



**San Jose Federated City Employees' Retirement System
San Jose Police & Fire Department Retirement Plan**

Joint Meeting with the San Jose City Council

April 30, 2019

M E K E T A I N V E S T M E N T G R O U P

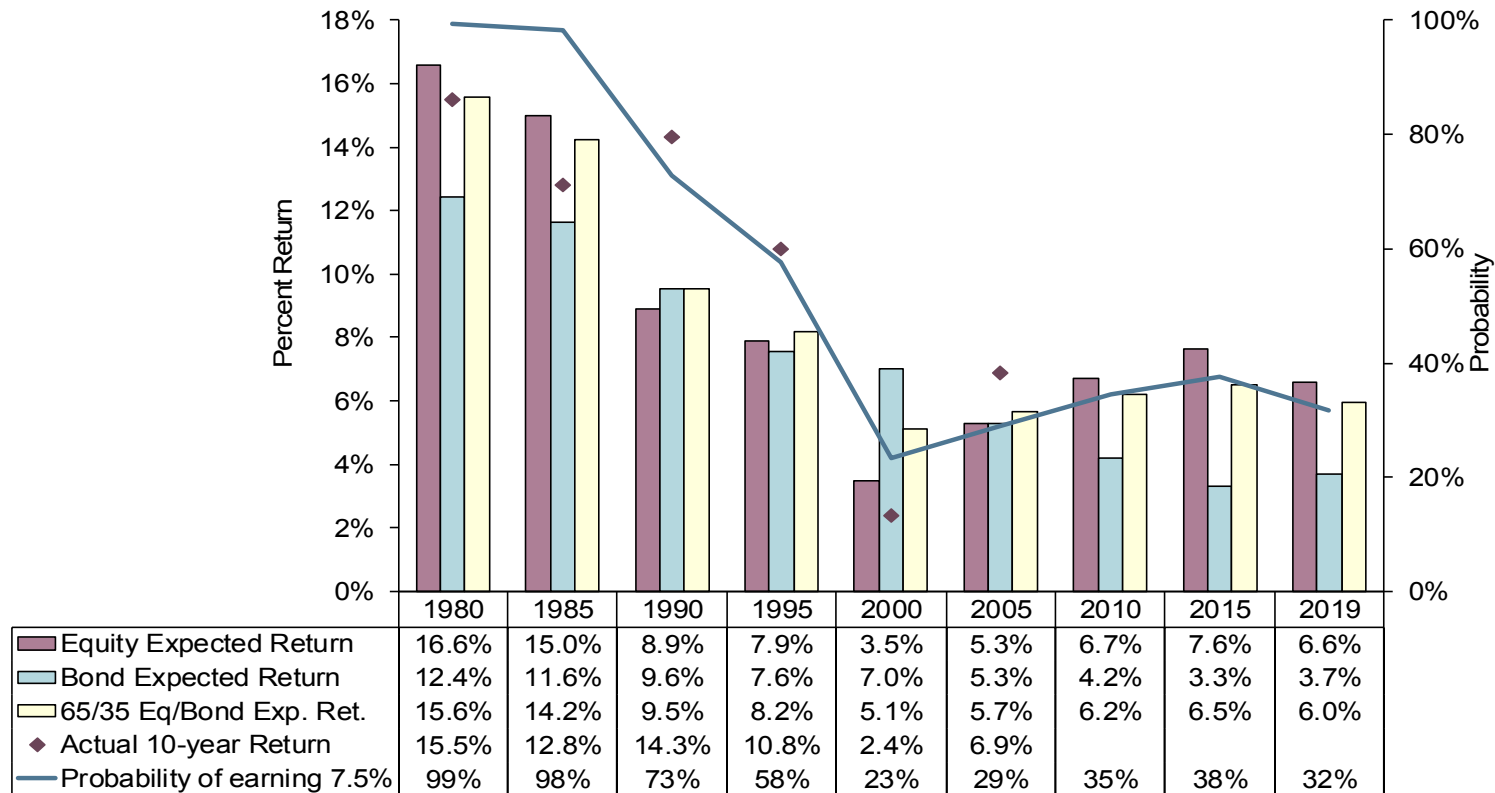
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The Yield Curve Has Shifted Down and Flattened Over Time



Daily Treasury Yield
Curve rates 1990-20

- This video shows the daily changes in the shape of the yield curve over time. Interest rates that investors can earn have decreased significantly, and investors are no longer paid much more for investing in longer-term bonds versus short-term bonds.

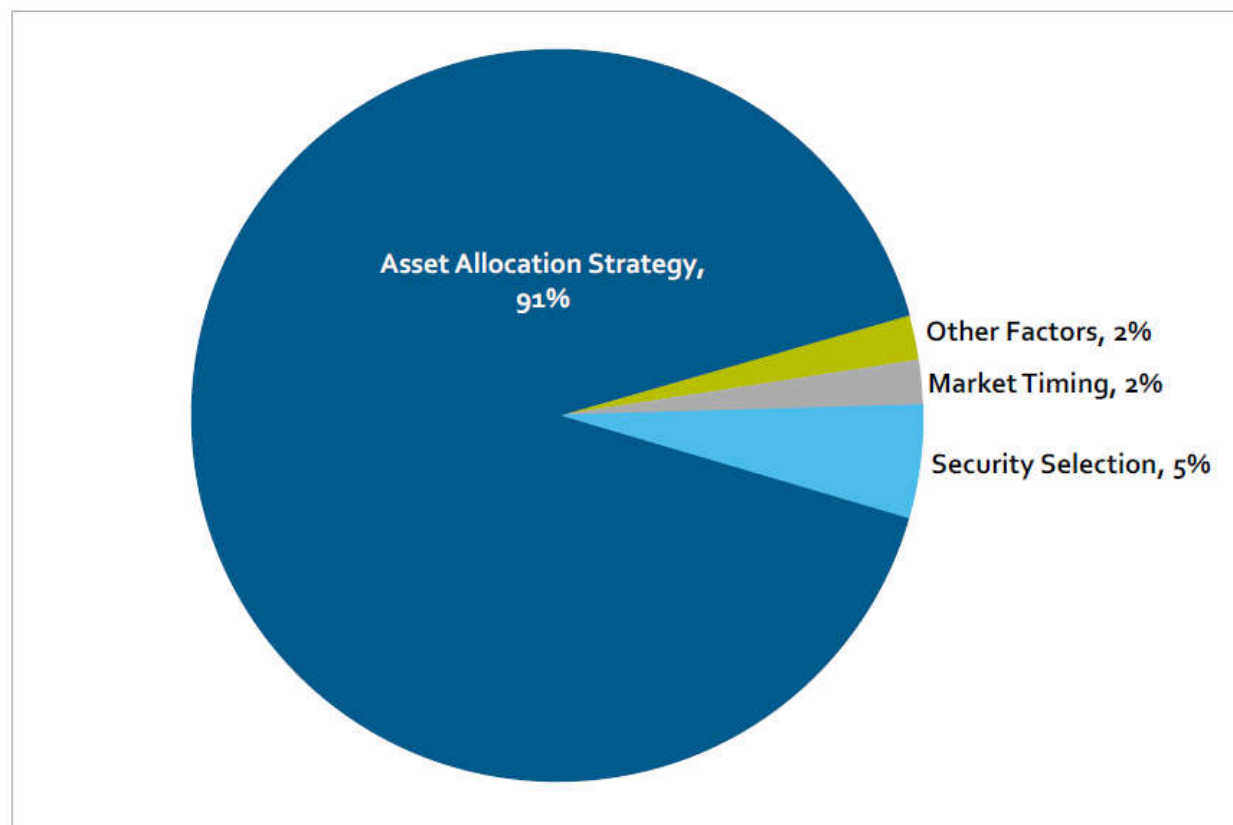
There Has Been a Decline in Available Investment Returns¹

