

March 1, 2019

Joint Committee on Ways and Means
Subcommittee on Capital Construction

Investing for net returns and long-term sustainability

John D. Skjervem
Chief Investment Officer



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First, a fiduciary

The logo for the Oregon Investment Council, featuring the text "OREGON INVESTMENT COUNCIL" in white, bold, uppercase letters on a dark blue rectangular background.

OREGON INVESTMENT COUNCIL

Oregon Investment Council

- Six members: 4 gubernatorial appointees; the State Treasurer (ex officio); and the PERS agency director who is an ex officio, non-voting member.
- Sets investment policy, philosophy and strategic asset allocation targets.
- Has a **fiduciary obligation** to public trust fund beneficiaries, including schoolchildren, injured workers, and current and future PERS retirees.

ORS 293.726 Standard of judgment and care in investments; investment in corporate stock. (1) The investment funds shall be invested and the investments of those funds managed as a prudent investor would do, under the circumstances then prevailing and in light of the purposes, terms, distribution requirements and laws governing each investment fund.



First, a fiduciary



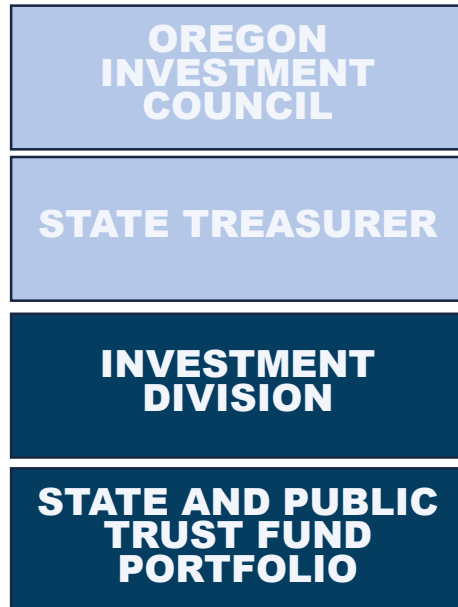
State Treasurer

- The Treasurer is responsible for oversight of the Investment Division.
- As a member of the OIC, the Treasurer also serves in an express fiduciary capacity.
- The Treasurer also functions as the custodian for all state deposits and investment funds.

ORS 293.716 The State Treasurer is the investment officer for the Oregon Investment Council, and shall perform functions in that capacity as authorized or required by law and, consistent with law, by the council.



First, a fiduciary



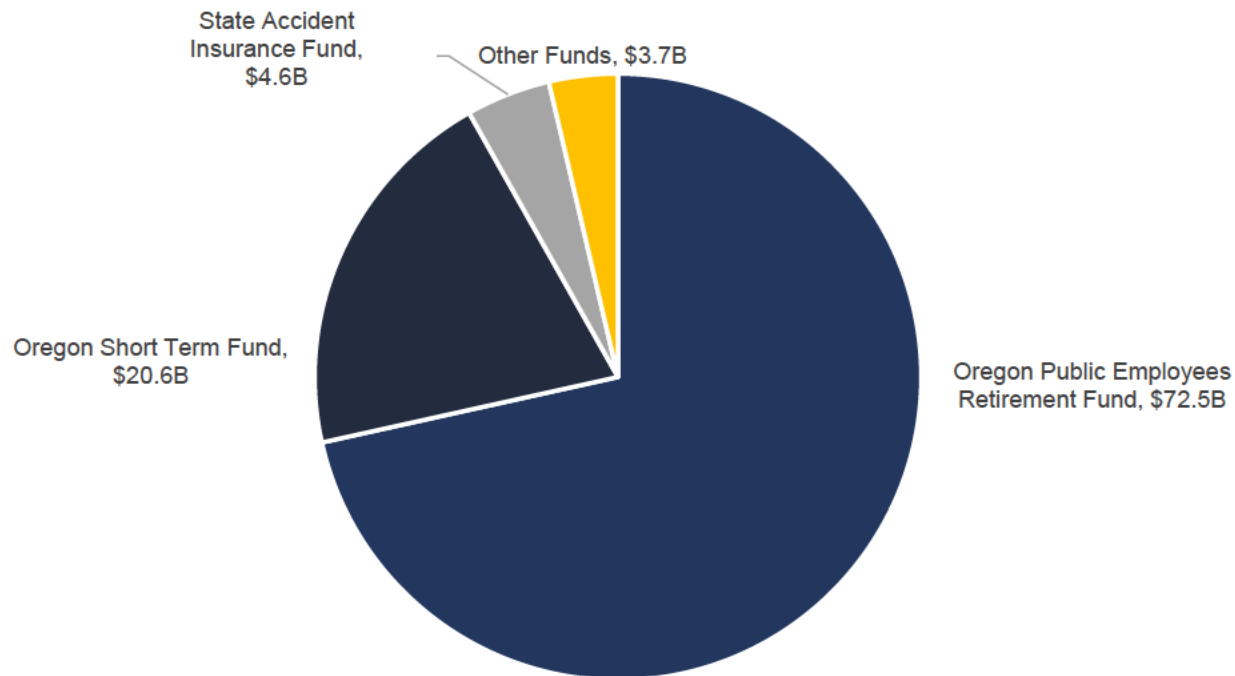
Investment Division

- Manages public trust funds and other state and state agency investment portfolios in accordance with OIC guidelines and policies.
- The primary objective of the Treasurer and the investment division is fiduciary excellence as defined by a) consistently generating positive and sustainable risk-adjusted returns and b) operating a world-class investment organization as efficiently and cost-effectively as possible.

ORS 293.721 Moneys in the investment funds shall be invested and reinvested to achieve the investment objective of the investment funds, which is to make the moneys as productive as possible, subject to the standard set forth in ORS 293.726



Oregon State Treasury Assets Under Management (as of December 31, 2018)

