

# California State Teachers' Retirement System

2Q 2022

Semi-Annual Report:  
Executive Summary



## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

# Introduction



## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Introduction

The CalSTRS Total Portfolio had an aggregate value of \$301.6 billion as of June 30, 2022. During the latest six month period, the Total Portfolio decreased by \$26.0 billion (net of fees and contributions/benefits). Over the latest 1-year period, the Total Portfolio decreased by \$7.0 billion (net of fees and contributions/benefits).

#### Asset Allocation Trends

During the latest 6-month period, the **Public Equity** allocation decreased by (9%), **Real Estate** allocation increased by 3%, **Private Equity** allocation increased by 2%, **Fixed Income, Inflation Sensitive, and Risk Mitigating Strategies** allocations all increased by 1%. The allocations to **Innovative Strategies, Strategic Overlay, and Cash** remained unchanged.

During the latest 12-month period, **Private Equity and Real Estate** allocations increased by 4%, **Fixed Income, Inflation Sensitive, and Risk Mitigating Strategies** allocations increased by 1%, **Cash** allocation decreased by (1%), **Public Equity** allocation decreased by (12%), and the allocations to **Innovative Strategies and Strategic Overlay** remained unchanged.

#### Trailing Period Investment Performance (Net-of-Manager Fees)

	Performance vs. Policy Benchmark <sup>1</sup>			
	10 Year (%)	5 Year (%)	3 Year (%)	1 Year (%)
Total Portfolio	9.4	8.7	9.3	-1.3
Policy Benchmark	9.1	8.0	8.2	-2.2
Excess Return	↑0.3	↑0.8	↑1.0	↑0.9

	Performance vs. Median Fund <sup>2</sup>			
	10 Year (%)	5 Year (%)	3 Year (%)	1 Year (%)
Total Portfolio	9.4	8.7	9.3	-1.3
St. Street Median (>\$10B)	8.4	7.9	8.2	-2.9
Excess Return (St. Street)	↑1.0	↑0.8	↑1.1	↑1.6

<sup>1</sup> The Total Portfolio benchmark consists of passively managed strategic class portfolios held at policy weightings.

<sup>2</sup> State Street Universe – Public Funds > \$10 billion. Mixture of net and gross-of-fees.



## Capital Markets Outlook and Risk Metrics

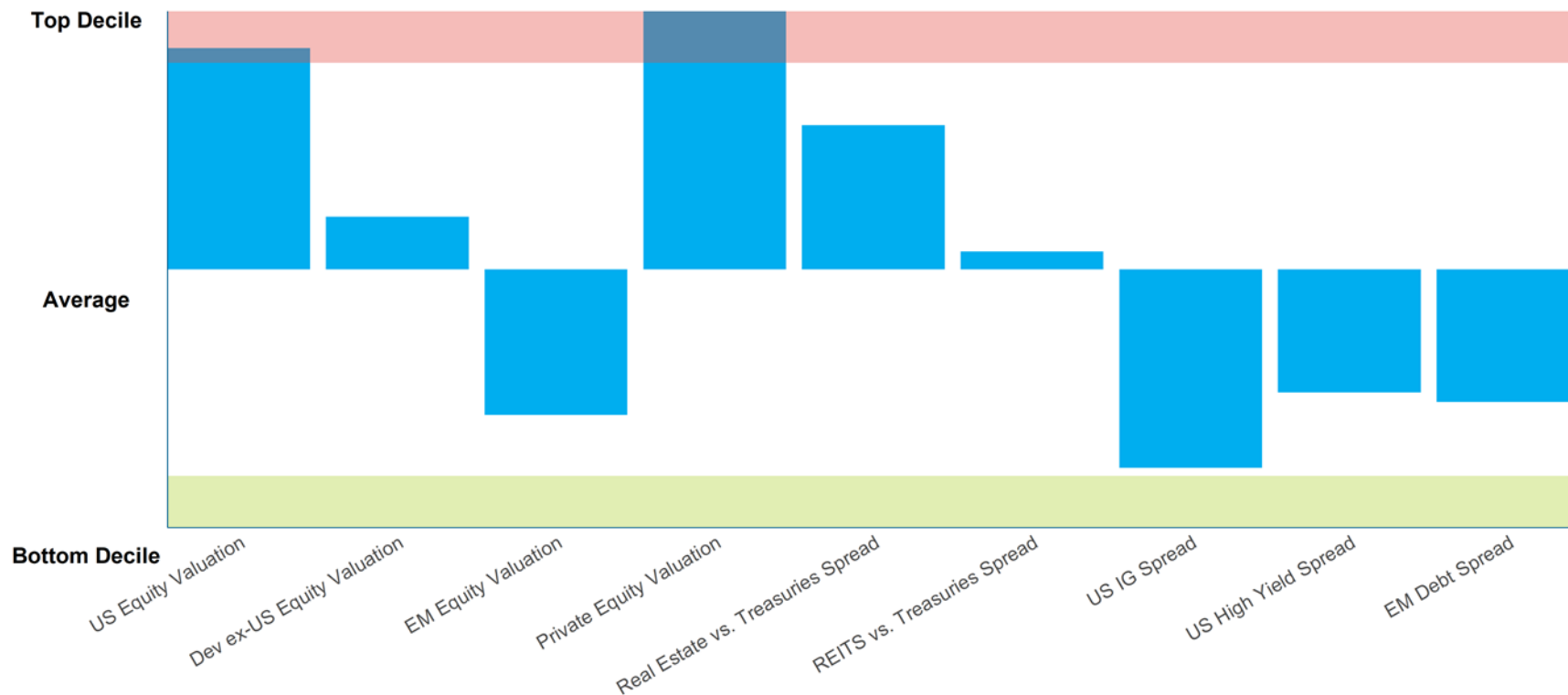
# Capital Markets Outlook and Risk Metrics As of June 30, 2022

### Capital Markets Outlook

#### Markets

- June capped off the worst first half performance for US equity markets since the 1970s, as markets reassessed future growth expectations in response to the Fed's 75 bp rate hike in June.
- In the US, small and mid-cap companies lagged large and mega cap stocks in the month of June and value lagged growth stocks.
- While all major equity indices suffered negative returns, emerging markets and China proved to be slightly more resilient than US and non-US developed markets.
- After a strong performance in early 2022, commodities, infrastructure, and public natural resources also suffered negative returns in June.
- Inflation re-accelerated in the US and Europe to new highs in June, reigniting concerns that policy officials may prioritize inflation fighting at the expense of economic growth. Markets repriced inflation expectations higher, and bonds suffered losses across all categories.
- While China continues to ease COVID lockdowns and engage in fiscal and monetary stimulus, concerns persist that China's 2022 GDP will be substantially lower than 2021.

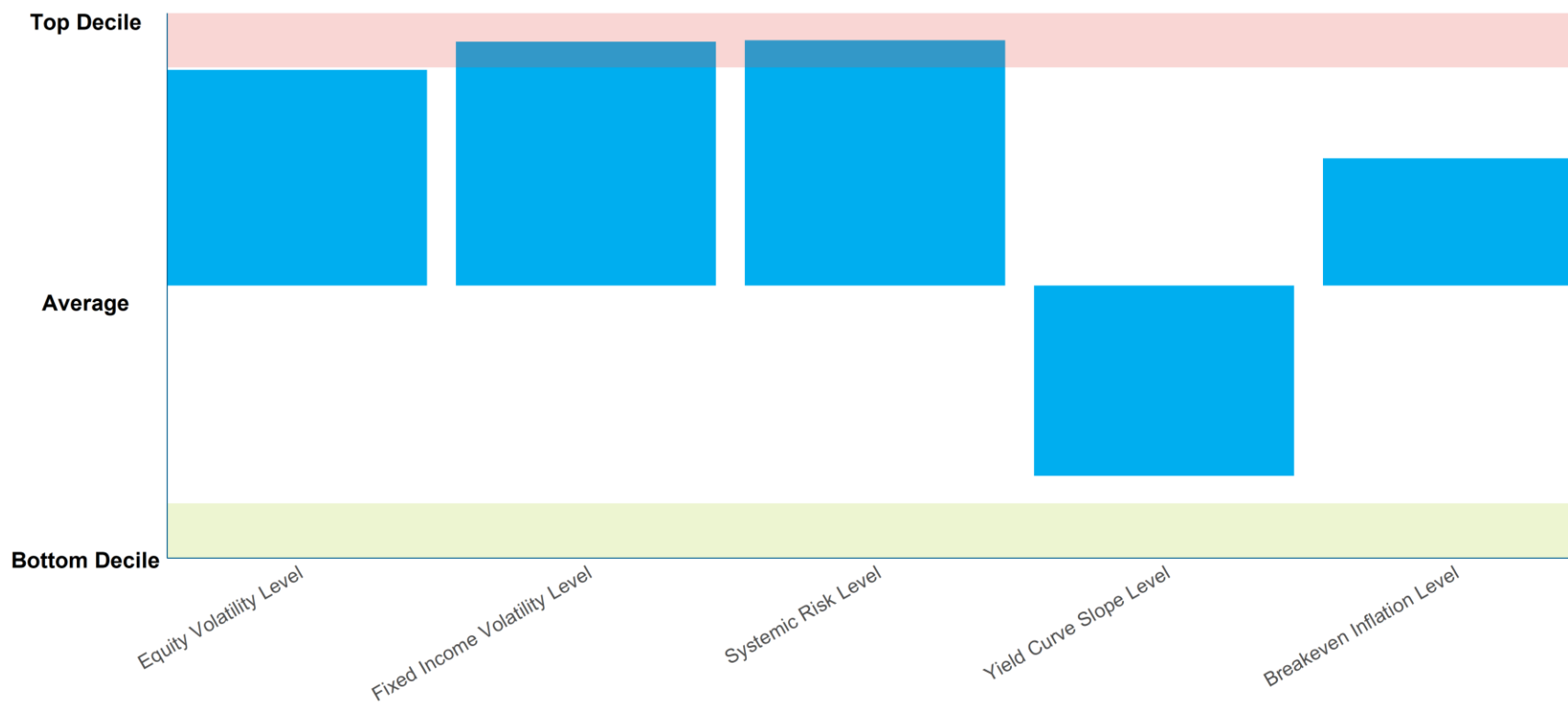
### Risk Overview/Dashboard (1) (As of June 30, 2022)<sup>1</sup>



→ Dashboard (1) summarizes the current state of the different valuation metrics per asset class relative to their own history.

<sup>1</sup> With the exception of Private Equity Valuation, that is YTD as of December 31, 2021.

### Risk Overview/Dashboard (2) (As of June 30, 2022)<sup>1</sup>



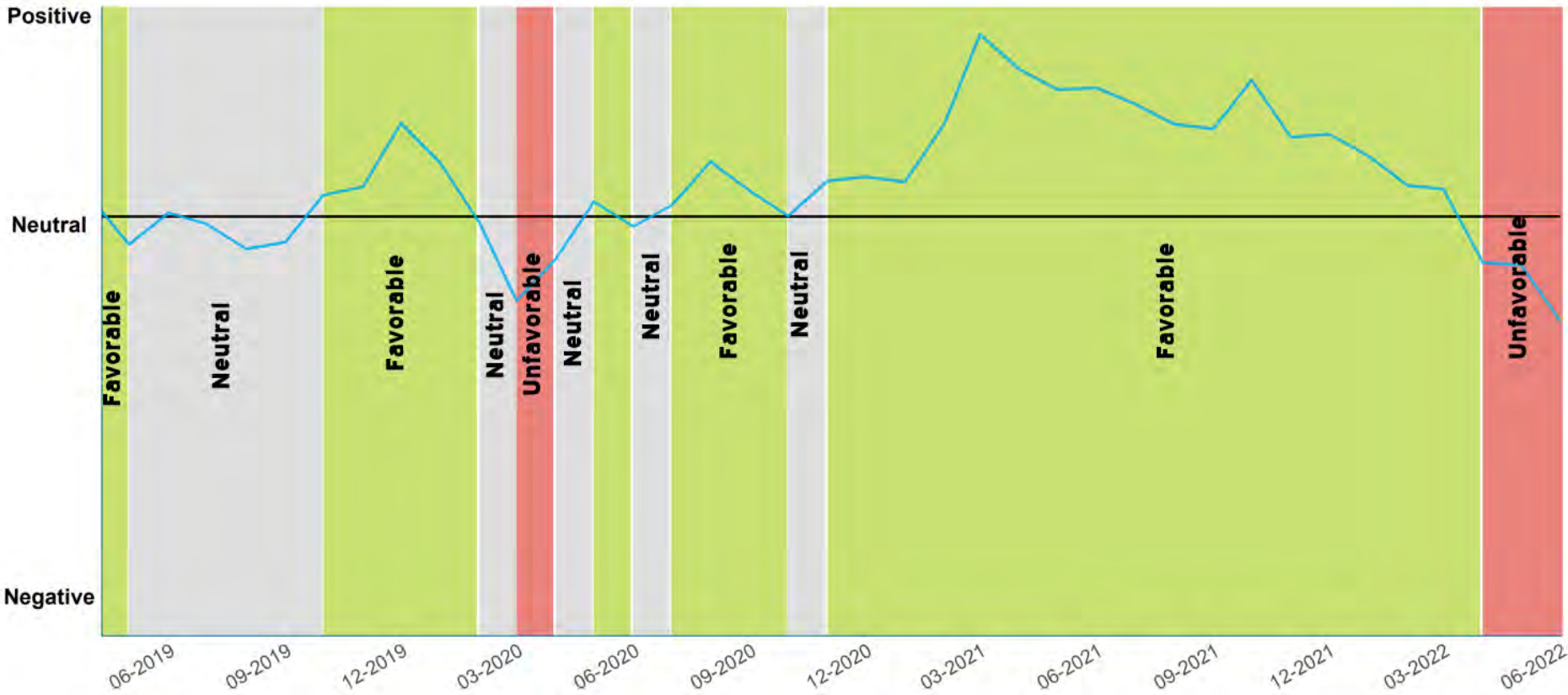
→ Dashboard (2) shows how the current level of each indicator compares to its respective history.

<sup>1</sup> With the exception of Private Equity Valuation, that is YTD as of December 31, 2021.



### Capital Markets Outlook and Risk Metrics

Market Sentiment Indicator (Last Three Years)  
(As of June 30, 2022)

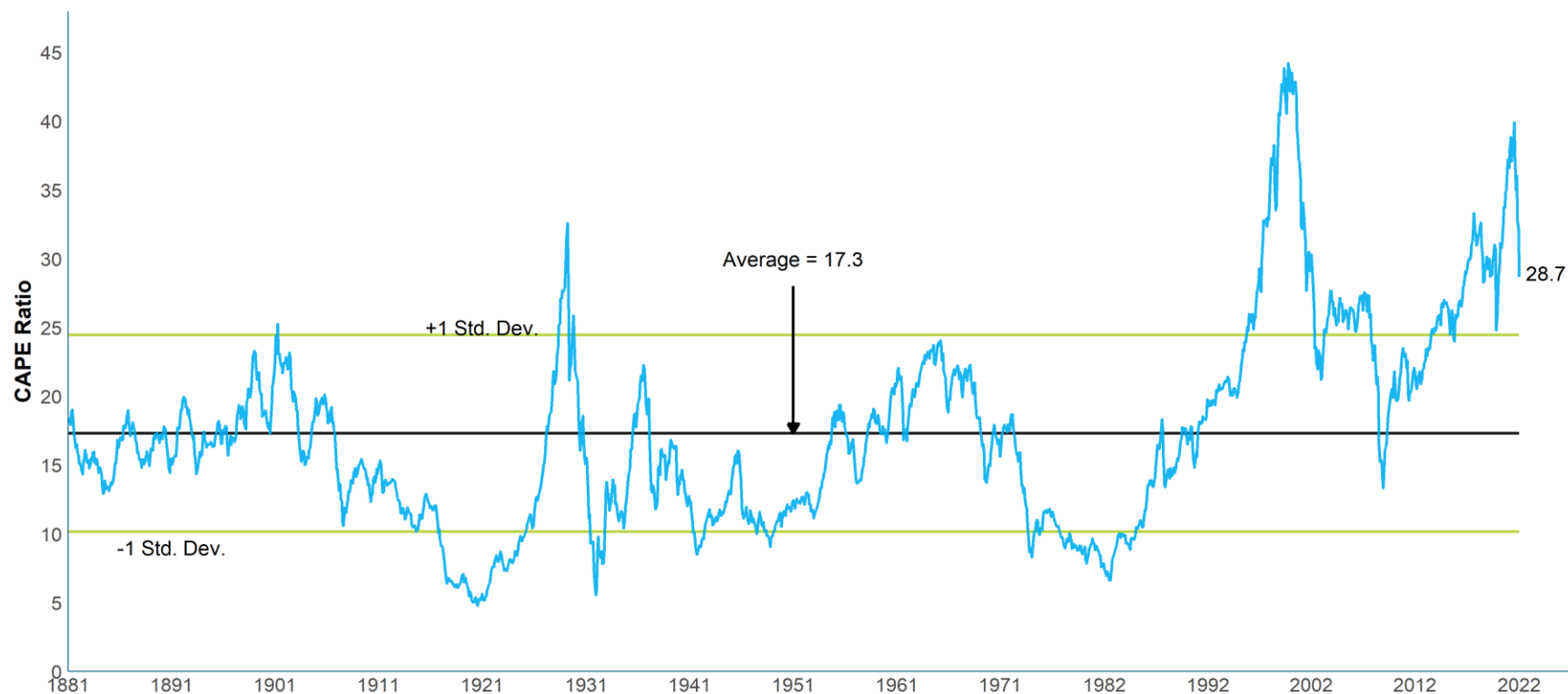






## Capital Markets Outlook and Risk Metrics

### US Equity Cyclically Adjusted P/E<sup>1</sup> (As of June 30, 2022)



→ This chart details one valuation metric for US equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group.



## Capital Markets Outlook and Risk Metrics

### Small Cap P/E vs. Large Cap P/E<sup>1</sup> (As of June 30, 2022)



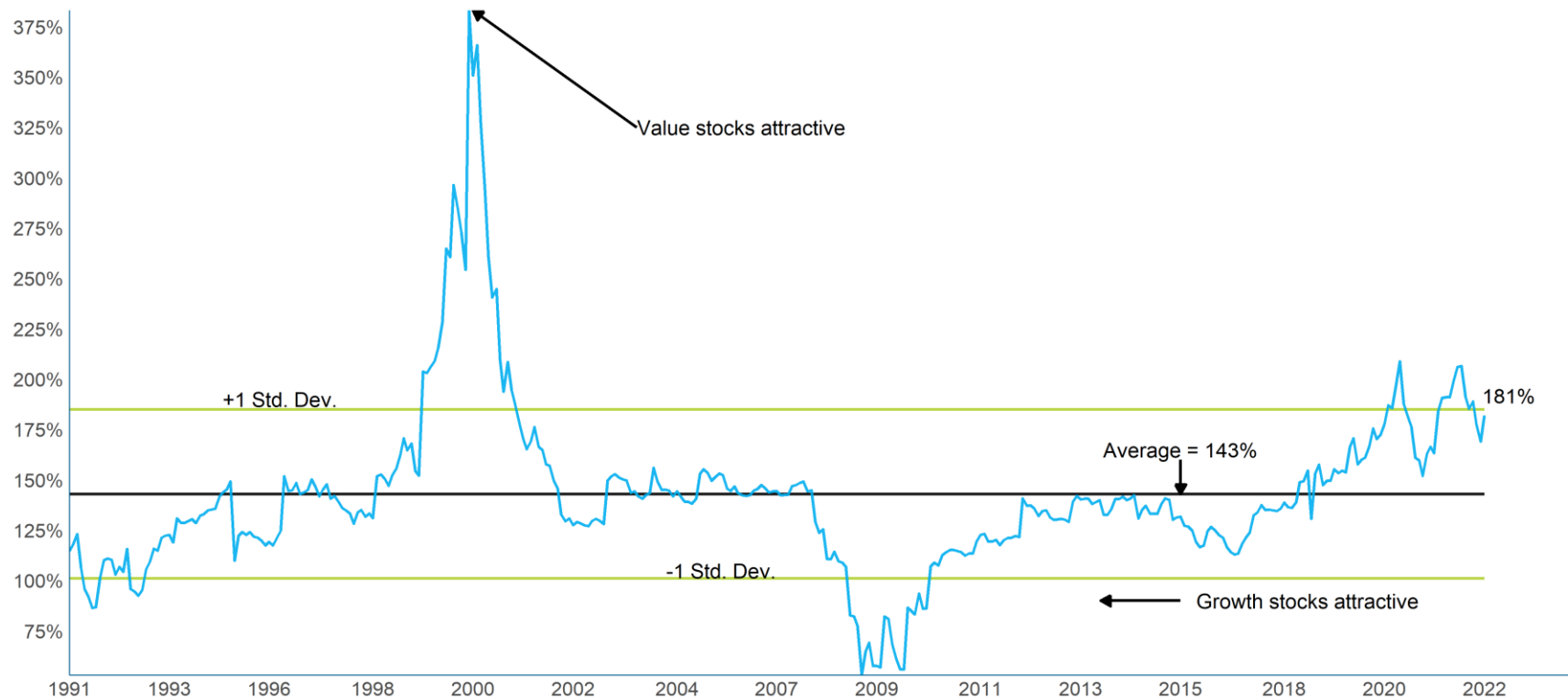
→ This chart compares the relative attractiveness of small cap US equities vs. large cap US equities on a valuation basis. A higher (lower) figure indicates that large cap (small cap) is more attractive.

