year | 3 Year | 5 Year | 7 Year | 10 Year |
|-------------------------------|---------------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|
| Oregon Short Term Fund | \$32,349,116 | 0.49% | 1.50% | 4.35% | 6.05% | 3.37% | 2.49% | 2.49% | 2.03% |
| 91-Day Treasury Bill | | 0.43% | 1.37% | 4.03% | 5.46% | 3.40% | 2.32% | 2.22% | 1.65% |
| <i>Excess Return</i> | | <i>0.06%</i> | <i>0.13%</i> | <i>0.32%</i> | <i>0.59%</i> | <i>-0.12%</i> | <i>0.17%</i> | <i>0.27%</i> | <i>0.38%</i> |

| Fund Characteristics | |
|--------------------------------|--------------|
| Net Asset Value (000s) | \$32,349,116 |
| Fund NAV/OSTF Balances | \$1.0095 |
| Wtd. Avg. Credit Quality | AA/Aa2/AA |
| Book Yield (as of 10/22/24) | 5.12% |
| Wtd. Avg. Maturity (days) | 101 |
| Duration (years) | 0.23 |
| Spread Duration (years) | 0.61 |
| Rate Paid (effective 10/23/24) | 5.00% |

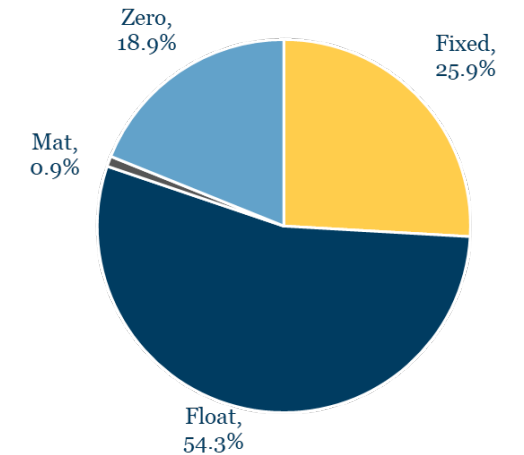
Credit Quality



Sectors



Coupon Type



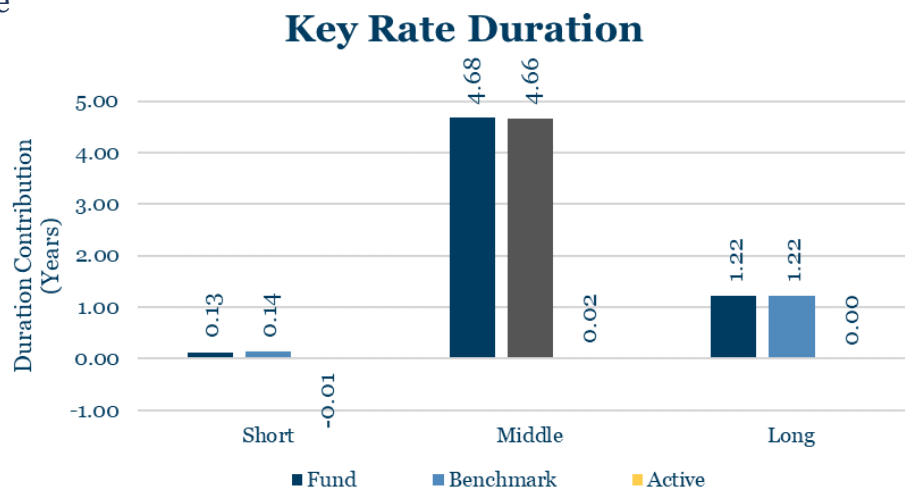
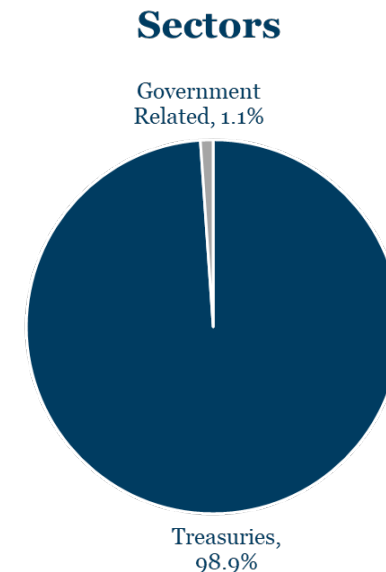
OPERF Government Portfolio

Objective – The Government Portfolio’s objective is to enhance the diversification benefit of the OPERF fixed income portfolio versus OPERF’s otherwise large allocation to risk assets (e.g., Public Equity, Private Equity, Real Estate and Alternatives) and to provide a reliable source of liquidity.