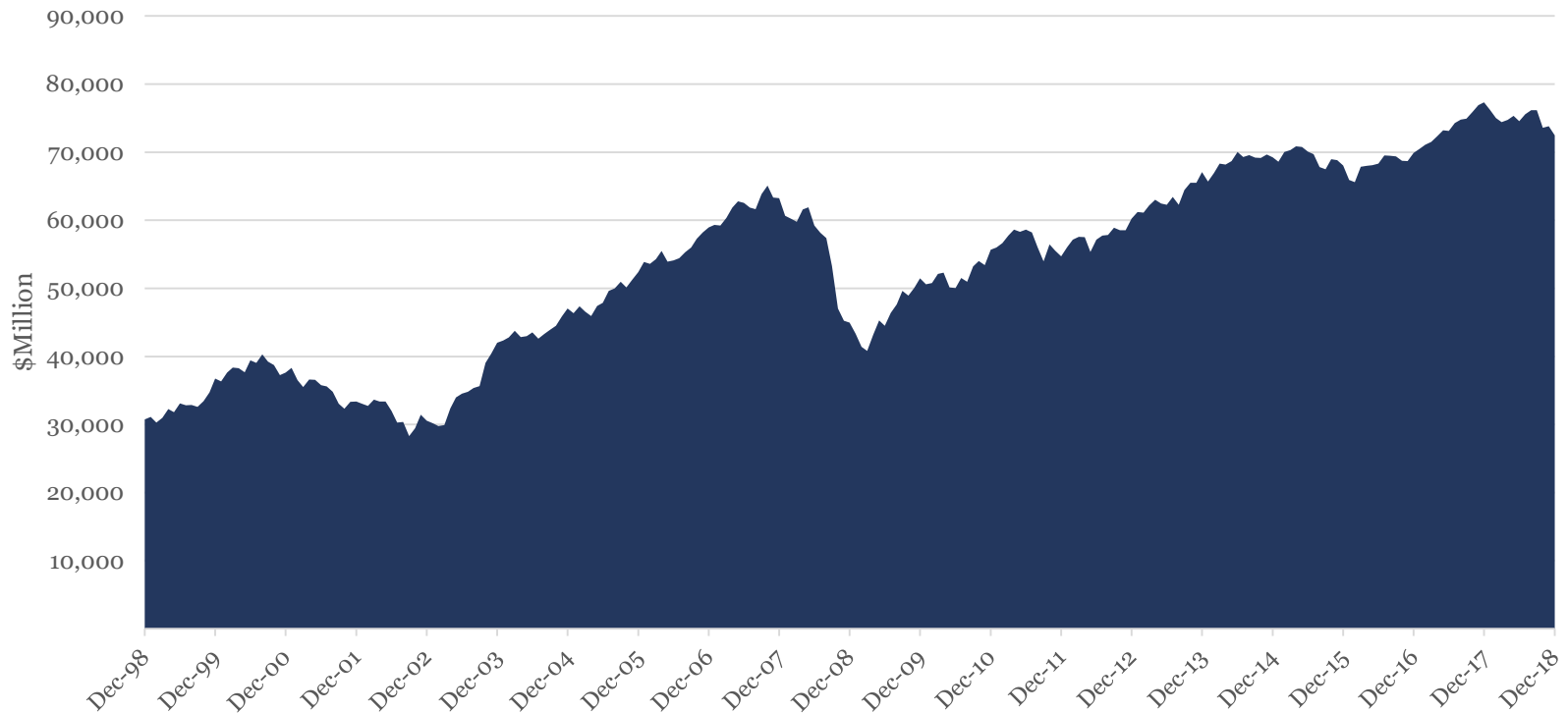


Total Assets: \$100.7 billion



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OPERF 20-Year Net Asset Value History



The importance of investment earnings

Money for PERS benefit payments comes from three sources (1970-2017)

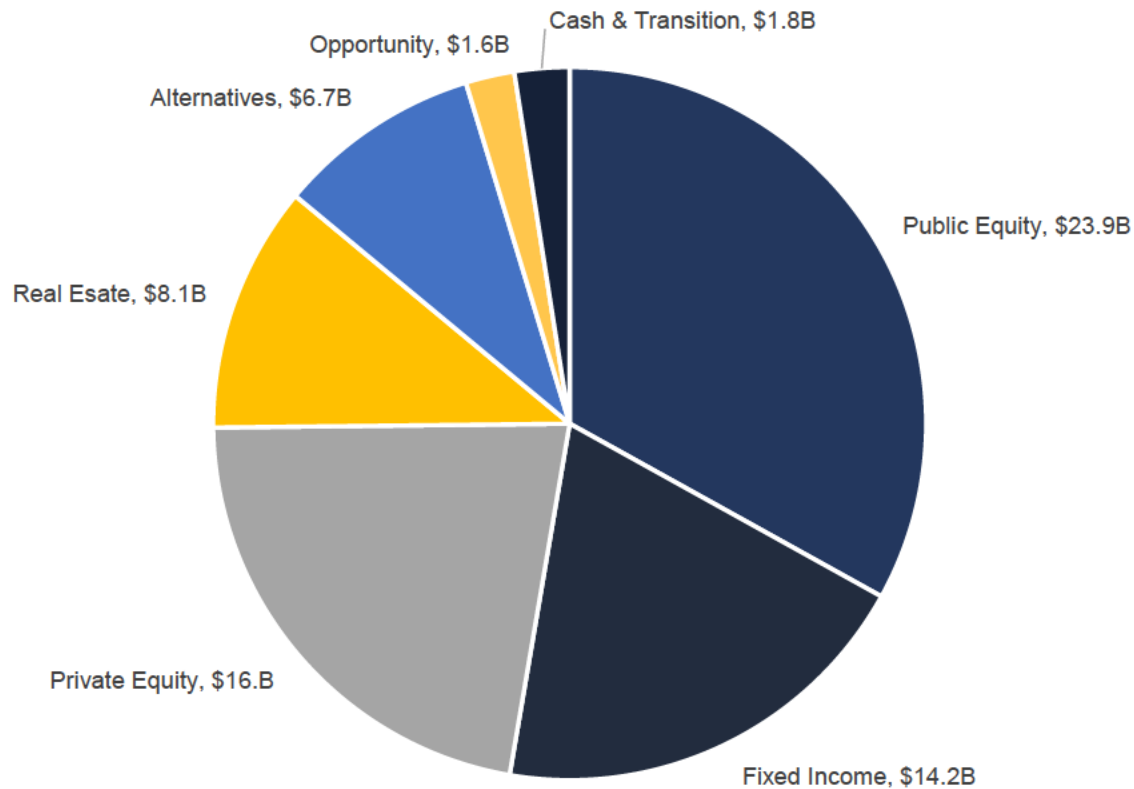


Source: [PERS By the Numbers](#)