- The chart above illustrates that a portfolio comprising of 65% domestic stocks and 35% investment grade bonds has produced diminishing expected returns, as well as actual returns, over the past 30 years.

¹ Expected return assumptions for 1) Bonds equals the yield of the ten-year Treasury plus 100 basis points, and 2) Equities equals the dividend yield plus the earnings yield of the S&P 500 index (using the inflation-adjusted trailing 10-year earnings). Probability calculation is for the subsequent ten years.

Asset Allocation—The Most Important Determinant of Return

Sources of Return Variation



Source: Roger G. Ibbotson. *Does Asset Allocation Policy Explain 10, 90 or 100 Percent of Performance?* Financial Analyst Journal, January/February 2000; Brinson, Singer and Beebower. *Determination of Performance II: An Update*, Financial Analyst Journal, May/June 1991. Based on US pension-fund data from 1977 to 1987. The asset allocation strategy includes broad market exposure.

Return Expectations for Investment Firms are Lower Than in Past Decades

Expected Return	BlackRock¹ 5 Yr (%)	Goldman Sachs¹ 5yr (%)	Morgan Stanley² 5 Yr (%)	GMO^{1,3} 7 Yr (%)	Verus⁴ 10 Yr (%)	Meketa 10 yr (%)	Meketa 20 Yr (%)
Global Equity	9.6	4.0	7.0	2.9	6.8	7.8	8.6
U.S. Equity	6.9	3.0	5.5	-0.1	5.6	6.3	8.1
Emerging Markets Equity	9.4	4.0	8.3	6.8	8.6	10.5	10.4
Private Equity	12.5	N/A	11.2	N/A	8.8	8.8	10.1
U.S. Fixed Income	3.3	3.0	4.4	2.2	3.3	3.3	3.9
Emerging Markets Debt	4.8	4.0	7.3	4.7	6.8	5.1	5.3
TIPS	3.3	N/A	3.8	2.2	3.0	3.2	3.6
Real Estate	6.1	N/A	8.6	1.1	6.1	6.4	7.0
Hedge Funds	6.2	4.0	6.4	N/A	4.4	4.5	5.4
Commodities	N/A	N/A	3.3	N/A	4.2	5.8	5.0

- The table above compares recently released capital markets assumptions (expected returns per year) from a variety of investment firms. Unsurprisingly, the short-term return expectations for most asset classes tend to be lower than the long-term expectations.

¹ Source: Long Term Expected Returns from Global Multi-Asset Team presentation dated December 2018.

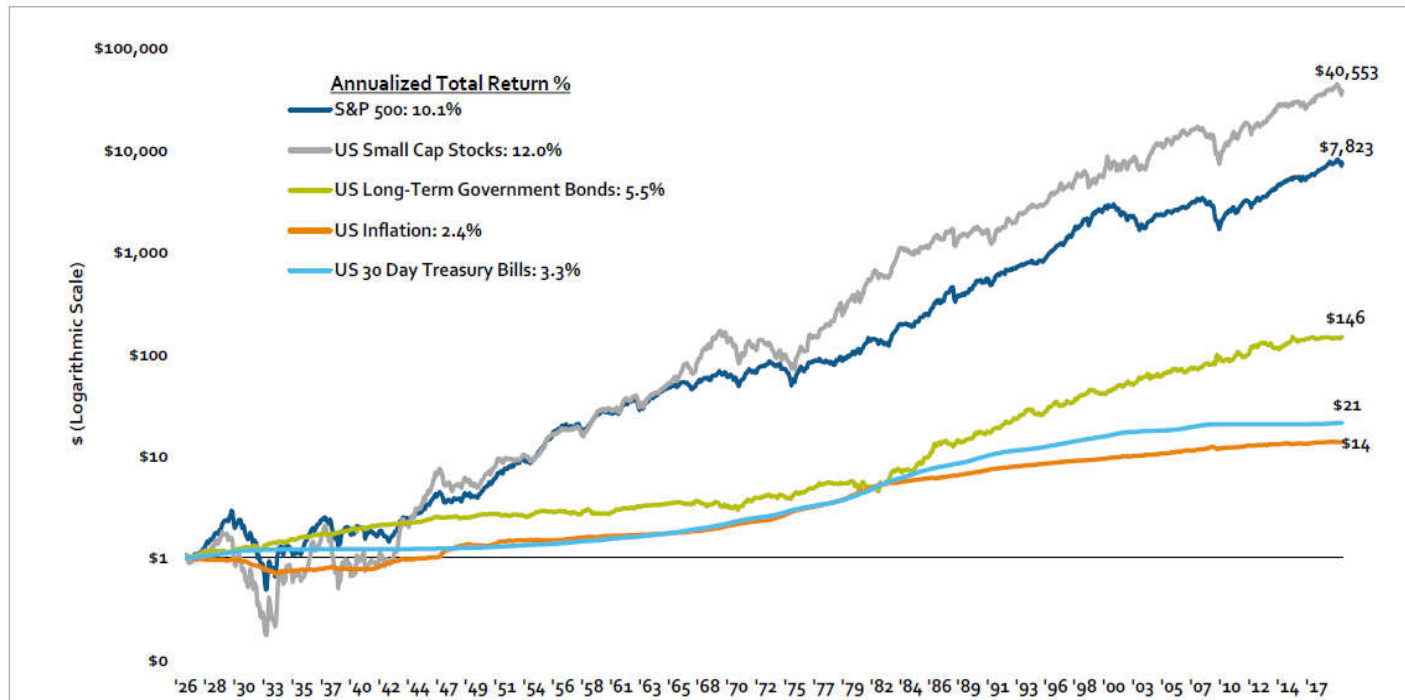
² Source: Capital market assumptions posted for the December 2018 San Jose Joint Investment Committee Meeting.