<sup>1</sup> Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month "as reported" earnings.



## Capital Markets Outlook and Risk Metrics

Growth P/E vs. Value P/E<sup>1</sup>  
 (As of June 30, 2022)



→ This chart compares the relative attractiveness of US growth equities vs. US value equities on a valuation basis. A higher (lower) figure indicates that value (growth) is more attractive.

<sup>1</sup> Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.



## Capital Markets Outlook and Risk Metrics

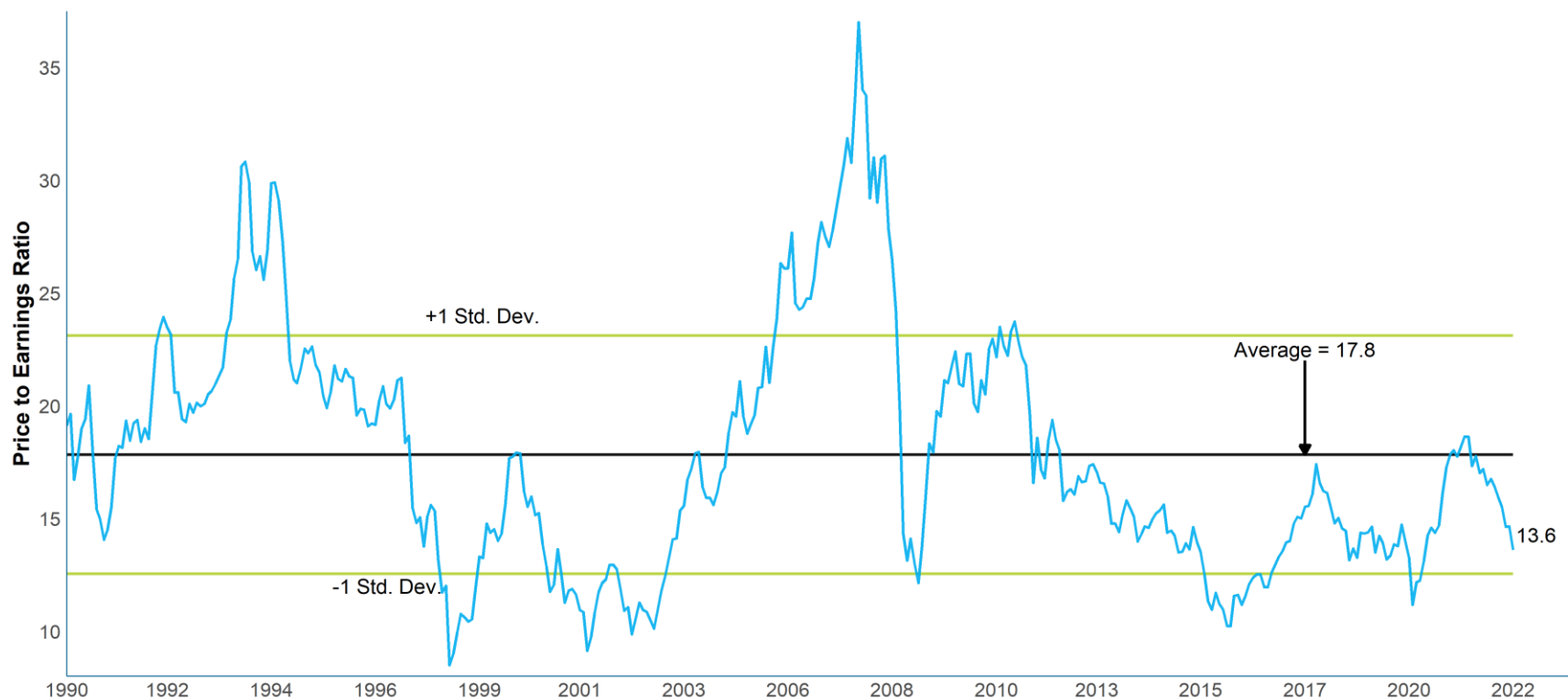
### Developed International Equity Cyclically Adjusted P/E<sup>1</sup> (As of June 30, 2022)



→ This chart details one valuation metric for developed international equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

<sup>1</sup> Developed International Equity (MSCI EAFE Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.

### Emerging Market Equity Cyclically Adjusted P/E<sup>1</sup> (As of June 30, 2022)



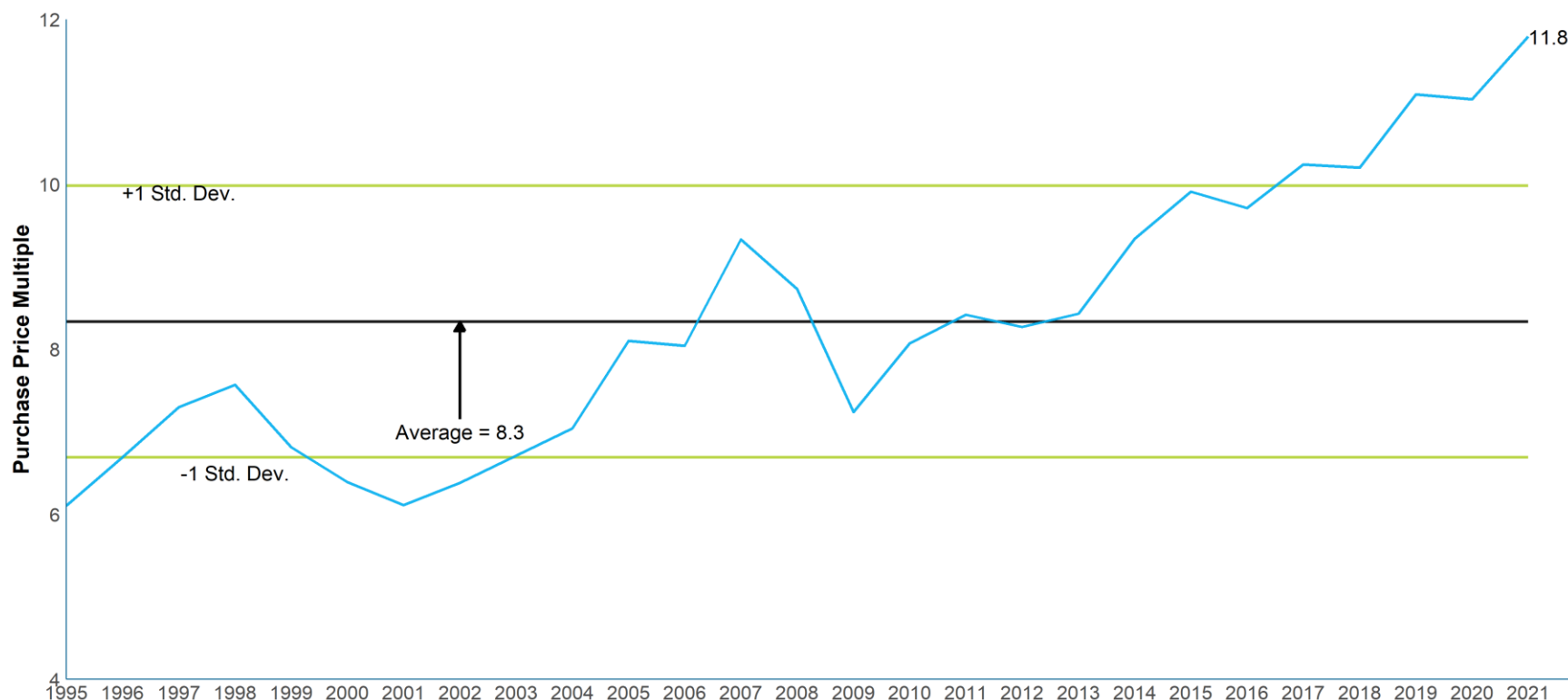
→ This chart details one valuation metric for emerging markets equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

<sup>1</sup> Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.



## Capital Markets Outlook and Risk Metrics

### Private Equity Multiples<sup>1</sup> (As of June 30, 2022)<sup>2</sup>



→ This chart details one valuation metric for the private equity market. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

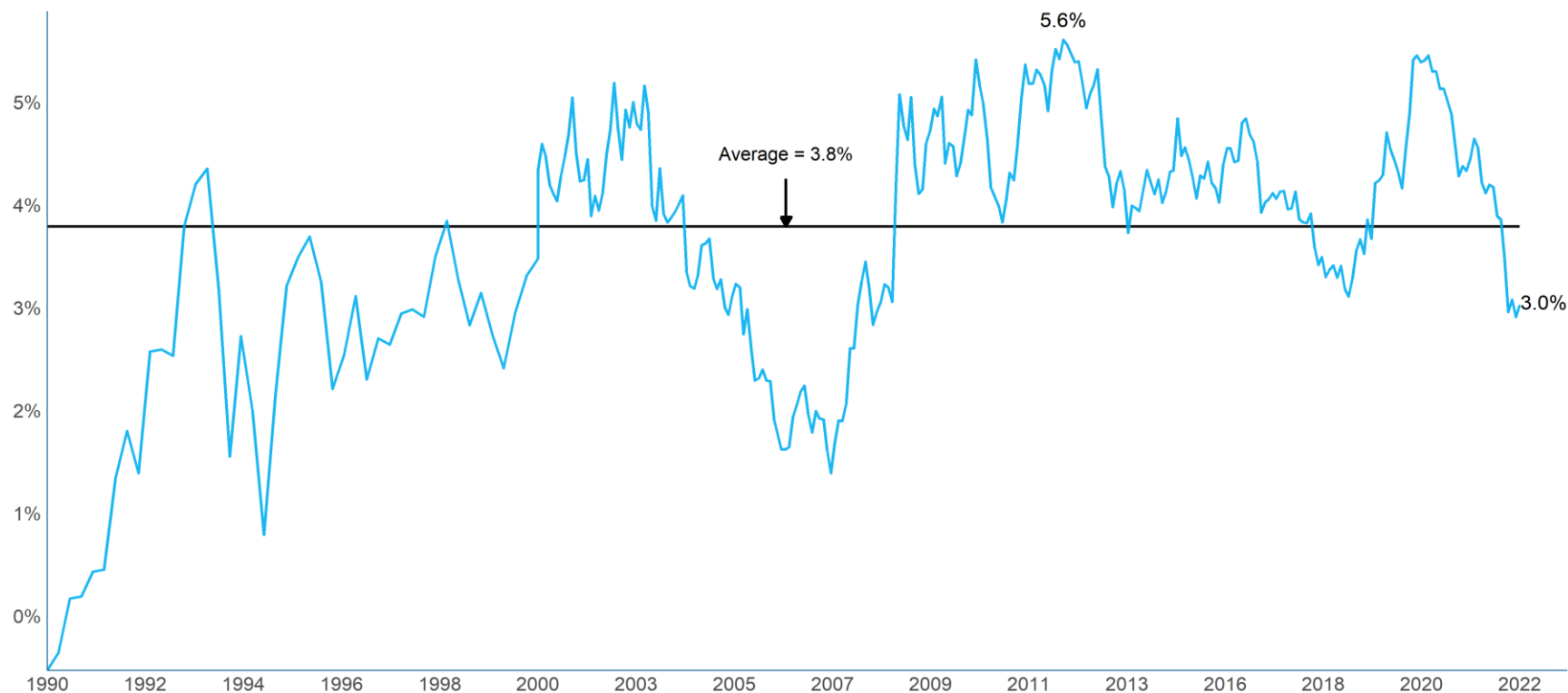
<sup>1</sup> Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.

<sup>2</sup> Annual Data, as of December 31, 2021.



## Capital Markets Outlook and Risk Metrics

### Core Real Estate Spread vs. Ten-Year Treasury<sup>1</sup> (As of June 30, 2022)



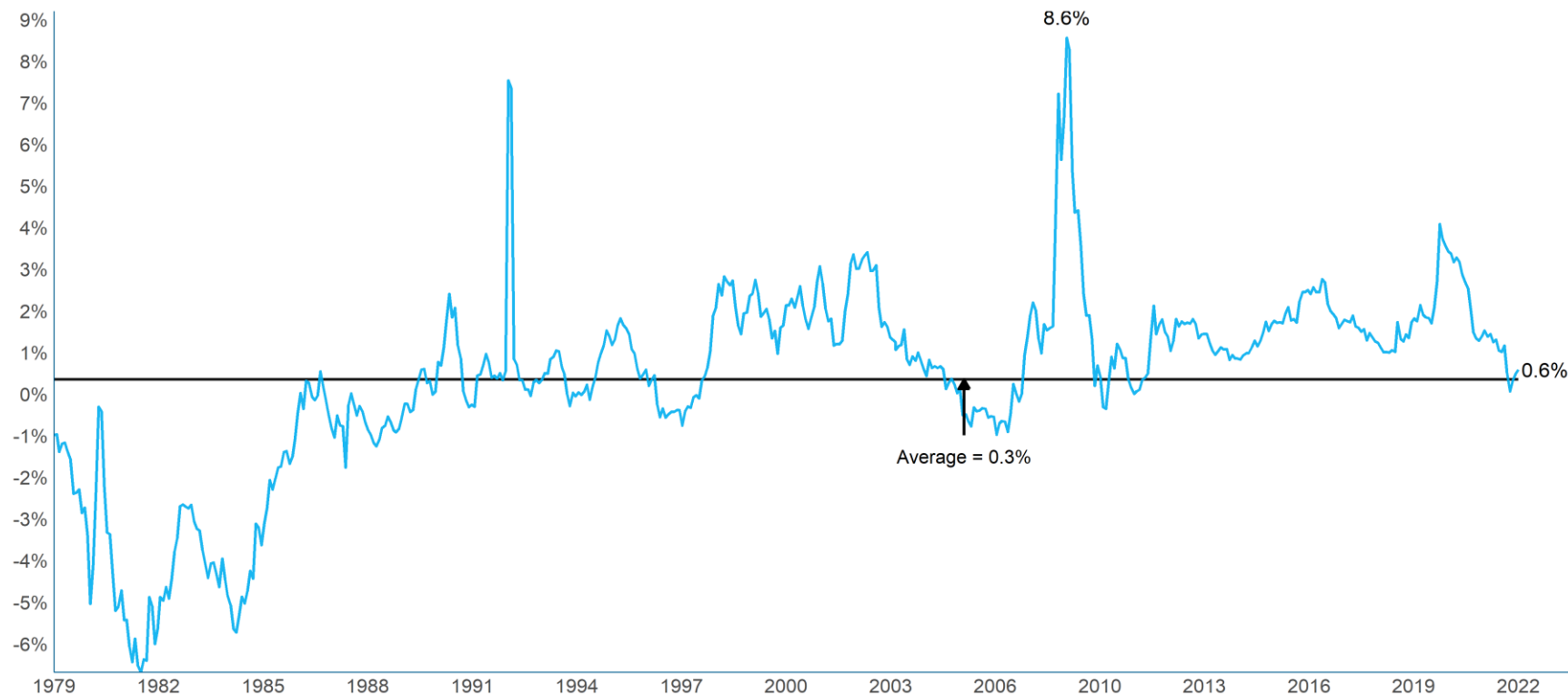
→ This chart details one valuation metric for the private core real estate market. A higher (lower) figure indicates cheaper (more expensive) valuation.

<sup>1</sup> Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction-based indices from Real Capital Analytics and Meketa Investment Group.



## Capital Markets Outlook and Risk Metrics

REITs Dividend Yield Spread vs. Ten-Year Treasury<sup>1</sup>  
(As of June 30, 2022)



→ This chart details one valuation metric for the public REITs market. A higher (lower) figure indicates cheaper (more expensive) valuation.

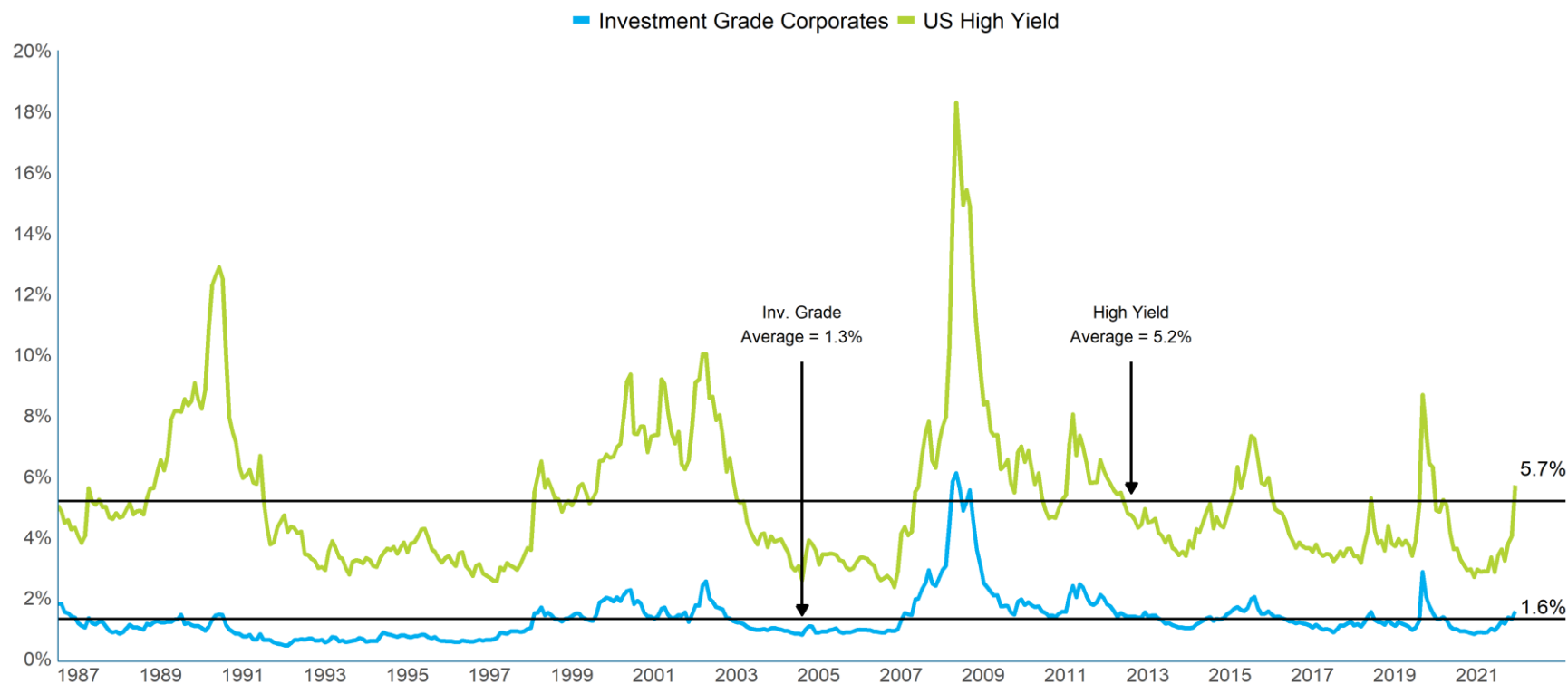
<sup>1</sup> REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity Index.





