CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Investment Program

OFFICE OF RETIREMENT SERVICES

Annual Report on Investment Performance

Introduction

The Office of Retirement Services provides an annual report on the performance of the investment program to the Public Safety, Finance & Strategic Support Committee (PSFSS) each year, typically in November/December.

Topics:

1. Plan Objectives
2. Asset Allocation
3. Historical Investment Returns

Presenting from the Office of Retirement Services:

Roberto Peña, Chief Executive Officer

Brian Starr, Senior Investment Officer

Investment Objectives

Simplification

- Artfully balance risk and expected return.
  - The “expected” never exactly happens – that uncertainty is “risk”.
  - Increasing expected return decreases future contributions from the plan sponsor and employees.
  - Taking less risk increases future contributions because less risky investments normally have lower expected returns.

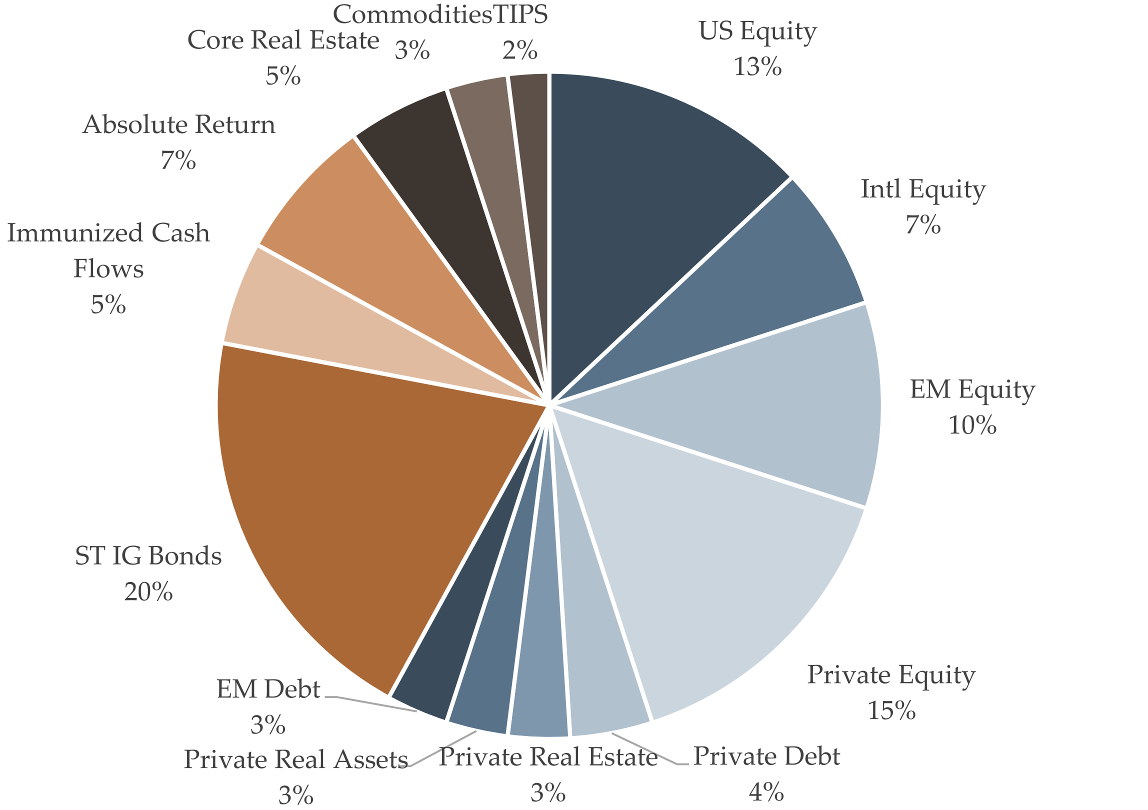
Reality

- The Investment Policy Statement of each plan is a Board-approved document that guides the investment strategy and the balance between risk and return. Two of the main traits used to balance risk and return are:
  - Long-term investment horizon
  - Diversification of investments
- Both plans currently have an assumed rate of return of 6.75%.
- A comprehensive study of plan sponsor and board risk tolerance suggests an expected standard deviation of ~12% is appropriate.