³ Inflation estimate has been added to real return expectation assumptions.

⁴ Source: Verus' 2019 10-year capital markets assumptions.

Why Not Simply Invest in the S&P 500 Index?

Monthly Cumulative Total Return of \$1 January 31, 1926 – February 28, 2019

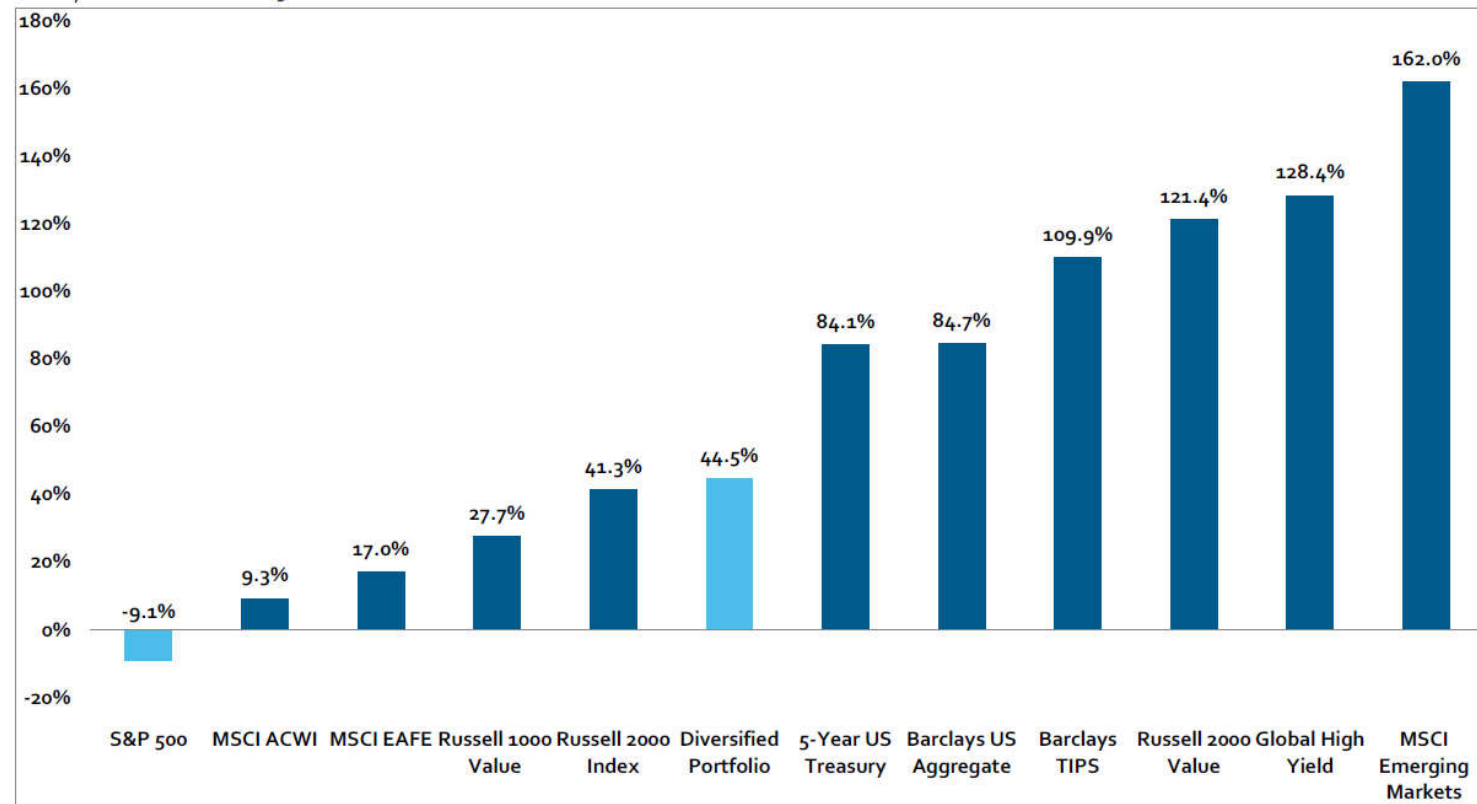


Source: Calculated by Morgan Stanley Wealth Management GIC using data provided by Morningstar. (c) 2019 Morningstar, Inc. All rights reserved. Used with permission. This information contained herein: (i) is proprietary to Morningstar and/or its content providers; (ii) may not be copied or distributed; and (iii) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Aside from the S&P 500, all indices shown above are Ibbotson indices. The hypothetical \$1 investment is for illustrative purposes only. It does not represent the performance of any specific investment. For more information about the risks to hypothetical performance please refer to the Risk Considerations section at the end of this material. Inflation data is reported with a one month lag, so current value is a repeat of last month's value. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