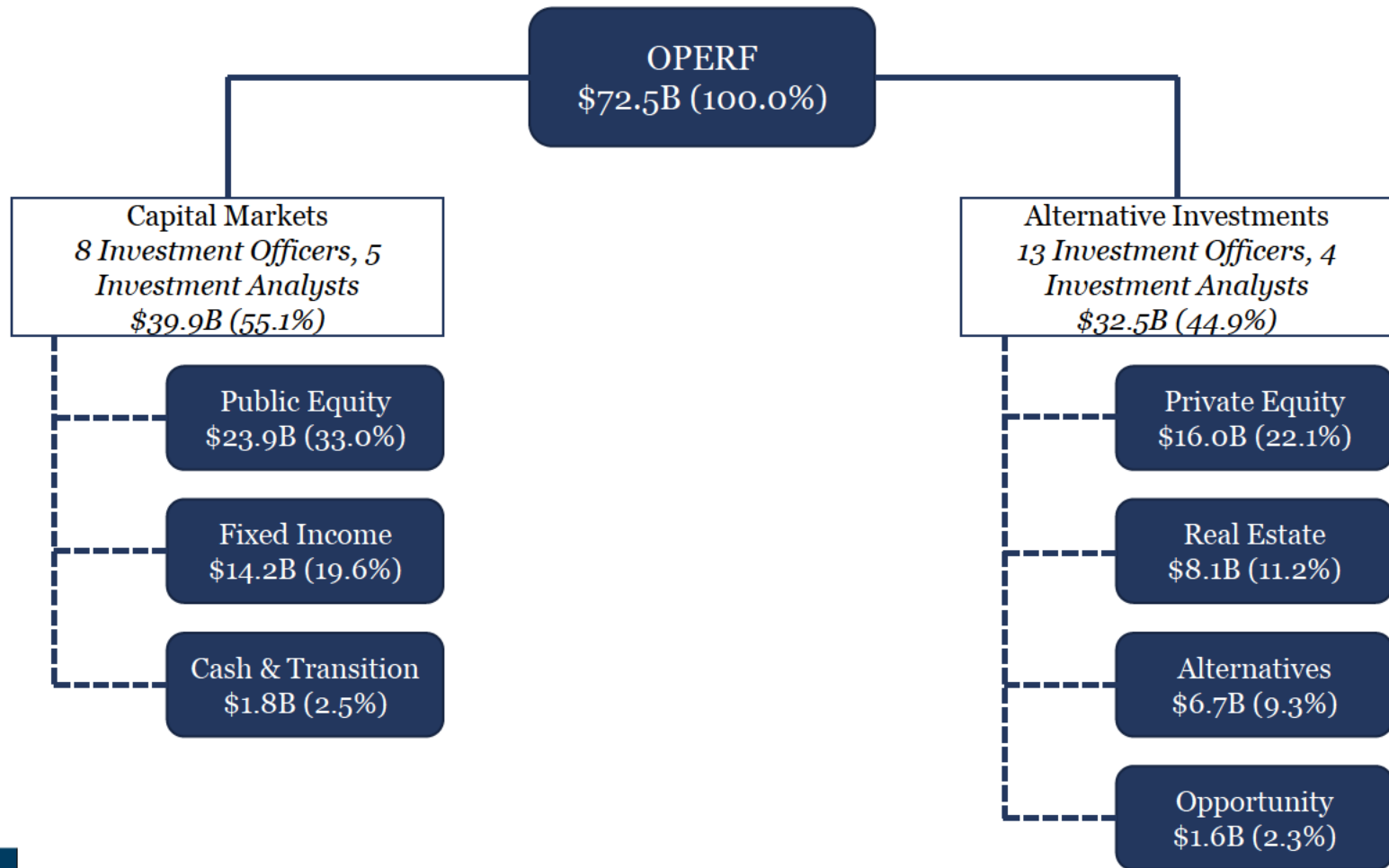
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Oregon Public Employees Retirement Fund Asset Allocation (Asset values as of December 31, 2018)



Oregon Public Employees Retirement Fund Asset Allocation

(Assets as of December 31, 2018, FTEs as of today)



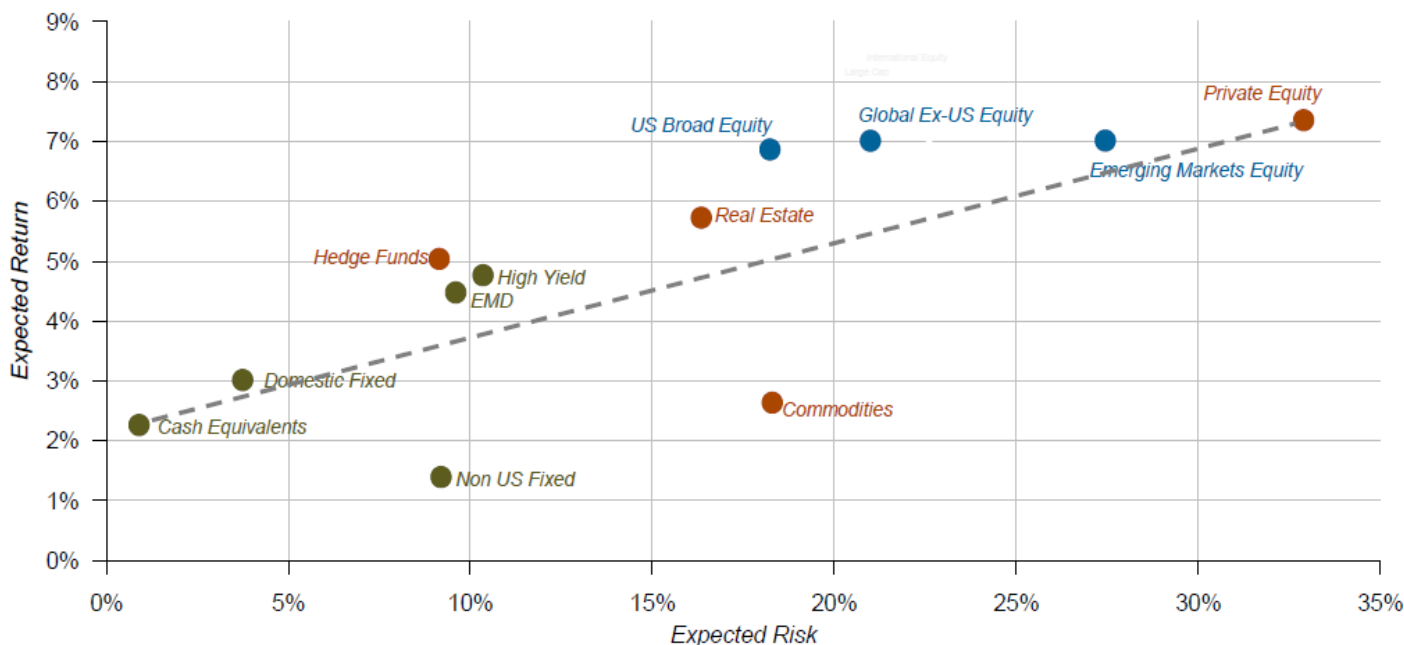
OIC's Asset Allocation Process

1. The OIC's investment consultant, currently Callan LLC ("Callan"), generates a set of Capital Market Assumptions annually. Based on prevailing market conditions and its economic and financial forecasts, Callan produces forward-looking, average annual return and volatility estimates for each major asset class.
2. Callan uses this common set of assumptions for all its clients, a common practice among investment consultants.
3. Callan presents its updated Capital Market Assumptions annually to the OIC. Every three to five years, the OIC's investment consultant also performs and presents an Asset-Liability Study.
4. The OIC periodically approves revisions to OPERF's strategic asset allocation targets based on its evaluation and discussion of the Capital Market Assumptions, Asset-Liability Study, and any related staff recommendations.