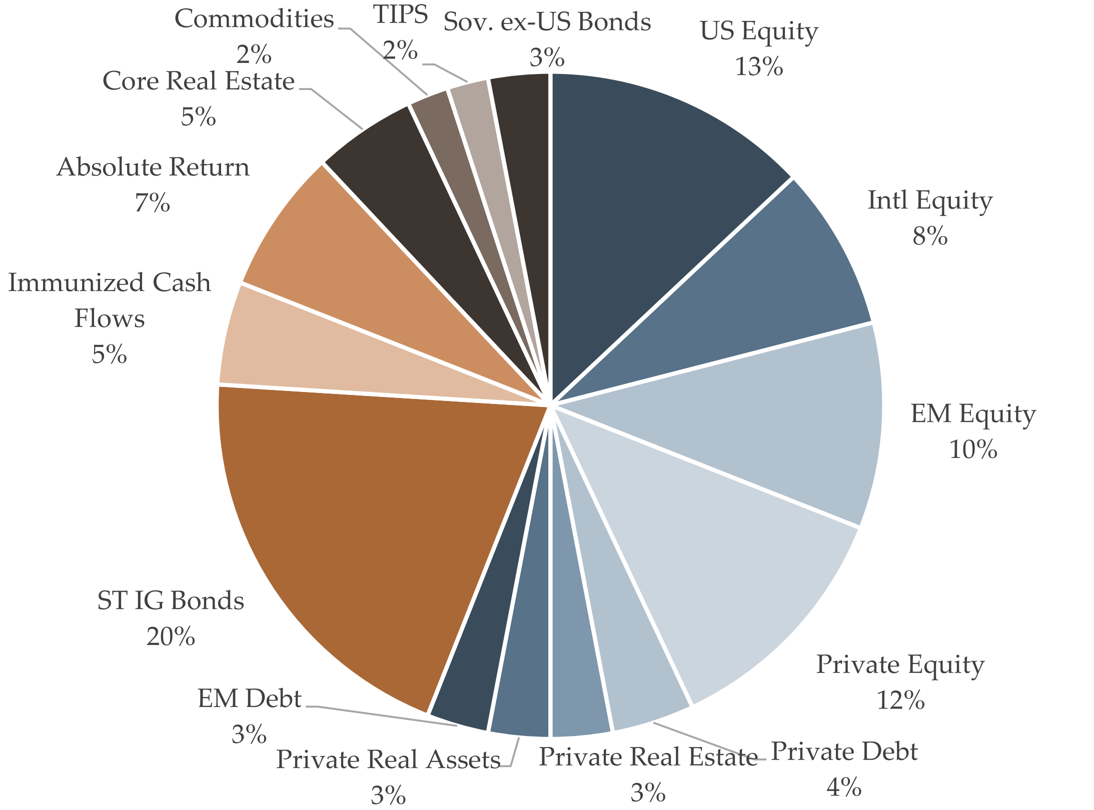
Current Asset Allocation

Growth Asset Classes	Zero Beta Asset Classes	Other Asset Classes

Federated Pension



Police & Fire Pension



7.3%	Expected Return	12.3%	Exp. Standard Deviation	7.1%	Expected Return	11.8%	Exp. Standard Deviation

Source: Meketa Investment Group, ORS

Asset Allocation FAQ

1. Why is the asset allocation so complicated?
   - Building a portfolio with the best possible expected return for a specific level of risk takes advantage of diversification. In part, this means using asset classes that are not widely understood by the general public, such as alternative investments.

2. Why are the plans' fees so high?
   - Alternative investments (private funds and hedge funds) are a key part of the portfolio because of they have high expected alpha. Much of the plans' fees are in the form of incentive fees – investment managers share in the profits they create for the plans. While staff attempts to negotiate lower fees whenever possible, the plan is largely a price-taker in respect to investment management services.

3. Why not just build a portfolio of 60% stocks / 40% bonds, use index funds, and eliminate both complexity and fees?
   - The 20-year expected return on a 60/40 portfolio is 6.1%, well below the plans' assumed return of 6.75%.
   - The 20-year expected standard deviation (risk) is 12.4%, which is higher than the current asset allocations.
   - Return expectations are calculated net-of-fees, so this change would result in a higher risk, lower return portfolio.

Historical Performance

Fiscal Year End	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	10 YR
Federated Pension											
Actual Return	-17.0%	13.7%	18.9%	-3.3%	8.0%	14.2%	-1.0%	-0.7%	7.5%	5.9%	4.1%
Benchmark	-15.3%	12.1%	22.0%	-2.4%	8.3%	17.0%	-3.3%	1.3%	8.1%	7.4%	5.0%
Discount Rate	8.25%	7.75%	7.95%	7.50%	7.50%	7.25%	7.00%	6.875%	6.875%	6.875%	-
Police & Fire Pension											
Actual Return	-18.4%	14.0%	18.1%	-0.5%	9.7%	13.5%	-0.8%	-0.6%	9.7%	6.9%	4.6%
Benchmark	-18.6%	12.2%	20.5%	1.3%	8.1%	14.6%	-1.0%	1.0%	9.5%	7.6%	4.9%
Discount Rate	8.00%	8.00%	7.75%	7.50%	7.25%	7.125%	7.00%	6.875%	6.875%	6.875%	-
Health Care Trusts											Since Inception
Federated					9.0%	16.2%	-2.7%	-2.7%	8.7%	4.9%	4.7%
Police & Fire					5.0%	14.5%	-1.7%	0.3%	7.0%	3.6%	4.7%

Source: Meketa Investment Group, ORS

Investment Performance FAQ

1. Why have the plans underperformed peers, such as CalPERS?
   - 90%+ of investment performance is determined by asset allocation. Since 2009, the plans have had much lower equity market (stock market) exposure than peers, and equity markets have generated higher returns than most other asset classes.
   - In turn, the plans' asset allocations are a function of portfolio size, plan liabilities, plan maturity, and plan sponsor and board risk tolerance. These characteristics may be very different for public pension plans that might otherwise seem similar.

