



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

Public Safety, Finance and Strategic Support Committee (PSFSS) Meeting
December 12, 2019

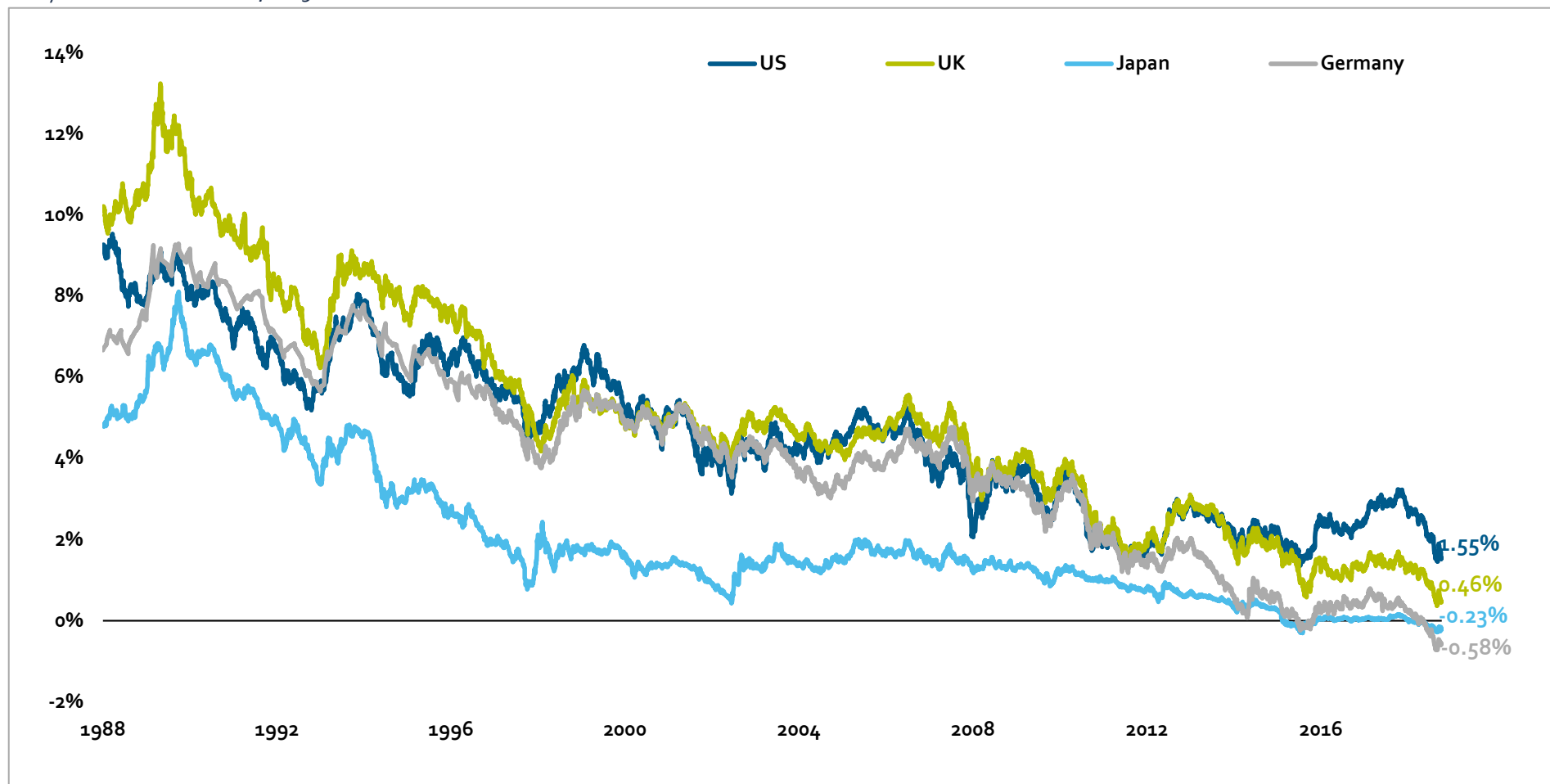
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Global Sovereign Rates