The Lost Decade 2000-2010

Total Returns

January 2000 - December 2009

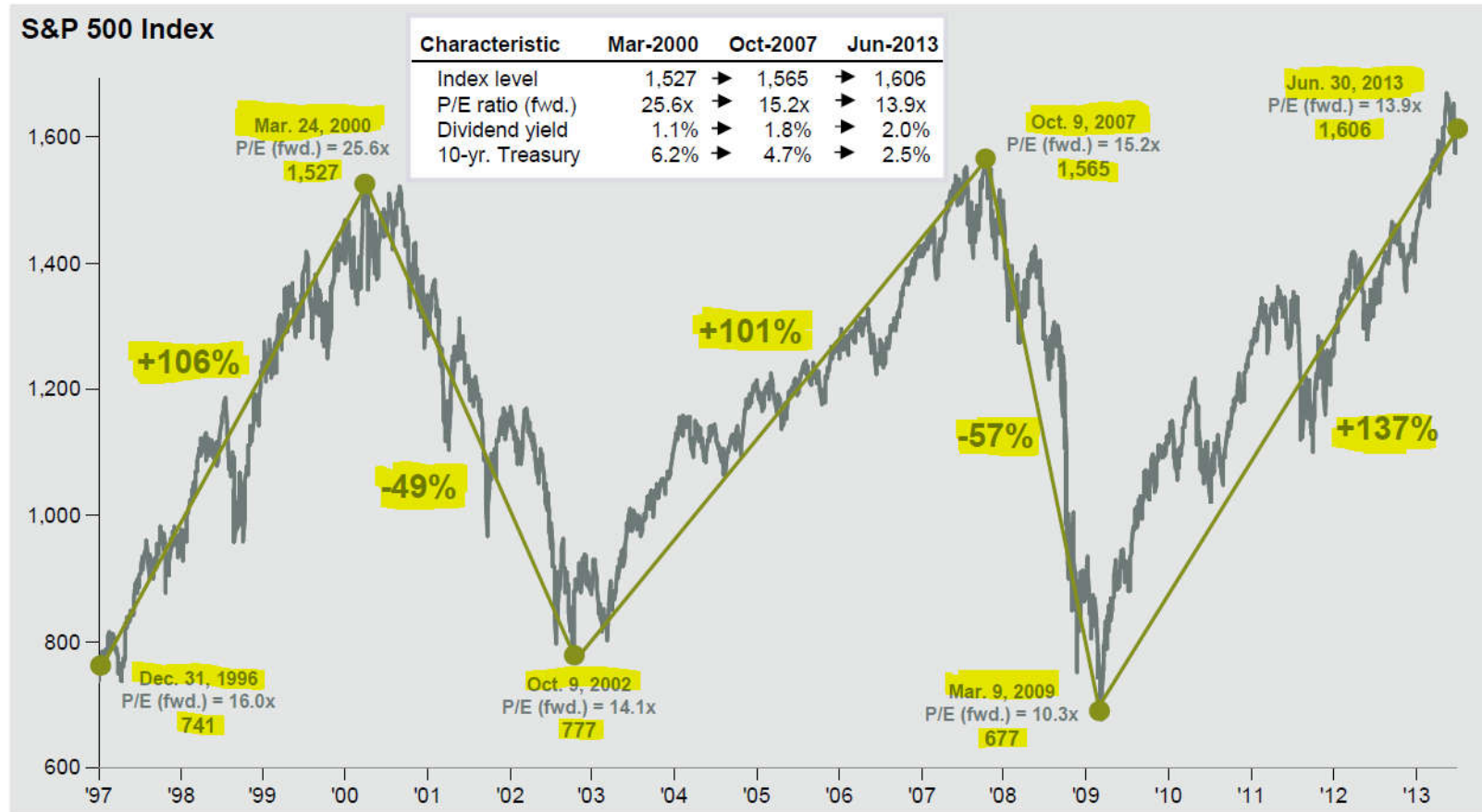


Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC, The Yield Book® Software and Services. © 2018 FTSE Index LLC. All rights reserved. Note: Diversified Portfolio is comprised of 50% MSCI All Country World Index/45% Bloomberg Barclays US Aggregate Bond Index/5% FTSE 3-Month T-Bill Index.

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S&P 500

What Would You Have Done in 2013?



Source: Standard & Poor's, First Call, Compustat, FactSet, J.P. Morgan Asset Management.

Current Asset Allocation vs. Global 60/40 Portfolio

	Fed Policy (%)	P&F Policy (%)	Global 60/40 (%)
Growth	58	56	60
Public Equity	30	31	60
Private Markets	25	22	0
Private Equity	10	8	0
Venture/Growth Capital	5	4	0
Private Debt	4	4	0
Growth Real Estate	3	3	0
Private Real Assets	3	3	0
Emerging Markets Bonds	3	3	0
Zero Beta	32	32	40
Cash	0	0	0
Short-Term Investment-Grade Bonds	20	20	0
Investment Grade Bonds	0	0	40
Market Neutral Strategies	7	7	0
Bonds (Immunized Cash Flows)	5	5	0
Other	10	12	0
Core Real Estate	5	5	0
Sovereign Bonds ex-U.S.	0	3	0
Commodities	3	2	0
TIPS	2	2	0
<i>10-Year Expected Return</i>	<i>7.3</i>	<i>7.0</i>	<i>6.4</i>
<i>20-Year Expected Return</i>	<i>7.8</i>	<i>7.5</i>	<i>7.1</i>
<i>Standard Deviation</i>	<i>11.6</i>	<i>11.0</i>	<i>10.4</i>

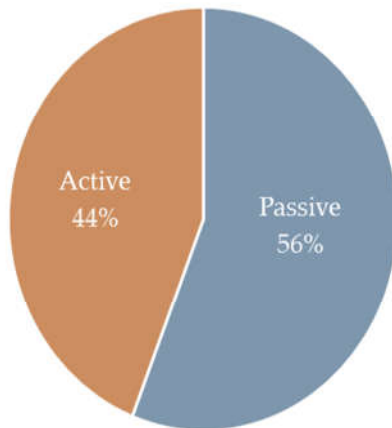
Historical Performance Comparison

- The table below shows a comparison of pension plan universe returns and a 60/40 index blend. The index blend is gross of fees (though passive fees would be quite low).

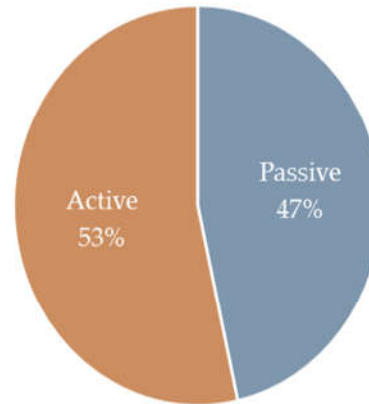
	10 years ending 12/31/18 (%)	10 years ending 6/30/18 (%)	10 years ending 12/31/07 (%)	20 years ending 12/31/18 (%)	1/31/94 - 12/31/18 (%)
San Jose Federated City Employees' Retirement System	6.0	4.1	8.3	5.0	6.4
<i>Federated Policy Benchmark</i>	6.7	5.0	7.7	5.1	6.7
<i>Federated Investable Benchmark Portfolio</i>	6.0	4.1	--	--	--
San Jose Police & Fire Department Retirement Plan	6.8	4.6	9.0	5.4	6.8
<i>Police & Fire Policy Benchmark</i>	7.2	4.9	9.0	5.3	---
<i>Police & Fire Investable Benchmark Portfolio</i>	6.9	4.8	9.0	---	---
DB Plans > \$1 Billion Net Peer Universe	8.2	6.1	7.4	5.4	6.9
<i>Number of Plans</i>	151	120	64	98	34
60% MSCI ACWI/40% BBG Barclays Global Aggregate	5.4	4.1	7.0	4.4	4.4