Strategy – The Government Portfolio is managed to closely match the benchmark with minimal active risk. To achieve this goal, staff seeks to maintain a key rate duration profile similar to the benchmark while holding fewer positions than the benchmark in order to reduce trading costs.

Benchmark – Bloomberg Barclays U.S. Treasury Index

| Fund Characteristics | |
|-------------------------|-------------|
| Net Asset Value (000s) | \$7,739,798 |
| Number of Securities | 149 |
| Duration (Years) | 6.03 |
| Yield-to-Maturity | 3.76% |
| Effective Credit Rating | AA+ |



| | Market Value (000s) | 1 Mth | 3 Mth | YTD | 1 Year | 3 Year | 5 Year | 7 Year |
|-----------------------------|---------------------|--------------|--------------|--------------|--------------|---------------|---------------|--------------|
| Government Portfolio | \$7,739,798 | 1.19% | 4.74% | 4.02% | 9.76% | -1.74% | -0.15% | 1.10% |
| Government Blended Index | | 1.20% | 4.74% | 3.84% | 9.72% | -1.78% | -0.20% | 1.05% |
| <i>Excess Return</i> | | -0.01% | 0.00% | 0.18% | 0.04% | 0.04% | 0.05% | 0.05% |



Source: Bloomberg, State Street, and Aladdin. All data as of September 30, 2024 unless otherwise noted.

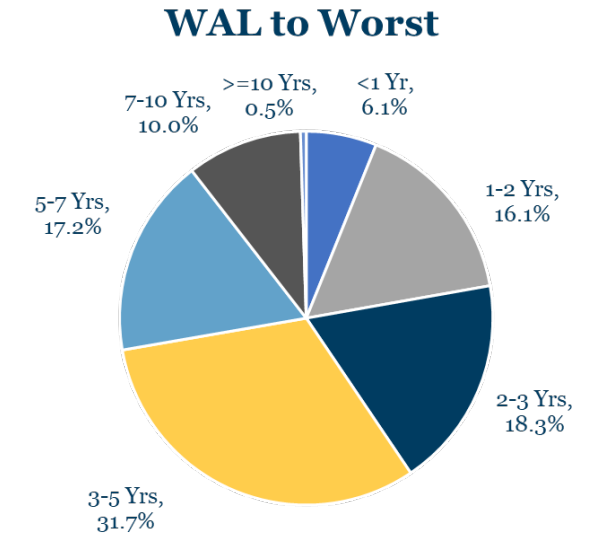
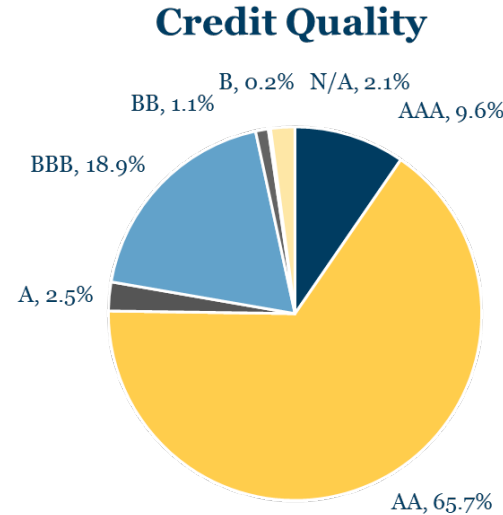
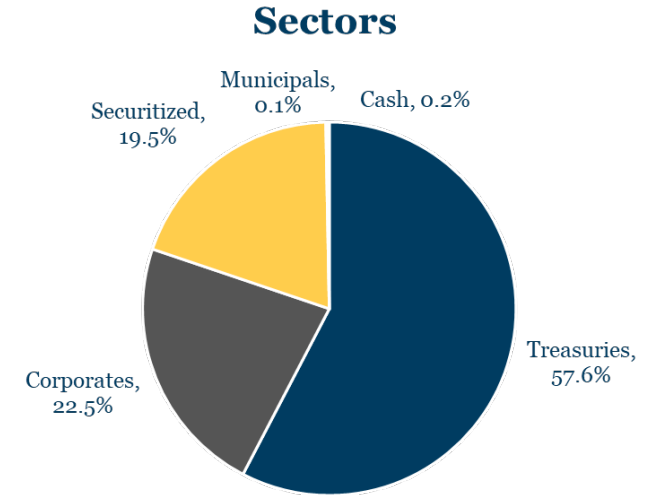
Oregon Intermediate Term Pool (OITP)