## Capital Markets Outlook and Risk Metrics

### Credit Spreads<sup>1</sup> (As of June 30, 2022)



→ This chart details one valuation metric for the US credit markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

<sup>1</sup> Credit Spreads – Source: Bloomberg. High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index. Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year US Treasury yield.

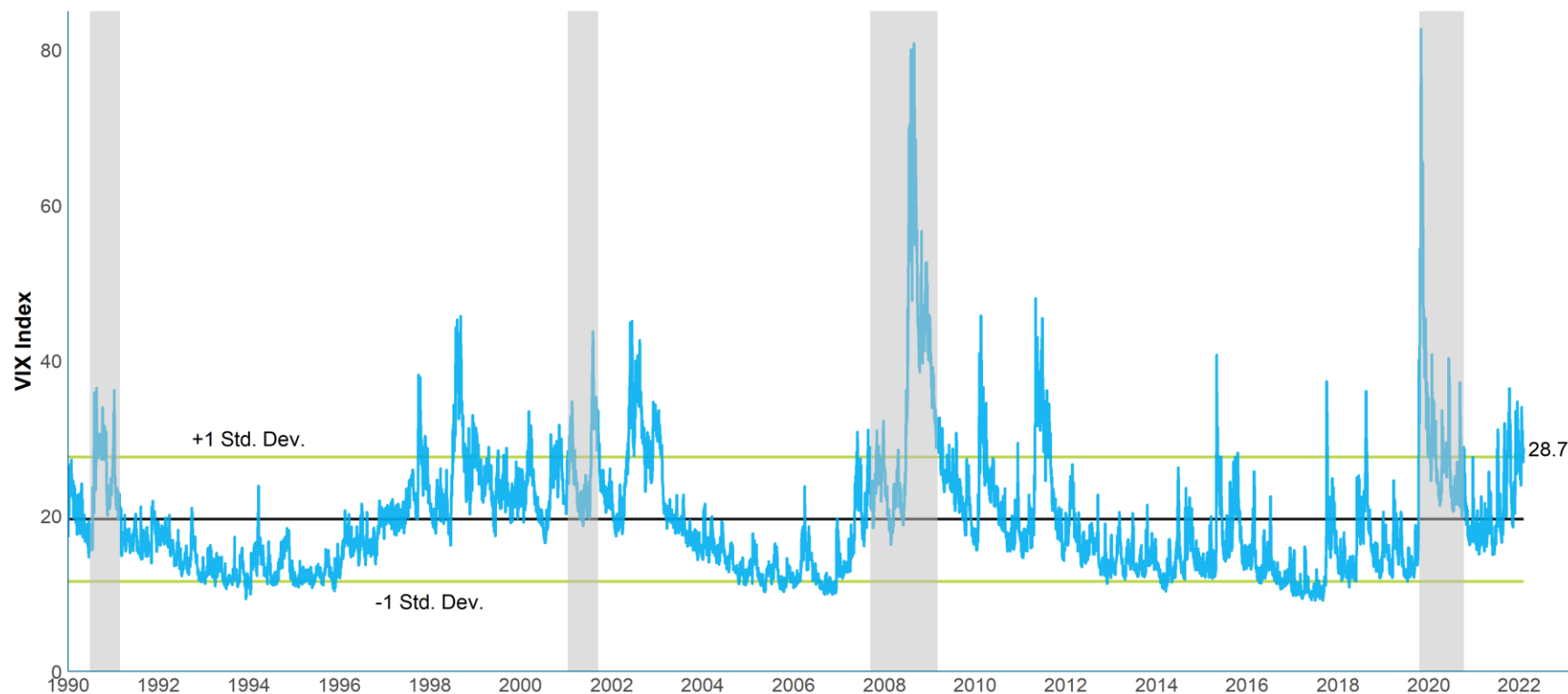
### Emerging Market Debt Spreads<sup>1</sup> (As of June 30, 2022)



→ This chart details one valuation metric for the EM debt markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

<sup>1</sup> EM Spreads – Source: Bloomberg. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.

### Equity Volatility<sup>1</sup> (As of June 30, 2022)



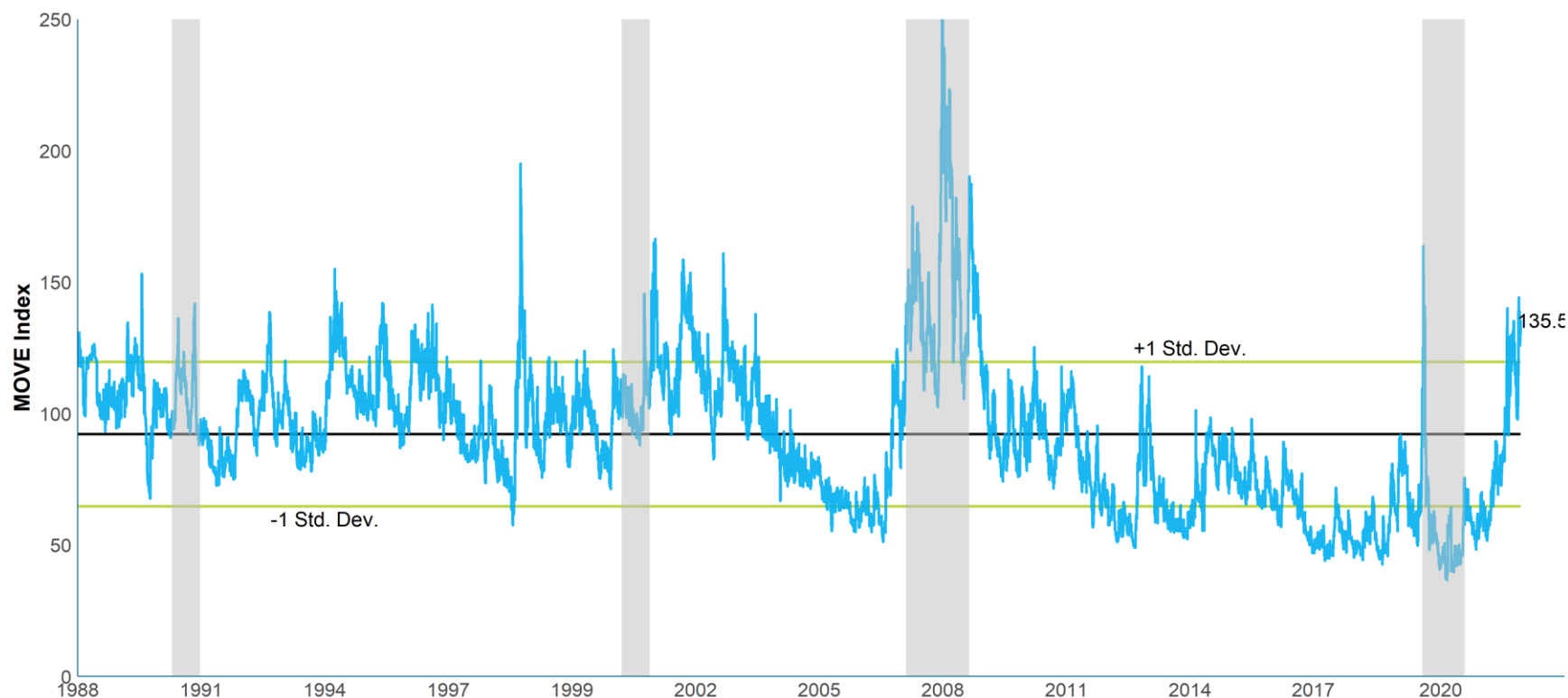
→ This chart details historical implied equity market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

<sup>1</sup> Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.



## Capital Markets Outlook and Risk Metrics

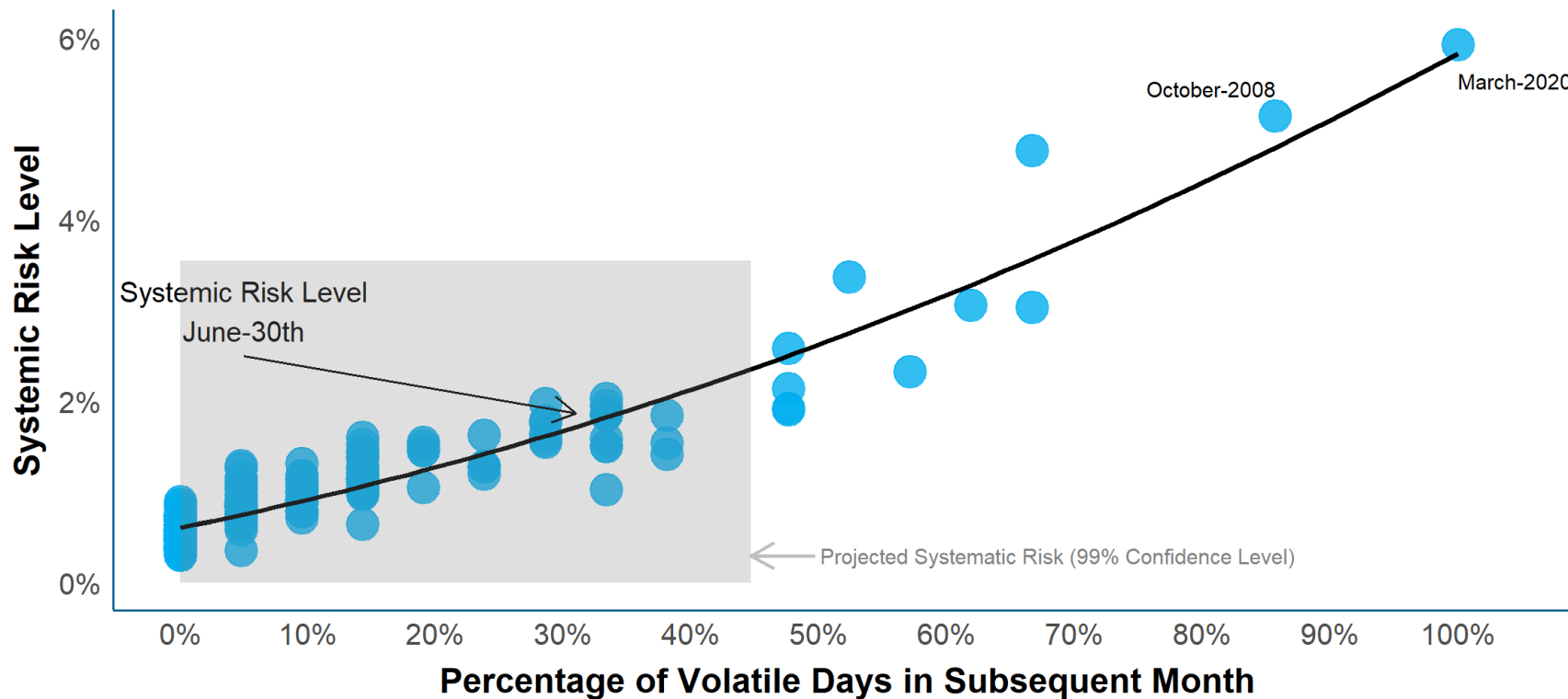
### Fixed Income Volatility<sup>1</sup> (As of June 30, 2022)



→ This chart details historical implied fixed income market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

<sup>1</sup> Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Fixed Income Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.

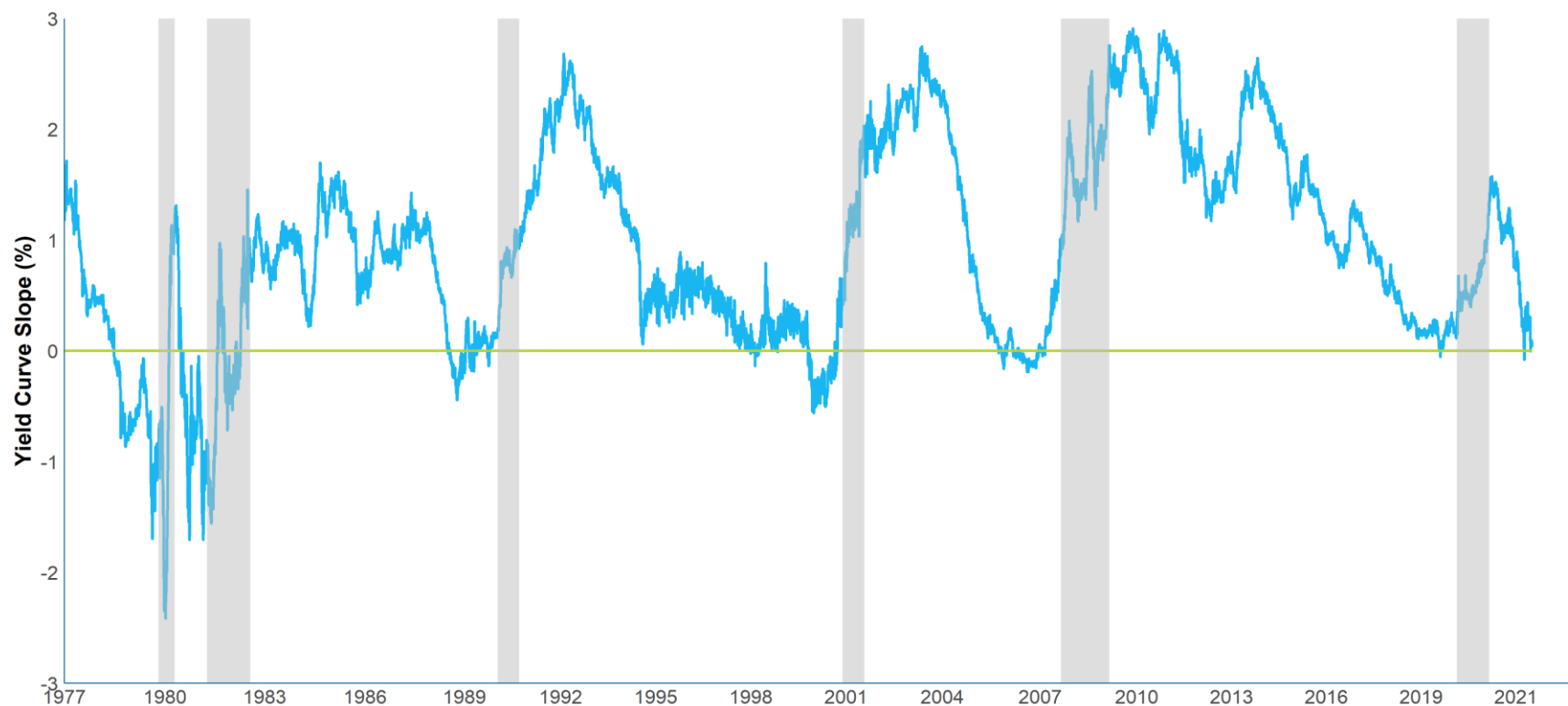
**Systemic Risk and Volatile Market Days<sup>1</sup>**  
 (As of June 30, 2022)



→ Systemic Risk is a measure of ‘System-wide’ risk, which indicates herding type behavior.

<sup>1</sup> Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.

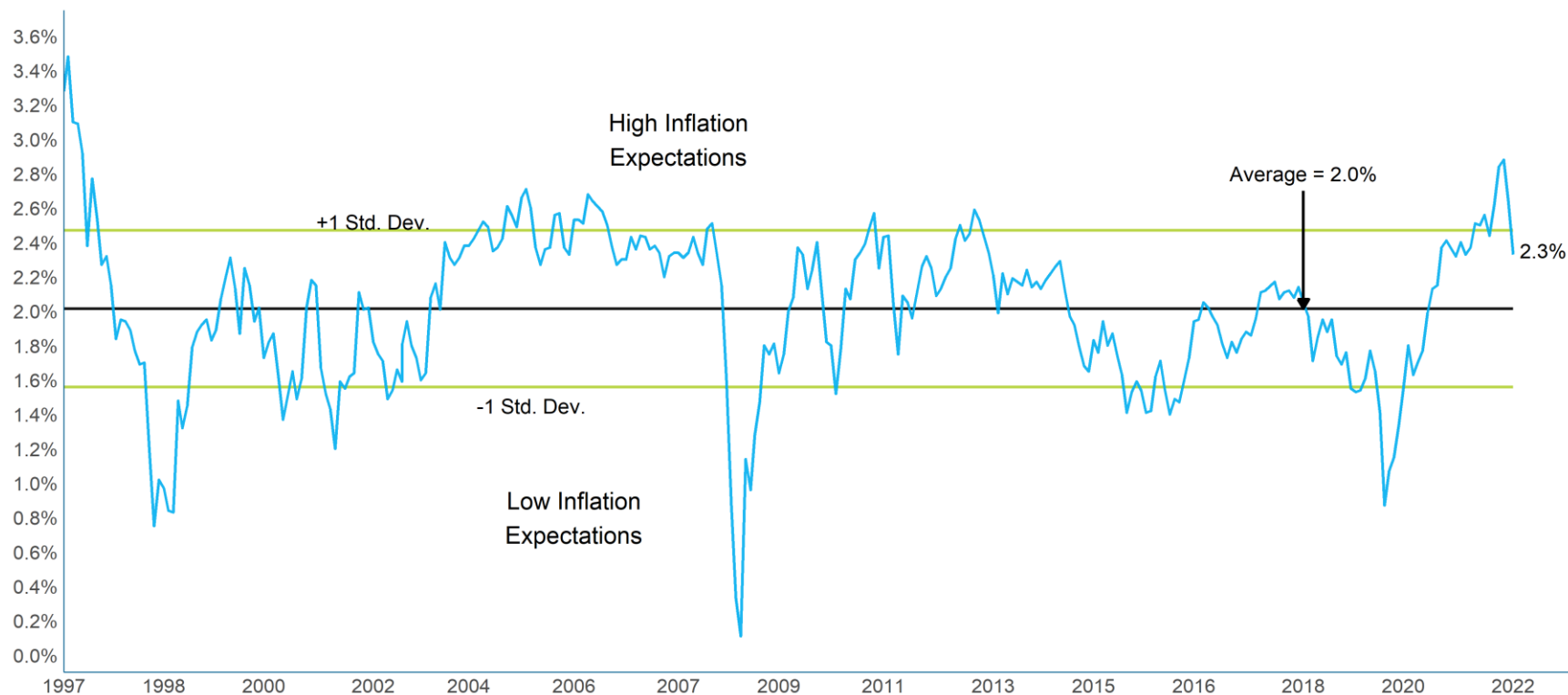
### Yield Curve Slope (Ten Minus Two)<sup>1</sup> (As of June 30, 2022)



→ This chart details the historical difference in yields between ten-year and two-year US Treasury bonds/notes. A higher (lower) figure indicates a steeper (flatter) yield curve slope.

<sup>1</sup> Yield Curve Slope (Ten Minus Two) – Source: Bloomberg, and Meketa Investment Group. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.