Active vs. Passive Allocations as of 12/31/2018

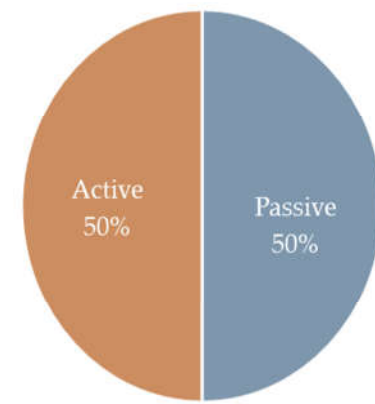
Fed Pension



P&F Pension

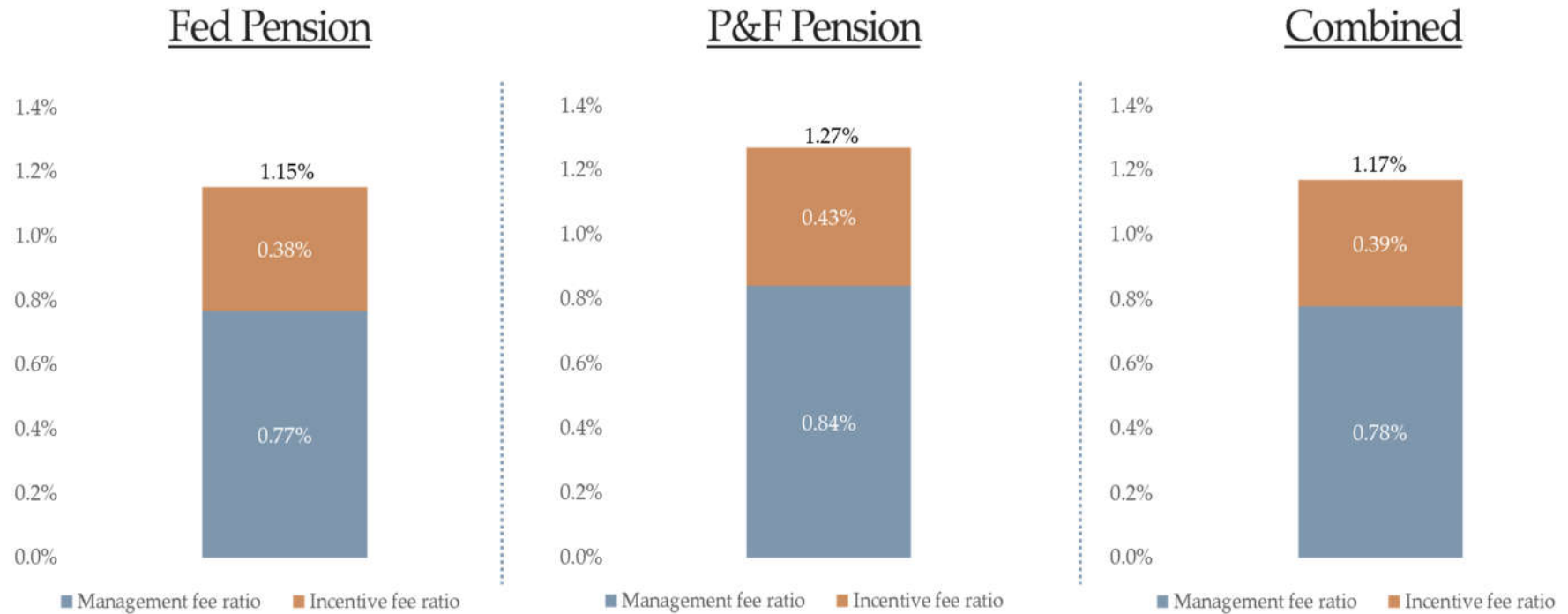


Combined



Source: ORS, State Street
Active includes all non-passive investments (long only active, hedged, private)

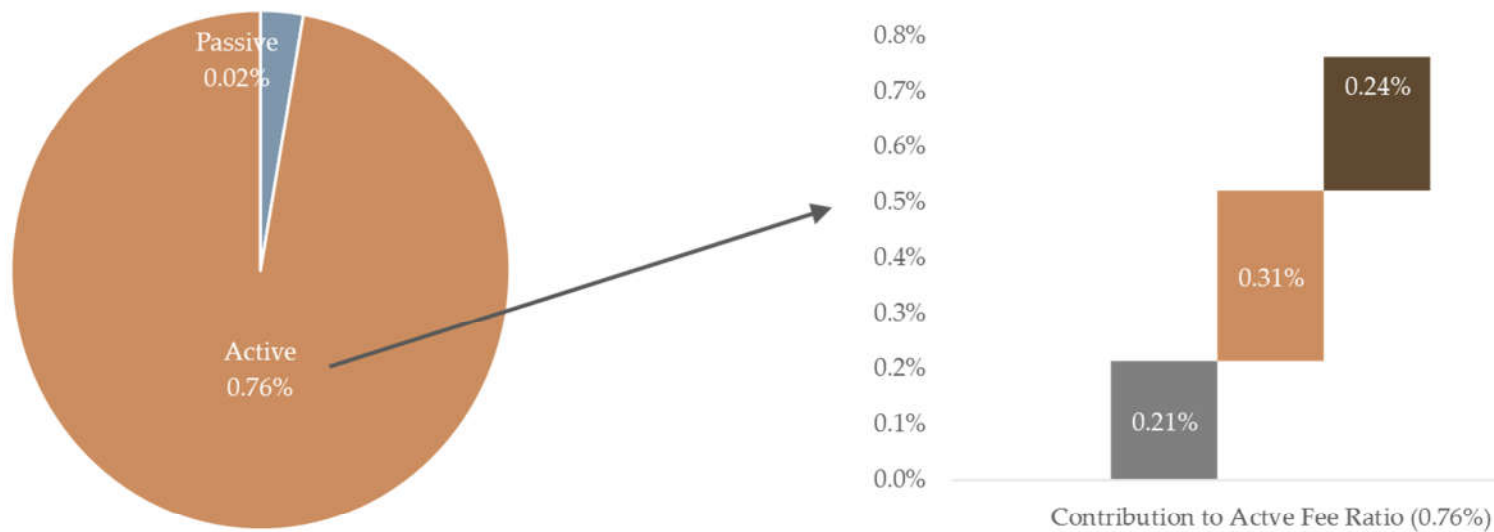
Calendar Year 2017 Management and Incentive Fee Ratios



Source: ORS 2017 Fee Reports
Indirect fund operating expenses not shown (Fed Pension: 0.11%, P&F Pension: 0.14%, Combined: 0.12%)

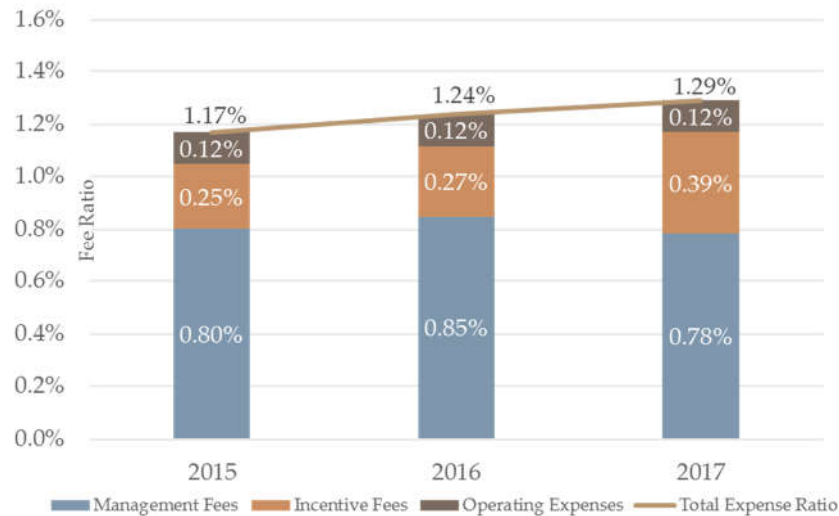
Active vs. Passive Management Fees

Combined



Source: State Street, ORS 2017 Fee Reports
Active includes all non-passive investments (long only active, hedged, private)
Charts only represent fund management fees, not incentive or fund operating expenses