Objective – The Oregon Intermediate Term Pool (“OITP”) is a high-quality, intermediate-duration investment pool that is offered to Oregon State Agencies. The OITP investment objective is to maximize total return (i.e., principal and income) within stipulated risk parameters. OITP is not appropriate for funds needed to cover short-term (i.e., less than 1 year) needs. The OITP performance goal portfolio is to meet or outperform the total return of the BBG US Intermediate Government/Credit.

Strategy – OITP is actively managed and comprises a diversified portfolio of investment grade fixed income investments as prescribed in the portfolio guidelines. OITP may have exposures, subject to diversification requirements, to several types of investment grade public debt market instruments denominated in U.S. dollars.

Benchmark – BBG US Intermediate Government/Credit

| Fund Characteristics | |
|------------------------------|-----------|
| Net Asset Value (000s) | \$328,005 |
| Number of Securities | 87 |
| Duration (Years) | 3.78 |
| Yield-to-Maturity | 4.28% |
| Option Adjusted Spread (bps) | 50 |
| Effective Credit Rating | AA- |



| | Market Value (000s) | 1 Mth | 3 Mth | YTD | 1 Year | 3 Year | 5 Year | 7 Year | 10 Year |
|--------------------------------------|---------------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|
| Oregon Intermediate Term Pool | \$328,005 | 1.04% | 4.03% | 5.28% | 10.07% | 0.59% | 1.93% | 2.28% | 2.18% |
| OITP Custom Benchmark | | 1.08% | 4.17% | 4.68% | 9.45% | 0.17% | 1.09% | 1.70% | 1.76% |
| <i>Excess Return</i> | | -0.04% | -0.14% | 0.60% | 0.62% | 0.42% | 0.84% | 0.58% | 0.42% |