10-Year Sovereign Bond Yields

Daily Data as of October 08, 2019



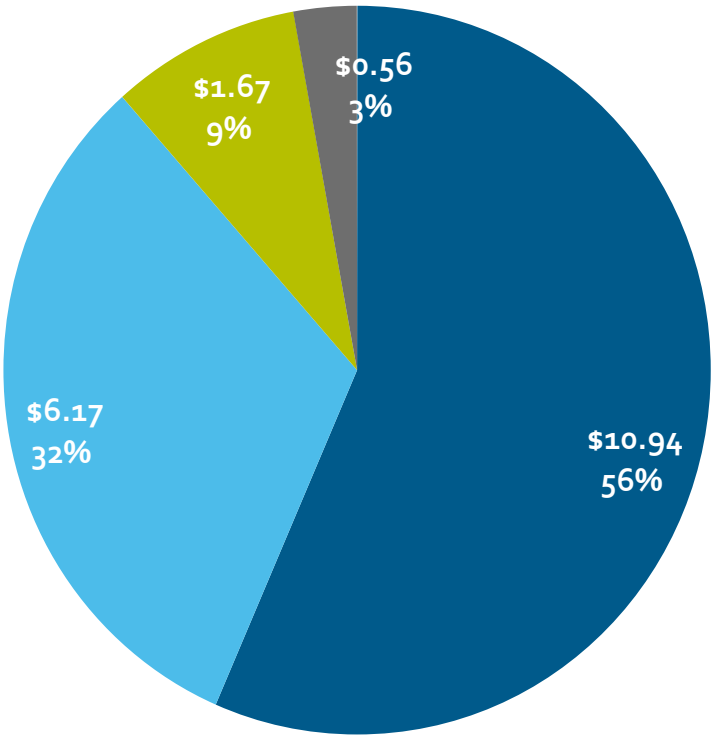
Source: FactSet, Morgan Stanley Wealth Management GIC

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.

Global Treasury Yields

% of Sovereigns Trading at Negative Yields¹ (Showing Trillions of USD)