2. If the plans' had paid less in fees, would the returns have been better?
   - Every dollar paid to investment managers is a dollar not kept by the plans, and staff is acutely aware of the importance of minimizing fees. Still, even if the plans had paid absolutely zero fees and expenses, the 3-year return would have only been ~1.25% better. The same effect could have been achieved by having just 13% more stock market exposure.

3. When will investment returns improve?
   - The plans have returned 6.8% (Fed.) and 7.6% (P&F) annually over fiscal year 2010-2018, in-line with long-term expectations. In the short-term, the plans may do significantly worse, or significantly better.
   - On a relative basis, there is an opportunity to improve asset allocation process and implementation. Both boards are working toward heightened accountability in these areas via a complete investment and governance strategy.
   - The ultimate key to success in any investment program is stability in philosophy, process, and people.

Appendix

Long-Term Strategic Transition

2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Governance

- Cortex I
- *Ad hoc committees*
- Cortex II
- Measure G
- ***Committee Charters***: Audit (2012, 2016), Governance (2013, 2016), Investment (2012, 2015), Joint Personnel (2016)
- ***Position Charters***: Board of Administration (2012, 2015), Board Chair (2012, 2013, 2016), Vice Chair (2013, 2016), Chief Executive Officer (2012, 2015), Chief Investment Officer (2012, 2015)
- ***Policies***: Attendance (Fed-2016), Board Communications (2012, 2015), Board Education (2012, 2013, 2016), Board Operations (Fed-2014), Board Performance Assessment (2012), Code of Conduct (2012, 2013, 2016), Monitoring & Reporting (2012, 2015), Personnel Review Policy (2013, 2016), Election of Board Officers (2013, 2016), Strategic Planning (2012), Overpayment/Underpayment of Members' Retirement Contributions (2015), Overpayment/Underpayment of Benefits Correction (2015), Travel (2015), Vendor Selection (2012, 2015)
- P&F Cortex III

Team

see slide #4

Infrastructure

- P&F General Consultant: NEPC
- Meketa
- SIS
- Fed General Consultant: Meketa
- Absolute Return Consultant: Albourne
- Compliance System: State Street
- Performance System: State Street
- Risk System: State Street
- MSCI
- Risk Consultant: Verus
- Dynamo RMS
- Albourne Process Review

Investment Structure & Process

- Diversification
- Investment Process Formalization

** denotes independent Board trustees*

2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019

Federated Board

- Matt Loesch
- Ed Overton | Jay Castellano
- Ash Kalra | Michael Armstrong * | Elaine Orr *
- Jeffrey Perkins | Martin Dirks *
- Arn Andrews | L. T. | Udaya Rajbhandari | Qianyu Sun
- David Busse | Lara Druyan * | Anurag Chandra *
- Pete Constant | Stuart Odell * | Elizabeth Rounds * | P. P. * | Kurt Billick *

Police & Fire Board

- Sam Liccardo | Vincent Sunzeri *
- Scott Johnson | Richard Santos
- Rose Herrera | Andrew Lanza *
- David Bacigalupi | Nick Muyo
- Bill Brill | Damon Krytzer * | Stephen Brennan * | Vikas Oswal *
- Sean Bill * | Jeremy Evnine * | Eswar Menon *
- M.F.* | Elizabeth Rounds * | Ghia Griarte *
- Keith Keesling | Sean Kaldor | Andrew Gardanier
- Conrad Taylor | James Mason | Franco Vado

Investment Program

- Russell Crosby | Roberto Peña
- Carmen Racy-Choy | Arn Andrews | Prabhu Palani
- Ryan Jusko | M.K.H. | Brian Starr
- Michael Moehle | Jay Kwon
- Ali Amiry | Daryn Miller | Christina Wang
- Heidi Poon | Dhinesh Ganapathiappan
- Ron Kumar
- Ceara O'Fallon | Aynur Yeniay | David Aung
- Arun Nallasivan
- Tram Doan | Viktoria Tubaltsev | Allain Mallari
- Sue Griffiths | Marivic Co-Garcia

Expected Returns vs. Risk-Free Returns

- It used to be possible to meet the plans' return expectations by investing solely in long-term government bonds.
- Interest rates fell faster than the plans' expected rate of return, requiring greater risk-taking to meet that return requirement.