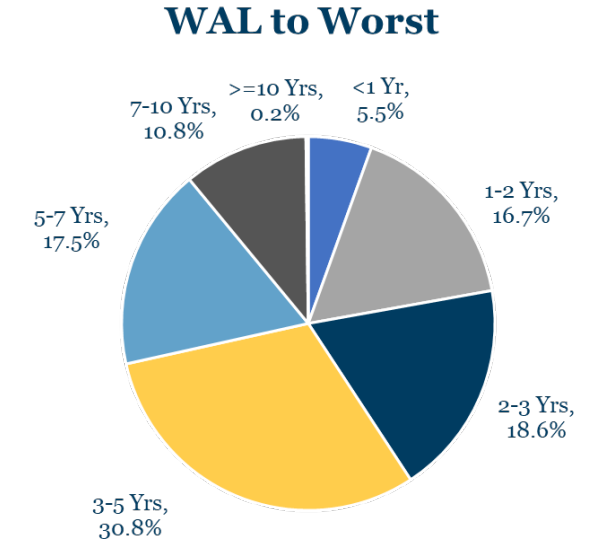
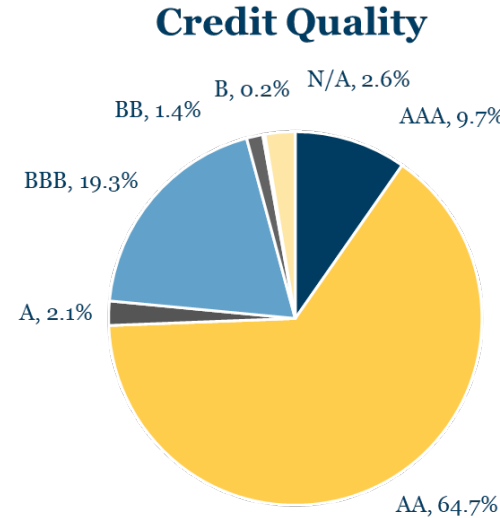
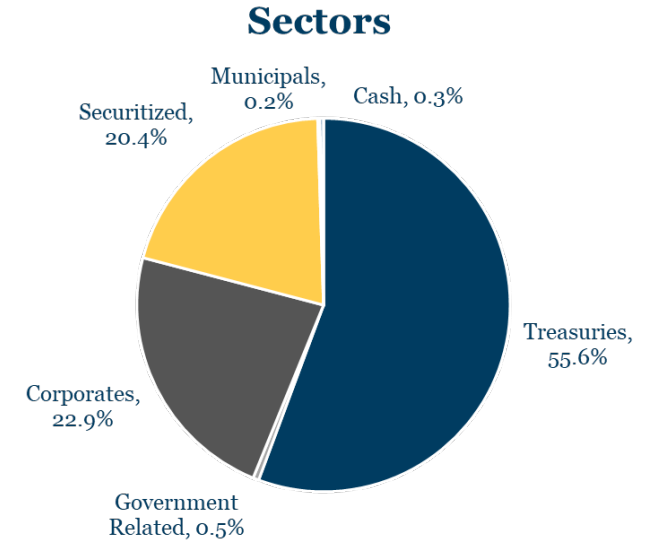
Oregon Public University Fund (PUF)

Objective – The objective for the Public University Fund (“PUF”) is a high-quality fixed income portfolio that maximizes total return over a long-term horizon within stipulated risk parameters while providing adequate liquidity to meet participant cash flow needs. Based on historical market performance, total returns generated over extended periods are anticipated to be greater than returns realized in shorter-maturity strategies.

Strategy – PUF is actively managed to create a diversified portfolio of investment grade bonds invested over longer horizons than permitted in OSTF.

Benchmark – BBG US Intermediate Government/Credit

| Fund Characteristics | |
|------------------------------|-----------|
| Net Asset Value (000s) | \$370,162 |
| Number of Securities | 94 |
| Duration (Years) | 3.73 |
| Yield-to-Maturity | 4.29% |
| Option Adjusted Spread (bps) | 52 |
| Effective Credit Rating | AA- |



| | Market Value (000s) | 1 Mth | 3 Mth | YTD | 1 Year | 3 Year | 5 Year | 7 Year |
|----------------------------------|---------------------|--------|--------|-------|--------|--------|--------|--------|
| Public University Fund Core Bond | \$370,162 | 1.04% | 4.03% | 5.28% | 10.07% | 0.65% | 2.06% | 2.40% |
| PUF Custom Benchmark | | 1.08% | 4.17% | 4.68% | 9.45% | 0.17% | 1.26% | 1.85% |
| Excess Return | | -0.04% | -0.14% | 0.60% | 0.62% | 0.48% | 0.80% | 0.55% |





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TAB 6
SECURITIES LENDING

Oregon Investment Council

December 4, 2024

Education on Securities Lending

Introduction

Securities lending programs typically generate modest incremental revenue for investors

- Risk of loss is typically minimal during most periods
- There is potential for liquidity impairment or loss during market disruption

Controlled exposure to securities lending can provide added income with an acceptable risk level

- An environment of elevated interest rates enhances the potential for incremental revenue

Amount of income and risk is determined by the approach towards collateral management and lending strategy