Total Expense Ratio (Comprehensive)



-2.0% (2015) 6.4% (2016) 11.6% (2017)

ORS Annual Fee Reports (Comprehensive)

Calendar year basis

All 4 ORS plans aggregated
(includes Fed and Police & Fire pension and health care trusts)

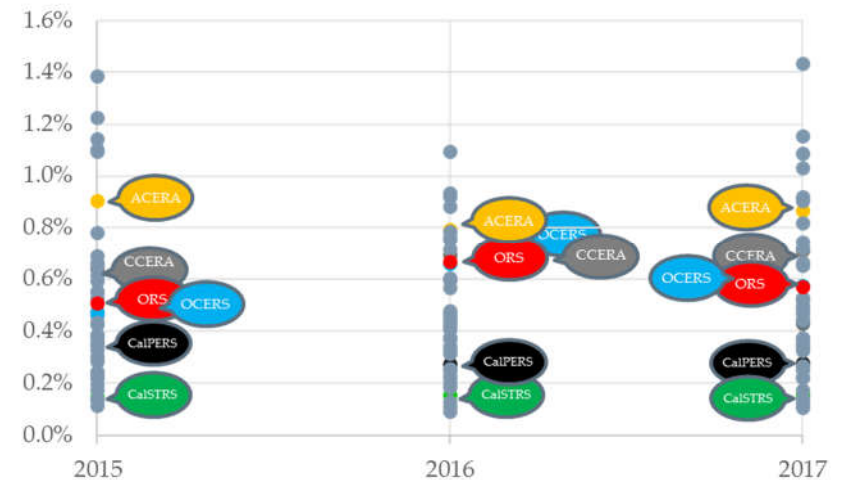
San Jose
Plan Return

Source

Time Periods

Data points

Peer Comparison (CAFR's)



-1.0% (2015)

-0.7% (2016)

7.9% (2017)

Public Plans Database (from CAFRs)

Fiscal year basis

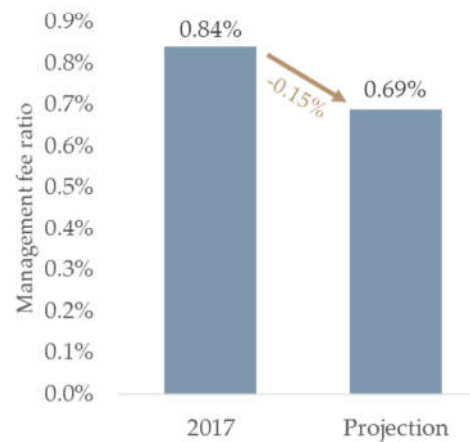
All 4 ORS plans aggregated
43 diversified U.S. Public Plans \$3-10 B & CA Public Plans

Projected Management Fees

Fed Pension



P&F Pension



Combined



Source: ORS, State Street

* Projections are based on many assumptions with a wide margin of error. Actual fund management fees will vary as the composition of underlying funds and fund types changes over time
 Projections calculated by multiplying the calendar year 2017 fee ratios for each fund type within an asset class by actual December 31, 2018 allocations
 Charts only represent fund management fees, not incentive or fund operating expenses