Fiscal Year End	**1974**	**1985**	**1995**	**2005**	**2015**	**Today**
Assumed Rate of Return						
- Federated	7.00%	8.50%	8.25%	8.25%	7.00%	6.75%
- Police & Fire	5.75%	8.00%	8.00%	8.00%	7.00%	6.75%
Yield on 10Y US Treasury Note	7.64%	10.18%	6.20%	3.91%	1.90%	3.01%
Implied Risk Premium						
- **Federated**	**-0.64%**	**-1.68%**	**2.05%**	**4.19%**	**5.10%**	**3.74%**
- **Police & Fire**	**-1.91%**	**-2.18%**	**1.80%**	**3.94%**	**5.10%**	**3.74%**

Source: Bloomberg, ORS

Equity: Long-term gains, short-term volatility

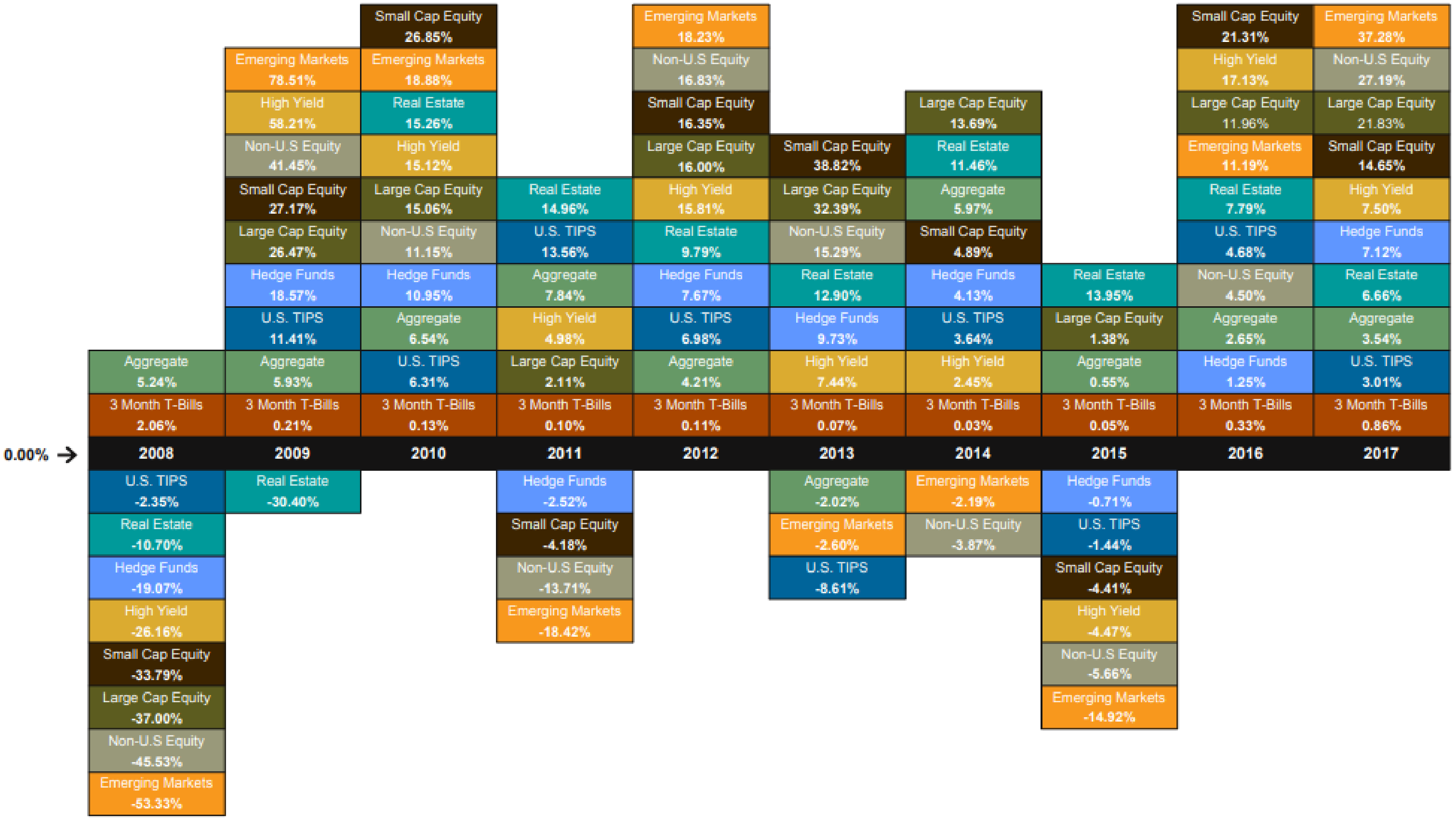
- Public equity (stock market) investments may increase return over the long-run, but can be extremely volatile.
- Volatility can be even more damaging to an investment portfolio in which distributions exceed contributions.