### Ten-Year Breakeven Inflation<sup>1</sup> (As of June 30, 2022)



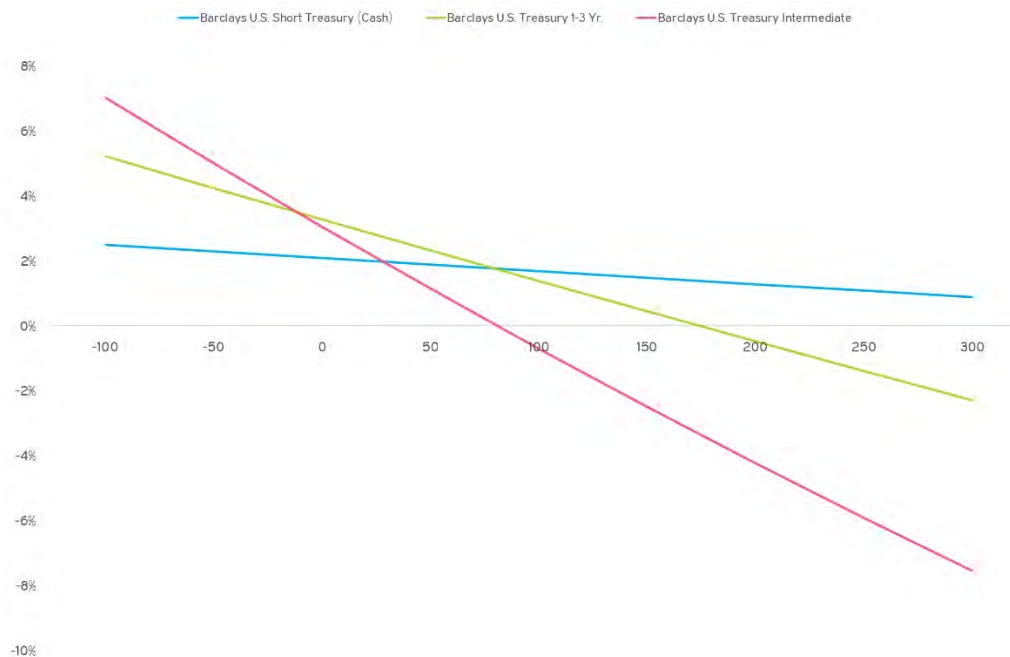
→ This chart details the difference between nominal and inflation-adjusted US Treasury bonds. A higher (lower) figure indicates higher (lower) inflation expectations.

<sup>1</sup> Ten-Year Breakeven Inflation – Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA).



## Capital Markets Outlook and Risk Metrics

### Total Return Given Changes in Interest Rates (bps)<sup>1</sup> (As of June 30, 2022)



	Total Return for Given Changes in Interest Rates (bps)									Statistics	
	-100	-50	0	50	100	150	200	250	300	Duration	YTW
Bloomberg US Short Treasury (Cash)	2.5%	2.3%	2.1%	1.9%	1.7%	1.5%	1.3%	1.1%	0.9%	0.41	2.08%
Bloomberg US Treasury 1-3 Yr.	5.2%	4.2%	3.3%	2.3%	1.4%	0.4%	-0.5%	-1.4%	-2.3%	1.92	3.27%
Bloomberg US Treasury Intermediate	7.0%	5.0%	3.0%	1.1%	-0.7%	-2.5%	-4.2%	-5.9%	-7.6%	3.86	3.04%
Bloomberg US Treasury Long	22.4%	12.4%	3.3%	-4.8%	-12.0%	-18.2%	-23.5%	-27.9%	-31.3%	17.17	3.33%

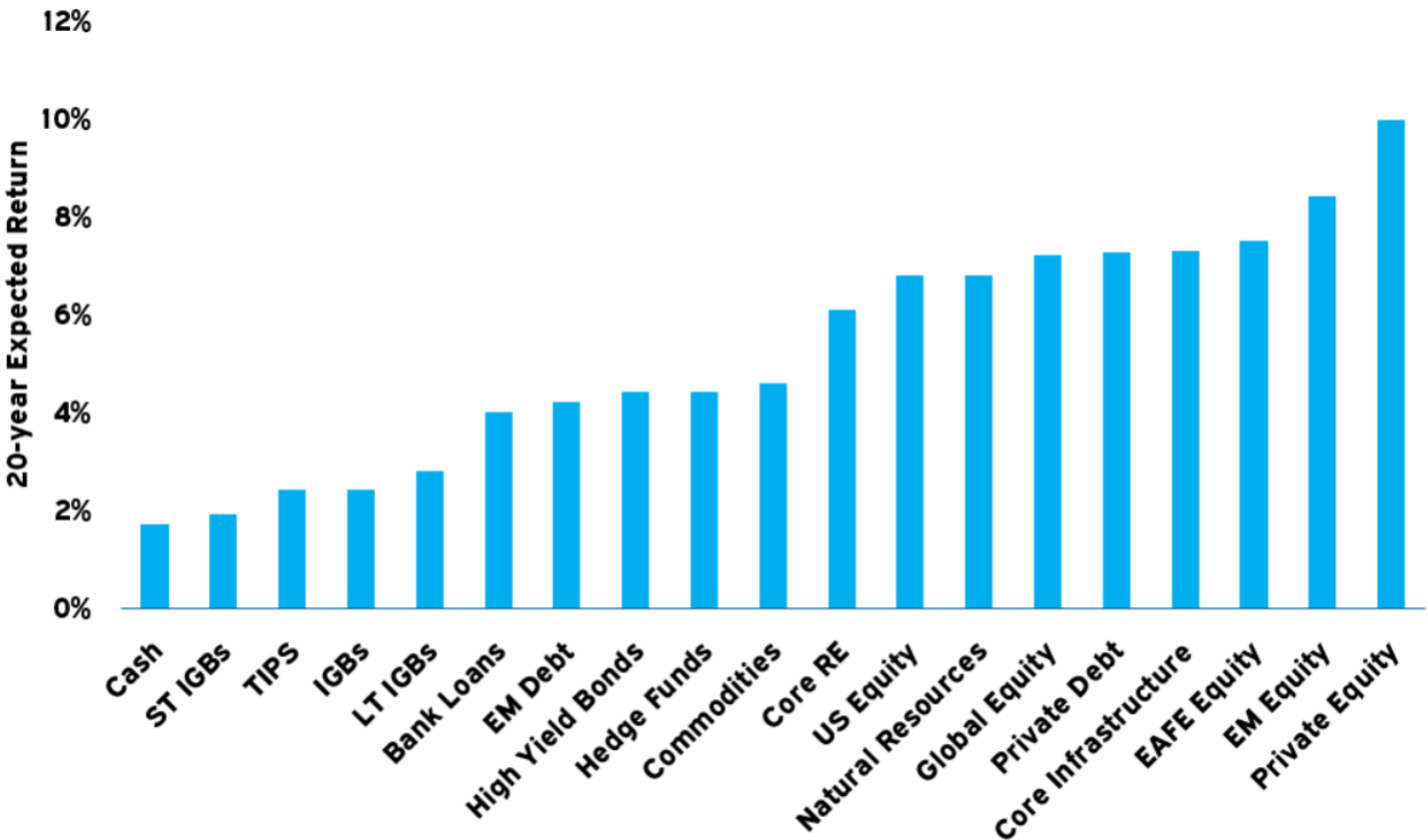
<sup>1</sup> Data represents the expected total return from a given change in interest rates (shown in basis points) over a 12-month period assuming a parallel shift in rates. Source: Bloomberg, and Meketa Investment Group.





# Capital Markets Outlook and Risk Metrics

## Long-Term Outlook – 20-Year Annualized Expected Returns<sup>1</sup>



→ This chart details Meketa’s long-term forward-looking expectations for total returns across asset classes.

<sup>1</sup> Source: Meketa Investment Group’s 2022 Annual Asset Study.





# California State Teachers' Retirement System

## Semi-Annual Report: Executive Summary

### CalSTRS Portfolio Performance



## California State Teachers' Retirement System

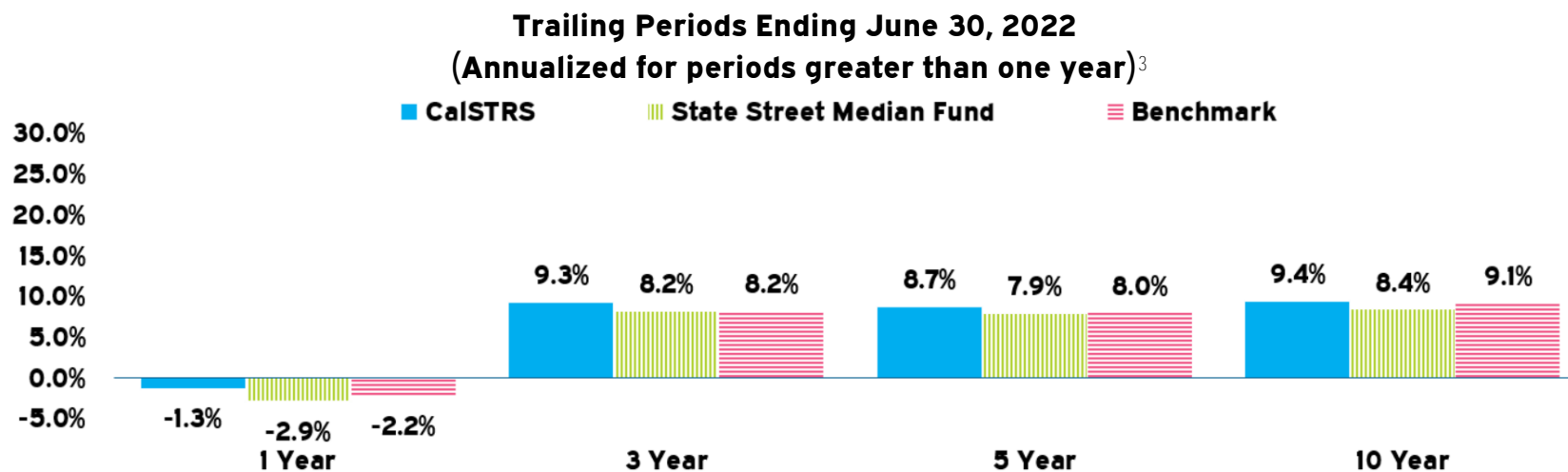
### Semi-Annual Report: Executive Summary

#### CalSTRS Portfolio Performance

This section includes an overview of the performance of the CalSTRS investment portfolio and a detailed analysis of strategic classes and specific mandates.

#### Portfolio Performance Overview (Net-of-Manager Fees)

Over the trailing one-year period ending June 30, 2022, the Total Portfolio generated a return of -1.3% that outpaced the policy benchmark<sup>1</sup> return of -2.2% and State Street median fund<sup>2</sup> return of -2.9%. Additionally, that outperformance extends out over all time periods measured (three-, five- and ten-years).



<sup>1</sup> The Total Portfolio benchmark consists of passively managed asset class portfolios held at policy weightings.

<sup>2</sup> State Street Universe – Public Funds > \$10 Billion. Mixture of net and gross-of-fees.

<sup>3</sup> Source: State Street.



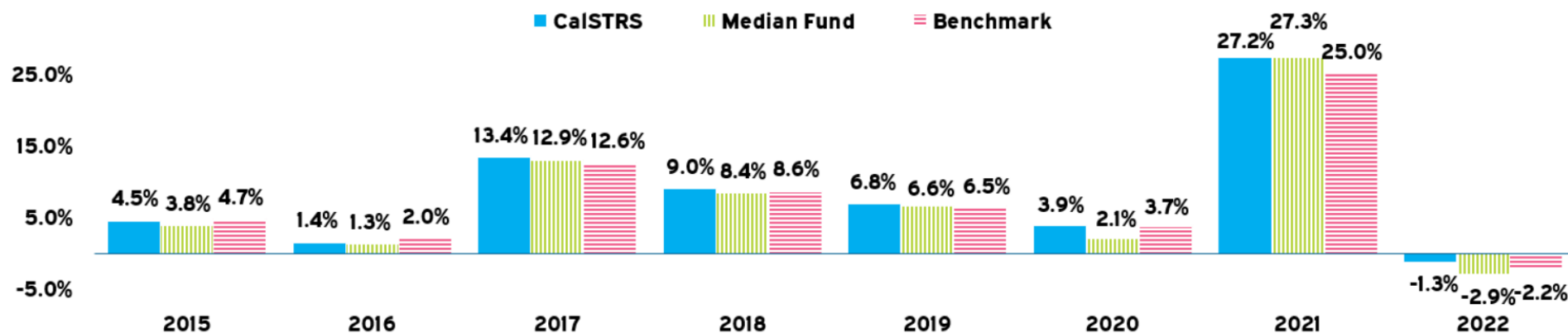
## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Portfolio Performance Overview (Net-of-Manager Fees) (continued)

The CalSTRS Total Portfolio generated positive absolute results over seven of the eight 12-month periods ending June 30th. The Total Portfolio has outperformed the policy target benchmark in six of the last eight years ending in June. Lastly, the Total Portfolio outperformed the median fund in seven of the last eight 12-month periods ending June 30.

#### Trailing 12-Month Performance (For fiscal year ended June 30th)<sup>1</sup>



<sup>1</sup> Source: State Street. Note: CMA Benchmark is not shown due to lack of comparability.



## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Portfolio Valuation

The CalSTRS Total Portfolio had an aggregate value of \$301.6 billion as of June 30, 2022. During the latest six-month period, the Total Portfolio decreased by \$26.0 billion (net of fees and contributions/benefits). Over the latest fiscal year, the Total Portfolio decreased by \$7.0 billion (net of fees and contributions/benefits).

#### Portfolio Valuation as of June 30, 2022

	June 30, 2022	Dec 31, 2021	Semi-Annual Change <sup>1</sup>	Percentage Change <sup>2</sup>	June 30, 2021	Annual Change <sup>2</sup>	Percentage Change
CalSTRS	\$301.6B	\$327.6B	-\$26.0B	-7.9%	\$308.6	-\$7.0B	-2.3%

<sup>1</sup> Differences due to rounding error.

<sup>2</sup> Includes investment performance and net contributions.



## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Actual vs. Target Allocations

The Total Portfolio ended the latest 12-month period overweight Private Markets, Inflation Sensitive, and Innovative Strategies, and was underweight Global Equity and Fixed Income. The Risk Mitigating and Cash asset classes ended the period in line with their respective policy targets.

As of June 30, 2022  
(Differences due to rounding)<sup>1</sup>

Segment	Actual (\$M)	Actual (%)	Target (%)	Variance
Total Portfolio	301,580	100	100	--
Global Equity	115,650	38	45	-7
Fixed Income	31,701	11	12	-1
Private Markets	96,470	32	27	+5
<i>Real Estate</i>	49,221	16	14	+2
<i>Private Equity</i>	47,249	16	13	+3
Inflation Sensitive	16,412	5	4	+1
Risk Mitigating	30,903	10	10	--
Strategic Overlay	808	0	0	--
Innovative Strategies	3,219	1	0	+1
Cash	6,417	2	2	--

<sup>1</sup> Source: State Street.



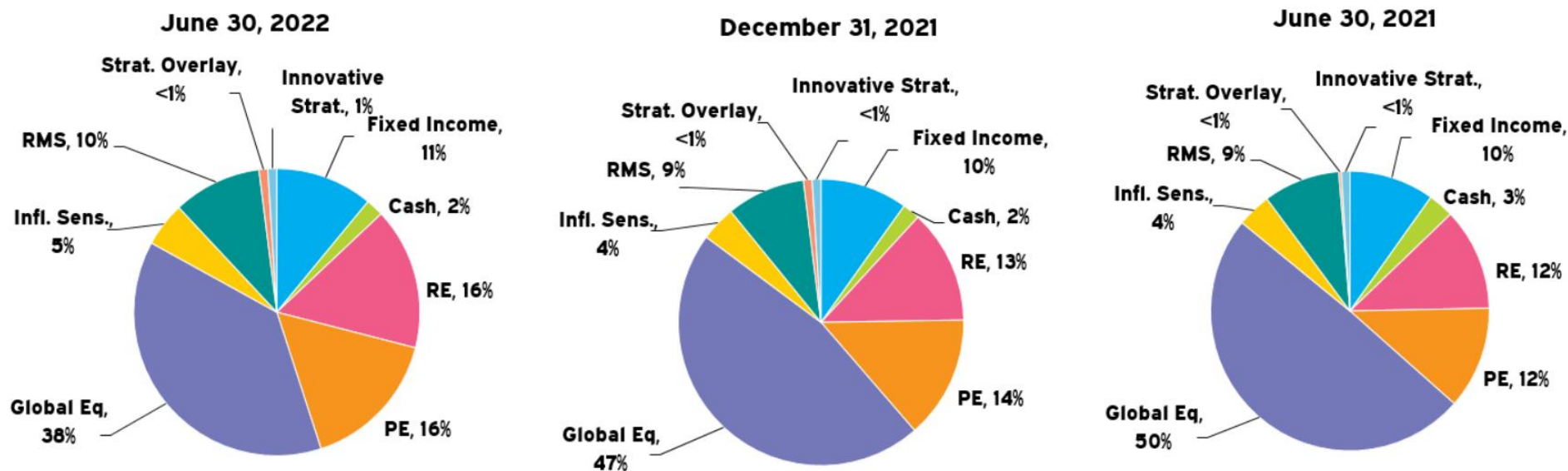
## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Actual vs. Target Allocations (continued)

Over the trailing six-month period, the allocation to Global Equity fell by (9%), Fixed Income, Inflation Sensitive, and Risk Mitigating increased by 1%, and Private Markets rose by 5%. During the latest 12-month period, the allocation to Private Equity and Real Estate rose by 4%, Fixed Income, Inflation Sensitive, and Risk Mitigating increased by 1%, the Global Equity allocation decreased by (12%), and Cash fell by (1%).

#### Actual Strategic Allocation Comparison (Differences due to rounding)





## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Performance of Largest Accounts: US Equity<sup>1</sup>

Manager	Mkt Value (\$000)	Asset Class	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
CalSTRS MSCI USA IMI	32,056,738	Passive US Equity	---	---	---	---
<i>MSCI CalSTRS Index on USA IMI</i>	---	---	---	---	---	---
CalSTRS Russell 3000	16,146,873	Passive Large Cap	-13.9	9.9	10.8	12.7
<i>Custom Russell 3000 Index</i>	---	---	-14.0	9.8	10.7	12.6
CalSTRS MSCI USA	10,604,609	Special Situations	---	---	---	---
<i>MSCI CalSTRS Index on USA</i>	---	---	---	---	---	---
Jacobs Levy 130-30 R3000	1,216,764	Active All Cap	11.9	---	---	---
<i>STRS US Equity Index</i>	---	---	-14.0	---	---	---
STRS Top 200	814,520	Special Situations	-11.5	---	---	---
<i>STRS Custom Russell Top 200</i>	---	---	-11.6	---	---	---

- CalSTRS's five largest US Equity accounts (in terms of market value) ended the period with generally positive results versus their respective benchmarks over the longer-term time periods. The CalSTRS MSCI USA index strategies were implemented last year.
- CalSTRS's Russell 3000 passive portfolio met expectations for all applicable time periods, marginally outperforming the relevant custom Russell 3000 Index.
- Jacobs Levy 130-30 R3000 outperformed the Custom Russell 3000 Index by 25.9% over the past year.
- STRS Top 200 outperformed the Custom Russell Top 200 Index by 0.1% over the past year.

<sup>1</sup> Source: State Street.





## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Performance of Largest Accounts: Non-US Equity<sup>1</sup>

Manager	Mkt Value (\$000)	Asset Class	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
CalSTRS EAFE + Canada Index	16,057,574	Passive EAFE + Canada	-17.6	2.1	3.0	---
<i>Custom MSCI EAFE + Canada Index</i>	---	---	-17.9	1.6	2.5	---
Schroder GEM Core Equity	1,821,107	Active EM	-28.0	1.9	3.6	---
<i>Custom MSCI EM Index</i>	---	---	-26.7	0.4	2.1	---
Baillie Gifford & Co.	1,688,520	Active EM	-33.8	1.3	4.4	5.9
<i>Custom MSCI EM Index</i>	---	---	-26.7	0.4	2.1	3.1
CalSTRS Pacific Basin	1,546,967	Active Pacific	-17.9	1.0	---	---
<i>Custom MSCI Pacific Index</i>	---	---	-18.1	0.7	---	---
Arrowstreet Capital	1,491,387	Active EAFE + Canada	-11.7	7.3	6.3	---
<i>Custom MSCI EAFE + Canada Index</i>	---	---	-17.0	1.6	2.8	---

- CalSTRS's five largest Non-US Equity accounts (in terms of market value) ended the period with positive results versus their respective benchmarks over the three- and five-year time periods.
- CalSTRS's largest passive Non-US developed portfolio, an internally managed portfolio, outperformed its benchmark by 0.3%, 0.5%, and 0.5% over the one-, three-, and five-year periods, respectively.
- Schroder GEM Core, the largest active Non-US developed manager, outperformed its benchmark by 1.5% over the three- and five-year periods.
- Baillie Gifford and Co., the portfolio's second largest active Non-US developed manager, outperformed its benchmark by 0.9%, 2.3% and 2.8% over the three-, five-, and ten-year periods, respectively.
- CalSTRS Pacific Basin, the portfolio's third largest active Non-US developed manager, outperformed its benchmark by 0.2% and 0.3% over the one- and three-year period.
- Arrowstreet Capital, the portfolio's fourth largest active Non-US developed manager, outperformed its benchmark by 5.3%, 5.7%, and 3.5% over the one-, three-, and five-year periods, respectively.

<sup>1</sup> Source: State Street.



## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Performance of Largest Accounts: Fixed Income<sup>1</sup>

Manager	Mkt Value (\$000)	Asset Class	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
CalSTRS Interest Rate Products	10,484,895	Government	-8.7	-0.6	1.0	1.2
<i>CalSTRS Government Index</i>	---	---	-8.8	-0.8	0.8	1.0
CalSTRS Mortgage Backed	7,450,162	MBS	-8.9	-1.2	0.6	1.5
<i>CalSTRS MBS Index</i>	---	---	-9.0	-1.4	0.4	1.2
CalSTRS Credit	7,402,445	Credit	-13.6	-0.9	1.4	2.7
<i>CalSTRS Credit Index</i>	---	---	-13.6	-1.0	1.2	2.5
Western Asset Management	1,662,418	Core Plus	-13.9	-1.1	1.2	2.6
<i>Custom US Universal Index</i>	---	---	-10.7	-0.9	1.0	1.8
CalSTRS Core Plus	1,434,825	Core Plus	-10.8	---	---	---
<i>Custom US Universal Index</i>	---	---	-10.7	---	---	---

- CalSTRS's five largest Fixed Income portfolios (in terms of market value) ended the period with generally positive results versus their respective benchmarks over all applicable time periods.
- The CalSTRS Interest Rate portfolio modestly outperformed its benchmark over all trailing periods.
- The CalSTRS Mortgage-Backed portfolio modestly outperformed its benchmark over all trailing periods.
- The CalSTRS Credit portfolio matched or outperformed its benchmark over all trailing periods.
- Western Asset Management, one of CalSTRS's external core plus managers, outperformed its benchmark over the trailing five- and ten-year periods by 0.2%, and 0.8% per annum, respectively.

<sup>1</sup> Source: State Street.



**California State Teachers' Retirement System**  
**Semi-Annual Report: Executive Summary**

**Appendix**

#### Data Sources and Explanations<sup>1</sup>

- US Equity Cyclically Adjusted P/E on S&P 500 Index – Source: Robert Shiller and Yale University.
- Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month “as reported” earnings.
- Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month “as reported” earnings.
- Developed International Equity (MSCI EAFE) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.
- Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.
- Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.
- Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction-based indices from Real Capital Analytics and Meketa Investment Group.

<sup>1</sup> All Data as of June 30, 2022, unless otherwise noted.

#### Data Sources and Explanations (continued)<sup>1</sup>

- REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity Index.
- Credit Spreads – Source: Bloomberg High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index.
  - Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year Treasury Yield.
- EM Debt Spreads – Source: Bloomberg, and Meketa Investment Group. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.
- Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.
- Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.
- Systemic Risk and Volatile Market Days – Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.
- Systemic Risk, which measures risk across markets, is important because the more contagion of risk that exists between assets, the more likely it is that markets will experience volatile periods.

<sup>1</sup> All Data as of June 30, 2022, unless otherwise noted.



## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

# Meketa Market Sentiment Indicator

## Explanation, Construction and Q&A



## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

Meketa has created the MIG Market Sentiment Indicator (MIG-MSI) to complement our valuation-focused Risk Metrics. This measure of sentiment is meant to capture significant and persistent shifts in long-lived market trends of economic growth risk, either towards a risk-seeking trend or a risk-aversion trend.

**This appendix explores:**

- What is the Meketa Market Sentiment Indicator?
- How do I read the indicator graph?
- How is the Meketa Market Sentiment Indicator constructed?
- What do changes in the indicator mean?

Meketa has created a market sentiment indicator for monthly publication (the MIG-MSI – see below) to complement Meketa's Risk Metrics.

→ Meketa's Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market corrections take place. The MIG-MSI helps to address this early-warning bias by measuring whether the markets are beginning to acknowledge key Risk Metrics trends, and / or indicating non-valuation based concerns. Once the MIG MSI indicates that the market sentiment has shifted, it is our belief that investors should consider significant action, particularly if confirmed by the Risk Metrics. Importantly, Meketa believes the Risk Metrics and MIG-MSI should always be used in conjunction with one another and never in isolation. The questions and answers below highlight and discuss the basic underpinnings of the Meketa MIG-MSI:

#### What is the Meketa Market Sentiment Indicator (MIG-MSI)?

→ The MIG-MSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets, and is the largest risk exposure that most portfolios bear. The MIG MSI takes into account the momentum (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).



#### How is the Meketa Market Sentiment Indicator (MIG-MSI) Constructed?

→ The MIG-MSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:

- Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months)
- Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration US Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight).
- Both measures are converted to Z-scores and then combined to get an “apples to apples” comparison without the need of re-scaling.

→ The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure.<sup>1</sup> The color reading on the graph is determined as follows:

- If both stock return momentum and bond spread momentum are positive, shown in GREEN (positive)
- If one of the momentum indicators is positive, and the other negative, shown in GRAY (inconclusive)
- If both stock return momentum and bond spread momentum are negative, shown in RED (negative)

<sup>1</sup> Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.

“Time Series Momentum” Moskowitz, Ooi, Pedersen, August 2010. <http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf>

What does the Meketa Market Sentiment Indicator (MIG-MSI) mean? Why might it be useful?

→ There is strong evidence that time series momentum is significant and persistent. In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12-month period. The MIG-MSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.



## California State Teachers' Retirement System

### Semi-Annual Report: Executive Summary

#### Disclaimer

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

California State Teachers Retirement  
State Street Universe  
Periods Ending June 30, 2022



State Street Universe - Public Funds Master Trusts



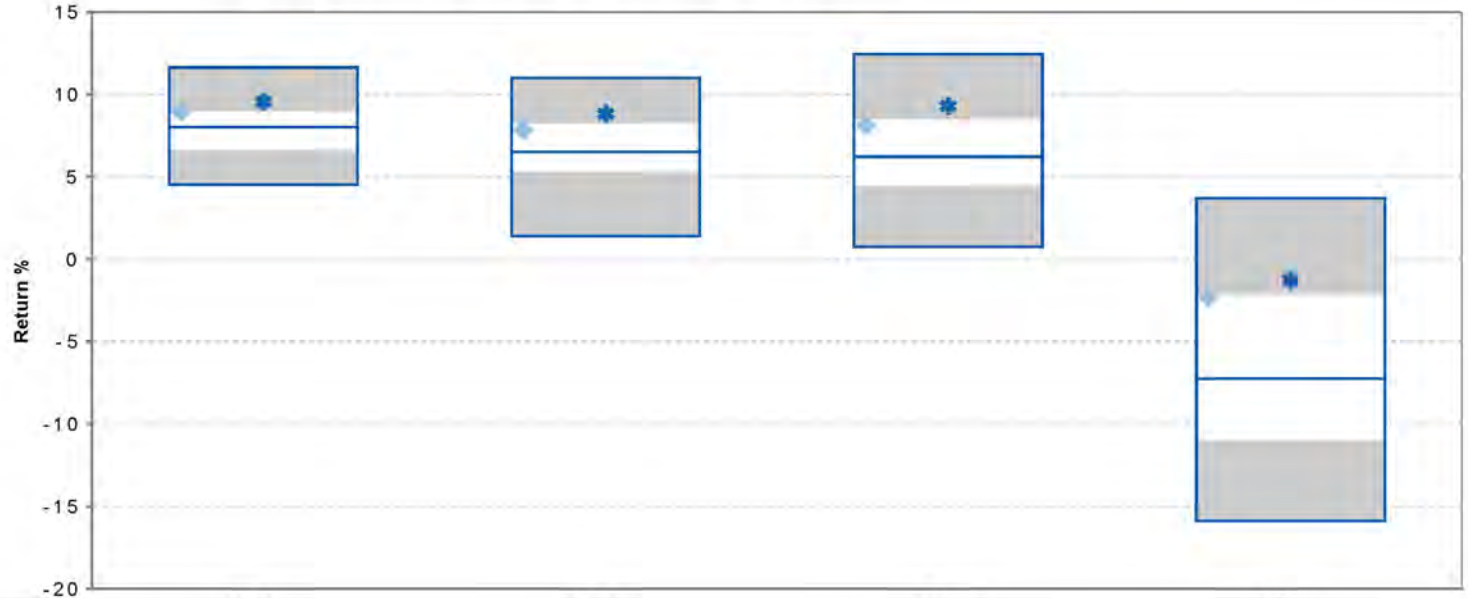
	10 Year	5 Year	3 Year	1 Year
Number of Observations	35	42	43	51
5th Percentile	9.91	9.59	10.60	2.99
25th Percentile	8.65	8.08	8.44	-2.88
50th Percentile	8.05	6.35	6.05	-9.08
75th Percentile	7.15	5.43	4.80	-11.85
95th Percentile	3.34	2.10	0.58	-17.09
★ TOTAL FUND	9.61 6	8.88 8	9.35 11	-1.22 13
● STRS TOTAL FUND INDEX	9.08 19	7.96 28	8.24 29	-2.18 21

Note: Returns for Universe are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.

California State Teachers Retirement  
State Street Universe  
Periods Ending June 30, 2022



State Street Universe - Public Master Trusts > \$1 Billion



	10 Year	5 Year	3 Year	1 Year
Number of Observations	87	102	103	105
5th Percentile	11.64	11.01	12.44	3.71
25th Percentile	8.93	8.24	8.48	-2.16
50th Percentile	8.01	6.51	6.22	-7.24
75th Percentile	6.62	5.32	4.40	-11.03
95th Percentile	4.52	1.41	0.75	-15.90
★ TOTAL FUND	9.61 12	8.88 15	9.35 19	-1.22 18
◆ STRS TOTAL FUND INDEX	9.08 22	7.96 31	8.24 29	-2.18 26

Note: Returns for Universe are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.

California State Teachers Retirement  
State Street Universe  
Periods Ending June 30, 2022



State Street Universe - Public Master Trusts > \$10 Billion



	10 Year	5 Year	3 Year	1 Year
Number of Observations	18	19	20	21
5th Percentile	10.53	11.01	12.11	5.46
25th Percentile	9.15	8.52	8.56	-0.20
50th Percentile	8.37	7.93	8.24	-2.85
75th Percentile	7.84	6.23	5.80	-8.13
95th Percentile	3.34	2.71	1.00	-12.20
★ TOTAL FUND	9.61 11	8.88 17	9.35 21	-1.22 29
● STRS TOTAL FUND INDEX	9.08 28	7.96 50	8.24 51	-2.18 42

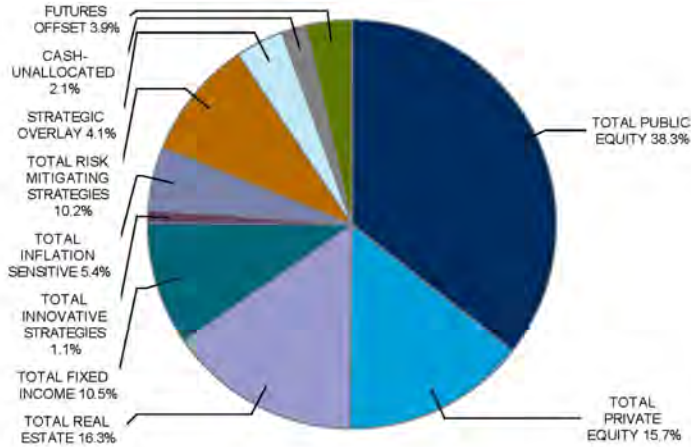
Note: Returns for Universe are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.



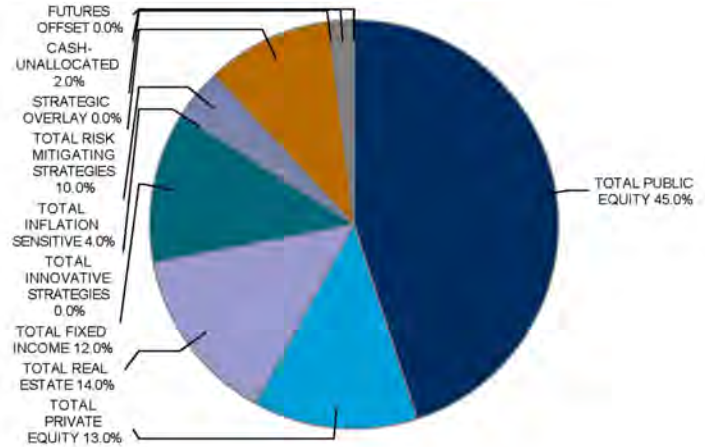
California State Teachers Retirement  
Total Fund - Asset Allocation  
Periods Ending June 30, 2022



Allocation\*



Target Policy



Allocation vs. Target Policy

	Actual*	Policy	Difference
TOTAL PUBLIC EQUITY	38.3	45.0	-6.7
TOTAL PRIVATE EQUITY	15.7	13.0	2.7
TOTAL REAL ESTATE	16.3	14.0	2.3
TOTAL FIXED INCOME	10.5	12.0	-1.5
TOTAL INNOVATIVE STRATEGIES	1.1	0.0	1.1
TOTAL INFLATION SENSITIVE	5.4	4.0	1.4
TOTAL RISK MITIGATING STRATEGIES	10.2	10.0	0.2
STRATEGIC OVERLAY	4.1	0.0	4.1
CASH-UNALLOCATED	2.1	2.0	0.1
FUTURES OFFSET	-3.9	0.0	-3.9

\* End of period weights

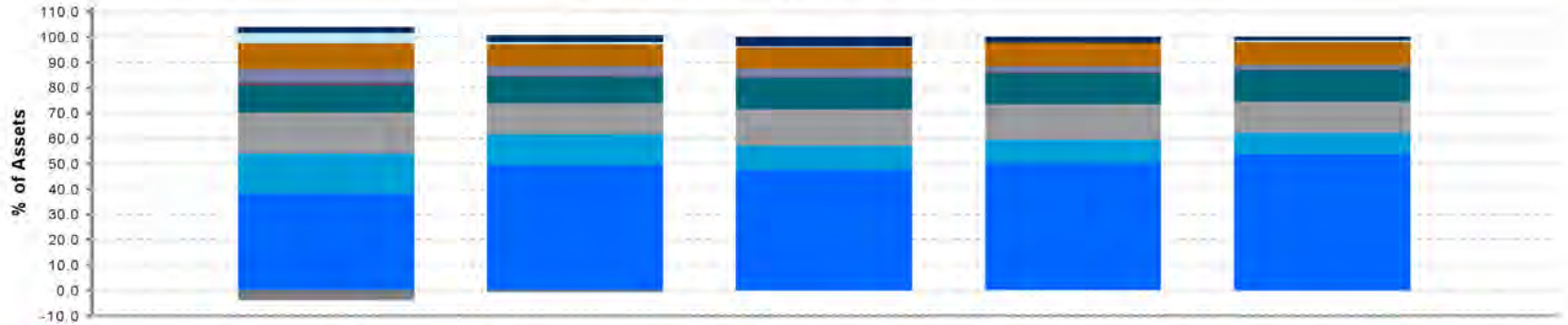
\*\* Derivatives are not included which provide additional exposure to Public Equity bringing the Asset Allocation range within policy limits. Negative allocation to Futures Offset are represented as positive numbers on the Allocation pie chart.

Includes Sustainable Investment & Stewardship Strategies Public and Private investments total of \$8,842 Million.

## California State Teachers Retirement Total Fund - Historical Asset Allocation Periods Ending June 30, 2022



**Total Fund - Asset Allocation**



■ Public Equity 
 ■ Private Equity 
 ■ Real Estate 
 ■ Fixed Income 
 ■ Innovative Strategies 
 ■ Inflation Sensitive 
 ■ Risk Mitigating Strategies 
 ■ Strategic Overlay 
 ■ Cash-Unallocated 
 ■ Futures Offset

	Jun-22	Jun-21	Jun-20	Jun-19	Jun-18
Public Equity	38.3	49.7	47.7	50.4	53.9
Private Equity	15.7	12.0	9.6	9.1	8.2
Real Estate	16.3	12.3	14.2	13.8	12.5
Fixed Income	10.5	10.4	12.5	12.3	12.3
Innovative Strategies	1.1	0.5	0.3	0.3	0.2
Inflation Sensitive	5.4	3.7	3.3	2.5	1.9
Risk Mitigating Strategies	10.2	8.6	8.4	9.4	9.0
Strategic Overlay	4.1	0.8	0.3	-0.0	0.6
Cash-Unallocated	2.1	2.6	3.7	2.1	1.4
Futures Offset	-3.9	-0.7			

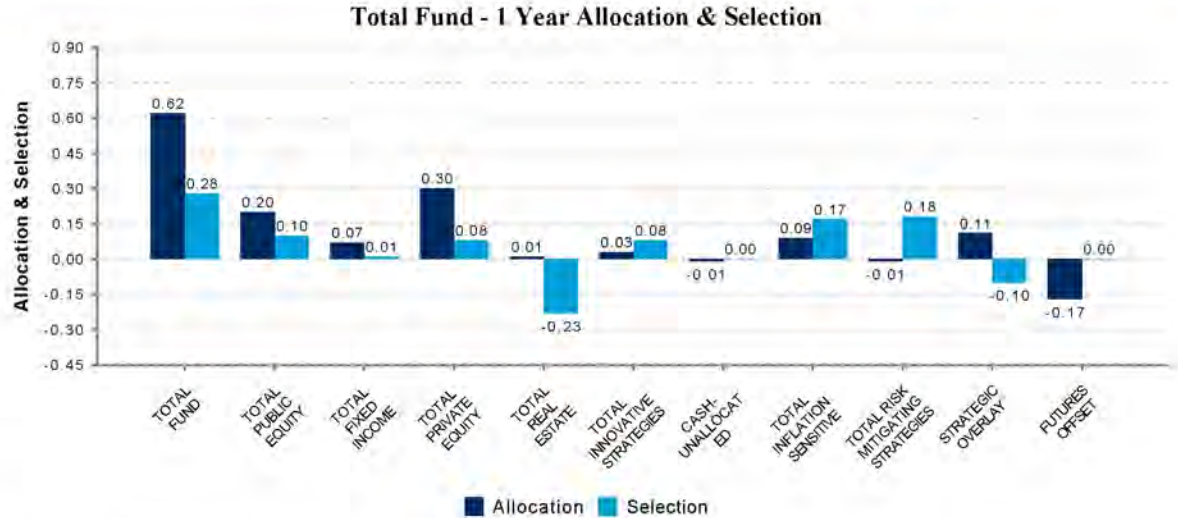
### Ending Market Value (\$ in Millions)

	Public Equity	Private Equity	Real Estate	Fixed Income	Innovative Strategies	Inflation Sensitive	Risk Mitigating Strategies	Strategic Overlay	Cash Unallocated	Futures Offset
Jun 30, 2022	115,650	47,249	49,221	31,701	3,219	16,413	30,904	12,506	6,417	-11,699
Jun 30, 2021	153,285	36,991	37,859	32,230	1,559	11,526	26,659	2,328	8,142	-2,020
Jun 30, 2020	117,353	23,538	34,992	30,772	716	8,118	20,637	757	9,146	
Jun 30, 2019	119,727	21,668	32,865	29,185	785	5,871	22,212	-7	5,017	
Jun 30, 2018	120,282	18,316	27,951	27,495	483	4,177	19,990	1,288	3,064	

\* End of period weights  
Includes Sustainable Investment & Stewardship Strategies Public and Private investments total of \$8,842 Million.