Relationship Between Risk and Return

Depicts Callan's Standard Assumptions of Return and Risk for Asset Classes Shown

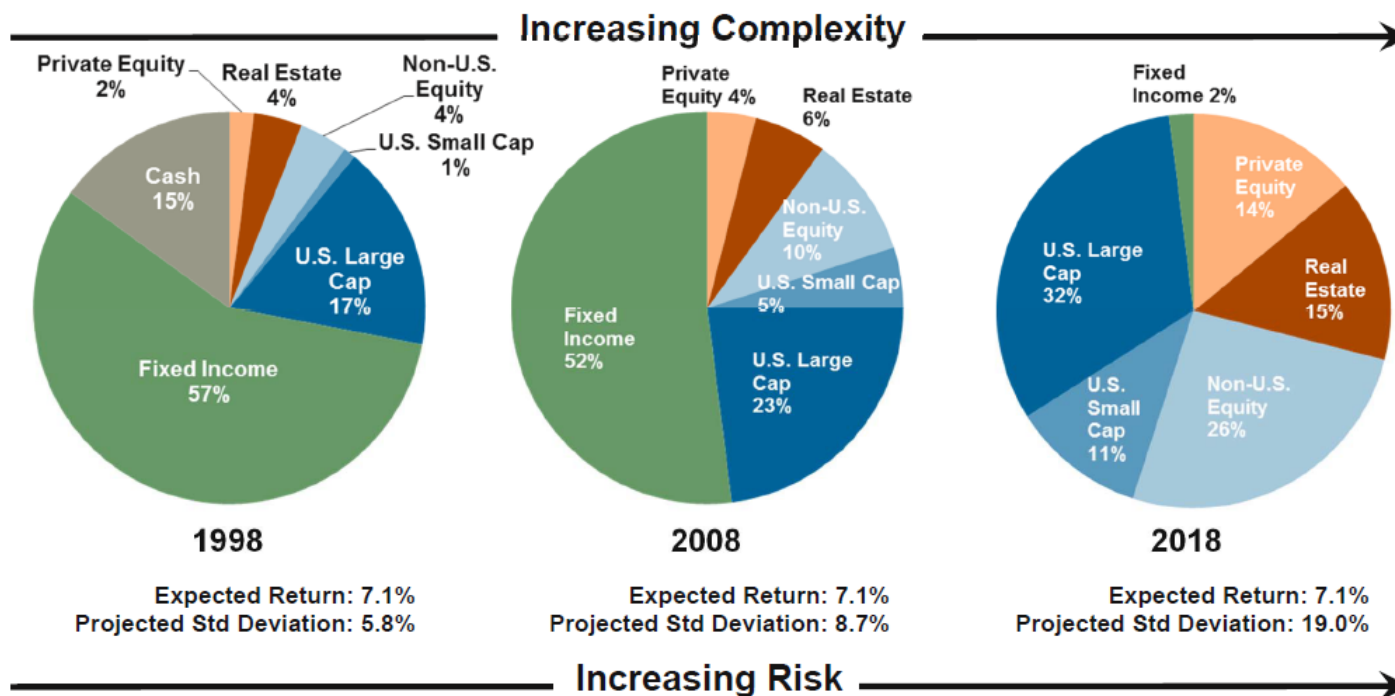


- Modern portfolio theory assumes investors are risk averse.
 - Given a choice between two assets with the same level of return, an investor will select the asset with a lower level of risk.
 - The risk premium demanded by investors provides evidence of risk aversion.
 - For example, investors demand a greater return from private equity over public equity for the increased risk they are assuming.

Source: Callan LLC; April 2018 OIC Meeting Materials.



Expected Portfolio Returns Over Past 20 Years



- With cash and broad U.S. fixed income return expectations of 4.8% and 6.6% respectively in 1998, an investor could have almost three-quarters of the portfolio in these low risk asset classes and still expect to earn 7.1%.
- Ten years later, an investor needed 48% in relatively risky, return-seeking assets to achieve 7.1%.
- By 2018, had to risk up the portfolio even more and include 98% in return-seeking assets to earn 7.1%.
- The risk required to achieve a 7.1% return more than tripled from 5.8% in 1998 to 19% in 2018.

Source: Callan LLC; April 2018 OIC Meeting Materials.



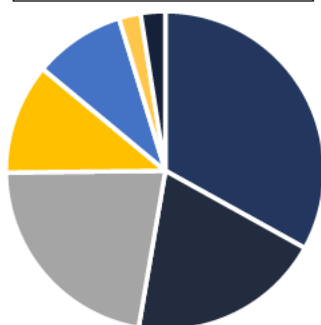
OPERF Investment Fee Comparison (2017)

OPERF is a large and complex institutional investment fund. Compared to its U.S. public pension peers, OPERF has a much higher allocation to “Alternative” investments (e.g., Private Equity, Private Real Estate, Infrastructure, Ag, Timber, etc.), and a lower allocation to traditional investments in listed equities (i.e., stocks) and fixed income securities (i.e., bonds).

CEM Benchmarking, a global investment cost and benchmark consultant for institutional asset owners, applied the *median fee* of its Global Leaders composite to OPERF’s asset allocation in order to estimate a *Cost Benchmark* that adjusts for OPERF’s more complex asset allocation model. This adjustment enables a true, apples-to-apples cost comparison.

When this adjustment is applied, **CEM concludes that OPERF’s costs are below median relative to its Global Leaders peer group.**

OPERF Asset Allocation



CEM Benchmarking Median Fees

	Millions	bps
Cost Benchmark	\$581	76.3
OPERF’s Total Investment Costs	\$552	72.4
OPERF’s Cost Savings	+\$29	+3.9



OPERF Fees by Asset Class (2017)

Asset Class	Fees (\$M)	Fees (bps)
Public Equity	82.3	10.8
Fixed Income	21.9	2.9
Private Equity	316.6	41.5
Real Estate	71.7	9.4
Alternatives	54.2	7.1
Other	5.1	0.7
Total	551.7	72.4

- The vast majority of the fees listed are external manager fees paid from Fund capital. Included in the individual lines is the annual 0.03% (0.0003) fee that OST charges for Fund oversight, or \$18.1 million in 2017.
- Private Equity has been and will remain OPERF's most expensive asset class exposure. Private Equity also has been (and is expected to remain) OPERF's most productive asset class exposure. Since inception, OPERF's allocation to Private Equity has delivered *net* returns exceeding the Russell 3000 listed equity (i.e., stock) index by over 3%. That excess return has equated to *billions* of incremental funding for OPERF relative to a generic index fund alternative.