Source: Bloomberg

Importance of Diversification

- Buying low and selling high is hard to do; it is rarely clear what investment will offer the best/worst short-term return.
- Diversification helps take advantage of variance in investment returns.

Annual Returns for Key Indices Ranked in Order of Performance (2008–2017)

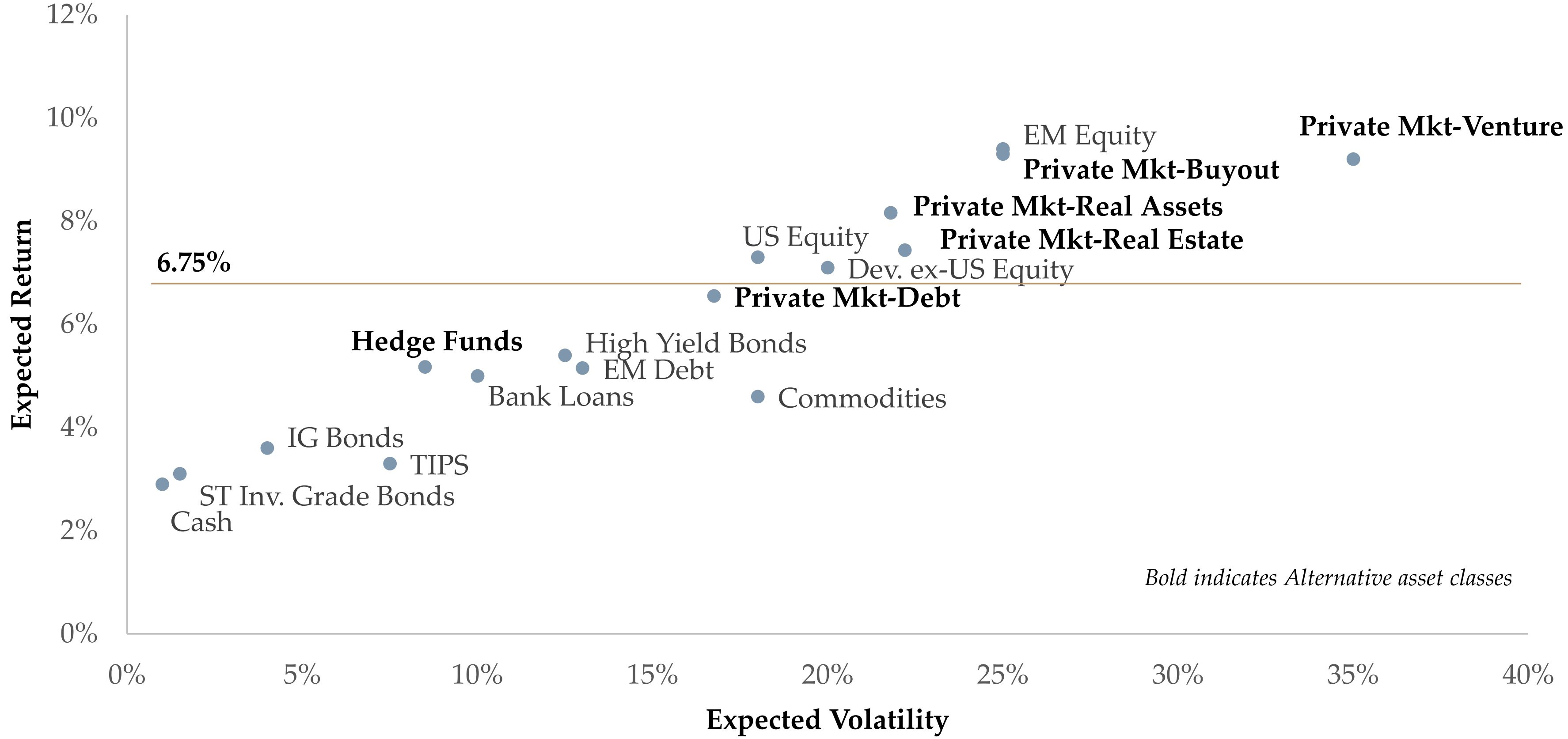


Source: Callan

Capital Market Assumptions 2018

- Forward-looking, long-term asset class-level risk and return expectations guide asset allocation.
- Alternative asset classes, which have high expected alpha and high fees, are essential to meeting the plans' assumed rate of return.