California State Teachers Retirement  
Total Fund Attribution  
Periods Ending June 30, 2022



### Total Fund Attribution - 1 Year

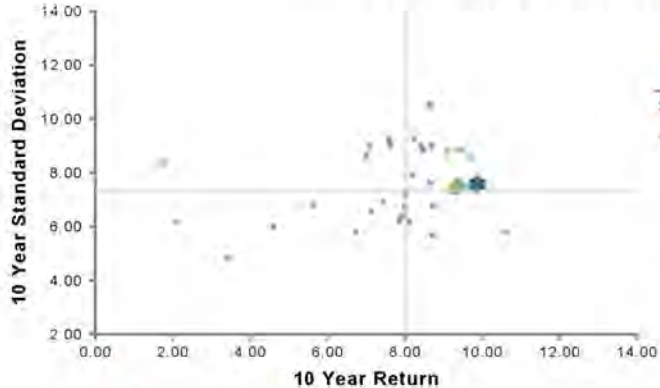
	Portfolio Weight	Benchmark Weight	Beginning Difference	Portfolio Return	Benchmark Return	Return Difference	Weighting	Selection	Timing
TOTAL FUND	100.00	100.00	0.00	-1.28	-2.18	0.90	0.62	0.28	0.00
TOTAL PUBLIC EQUITY	49.68	45.00	2.68	-16.63	-16.82	0.19	0.20	0.10	
TOTAL FIXED INCOME	10.45	12.00	-1.55	-10.32	-10.39	0.07	0.07	0.01	
TOTAL PRIVATE EQUITY	11.99	13.00	0.99	23.75	23.00	0.74	0.30	0.08	
TOTAL REAL ESTATE	12.27	14.00	-1.73	26.17	27.26	-1.09	0.01	-0.23	
TOTAL INNOVATIVE STRATEGIES	0.51	0.00	0.51	12.99	0.53	12.46	0.03	0.08	
CASH-UNALLOCATED	2.64	2.00	0.64	0.32	0.17	0.15	-0.01	0.00	
TOTAL INFLATION SENSITIVE	3.74	4.00	-0.26	17.52	12.90	4.62	0.09	0.17	
TOTAL RISK MITIGATING STRATEGIES	8.64	10.00	-1.36	8.93	6.76	2.17	-0.01	0.18	
STRATEGIC OVERLAY	0.75	0.00	0.75	-2.39	0.00	-2.39	0.11	-0.10	
FUTURES OFFSET	-0.65	0.00	-0.65	0.00	0.00	0.00	-0.17	0.00	

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
\* Attribution analysis uses beginning portfolio weights and end of period benchmark weights.

California State Teachers Retirement  
Total Fund - Risk vs Return  
Periods Ending June 30, 2022



10 Year Risk  
State Street Universe - Public Funds Master Trusts



★ TOTAL FUND	9.61	6	7.25	47
◆ STRS TOTAL FUND INDEX	9.08	19	7.17	44
Median	8.05		7.36	
5th Percentile	9.91		5.28	
25th Percentile	8.65		6.30	
50th Percentile	8.05		7.36	
75th Percentile	7.15		8.86	
95th Percentile	3.34		10.35	

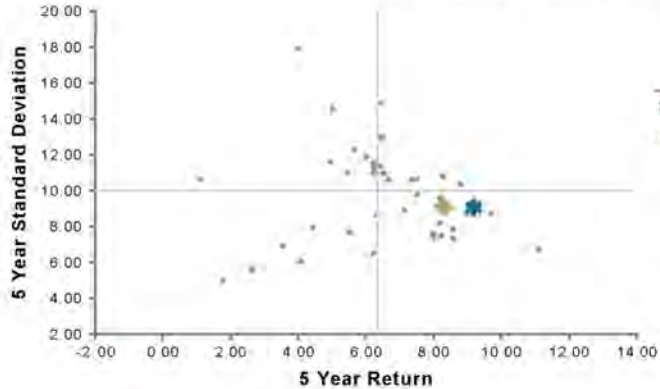
	10 Year Return	10 Year Standard Deviation
★ TOTAL FUND	9.61	6
◆ STRS TOTAL FUND INDEX	9.08	19
Median	8.05	
5th Percentile	9.91	
25th Percentile	8.65	
50th Percentile	8.05	
75th Percentile	7.15	
95th Percentile	3.34	

10 Year Risk  
Risk Information & Statistics

	TOTAL FUND
Historic Beta	1.00
Information Ratio	0.50
Jensens Alpha	0.53
R-Squared	0.98
Sharpe Ratio	1.24
Tracking Error	1.06
Treynor Ratio	8.97

★ TOTAL FUND ◆ STRS TOTAL FUND INDEX

5 Year Risk  
State Street Universe - Public Funds Master Trusts



★ TOTAL FUND	8.88	8	8.59	39
◆ STRS TOTAL FUND INDEX	7.96	28	8.61	40
Median	6.35		9.99	
5th Percentile	9.59		5.43	
25th Percentile	8.08		7.50	
50th Percentile	6.35		9.99	
75th Percentile	5.43		11.17	
95th Percentile	2.10		14.55	

	5 Year Return	5 Year Standard Deviation
★ TOTAL FUND	8.88	8
◆ STRS TOTAL FUND INDEX	7.96	28
Median	6.35	
5th Percentile	9.59	
25th Percentile	8.08	
50th Percentile	6.35	
75th Percentile	5.43	
95th Percentile	2.10	

5 Year  
Risk Information & Statistics

	TOTAL FUND
Historic Beta	0.99
Information Ratio	1.04
Jensens Alpha	0.98
R-Squared	0.99
Sharpe Ratio	0.90
Tracking Error	0.89
Treynor Ratio	7.83

★ TOTAL FUND ◆ STRS TOTAL FUND INDEX

Note: Returns for Universe are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary

	Ending Market Value (\$ in Thousands)	Percentage of Plan	30 Year	25 Year	20 Year	10 Year	5 Year	3 Year	1 Year
<b>TOTAL FUND</b>	301,580,329	100.00	8.04	7.24	7.84	9.38	8.71	9.26	-1.28
<i>STRS TOTAL FUND INDEX</i>			8.01	7.02	7.79	9.08	7.96	8.24	-2.18
<b>TOTAL PUBLIC EQUITY</b>	115,649,833	38.35			7.86	9.64	7.08	6.17	-16.63
<i>TOTAL PUBLIC EQUITY BLENDED INDEX</i>					7.81	9.56	7.01	6.04	-16.82
<b>TOTAL PRIVATE EQUITY</b>	47,248,732	15.67			14.18	15.52	18.76	23.36	23.75
<i>TOTAL PRIVATE EQUITY INDEX</i>					11.23	15.27	16.95	20.39	23.00
<b>TOTAL REAL ESTATE</b>	49,220,964	16.32			8.25	11.37	11.51	12.98	26.17
<i>STRS REAL ESTATE INDEX</i>					9.11	10.00	8.90	10.30	27.26
<b>TOTAL FIXED INCOME</b>	31,701,481	10.51			4.18	2.22	1.35	-0.44	-10.32
<i>STRS US DEBT CUSTOM INDEX</i>					3.86	1.69	0.95	-0.86	-10.39
<b>TOTAL INNOVATIVE STRATEGIES</b>	3,218,831	1.07				5.02	8.36	7.07	12.99
<i>TOTAL INNOVATIVE STRATEGIES INDEX</i>						3.15	3.20	1.50	0.53
<b>TOTAL INFLATION SENSITIVE</b>	16,412,524	5.44				7.04	10.05	11.95	17.52
<i>TOTAL INFLATION SENSITIVE INDEX</i>						5.47	6.58	8.75	12.90
<b>TOTAL RISK MITIGATING STRATEGIES</b>	30,903,507	10.25				3.85	6.58	7.65	8.93
<i>STRS TOTAL RMS</i>						2.42	6.30	7.61	6.76
<b>STRATEGIC OVERLAY</b>	12,506,310	4.15				0.16	0.10	0.04	-2.39

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
Includes Sustainable Investment & Stewardship Strategies Public and Private investments total of \$8,842 Million.  
\* Please see footnote regarding the Innovation strategy under "Performance Summary - Innovative Strategies" section.  
\*\* Derivatives are not included which provide additional exposure to Public Equity bringing the Asset Allocation range within policy limits.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary

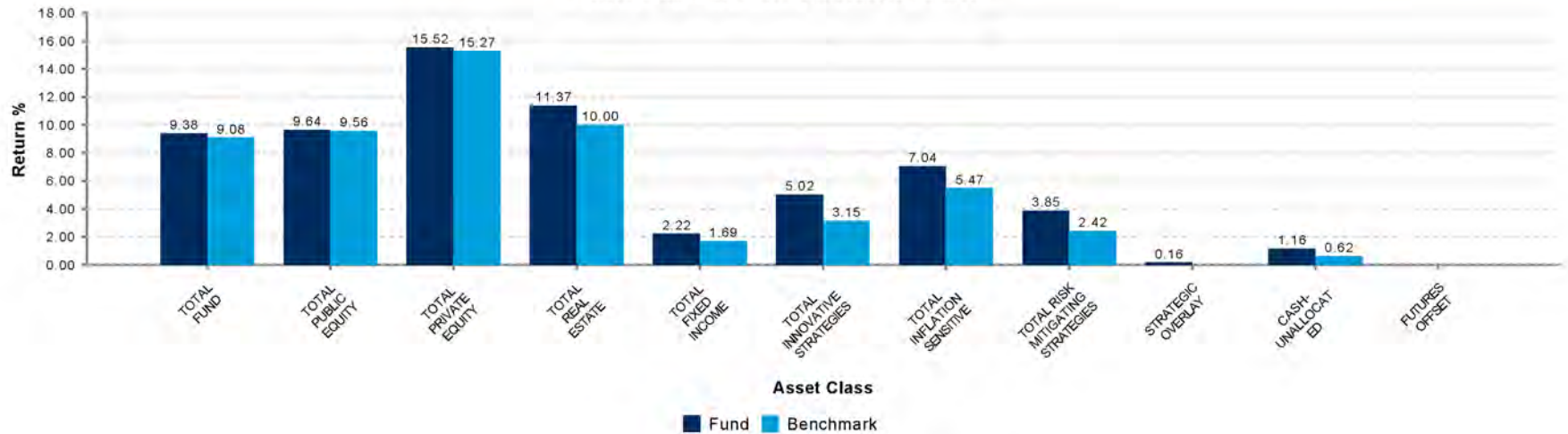
	Ending Market Value (\$ in Thousands)	Percentage of Plan	30 Year	25 Year	20 Year	10 Year	5 Year	3 Year	1 Year
<b>CASH-UNALLOCATED</b>	6,416,811	2.13			2.51	1.16	1.31	0.77	0.32
<i>Bloomberg U.S. Treasury Bellwethers: 3M</i>					1.26	0.65	1.12	0.63	0.17
<b>FUTURES OFFSET</b>	-11,698,664	-3.88							0.00

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
Includes Sustainable Investment & Stewardship Strategies Public and Private investments total of \$8,842 Million.  
\* Please see footnote regarding the Innovation strategy under "Performance Summary - Innovative Strategies" section.  
\*\* Derivatives are not included which provide additional exposure to Public Equity bringing the Asset Allocation range within policy limits.

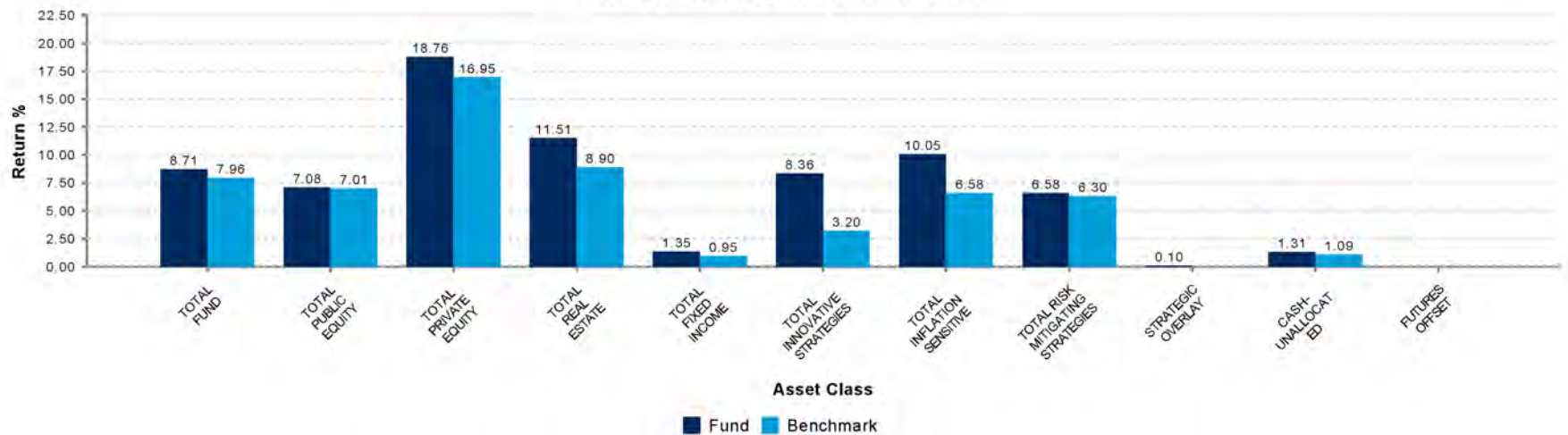
## California State Teachers Retirement Performance Summary Periods Ending June 30, 2022



**Asset Class - 10 Year Annualized Return**



**Asset Class - 5 Year Annualized Return**

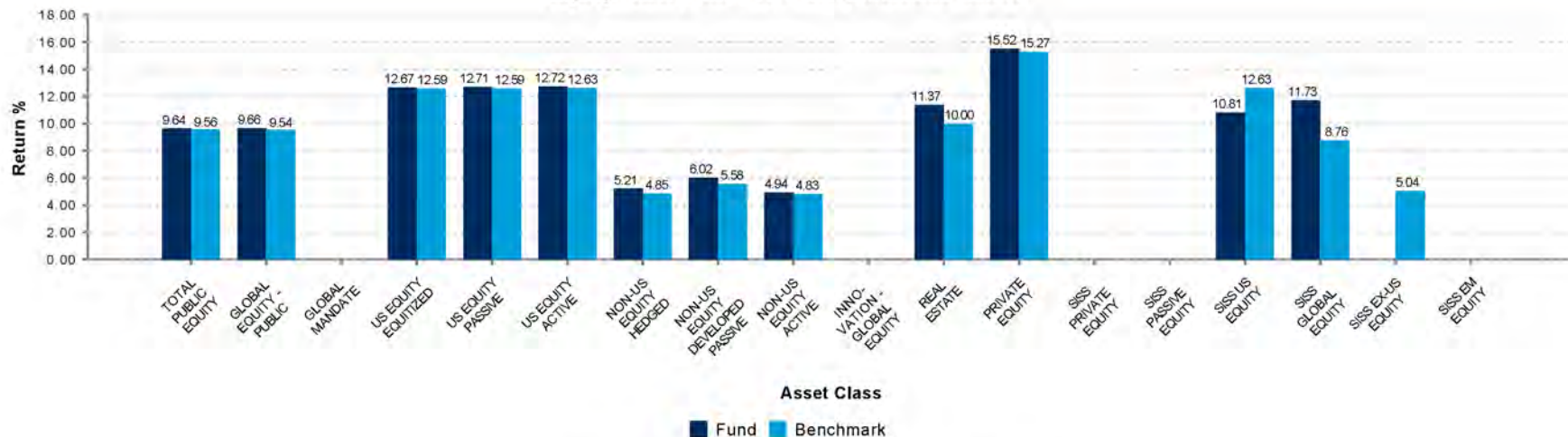


Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

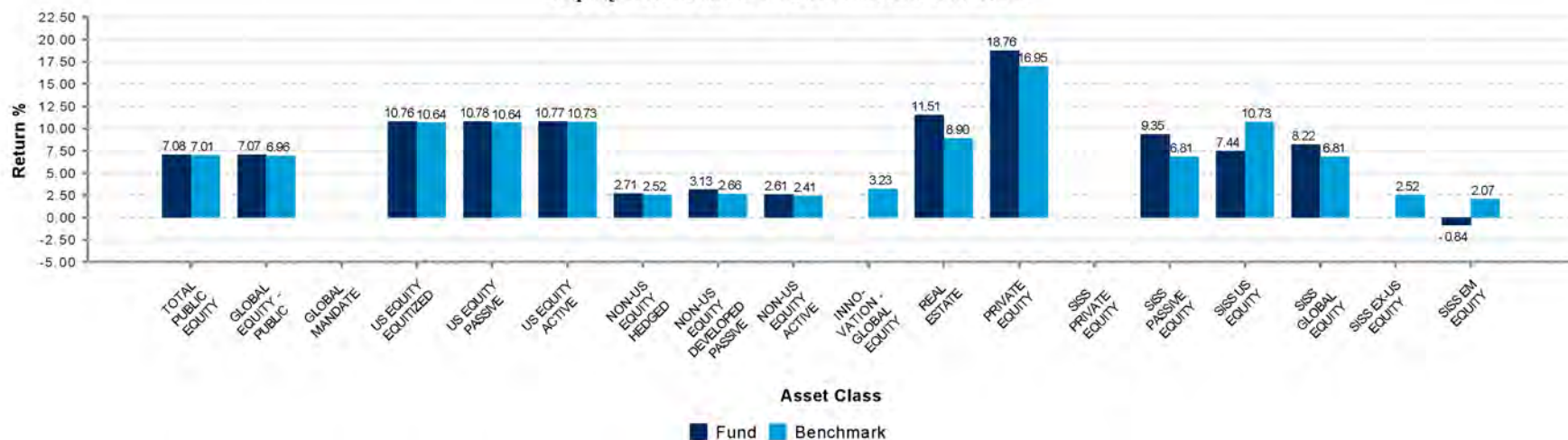
## California State Teachers Retirement Performance Summary Periods Ending June 30, 2022