Data as of October 08, 2019



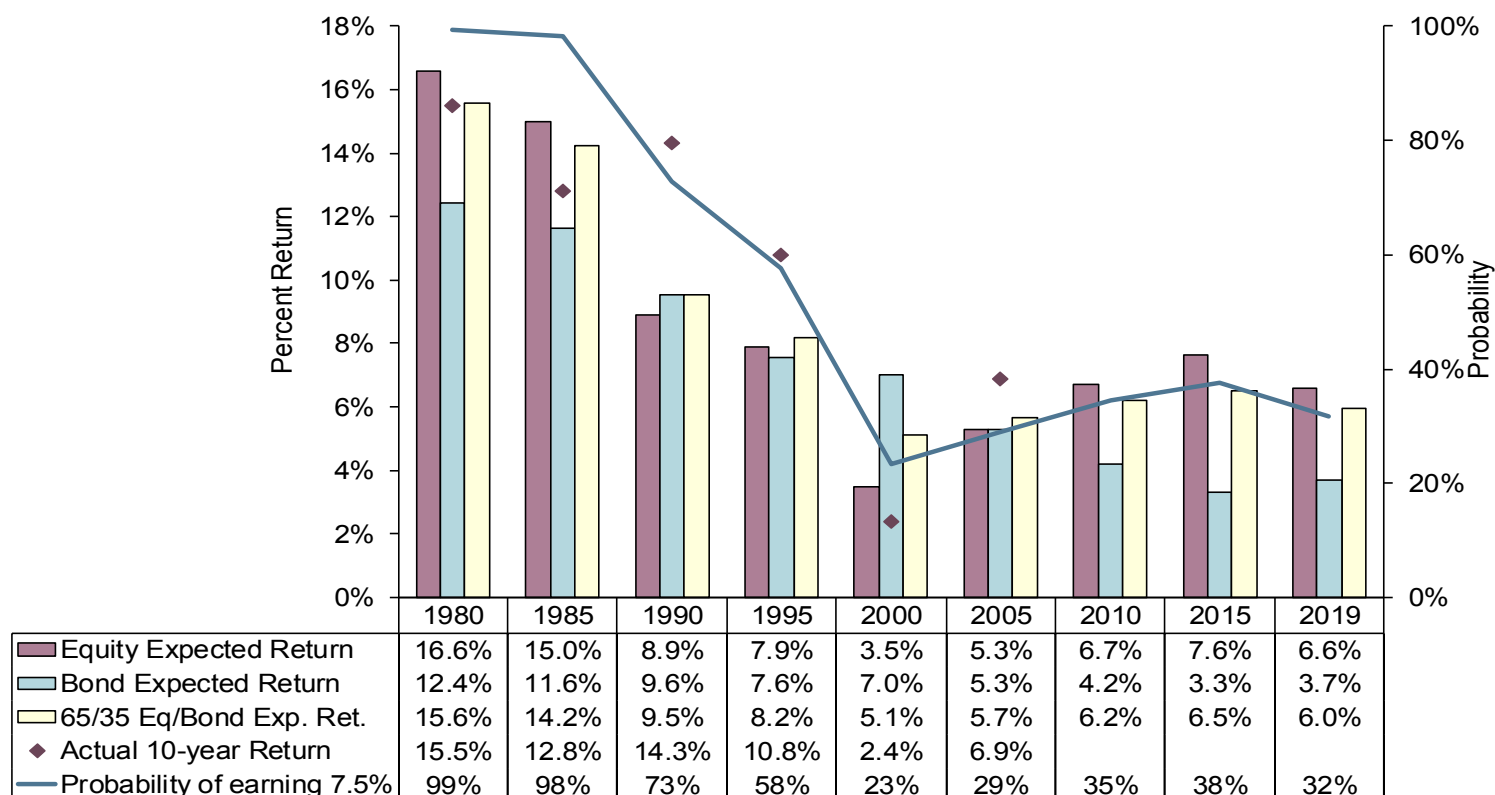
■ Yields Less Than 0% ■ 0% to 1% ■ 1% to 2% ■ 2% Plus

Source: Bloomberg, Morgan Stanley Wealth Management GIC. (1) Percentage of Sovereigns trading at negative yields uses Bloomberg Global Treasury ex US Index as a proxy for the global developed bond market.

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There Has Been a Decline in Available Investment Returns¹