Securities Lending Overview

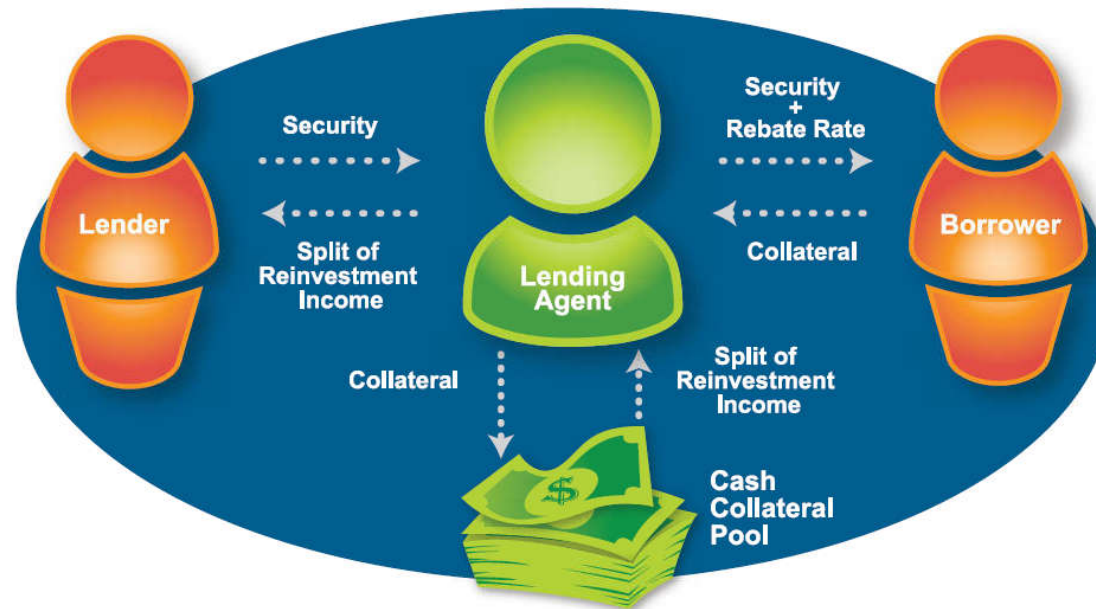
Investor must provide collateral to cover the value of the borrowed securities

→ Securities borrowing activity is generally driven by hedge funds, broker-dealers, and prime brokers

Institutional investors can earn incremental income from fully collateralized loans

→ Participation often comes through custom programs offered through custodian bank or large index fund providers

→ Third parties, active managers, and large institutional investors may also provide or operate programs



Typical Mechanics of Securities Lending for Custom Programs

Program provider/lending agent takes shares from fund's separate account portfolios

Shares are loaned to approved creditworthy broker-dealers

Collateral is posted as insurance against default

→ Collateral amount is greater than value of borrowed securities

→ Cash collateral typically ranges from 102% for US securities to 105% for non-US securities but degree of collateralization may vary for non-cash collateral

Loaned securities are marked-to-market at the end of each market day

→ Additional collateral is delivered if price of borrowed securities increases

→ Collateral is returned to borrower if price of borrowed securities decreases

Lending agent pays rebate rate to broker-dealer on its collateral

→ For issues in high demand the rebate rate can be negative

Securities Lending Revenue

Profit split between investor and lending agent

- Split typically ranges from 90/10 to 50/50
- Shifted in favor of investor post-Global Financial Crisis
- Size of program and other relationships can affect split

Typical return by asset class

- Large cap equity: 1-3 basis points net profit/year
- Small cap equity: >10 basis points net profit/year
- Fixed income: varies with collateral investment program

Global securities finance revenues: \$1.04 billion in December 2022

- Greatest share from US equities
- Government bonds produced nearly twice as much revenue as corporate bonds
- 80/20 split between equities and fixed income

Sources: Lending yield estimate based on medium-term (3-year) postsplit lending yields based on proprietary lender information made available to Meketa. 2022 revenues are from Securities Finance Snapshot, S&P Global, December 2022. The terms securities lending and securities finance are often used interchangeably, but the latter could theoretically also include repo transactions & sell/buy backs.