OPERF Investment Performance

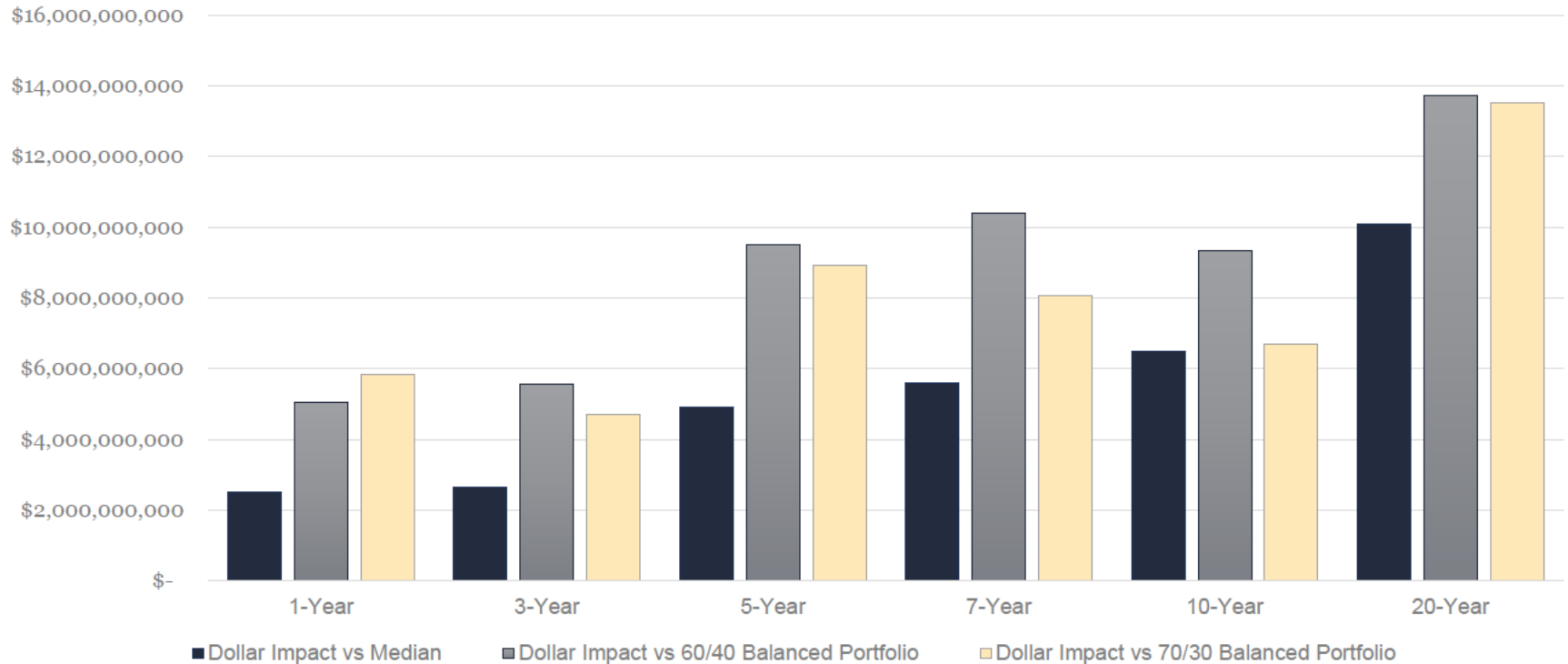
(as of December 31, 2018)

Annualized Return	1-Year	3-Year	5-Year	7-Year	10-Year	20-Year
Russell 3000	-5.24%	8.97%	7.91%	12.46%	13.18%	5.96%
S&P 500	-4.38%	9.26%	8.49%	12.70%	13.12%	5.62%
Russell 2000	-11.01%	7.36%	4.41%	10.44%	11.97%	7.40%
MSCI ACWI ex-US IMI	-14.76%	4.39%	0.84%	5.07%	6.97%	4.59%
MSCI Emerging Markets	-14.58%	9.25%	1.65%	3.23%	8.02%	8.52%
Bloomberg Barclays U.S. Aggregate	0.01%	2.06%	2.52%	2.10%	3.48%	4.55%
Fund Performance (Net of Fees)	1-Year	3-Year	5-Year	7-Year	10-Year	20-Year
OPERF (Ranking¹)	0.48% (9)	7.49% (9)	6.33% (5)	8.72% (1)	9.46% (1)	7.08% (1)
Domestic Equity	-7.87%	8.38%	6.75%	11.80%	13.10%	6.41%
International Equity	-14.88%	5.09%	1.89%	6.45%	8.00%	5.86%
Fixed Income	0.25%	2.34%	2.21%	3.16%	6.28%	5.36%
Private Equity	18.15%	13.78%	12.87%	13.56%	11.66%	12.00%
Real Estate	8.03%	8.65%	9.98%	10.90%	7.70%	10.30%

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

OPERF Performance Impact in \$\$\$ (as of December 31, 2018)

Estimated Contribution to Total Return



Notes:

OPERF vs Median reflects gross performance compared to TUCS Universe Median > \$10 Billion. OPERF vs Balanced Portfolios reflects net performance.

The 60/40 Balanced Portfolio consists of 60% MSCI IMA, 40% Bloomberg Barclays Aggregate.

The 70/30 Balanced Portfolio consists of 70% MSCI IMA, 30% Bloomberg Barclays Aggregate.