2018 Capital Market Assumptions, 20-Year Horizon

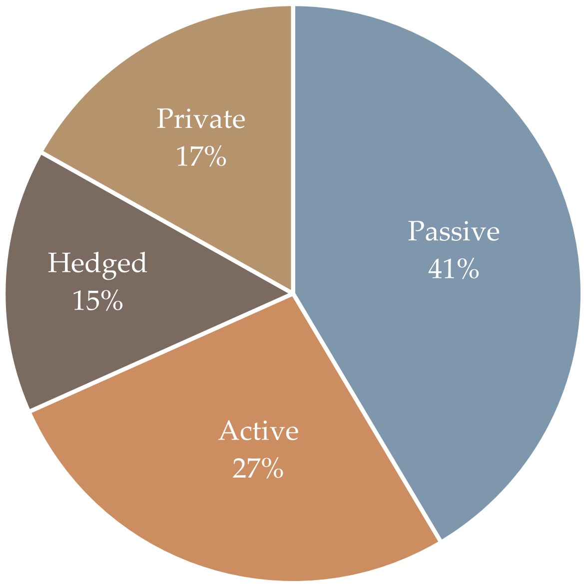


Source: ORS, Meketa Investment Group

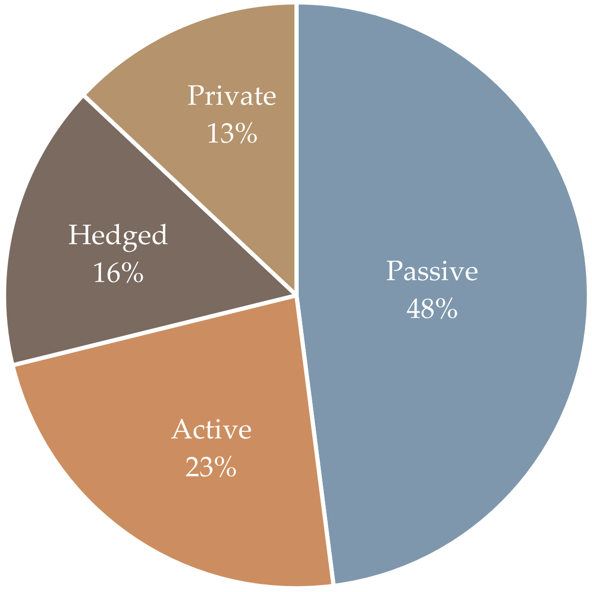
Allocation to investment fund types

As of June 30, 2018

Federated Pension



Police & Fire Pension



Source: ORS, State Street

Calendar Year 2017 Fees

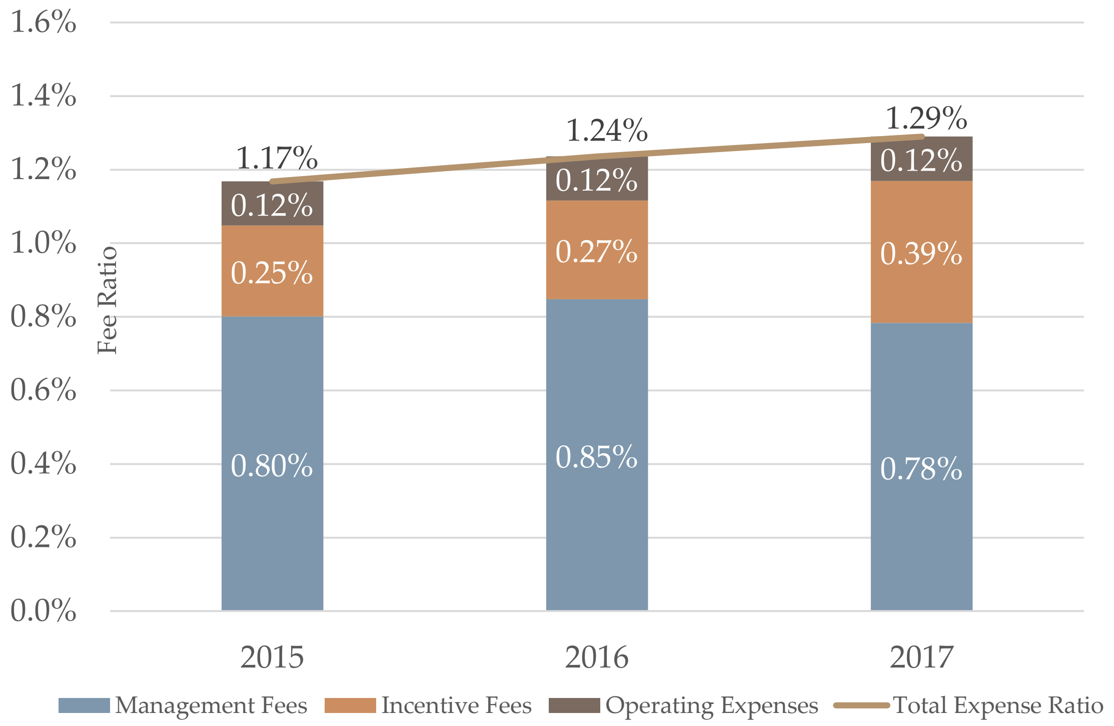
Plan	Management Fees	Incentive Fees	Operating Expenses	Mgmt, Incent, and Op Exp	Average Balance	Fee Ratio
Federated Pension	16.2	8.0	2.4	26.6	2,102	1.26%
Police & Fire Pension	28.8	14.6	4.6	48.1	3,425	1.40%
Federated Health Care	0.7	0.0	0.0	0.8	228	0.34%
Police & Fire Health Care	0.3	-	0.0	0.3	112	0.26%
All 4 ORS Plans	46.0	22.6	7.0	75.7	5,866	1.29%