### Equity Asset Class - 10 Year Annualized Return



### Equity Asset Class - 5 Year Annualized Return

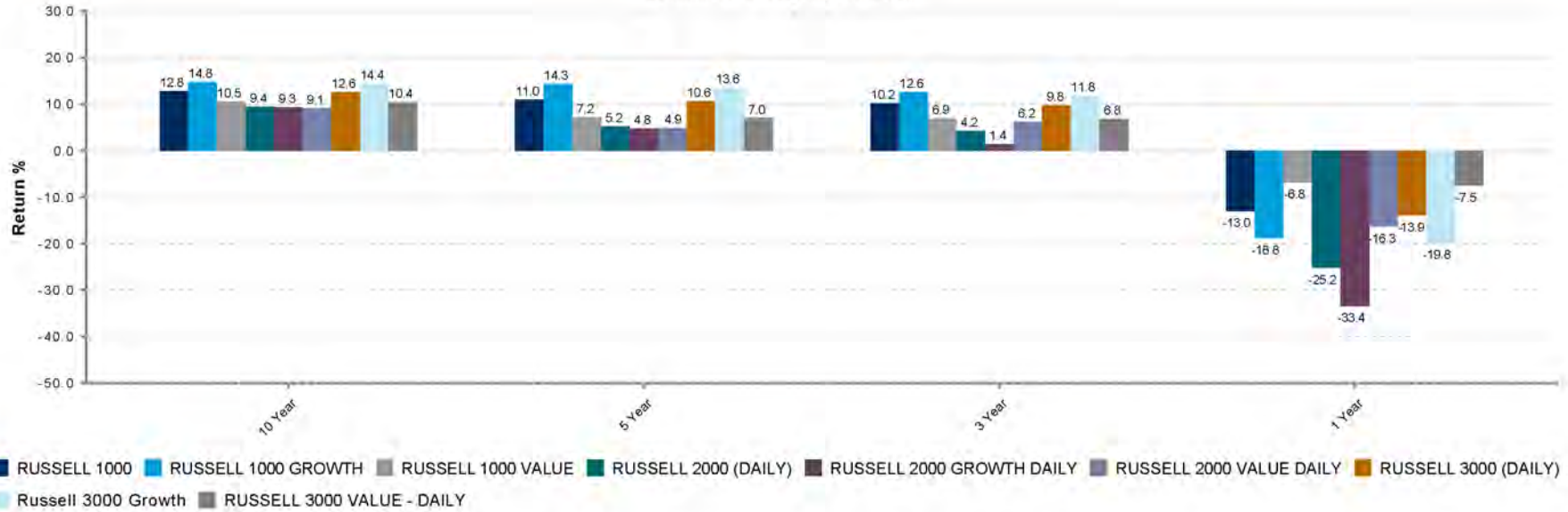


Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

## California State Teachers Retirement US Equity - Market Review Periods Ending June 30, 2022



### Russell U.S. Equity Indices



### Russell U.S. Equity Indices - Market Review Summary

	20 Year	10 Year	5 Year	3 Year	1 Year
RUSSELL 1000	9.21	12.82	11.00	10.17	-13.04
RUSSELL 1000 GROWTH	10.32	14.80	14.29	12.58	-18.77
RUSSELL 1000 VALUE	7.86	10.50	7.17	6.87	-6.82
RUSSELL 2000	8.17	9.35	5.17	4.21	-25.20
RUSSELL 2000 GROWTH	8.34	9.30	4.80	1.40	-33.43
RUSSELL 2000 VALUE	7.77	9.05	4.89	6.18	-16.28
RUSSELL 3000	9.14	12.57	10.60	9.77	-13.87
RUSSELL 3000 GROWTH	10.20	14.41	13.63	11.84	-19.78
RUSSELL 3000 VALUE	7.85	10.39	7.01	6.82	-7.46

Note: Indices are standard market versions. Returns greater than 1 year are annualized.



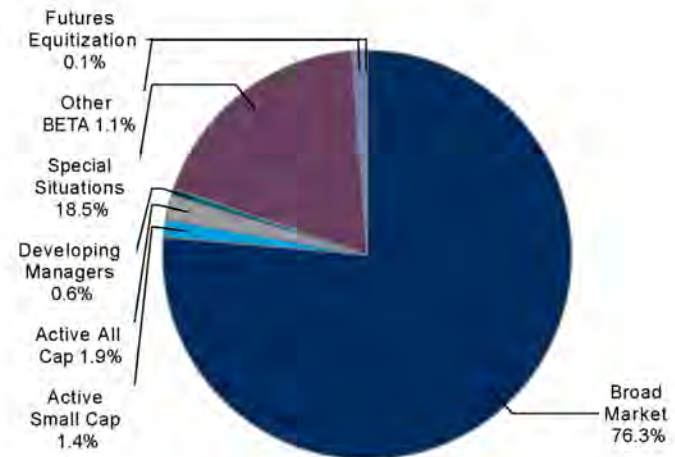
California State Teachers Retirement  
US Equity - Asset Allocation  
Periods Ending June 30, 2022



**Total Equity Fund Allocations**

	Market Value (\$ in Thousands)	Actual Weight (Percentage %)
<b>Passive</b>		
Broad Market	48,203,611	76.3
Total US Equity Passive	48,203,611	76.3
<b>Active</b>		
Active Large Cap	1,375	0.0
Active Small Cap	887,001	1.4
Active All Cap	1,216,764	1.9
Developing Managers	396,776	0.6
Special Situations	11,706,671	18.5
Other BETA	690,102	1.1
Futures Equitization	58,471	0.1
Total US Equity Active	14,957,159	23.7
<b>Other</b>		
US Equity Allocation	16,593	0.0
<b>Total US Equity</b>		
Total US Equity	63,177,364	100.0

**Asset Allocation**



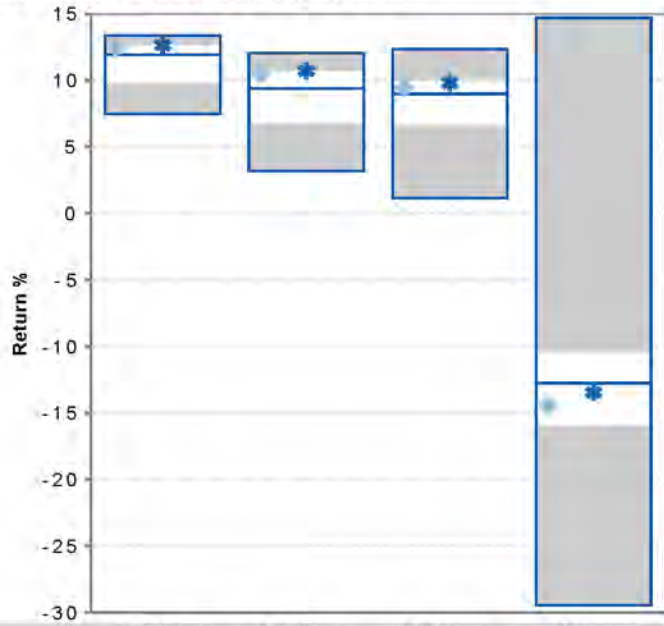
\* End of period weights



California State Teachers Retirement  
US Equity Equitized  
Periods Ending June 30, 2022

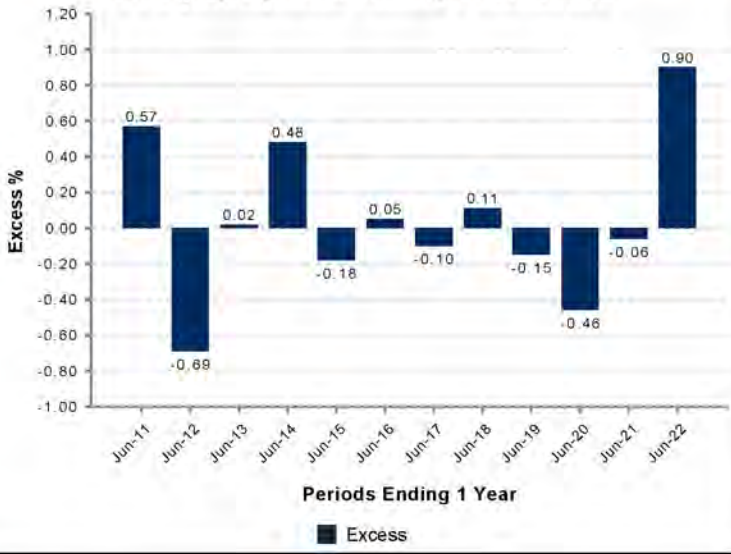


State Street Universe - US Equity Pools



	10 Years	5 Years	3 Years	1 Year
Number of Observations	118	124	129	133
5th Percentile	13.37	12.04	12.34	14.71
25th Percentile	12.65	10.65	9.98	-10.43
50th Percentile	11.94	9.38	8.98	-12.75
75th Percentile	9.72	6.81	6.60	-15.98
95th Percentile	7.46	3.18	1.16	-29.45
★ US EQUITY EQUITIZED	12.71 21	10.78 22	9.87 30	-13.38 59
◆ STRS MSCI USA IMI	12.59 27	10.64 26	9.64 37	-14.29 65

US Equity Equitized - Rolling 1 Year Excess



Top 10 Holdings

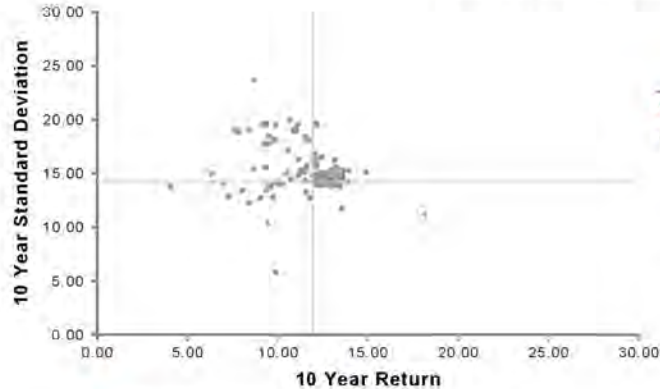
Security Name	Ending Market Value (\$ in Thousands)	Percentage %
APPLE INC	3,623,520	5.7
MICROSOFT CORP	3,077,712	4.9
AMAZON.COM INC	1,589,825	2.5
ALPHABET INC CL A	1,074,582	1.7
ALPHABET INC CL C	1,063,606	1.7
TESLA INC	955,691	1.5
UNITEDHEALTH GROUP INC	818,566	1.3
JOHNSON + JOHNSON	772,345	1.2
BERKSHIRE HATHAWAY INC CL B	642,304	1.0
NVIDIA CORP	612,147	1.0

Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\*Gross of fees returns are based on best available expense information.

California State Teachers Retirement  
US Equity Equitized - Risk vs Return  
Periods Ending June 30, 2022



10 Year Risk  
State Street Universe - US Equity Pools



- US EQUITY EQUITIZED
- STRS MSCI USA IMI
- Median
- 5th Percentile
- 25th Percentile
- 50th Percentile
- 75th Percentile
- 95th Percentile

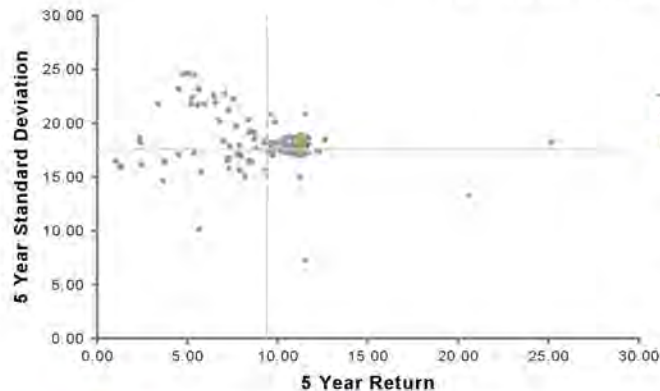
	10 Year Return	10 Year Standard Deviation
US EQUITY EQUITIZED	12.71 21	14.17 48
STRS MSCI USA IMI	12.59 27	14.20 52
Median	11.94	14.19
5th Percentile	13.37	11.46
25th Percentile	12.65	13.72
50th Percentile	11.94	14.19
75th Percentile	9.72	16.03
95th Percentile	7.46	19.30

US EQUITY EQUITIZED STRS MSCI USA IMI

10 Year  
Risk Information & Statistics

US EQUITY EQUITIZED	
Historic Beta	1.00
Information Ratio	0.44
Jensens Alpha	0.13
R-Squared	1.00
Sharpe Ratio	0.97
Tracking Error	0.23
Treynor Ratio	13.51

5 Year Risk  
State Street Universe - US Equity Pools



- US EQUITY EQUITIZED
- STRS MSCI USA IMI
- Median
- 5th Percentile
- 25th Percentile
- 50th Percentile
- 75th Percentile
- 95th Percentile

	5 Year Return	5 Year Standard Deviation
US EQUITY EQUITIZED	10.78 22	17.53 47
STRS MSCI USA IMI	10.64 26	17.59 52
Median	9.38	17.55
5th Percentile	12.04	14.70
25th Percentile	10.65	16.93
50th Percentile	9.38	17.55
75th Percentile	6.81	19.86
95th Percentile	3.18	24.32

US EQUITY EQUITIZED STRS MSCI USA IMI

5 Year  
Risk Information & Statistics

US EQUITY EQUITIZED	
Historic Beta	1.00
Information Ratio	0.49
Jensens Alpha	0.15
R-Squared	1.00
Sharpe Ratio	0.55
Tracking Error	0.24
Treynor Ratio	9.68

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\*Gross returns are based on best available expense information.

## California State Teachers Retirement US Equity Equitized - Attribution Periods Ending June 30, 2022



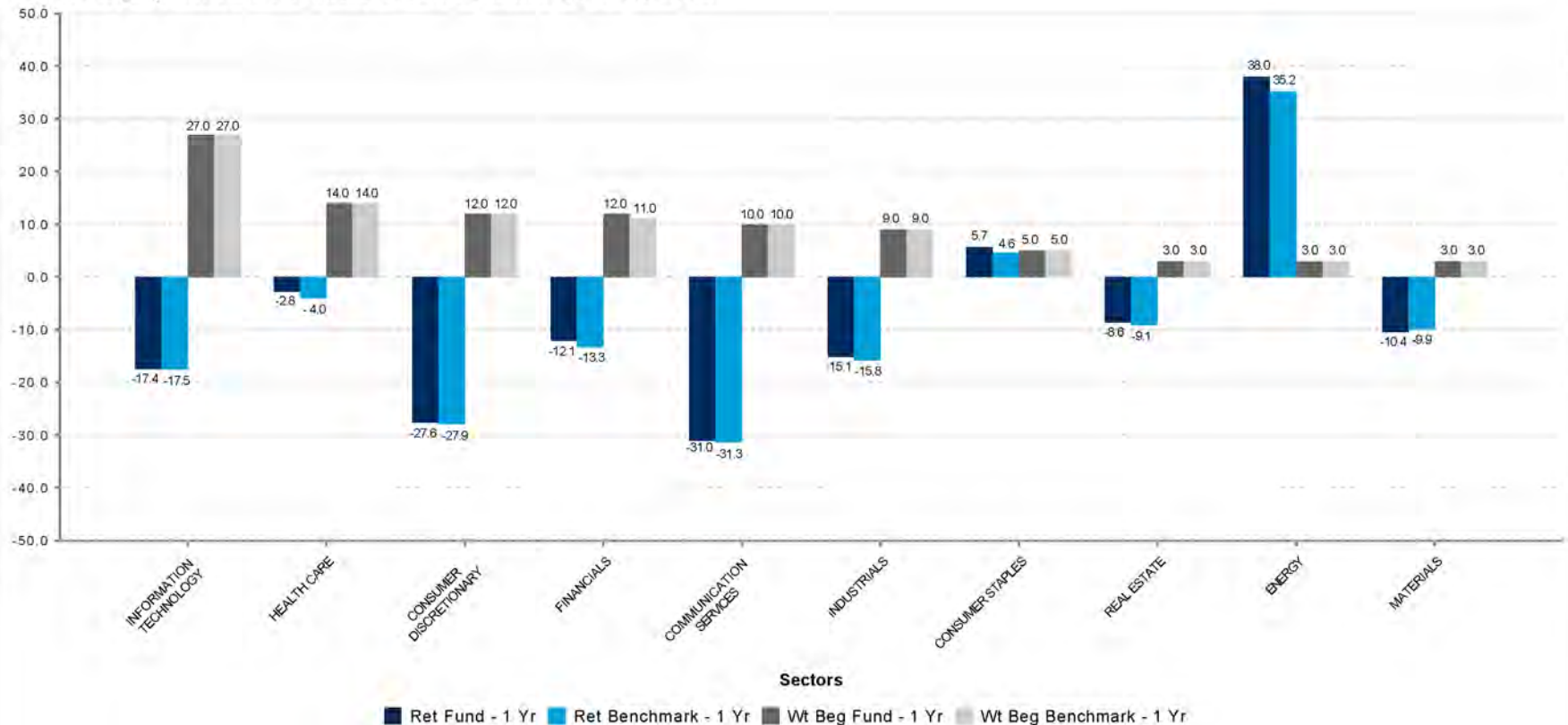
### Attribution Highlights

- During the 2021/2022 fiscal year, U.S. Equity Equitized outperformed the benchmark, STRS U.S. Equity Index by 91 basis points (-13.38% vs. -14.29%).
- Security selection in Information Technology, Health Care, Industrials, Energy contributed to the overperformance.

### 1 Year Attribution

US EQUITY EQUITIZED	Allocation - 1 Yr	Selection - 1 Yr
	0.5	0.4

### 1 Year US Equity Returns/Allocations vs. STRS Custom MSCI USA IMI



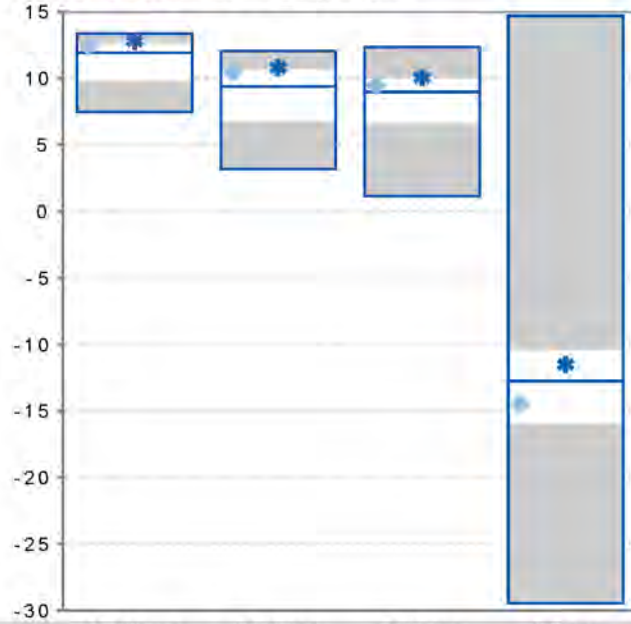
Note: Returns are gross of fees. Weights are beginning of period.  
Attribution is calculated using monthly average weights and Modified Dietz rate of returns.  
Effective 8/1/2021, U.S. Equity Equitized benchmark is STRS Custom MSCI USA IMI.