Three Types of Private Investments

Private Equity



Equity investments in
privately held
companies

Private Credit



Privately held loans to
both public and private
companies

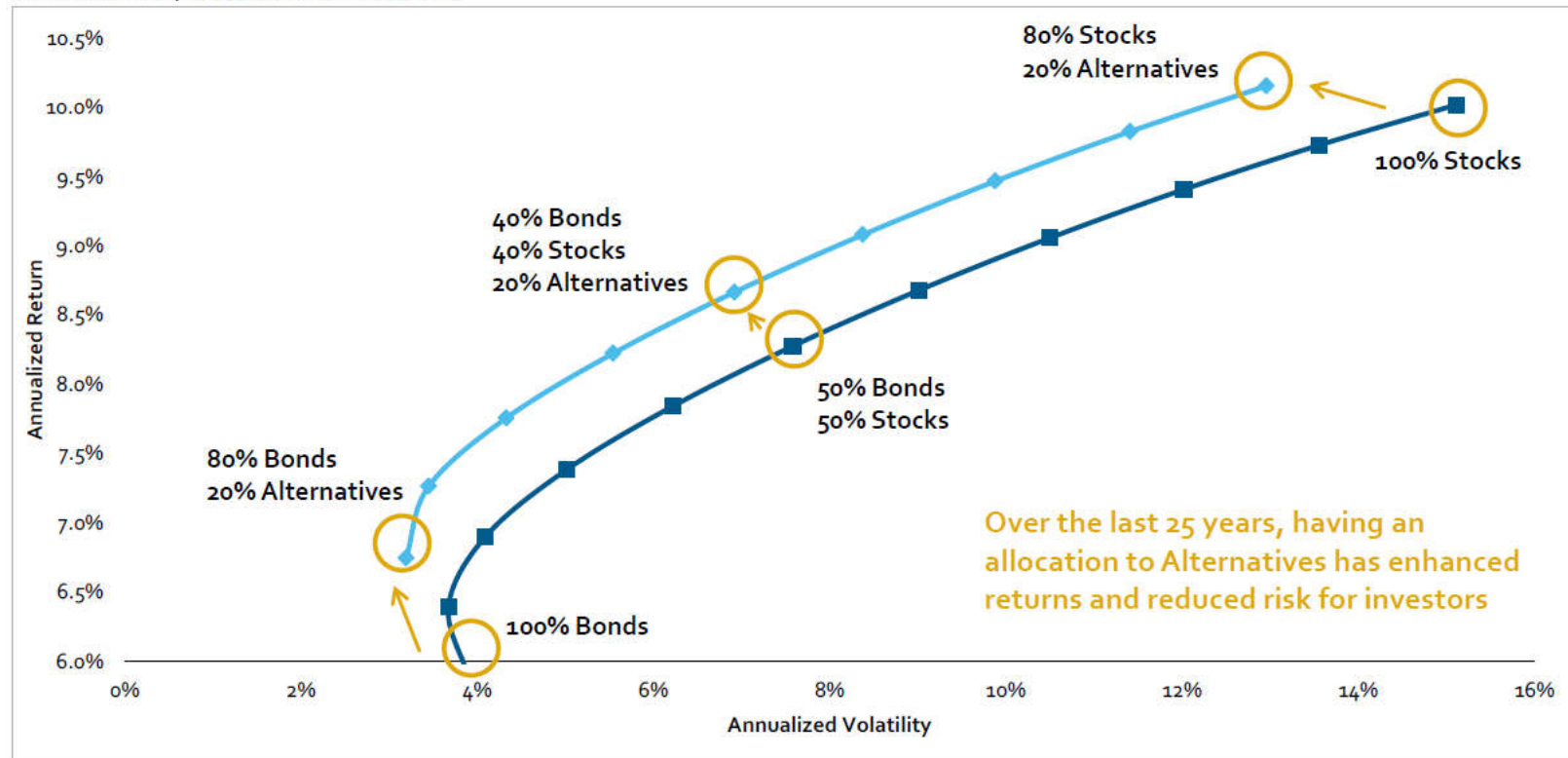
Private Real Estate



Equity investments and
loans to privately held
real estate

Alternatives and the Risk – Return Trade-Off

Data as of January 1, 1990 to December 31, 2018

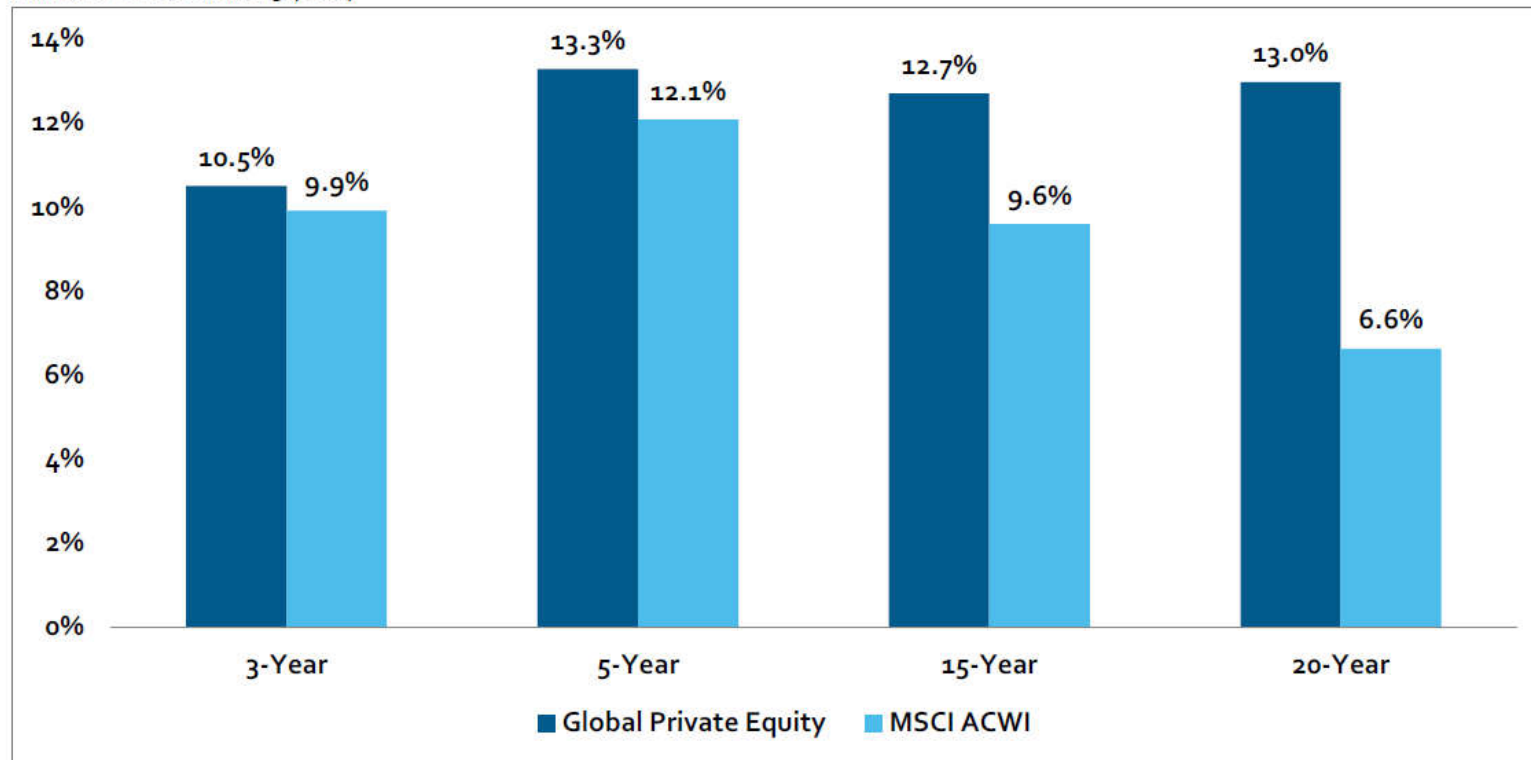


Source: Bloomberg, Morgan Stanley Wealth Management GIC, Thomson ONE. Private equity index data sourced from Thomson ONE's Cambridge Associates benchmarking database and is represented by Buyout, Distressed, Growth Equity, Mezzanine, Private Equity Energy, Upstream Energy & Royalties and Venture Capital. Private Equity data subject to 5-month lag; therefore, all asset classes are depicted as of 2Q 2018 for consistency. Private equity returns are net to limited partners. Stocks are represented by the S&P 500 Total Return Index. Bonds are represented by Barclays US Aggregate. Alternatives Investment are composed of 16.6% Equity Hedge (HFRI Equity Hedge Index), 16.6% Equity Neutral (HFRI Equity Market Neutral Index), 33% Private Equity, and 33% Real Estate (National Council of Real Estate Investment Fiduciaries Property Index –NCREIF). Alternatives investments are not suitable for all investors.