Risks

Counterparty Risk

- Default risk: borrower fails to return borrowed securities and forfeits collateral
- Mitigation strategies: screening, diversification, overcollateralization, indemnification

Operational Risk

- The possibility of inadequate or improper monitoring of the securities lending program
- The potential for loss due to insufficient collateral or counterparty default

Collateral Investment Risk

- Collateral value may drop due to default, credit spread widening, or interest rate increase
- Losses may be realized if investor exits or marks to market;
- Program providers generally limit collateral investments to low-risk instruments

Liquidity Risk

- Counterparty default or collateral losses can impair capital retrieval
- Directly invested collateral or collateral pool gate can reduce liquidity

Transaction Risk

- Selling a loaned security can cause delays in execution or settlement

Risk Mitigation

Program providers often offer indemnification against counterparty and operational risk

- Some also offer indemnification against reinvestment risk
- Terms vary by provider

Investment performance risk cannot be eliminated

- Program providers have suffered losses in collateral pool investments
- Losses can result from unfavorable interest rate bets, declining credit ratings, defaults, and rogue trading

Value added in securities lending program lies in borrowing assets at one rate and lending at a higher rate

- Potential for profit resides in successfully investing the collateral at a return greater than the risk-free rate

Low interest rates and tight credit spreads reduce income from securities lending program

Program Monitoring and Sustainability

Securities lending programs should be monitored on an ongoing basis

- Periodic reviews should be conducted of collateral pools and due diligence on program managers
- Collateral pools should be invested conservatively
- To maintain liquidity, limit overall securities lending exposure

Proper evaluation requires transparency between counterparties

Conclusion

Securities lending provides potential for higher returns in exchange for increased risk

- Can generate modest incremental revenue
- Potential for securities being lost or liabilities being owed
- Additional risk of redemption restrictions or forced in-kind redemptions

Selection of skilled agent with competitive fee split is important

- Income and risk determined by investment approach and borrowing collateral

Value-focused approach can mitigate risk of collateral impairment

- Alternative risk mitigation methods may result in higher volume of lending
- Viewing lending processes through asset allocation lens may also mitigate risk

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

December 4, 2024

Oregon State Treasury

Securities Lending Program Review

Louise Howard
Director of Capital Markets



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INV 216: Securities Lending Summary Policy Statement

Investment funds under the purview of the Oregon Investment Council (“OIC”) may lend securities through a Lending Agent selected by Oregon State Treasury investment staff and approved by the OIC.

- OST’s custodian, State Street Bank, acts as the agent/lender for the program.
- The following portfolios are included in the program organized by percent of lendable assets.

| | % Lendable | % on Loan |
|---|------------|-----------|
| Oregon PERF | 51.93% | 65.37% |
| Oregon Short Term Fund | 40.70% | 22.93% |
| SAIF Corporation | 4.97% | 9.57% |
| Oregon Department of State Lands (CSF) | 0.88% | 1.60% |
| Oregon University System | 0.50% | 0.19% |
| Oregon State Treasury (OITP) | 0.47% | |
| Oregon Local Government Intermediate Fund | 0.37% | 0.34% |
| Oregon Lottery | 0.17% | |
| Oregon Department of Transportation | 0.02% | |
| Oregon DCBS | 0.00% | |
| Oregon Department of Administration | 0.00% | |

Securities Lending History

- OST's securities lending program began in 1997.
 - As of September 30, 2024, the program has realized \$449 million in net earning to the portfolios in the program.*

- In 2014, more conservative guidelines were implemented in the lending agreement for the collateral pool resulting in lower program utilization.

- Staff recommends updating the guidelines for OPERF and OSTF to allow greater program flexibility. The three areas Staff proposed changes include allowable collateral, the borrower limit on lending balances, and minimum spreads.
 - Per INV 216, the CIO approves guideline changes with notice to the OIC.

* Net earning calculation since 2001, oldest data available.



Monitoring the Program

- Staff maintains open communication with the securities lending team at State Street. On a quarterly basis, staff reviews program activity, market dynamics, and to ensure compliance with program guidelines.