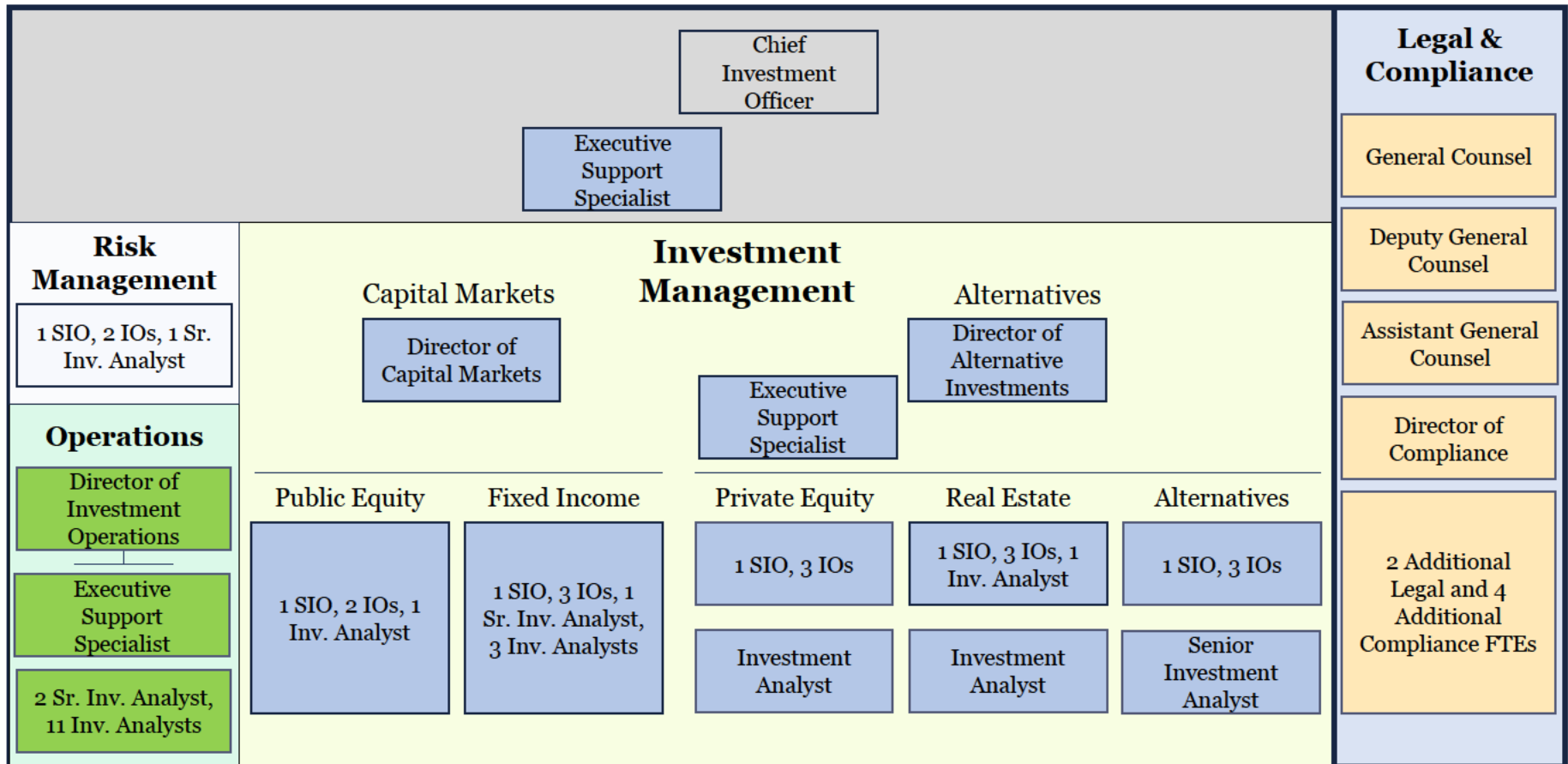


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Opportunities for further improvement

1. Additional cost savings through increased internal management of select strategies.
2. Improved due diligence and operational risk management through continued expansion of middle- and back-office operations.
3. Continued evolution of front line investment activities to better confront and capitalize on increased frequency and complexity of investment opportunities.

OST Investment Program Org Chart (Today)



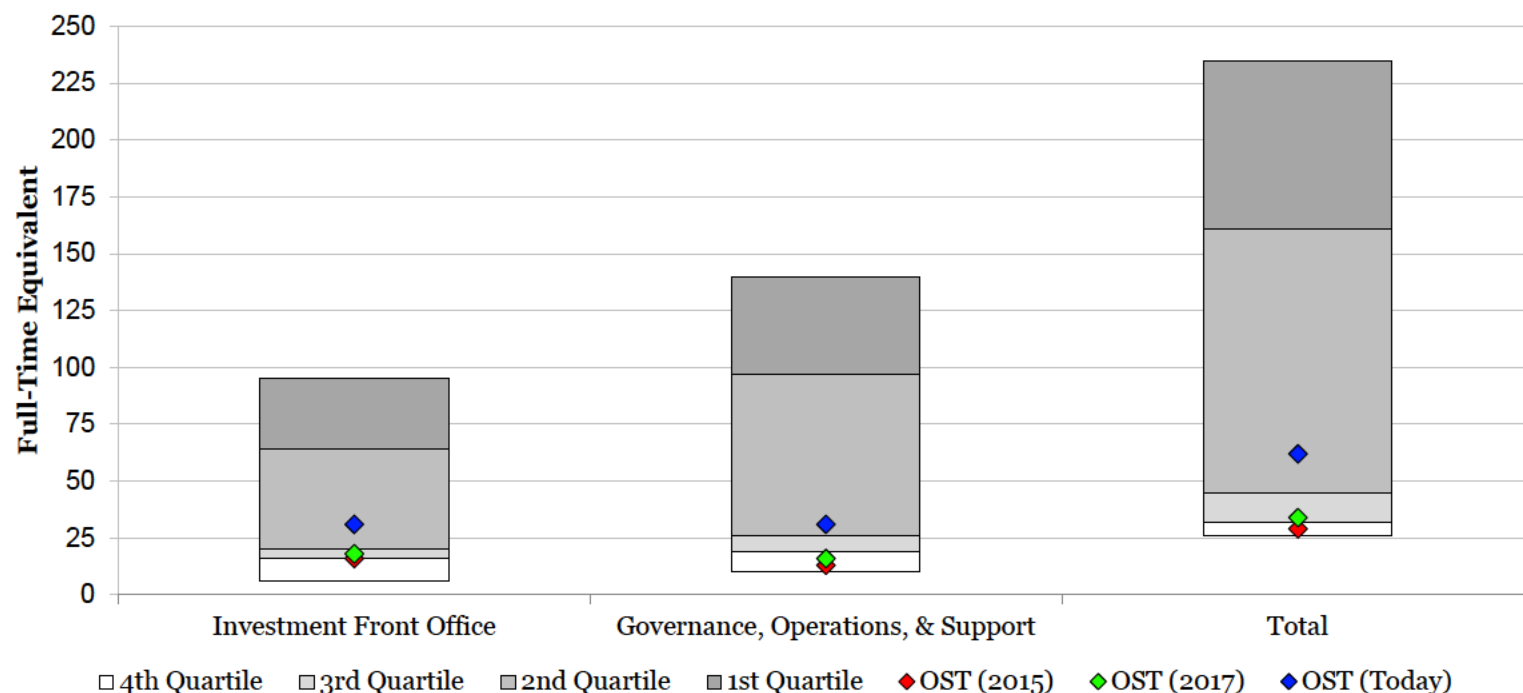
SIO = Senior Investment Officer

IO = Investment Officer



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OST Staffing Compared to Peers



Ranking based on custom peer group of 10 global asset owners of similar size and portfolio composition using December 2017 data.