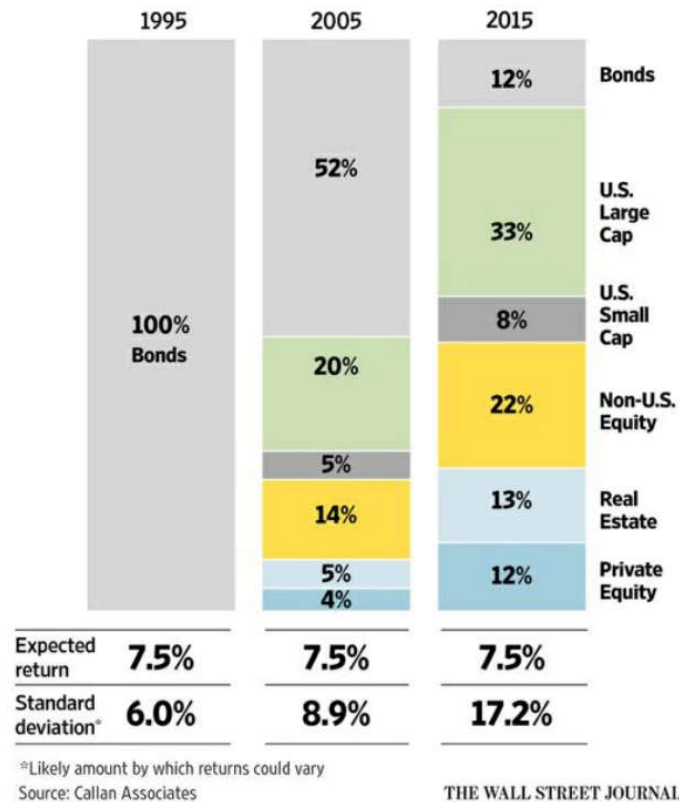


- The chart above illustrates that a portfolio comprising of 65% domestic stocks and 35% investment grade bonds has produced diminishing expected returns, as well as actual returns, over the past 30 years.

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.

Investors Must Now Take More Risk to Achieve the Same Return as in the Past

Estimates of what was needed to earn 7.5% over time



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.

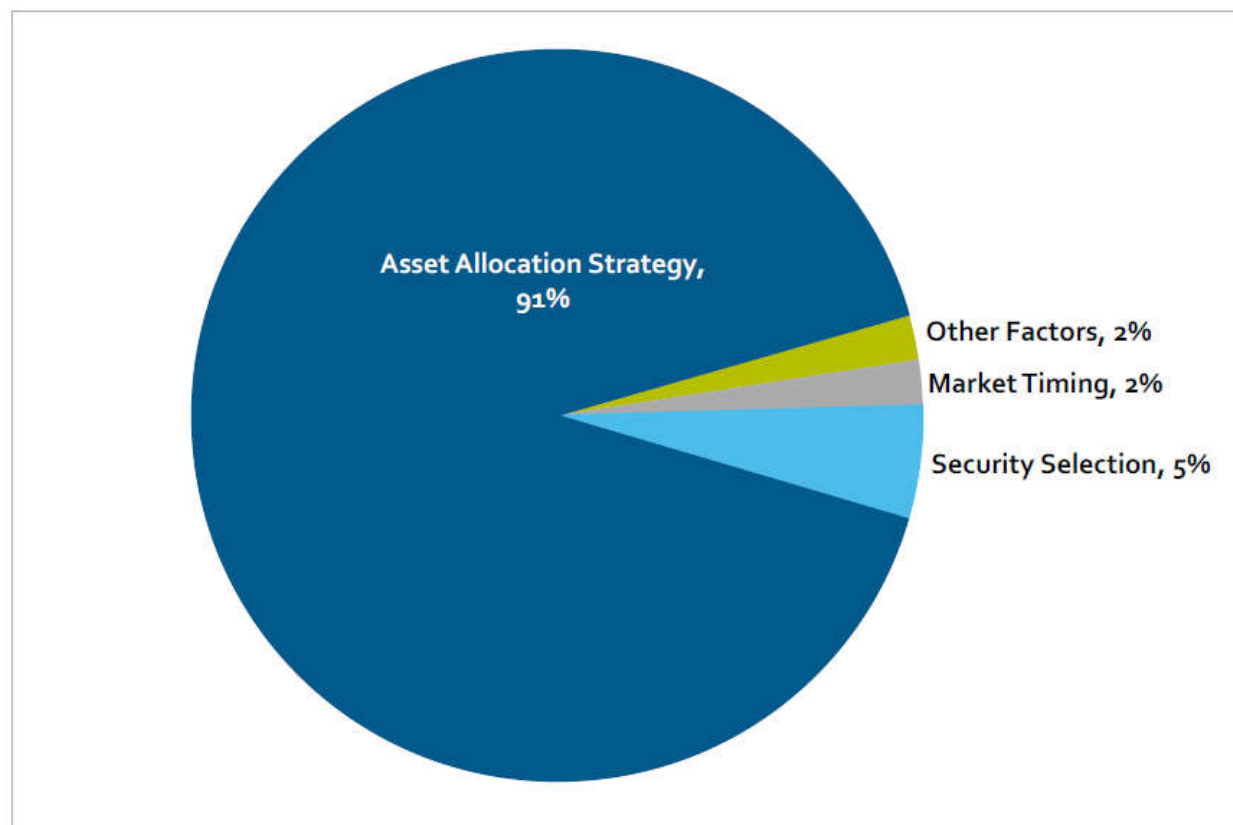
² Source: Capital market assumptions posted for the December 2018 San Jose Joint Investment Committee Meeting.