Top Performers

2022 vs. 2023 YTD

| 2022 | | | | |
|---|----------------|---------------|------------------|---------------------|
| Security Name | Country | Earnings (\$) | Net Spread (bps) | % of Total Earnings |
| Vedanta Ltd Adr | United States | 261,404 | n/a - flat fee | 6% |
| Zim Integrated Shipping | United States | 201,625 | 1,426 | 5% |
| Gamestop Corp Class A | United States | 175,422 | 1,454 | 4% |
| Nordea Bank AB | Sweden | 162,079 | 1,425 | 4% |
| Us Treasury N/B Intr: 3.25 Matd: 08/31/24 | United States | 133,458 | 125 | 3% |
| Orange | France | 74,143 | 363 | 2% |
| Vertex Energy Inc | United States | 61,866 | 1,515 | 1% |
| Equinor ASA | Norway | 58,869 | 249 | 1% |
| TotalEnergies SE | France | 55,918 | 90 | 1% |
| Samsung Electro Regs GDR | United Kingdom | 50,075 | 343 | 1% |
| | | 1,234,859 | | 29% |

| 2023 YTD | | | | |
|---|---------------|---------------|------------------|---------------------|
| Security Name | Country | Earnings (\$) | Net Spread (bps) | % of Total Earnings |
| US Treasury N/B Intr: 2.625 Matd: 06/30/23 | United States | 152,479 | 275 | 5% |
| Treasury Bill Intr: .01 Matd: 09/07/23 | United States | 110,923 | 190 | 4% |
| US Treasury N/B Intr: 2.5 Matd: 03/31/23 | United States | 100,566 | 233 | 3% |
| US Treasury N/B Intr: 4.125 Matd: 07/31/28 | United States | 74,110 | 275 | 2% |
| Equinor ASA | Norway | 73,661 | 672 | 2% |
| MPH Acquisition Holdings Co. 144A | United States | 68,207 | 695 | 2% |
| Nano X Imaging Ltd. | United States | 60,917 | 4,724 | 2% |
| US Treasury N/B Intr: 1.75 Matd: 07/31/24 | United States | 53,717 | 14 | 2% |
| Visa Inc Class A | United States | 49,884 | 16 | 2% |
| 3M Co Sr Unsecured Intr: 3.7 Matd: 04/15/50 | United States | 40,583 | 649 | 1% |
| | | 785,047 | | 26% |

Information Classification: Limited Access

7

Notes:
 1. 2023 YTD Data includes Jan - Aug
 2. Performance data shown represents past performance and is no guarantee of future results
 3. Source: Securities Finance Business Intelligence by Cognos

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Summary

- Staff believes that the current program is well managed by State Street and will continue to monitor the program quarterly.
- Securities lending guidelines for OPERF have been approved by the CIO. Staff will recommend guideline changes be presented to the OSTF Board at their January meeting before CIO approval and notice the OIC.