Source: ORS 2017 Fee Report
Values shown are in $ millions

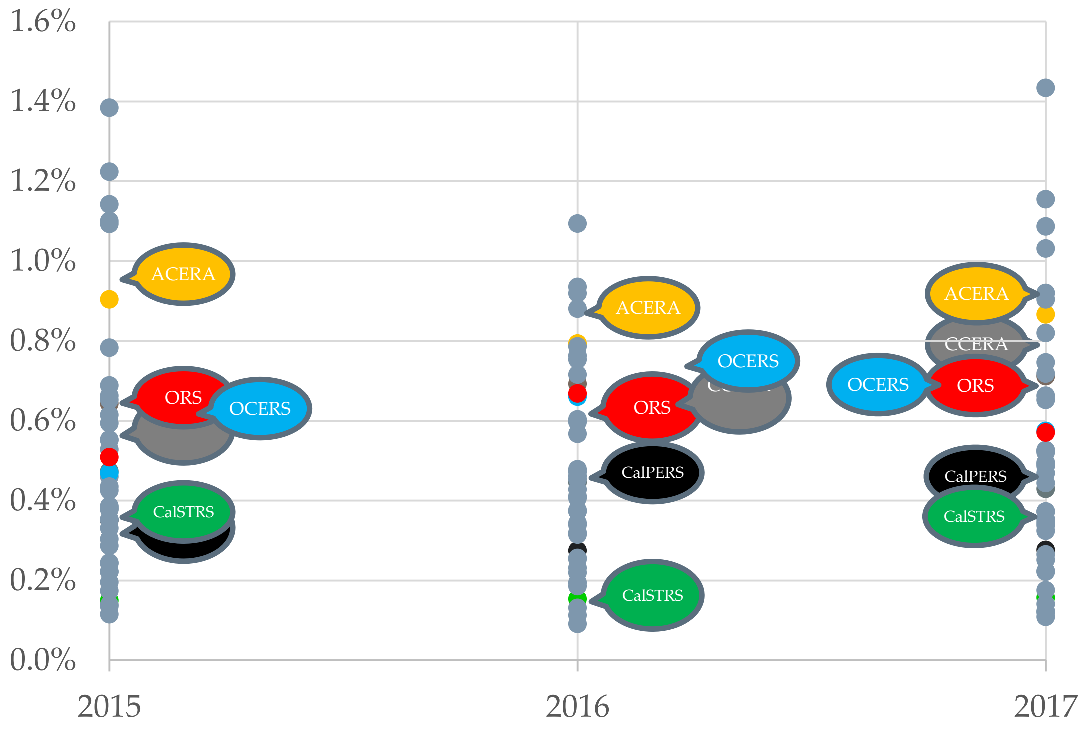
Plan	Investment Staff Salary and Benefits	Consultants	Custodian	Other Third Party Vendors	Total Other Costs	Fee Ratio
All 4 ORS Plans	1.4	1.5	0.8	1.0	4.7	0.08%