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

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

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.

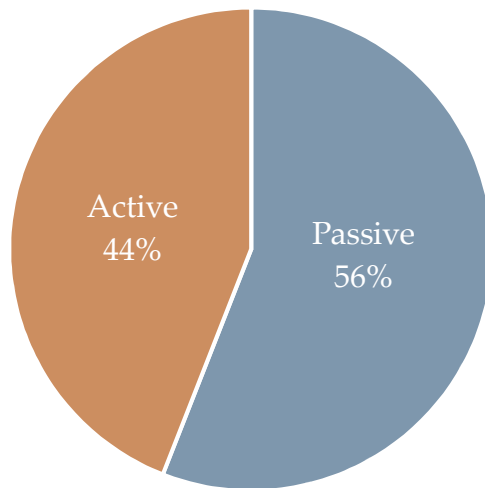
Current Asset Allocation vs. Global 60/40 Portfolio

	Fed Policy ¹ (%)	P&F Policy (%)	Global 60/40 (%)
Growth	61	64	60
Public Equity	35	39	60
Private Markets	23	22	0
Private Equity	8	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	27	24	0
Immunized Cash Flows	5	5	0
Short-Term Investment-Grade Bonds	15	14	0
Hedge Funds	7	5	0
Other	12	12	40
Core Real Estate	5	5	0
Sovereign Bonds ex-U.S.	0	3	0
Commodities	2	2	0
TIPS	2	2	0
Investment Grade Bonds	3	0	40
<i>10-Year Expected Return</i>	<i>7.5</i>	<i>7.5</i>	<i>6.4</i>
<i>20-Year Expected Return</i>	<i>8.0</i>	<i>8.0</i>	<i>7.1</i>
<i>Standard Deviation</i>	<i>12.0</i>	<i>12.5</i>	<i>10.4</i>

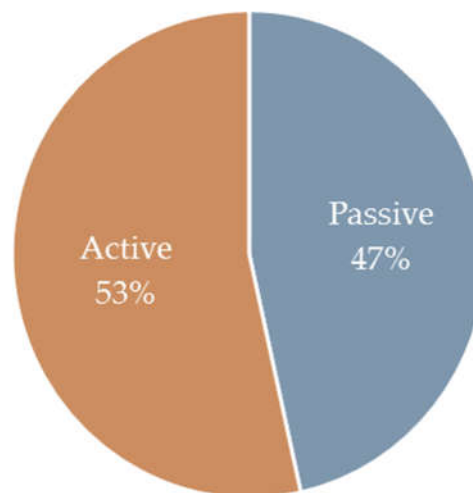
¹ Fed Policy asset allocation approved at October 17, 2019 Board Meeting.