Source: CEM Benchmarking

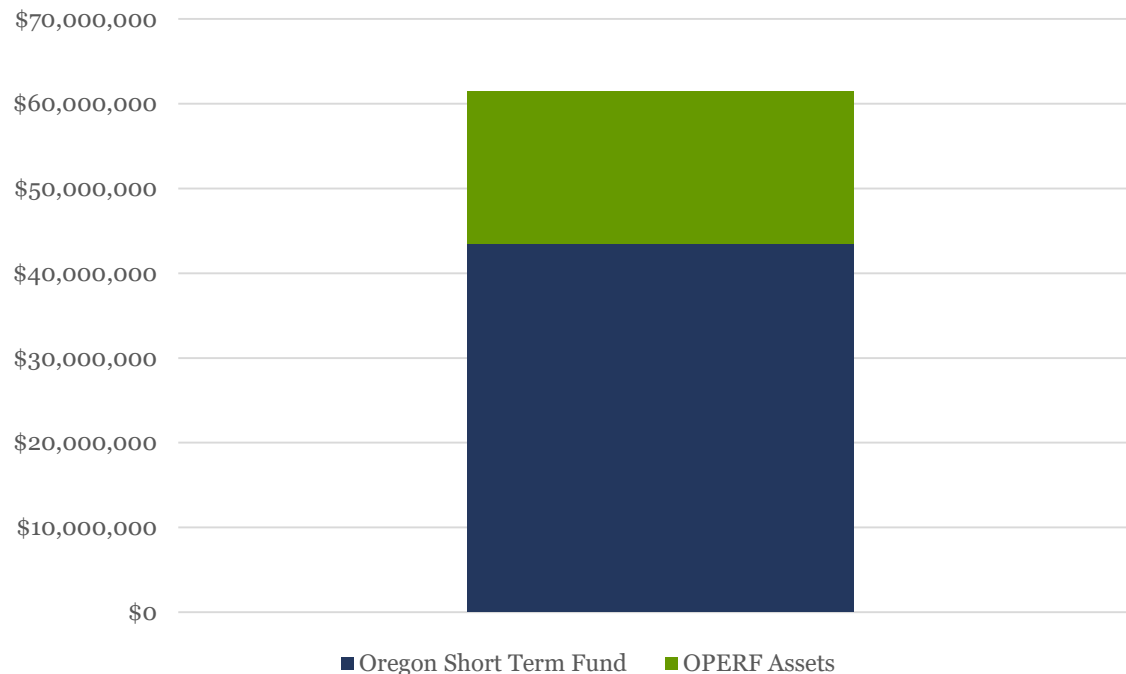


OST Internal Management

- OST internally manages over \$30 billion of assets for the Oregon Short Term Fund (OSTF), OPERF, and other state agency clients.
- “Internal management” activities include: portfolio construction; securities trading; operational functions such as trade reconciliation and settlement; and various financial accounting services.
- These internal management activities generate incremental value for OSTF, OPERF and other state agency funds in two forms:
 - Reduced costs and fees
 - Better investment performance

Cost Savings

Estimated Fee Savings from
Internal Management Activities
January 1, 2016 to December 31, 2018

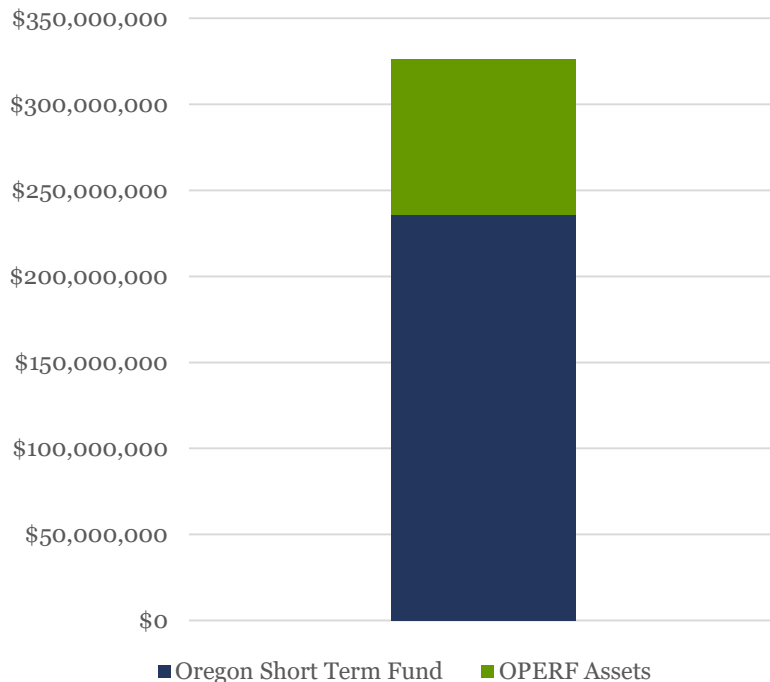


Savings achieved as a result of insourcing initiatives have roughly doubled from 2015 to today, and now exceed \$2 million per month. **These net, fee-related savings from internal management activities totaled roughly \$61 million during the three-year span from 2016 to 2018.**



Investment Performance Value Add (\$\$\$\$s)

Estimated Dollar Contribution Versus
Benchmark
January 1, 2016 through
December 31, 2018