Source: ORS 2017 Fee Report
Values shown are in $ millions

Total Expense Ratio



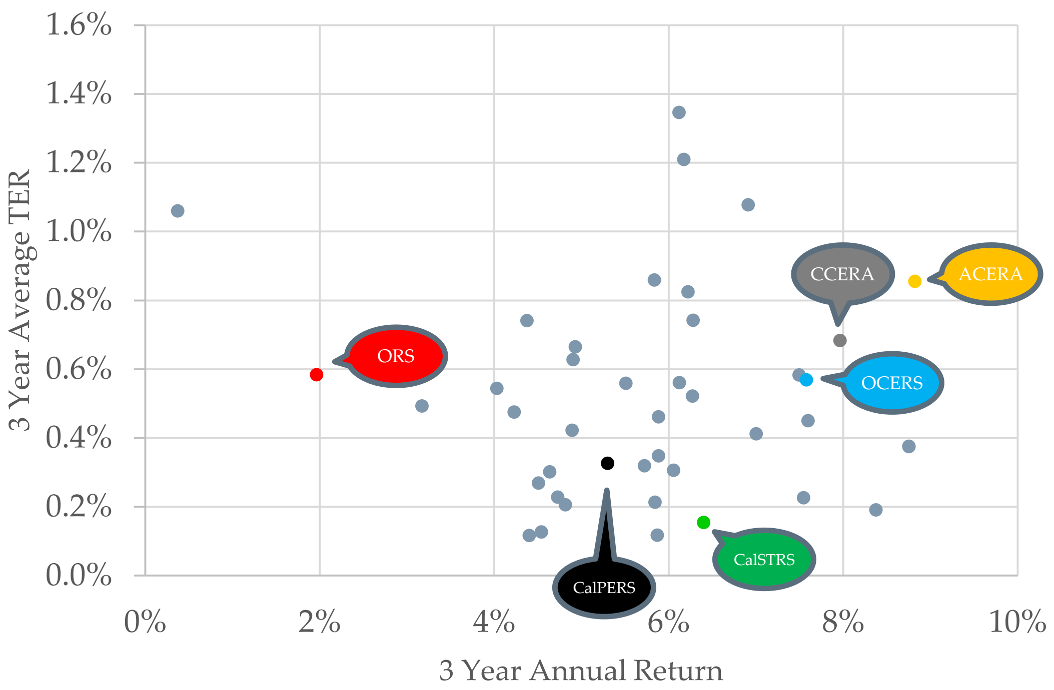
Peer Comparison



-2.0% (2015) **6.4%** (2016) **11.6%** (2017)	**Plan Return**	**-1.0%** (2015) **-0.7%** (2016) **7.9%** (2017)
ORS Annual Fee Reports	**Source**	Public Plans Database (from CAFRs)
Calendar year basis	**Time Periods**	Fiscal year basis
All 4 ORS plans aggregated (Federated and Police & Fire pension and health care trusts)	**Data points**	43 U.S. Public Plans $3-10 billion, CA Public Plans All 4 ORS plans aggregated

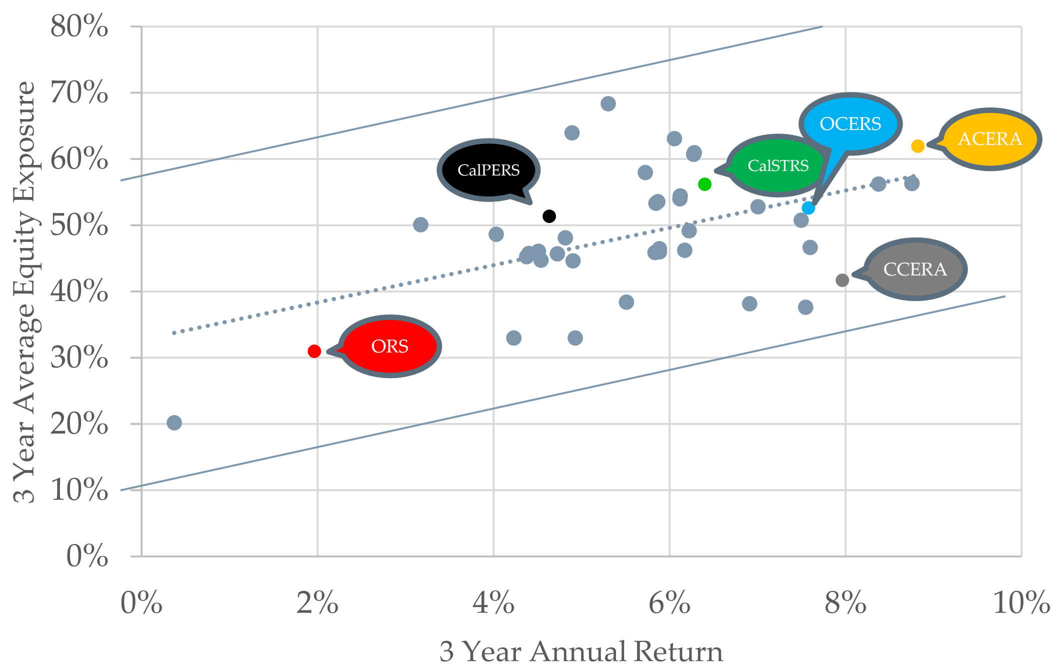
Returns/Expense Ratios

Higher returns not correlated to higher expenses



Returns/Public Equity Exposure

Higher returns correlated to higher public equity exposure



Source	Public Plans Database (from CAFRs)
Time Periods	Fiscal year basis, ending June 30, 2017
Data points	43 diversified U.S. Public Plans \$3-10 billion, CA Public Plans All 4 ORS plans aggregated