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

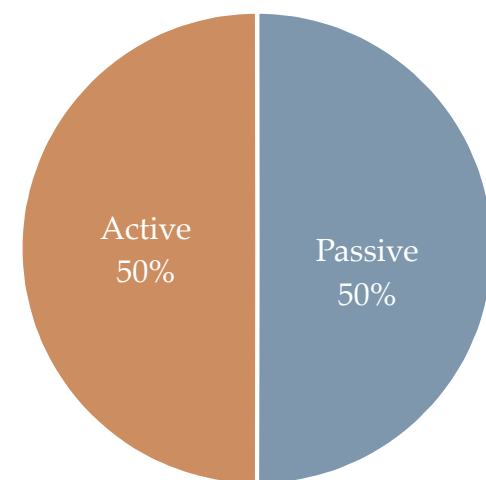
Fed Pension



P&F Pension



Combined



San Jose Federated City Employees' Retirement System

Total Fund Aggregate

As of September 30, 2019

Asset Class Net Performance Summary

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund Aggregate	2,129,249,945	100.0	0.1	0.1	9.0	3.0	5.1	3.5	5.4	6.5	Jan-94
<i>Policy Benchmark</i>			<i>0.2</i>	<i>0.2</i>	<i>8.6</i>	<i>2.6</i>	<i>5.7</i>	<i>4.0</i>	<i>6.1</i>	<i>6.8</i>	<i>Jan-94</i>
<i>Investable Benchmark Portfolio</i>			<i>0.2</i>	<i>0.2</i>	<i>8.5</i>	<i>2.5</i>	<i>5.0</i>	<i>3.3</i>	<i>5.2</i>	<i>--</i>	<i>Jan-94</i>

City of San Jose Police and Fire Department Retirement Plan

Total Fund Aggregate

As of September 30, 2019

Asset Class Net Performance Summary

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	3,647,566,683	100.0	0.4	0.4	8.7	3.4	6.0	4.3	6.1	8.3	Mar-71
<i>Policy Benchmark</i>			<i>0.4</i>	<i>0.4</i>	<i>8.0</i>	<i>3.1</i>	<i>6.3</i>	<i>4.8</i>	<i>6.7</i>	<i>--</i>	<i>Mar-71</i>
<i>Investable Benchmark Portfolio</i>			<i>0.3</i>	<i>0.3</i>	<i>8.3</i>	<i>3.0</i>	<i>5.8</i>	<i>4.3</i>	<i>6.2</i>	<i>--</i>	<i>Mar-71</i>

Appendix

Alternatives Have Added Value Relative to Global Public Equity

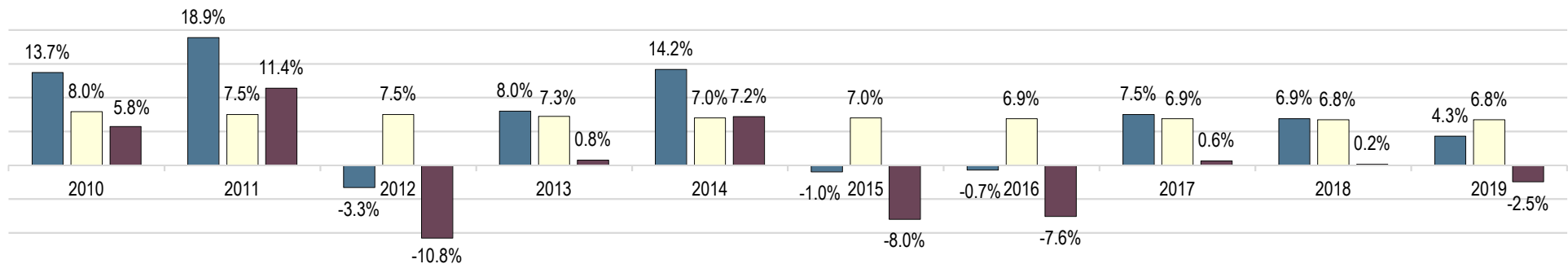
Actual Performance as of June 30, 2019	1 year (%)	3 years (%)	5 years (%)	10 years (%)
San Jose Police & Fire Department Retirement Plan Private Equity ex Russell 3000 (net of fees)	14.1	12.8	10.4	11.6
San Jose Police & Fire Department Retirement Plan Private Real Estate (net of fees)	8.8	10.5	NA	NA
San Jose Police & Fire Department Retirement Plan Private Real Assets (net of fees)	7.8	5.7	NA	NA
San Jose Police & Fire Department Retirement Plan Absolute Return Hedge Funds (net of fees)	7.1	4.2	3.0	NA
<i>Global Public Equity Index (MSCI ACWI IMI Net)</i>	<i>4.6</i>	<i>11.4</i>	<i>6.0</i>	
San Jose Federated City Employees' Retirement System Private Equity ex Russell 3000 (net of fees)	15.0	11.4	9.9	11.8
San Jose Federated City Employees' Retirement System Private Real Estate (net of fees)	15.6	17.5	NA	NA
San Jose Federated City Employees' Retirement System Private Real Assets (net of fees)	12.3	10.8	NA	NA
San Jose Federated City Employees' Retirement System Absolute Return Hedge Funds (net of fees)	7.7	4.6	3.7	NA
<i>Global Public Equity Index (MSCI ACWI IMI Net)</i>	<i>4.6</i>	<i>11.4</i>	<i>6.0</i>	