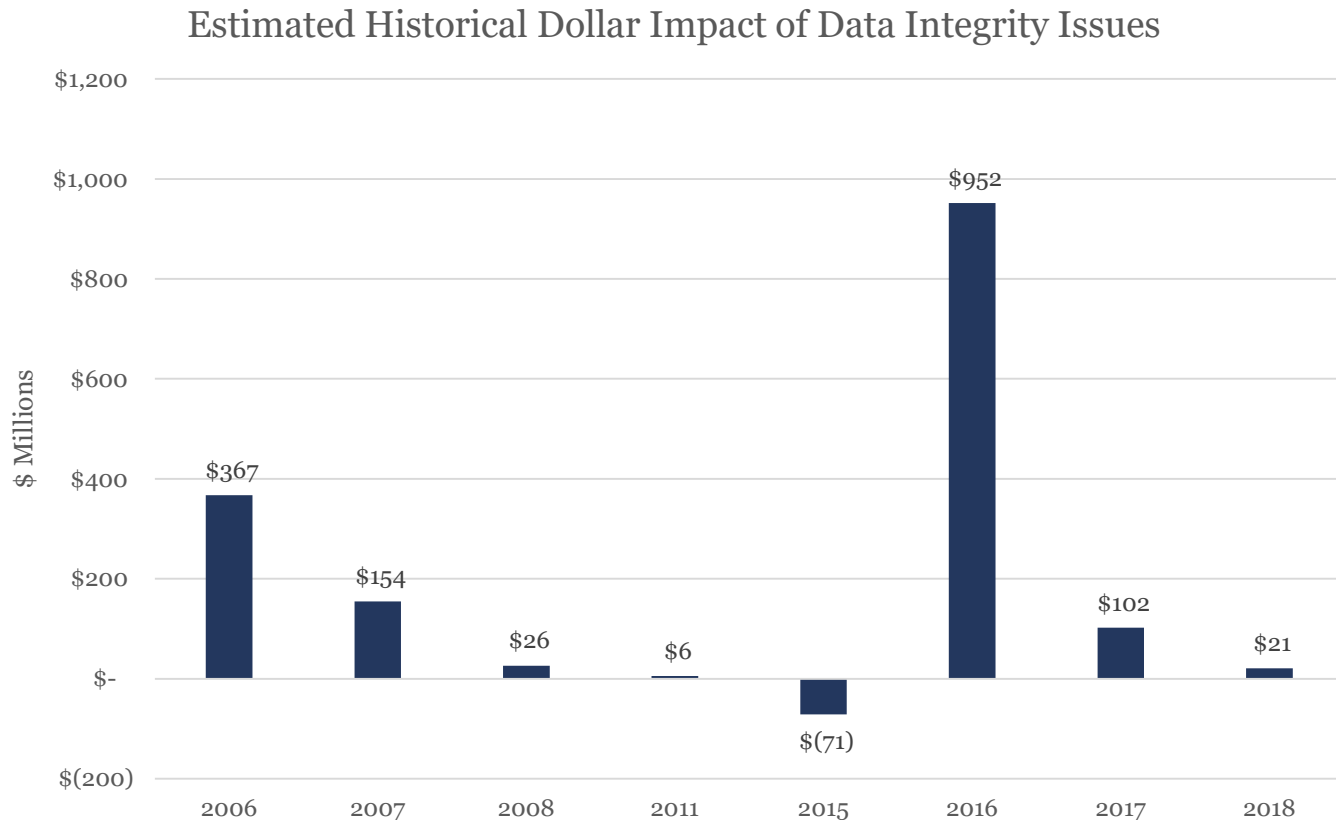


In OPERF, the net value add from internal management (i.e., the incremental OPERF funding attributable to investment performance in excess of corresponding benchmarks) has been **\$90 million** over the past three years.

OSTF investors have realized a net benefit of approximately **\$236 million** during that same period.



Improved Data Quality

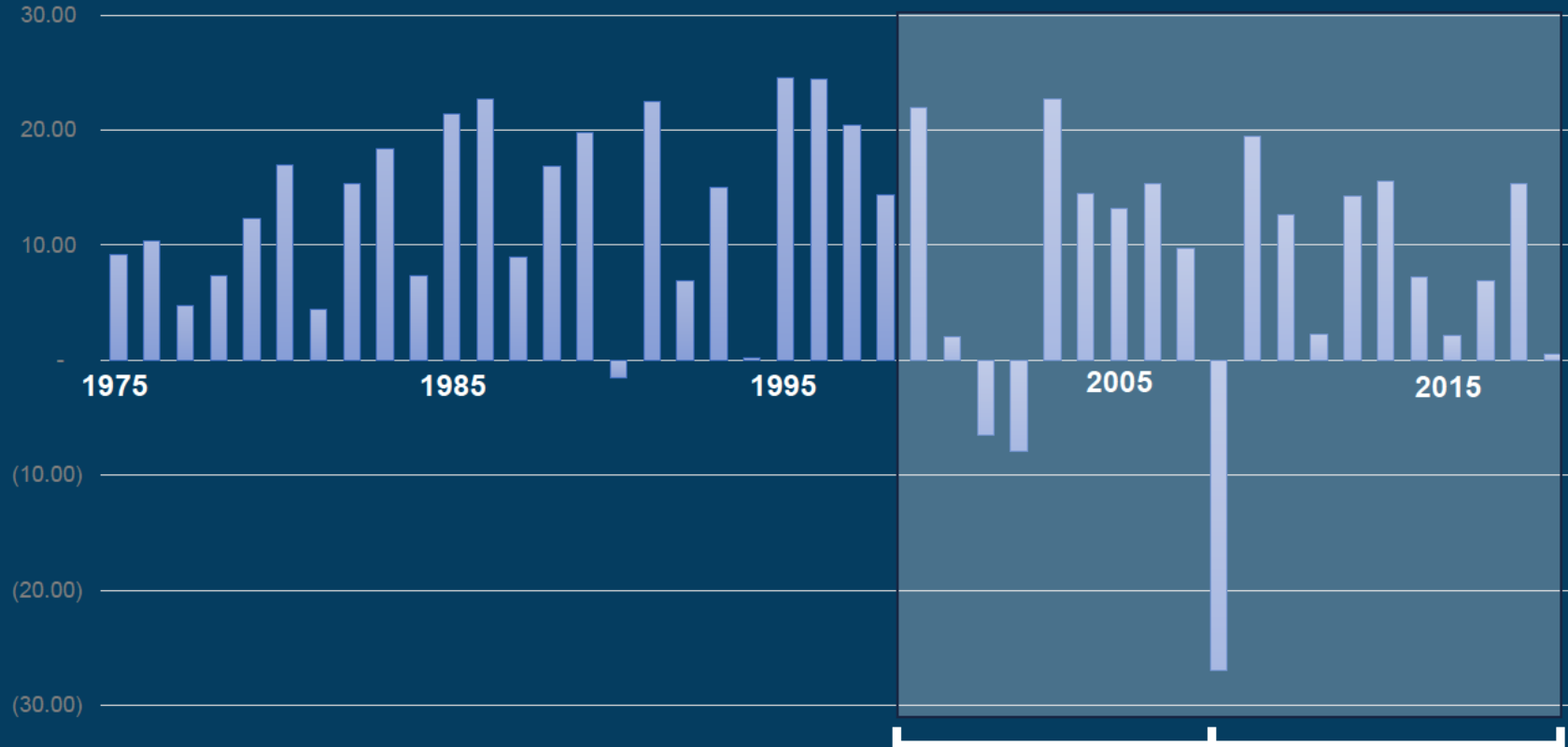


Improved data integrity controls and oversight activities have led to the identification of more than **\$1.5 Billion** in investment performance and asset valuation discrepancies, including a one-time material increase in OPERF's reported investment performance from 0.26% to 1.39% in the second quarter of 2016. The overall estimated impact from this particular one-time performance reporting error equated to more than **\$790 million**.



Long term, sustainable net returns

OPERF annual performance percentage, after fees, 1975-2018



First among peer funds



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