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The Illiquidity Premium

Global Private vs. Public Equity
Annual as of December 31, 2017



Source: Thomson ONE, Bloomberg

Alternatives Have Added Value Relative to Global Public Equity

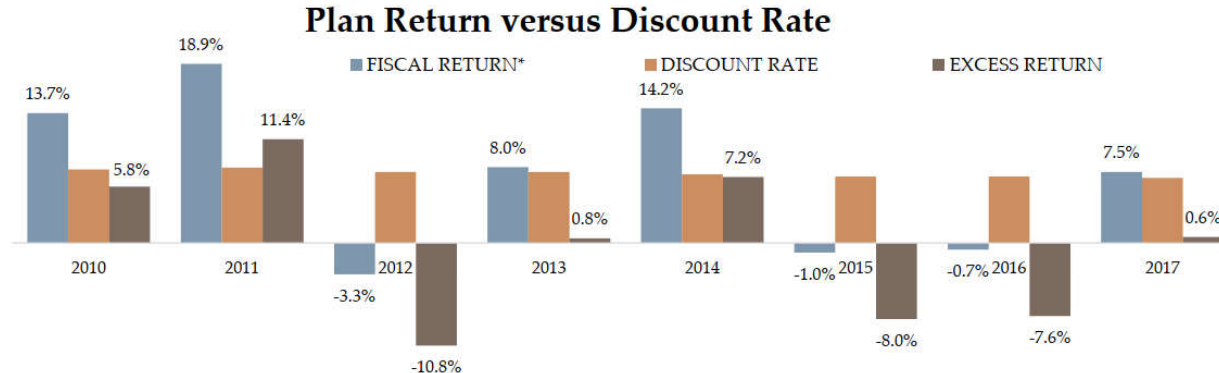
Actual Performance as of December 31, 2018	1 year (%)	3 years (%)	5 years (%)	10 years (%)
San Jose Police & Fire Department Retirement Plan Private Equity ex Russell 3000 (net of fees)	15.0	16.3	11.8	10.2
San Jose Police & Fire Department Retirement Plan Private Real Estate (net of fees)	11.4	10.9	NA	NA
San Jose Police & Fire Department Retirement Plan Private Real Assets (net of fees)	4.4	NA	NA	NA
San Jose Police & Fire Department Retirement Plan Absolute Return Hedge Funds (net of fees)	2.8	2.2	2.2	NA
<i>Global Public Equity Index (MSCI ACWI IMI)</i>	-8.6	7.1	4.5	
San Jose Federated City Employees' Retirement System Private Equity (net of fees)	12.7	11.0	11.5	9.2
San Jose Federated City Employees' Retirement System Private Real Estate (net of fees)	19.6	19.6	NA	NA
San Jose Federated City Employees' Retirement System Private Real Assets (net of fees)	11.6	16.6	NA	NA
San Jose Federated City Employees' Retirement System Absolute Return Hedge Funds (net of fees)	2.4	2.2	2.6	NA
<i>Global Public Equity Index (MSCI ACWI IMI)</i>	-8.6	7.1	4.5	

Appendix

Federated Discount Rate History

<u>YEARS</u>	<u>FISCAL YEAR</u>	<u>10 YEAR US TREASURY RATE</u>	<u>DISCOUNT RATE</u>	<u>FISCAL YEAR RETURN*</u>	<u>EXCESS PERFORMANCE TO DISCOUNT RATE</u>
	1997	6.51%	8.25%		
1	2010	2.97%	7.95%	13.7%	5.8%
2	2011	3.18%	7.50%	18.9%	11.4%
3	2012	1.67%	7.50%	-3.3%	-10.8%
4	2013	2.52%	7.25%	8.0%	0.8%
5	2014	2.53%	7.00%	14.2%	7.2%
6	2015	2.35%	7.00%	-1.0%	-8.0%
7	2016	1.49%	6.875%	-0.7%	-7.6%
8	2017	2.31%	6.875%	7.5%	0.6%

* Fiscal Year Ends 6/30. Returns are net of fund management fees.



Source: ORS, Meketa

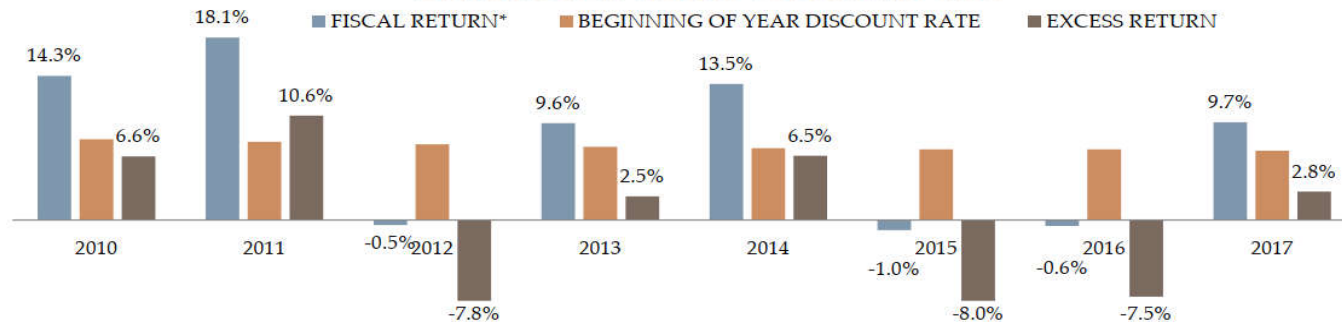
- In 5 of the last 8 years, Federated System returns have been above the discount rate. Financial optimizers typically project a 50% probability of meeting the expected returns each year, so we would expect that half of the time, investments will outperform the expected return, and half the time, investments will lag the projected return.

Police & Fire Discount Rate History

<u>YEARS</u>	<u>FISCAL YEAR</u>	<u>10 YEAR US TREASURY RATE</u>	<u>DISCOUNT RATE</u>	<u>FISCAL YEAR RETURN*</u>	<u>EXCESS PERFORMANCE TO DISCOUNT RATE</u>
	1997	6.51%	8.00%		
1	2010	2.97%	7.75%	14.3%	6.6%
2	2011	3.18%	7.50%	18.1%	10.6%
3	2012	1.67%	7.25%	-0.5%	-7.8%
4	2013	2.52%	7.125%	9.6%	2.5%
5	2014	2.53%	7.00%	13.5%	6.5%
6	2015	2.35%	7.00%	-1.0%	-8.0%
7	2016	1.49%	6.875%	-0.6%	-7.5%
8	2017	2.31%	6.875%	9.7%	2.8%

* Fiscal Year Ends 6/30. Returns are net of fund management fees.

Plan Return versus Discount Rate



Source: ORS, Meketa

- In 5 of the last 8 years, Police & Fire Plan returns have been above the discount rate. Financial optimizers typically project a 50% probability of meeting the expected returns each year, so we would expect that half of the time, investments will outperform the expected return, and half the time, investments will lag the projected return.

What Are Alternatives?



Cash Drag on Plan Performance

- The Federated System's allocation to cash from mid-2015 through the end of 2018 represented a drag of approximately \$5.6 million versus if the cash had been invested in the total portfolio. This dollar amount represents approximately 0.28% of total System assets.
- The Police & Fire Plan's allocation to cash over a similar time period represented a drag of approximately \$20.9 million versus if the cash had been invested in the total portfolio. This dollar amount represents approximately 0.7% of total Plan assets.
- Cash has served to reduce the volatility of investment returns, and was particularly protective during the fourth quarter of 2018.