Federated Discount Rate History

Years	Fiscal Year	10 Year US Treasury Rate (%)	Discount Rate (%)	Fiscal Year Return ¹ (%)	Excess Performance to Discount Rate (%)
	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
9	2018	2.85	6.75	5.9	-0.9
10	2019	2.00	6.75	4.3	-2.5

Plan Return versus Discount Rate

■ Fiscal Return ■ Discount Rate ■ Excess Return



Source: ORS, Meketa.

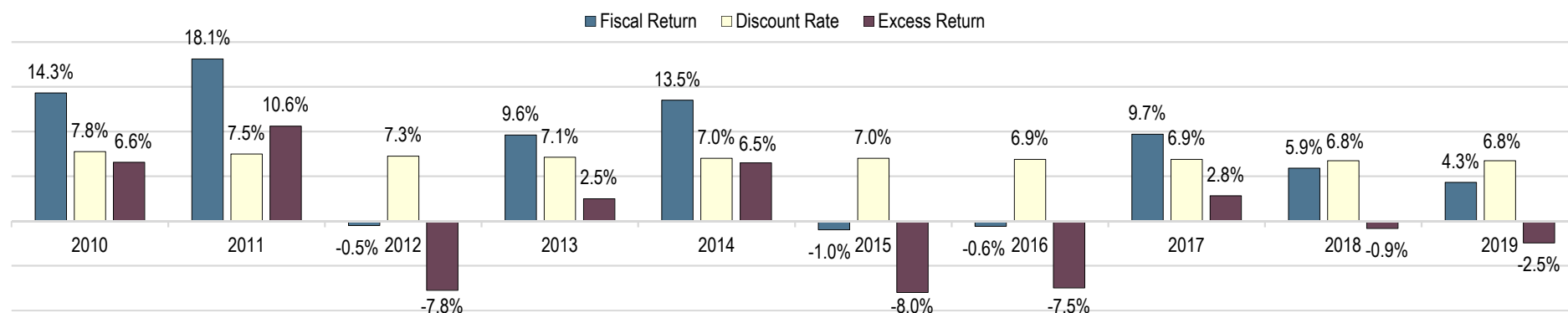
- In 5 of the last 10 years, Federated System returns have been above the discount rate. Financial optimizers typically project a 50% probability of meeting the expected returns each year, so we would expect that half of the time, investments will outperform the expected return, and half the time, investments will lag the projected return.

¹ Fiscal Year Ends 6/30. Returns are net of fund management fees.

Police & Fire Discount Rate History

Years	Fiscal Year	10 Year US Treasury Rate (%)	Discount Rate (%)	Fiscal Year Return ¹ (%)	Excess Performance to Discount Rate (%)
	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
9	2018	2.85	6.75	6.9	0.2
10	2019	2.00	6.75	4.3	-2.5

Plan Return versus Discount Rate



Source: ORS, Meketa.

- In 6 of the last 10 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.

¹ Fiscal Year Ends 6/30. Returns are net of fund management fees.