Biographies

Louise Howard

Director of Capital Markets

Investment Experience: 31 years

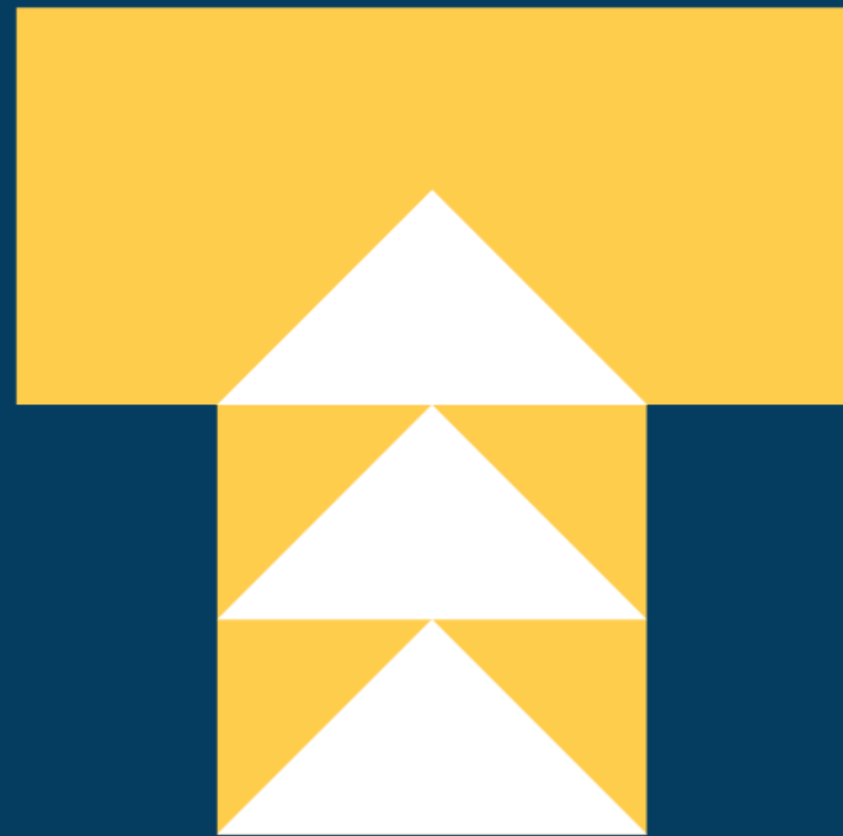
As Director of Capital Markets, Louise leads the Public Equity team in the management of the OPERF public equity portfolio and provides oversight for the Fixed Income and Diversifying Strategies asset classes. She is a member of the Investment Committee responsible for approving new investments for OPERF. She also:

- ❖ Leads the investment team for the State Accident Insurance Fund and is a member of the Common School Fund investment team.
- ❖ Leads the \$18 billion OPERF public equity program comprised on a mix of 4 internally managed portfolios and 17 external investment strategies
- ❖ Oversees the \$18 billion OPERF fixed income program comprised of a mix of 11 internal and external investment strategies as well as the Oregon Short Term Fund
- ❖ Oversees the \$4.8 billion diversifying strategy program comprised of 16 GP relationships / 21 holdings.
- ❖ Leads the monitoring and evaluation efforts for the external and prospective equity investment managers
- ❖ Evaluates portfolio structure and makes recommendations to improve risk-adjusted returns
- ❖ Responsible for managing and coordinating the liquidity needs of OPERF by liquidating public equity assets for pension payments and private market capital calls
- ❖ Participates in the following committees (leadership roles noted in parentheses) – Capital Markets Leadership (lead), Alternatives, Growth Committee, Risk Mitigating, Portfolio Risk Committee

Education & Certifications: BA University of New Orleans, MBA University of New Orleans, CFA Charterholder, CAIA Charterholder



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oregon.gov/treasury



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TAB 7
CALENDAR – FUTURE
AGENDA ITEMS

2025 OIC Forward Calendar and Planned Agenda Topics

| | |
|--------------------------|--|
| January 22, 2025 | Public Equity Portfolio Review Private Equity Portfolio Review 2026 OIC Calendar Approval |
| March 5, 2025 | 2024 Performance Review: OPERF, CSF, SAIF Opportunity Portfolio Review OPERF Capital Markets Assumptions |
| April 16, 2025 | Individual Account Program (IAP) Review OSGP Annual Review Real Assets Portfolio Review Real Estate Portfolio Review |
| May 28, 2025 | OIC-PERS Joint Session Q1 Performance Review: OPERF Fixed Income Portfolio Review: OPERF Diversifying Strategies Portfolio Review |
| July 16, 2025 | TBD |
| September 3, 2025 | Q2 Performance Review: OPERF, CSF |
| October 22, 2025 | Operations Annual Review |
| December 3, 2025 | Q3 OPERF Performance OSTF, OITP Annual Review |



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TAB 8
OPEN DISCUSSION



TAB 9

PUBLIC COMMENTS

Public comments can now be found at the OIC website at:

<https://www.oregon.gov/treasury/invested-for-oregon/pages/oregon-investment-council.aspx>