California State Teachers Retirement  
US Equity Active  
Periods Ending June 30, 2022

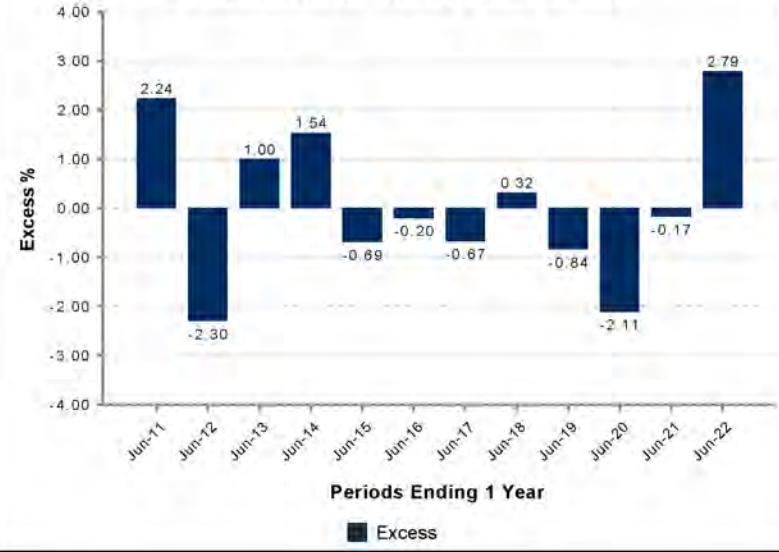


State Street Universe - US Equity Pools



	10 Years	5 Years	3 Years	1 Year
Number of Observations	118	124	129	133
5th Percentile	13.37	12.04	12.34	14.71
25th Percentile	12.65	10.65	9.98	-10.43
50th Percentile	11.94	9.38	8.98	-12.75
75th Percentile	9.72	6.81	6.60	-15.98
95th Percentile	7.46	3.18	1.16	-29.45
★ US EQUITY ACTIVE	12.87 16	10.87 20	10.12 24	-11.44 40
◆ STRS MSCI USA IMI	12.59 27	10.64 26	9.64 37	-14.29 65

US Equity Active - Rolling 1 Year Excess



Top 10 Holdings

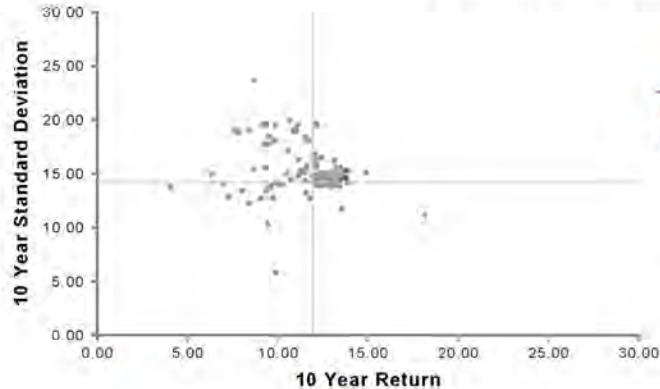
Security Name	Ending Market Value (\$ in Thousands)	Percentage %
APPLE INC	818,063	5.5
MICROSOFT CORP	688,227	4.6
AMAZON.COM INC	352,637	2.4
ALPHABET INC CL C	274,260	1.8
ALPHABET INC CL A	232,671	1.6
TESLA INC	204,642	1.4
UNITEDHEALTH GROUP INC	199,015	1.3
JOHNSON + JOHNSON	172,633	1.2
S+P500 EMINI FUT SEP22	151,580	1.0
VISA INC CLASS A SHARES	135,285	0.9

Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.

## California State Teachers Retirement US Equity Active - Risk vs Return Periods Ending June 30, 2022



### 10 Year Risk State Street Universe - US Equity Pools



- ★ US EQUITY ACTIVE
- ◆ STRS MSCI USA IMI

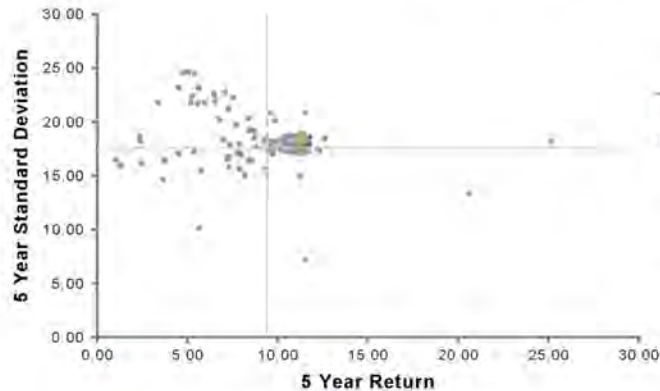
	10 Year Return	10 Year Standard Deviation
US EQUITY ACTIVE	12.87 16	14.14 44
STRS MSCI USA IMI	12.59 27	14.20 52
Median	11.94	14.19
5th Percentile	13.37	11.46
25th Percentile	12.65	13.72
50th Percentile	11.94	14.19
75th Percentile	9.72	16.03
95th Percentile	7.46	19.30

### 10 Year Risk Information & Statistics

	US EQUITY ACTIVE
Historic Beta	0.99
Information Ratio	0.17
Jensens Alpha	0.20
R-Squared	1.00
Sharpe Ratio	0.85
Tracking Error	0.78
Treynor Ratio	12.15

★ US EQUITY ACTIVE ◆ STRS MSCI USA IMI

### 5 Year Risk State Street Universe - US Equity Pools



- ★ US EQUITY ACTIVE
- ◆ STRS MSCI USA IMI

	5 Year Return	5 Year Standard Deviation
US EQUITY ACTIVE	10.87 20	17.43 44
STRS MSCI USA IMI	10.64 26	17.59 52
Median	9.38	17.55
5th Percentile	12.04	14.70
25th Percentile	10.65	16.93
50th Percentile	9.38	17.55
75th Percentile	6.81	19.86
95th Percentile	3.18	24.32

### 5 Year Risk Information & Statistics

	US EQUITY ACTIVE
Historic Beta	0.99
Information Ratio	0.14
Jensens Alpha	0.22
R-Squared	1.00
Sharpe Ratio	0.55
Tracking Error	0.89
Treynor Ratio	9.75

★ US EQUITY ACTIVE ◆ STRS MSCI USA IMI

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\*Gross returns are based on best available expense information.

## California State Teachers Retirement US Equity Active - Attribution Periods Ending June 30, 2022



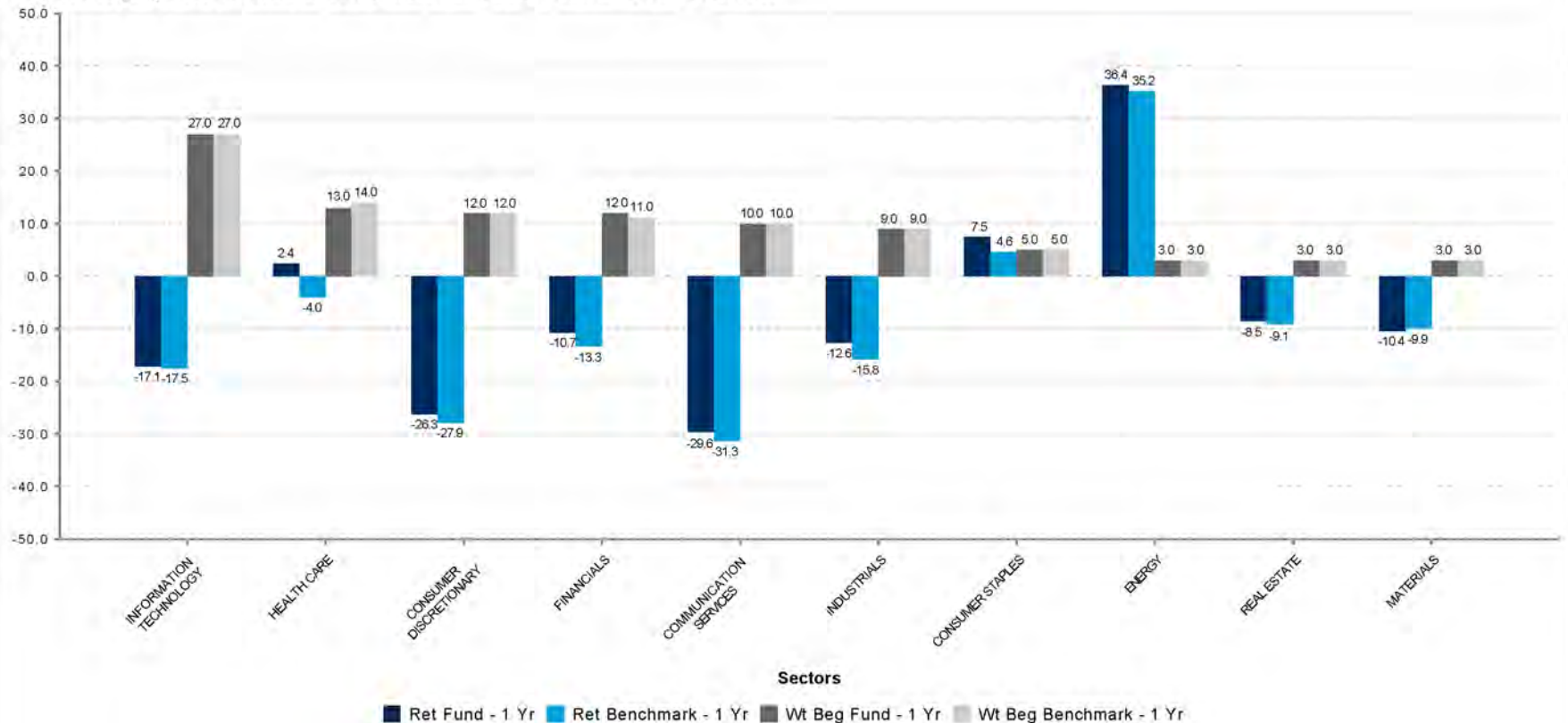
### Attribution Highlights

- During the 2021/2022 fiscal year, U.S. Equity Active outperformed the benchmark, STRS U.S. Equity Index by 285 basis points (-11.44% vs. -14.29%).
- Security selection in Health Care, Consumer Discretionary, Industrial, Energy and Real Estate contributed to the overperformance.

### 1 Year Attribution

	<b>Allocation - 1 Yr</b>	<b>Selection - 1 Yr</b>
US EQUITY ACTIVE	2.7	0.1

**1 Year US Equity Active Returns/Allocations vs. STRS Custom MSCI USA IMI**



Note: Returns are gross of fees. Weights are beginning of period.  
Attribution is calculated using monthly average weights and Modified Dietz rate of returns.  
Effective 8/1/2021, U.S. Equity Active benchmark is STRS Custom MSCI USA IMI.



California State Teachers Retirement  
US Equity - Performance Summary  
Periods Ending June 30, 2022



Performance Summary - US Equity

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<b>US EQUITY EQUITIZED</b>	63,177,364	9.12	12.67	10.76	9.85	-13.39
<i>STRS MSCI USA IMI*</i>		9.05	12.59	10.64	9.64	-14.29
<b>US EQUITY UNEQUITIZED</b>	63,177,364	9.11	12.66	10.76	9.85	-13.39
<i>STRS MSCI USA IMI*</i>		9.05	12.59	10.64	9.64	-14.29
<b>US EQUITY ACTIVE</b>	14,957,159	9.18	12.72	10.77	10.03	-11.50
<i>STRS MSCI USA IMI*</i>		9.05	12.59	10.64	9.64	-14.29
<b>US EQUITY ACTIVE - DEV MGR</b>	396,776		9.35	5.95	6.36	-23.77
<i>US DEVELOPING MANAGER CUSTOM BENCHMARK</i>			10.17	5.21	4.23	-25.36
<b>US EQUITY ACTIVE BIVUM DEV MGR</b>	396,776		8.84	5.95	6.36	-23.77
<i>STRS CUSTOM RUSSELL 2000</i>			9.38	5.21	4.23	-25.36
BIVUM-PHOCAS FINANCIAL CORP	81,092		10.80	6.39	8.66	-12.09
<i>STRS CUSTOM RUSSELL 2000 VALUE</i>			9.09	4.94	6.23	-16.59
BIVUM-COVE STREET CAPITAL	60,176			3.38	1.70	-15.32
<i>STRS CUSTOM RUSSELL 2000 VALUE</i>				4.94	6.23	-16.59
BIVUM - EASTERN SHORE	56,720			4.53	2.34	-24.44
<i>STRS CUSTOM RUSSELL 2000</i>				5.21	4.23	-25.36
BIV - AMI ASSET MANAGEMENT	59,895			3.77	5.05	-20.36
<i>STRS CUSTOM RUSSELL 2000 GROWTH</i>				4.85	1.43	-33.43
BIV - ESSEX INVESTMENT MGMT	29,480				7.79	-32.48
<i>STRS CUSTOM RUSSELL 2000</i>					4.23	-25.36
BIV - GRANAHAN	74,816				10.21	-38.28
<i>STRS CUSTOM RUSSELL 2000 GROWTH</i>					1.43	-33.43

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
\* From inception to 7/31/2021 - STRS US Equity Index. From 8/1/2021 to current - STRS Custom MSCI USA IMI.

California State Teachers Retirement  
US Equity - Performance Summary  
Periods Ending June 30, 2022



Performance Summary - US Equity

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
BIV-MONARCH	34,597					-20.97
<i>STRS CUSTOM RUSSELL 2000</i>						-25.36
<b>USEQ SPECIAL SITUATIONS-A</b>	11,706,671		13.71	12.27	11.49	-12.95
<i>STRS CUSTOM RUSSELL 3000</i>			12.63	10.73	9.78	-13.95
CALSTRS GENDER DIVERSITY	273,985				2.62	-24.29
<i>CalSTRS Custom GDI Total Return Index</i>					2.58	-24.34
STRS TOP 200	814,520					-11.54
<i>STRS CUSTOM RUSSELL TOP 200</i>						-11.56
STRS US MID CORE	51					
<i>STRS RUSS MID EX TOB EX FIREARMS</i>						
US SPECIAL SITUATION-A	1					
<i>STRS CUSTOM RUSSELL MIDCAP GRWTH BLENDED</i>						
SPECIAL SITUATIONS - A1	13,467					
<i>Bloomberg U.S. Treasury Bellwethers: 3M</i>						
CalSTRS Russell 1000	39					
<i>STRS CUSTOM RUSSELL 1000</i>						
CALSTRS MSCI USA	10,604,609					
<i>MSCI CALSTRS Index on USA</i>						
<b>US EQUITY ACTIVE - CORE</b>	2,105,139	9.28	12.92	11.63	12.63	-1.59
<i>STRS US EQUITY INDEX</i>		9.08	12.63	10.73	9.78	-13.95
<b>USEQ ACT LG CAP</b>	1,375					
<i>STRS US EQUITY LARGE CAP INDEX</i>						

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
\* From inception to 7/31/2021 - STRS US Equity Index. From 8/1/2021 to current - STRS Custom MSCI USA IMI.



California State Teachers Retirement  
US Equity - Performance Summary  
Periods Ending June 30, 2022



Performance Summary - US Equity

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<b>USEQ ACT LG X-Enh</b>	1,375					
<i>STRS US EQUITY LARGE CAP INDEX</i>						
<b>USEQ ACT LG CAP VAL</b>	1,375					
<i>STRS CUSTOM RUSSELL 1000 VALUE</i>						
<b>H&amp;W LARGE CAP VALUE</b>	1,375					
<i>STRS CUSTOM RUSSELL 1000 VALUE</i>						
<b>USEQ-A SMALL/SMID</b>	887,001	7.87	9.67	5.20	5.42	-17.56
<i>US EQ ACT SM Blended</i>		8.95	9.84	6.10	5.71	-22.14
<b>USEQ-A SMID-VALUE</b>	485,732	7.26	9.47	4.76	5.82	-13.07
<i>STRS CUSTOM RUSSELL SMALL/MID (SMID) VALUE BLENDED INDEX</i>		8.45	9.43	5.34	6.57	-15.77
<b>SILVERCREST SMIDV</b>	485,732		9.74	4.76	5.82	-13.07
<i>STRS Custom Russell Small/Mid (SMID) Value Blended Index</i>			9.19	5.15	6.57	-15.77
<b>PANAGORA SMALL CAP</b>	401,269				5.64	-21.21
<i>STRS CUSTOM RUSSELL 2000</i>					4.23	-25.36
<b>USEQ-A ALL CAP</b>	1,216,764					11.92
<i>STRS US EQUITY INDEX</i>						-13.95
<b>JACOBS LEVY 130-30 R3000</b>	1,216,764					11.92
<i>STRS US EQUITY INDEX</i>						-13.95
<b>USEq-Other Beta</b>	690,102				10.84	-2.46
<i>STRS US EQUITY INDEX</i>					9.78	-13.95
<b>CALSTRS RUSSELL RAFI LARGE CAP</b>	134,693				12.04	-5.04

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
\* From inception to 7/31/2021 - STRS US Equity Index. From 8/1/2021 to current - STRS Custom MSCI USA IMI.

California State Teachers Retirement  
US Equity - Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - US Equity**

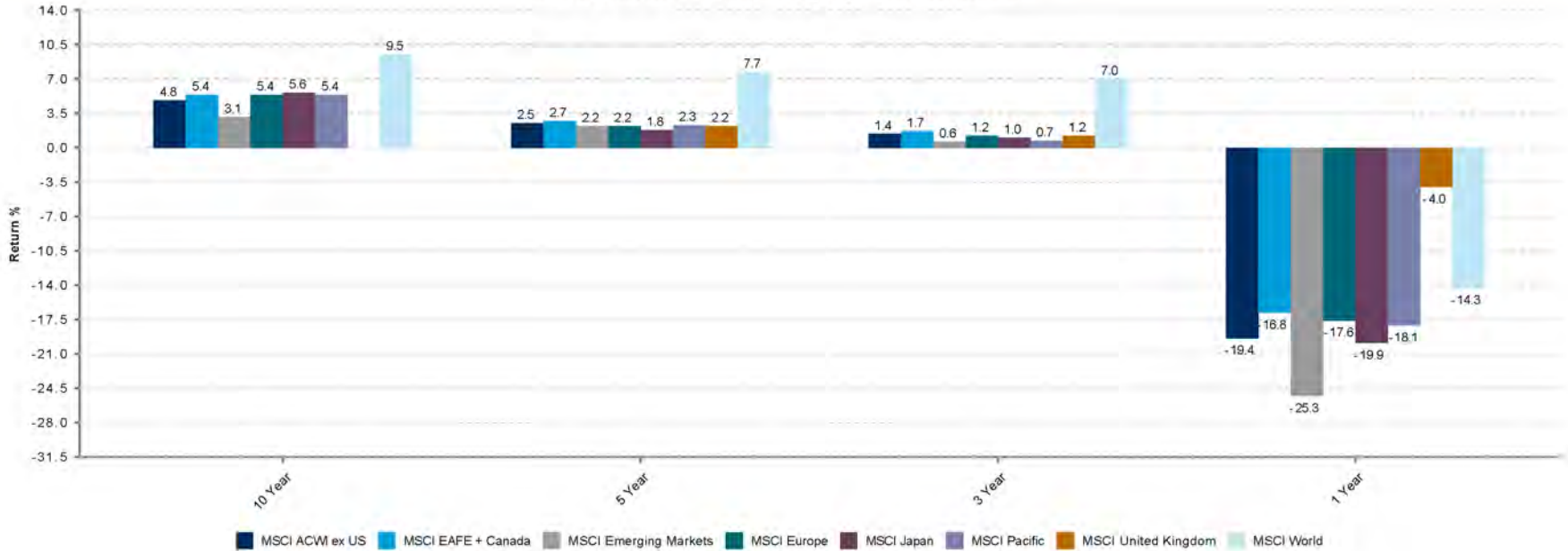
	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<i>CALSTRS Russell RAFI US Large Company</i>					11.97	-5.05
AQR DEFENSIVE	555,410			12.95	10.82	-1.93
<i>STRS CUSTOM RUSSELL 1000 HEDI MOD</i>				12.87	10.14	-8.41
STRS-FUTURES EQUITIZATION-US	58,471		29.33	17.09	11.59	-19.36
<i>STRS MSCI USA IMI*</i>			12.59	10.64	9.64	-14.29
<b>US EQUITY PASSIVE</b>	48,203,611	9.16	12.71	10.78	9.83	-13.90
<i>STRS MSCI USA IMI*</i>		9.05	12.59	10.64	9.64	-14.29
CALSTRS RUSSELL 3000	16,146,873		12.72	10.80	9.85	-13.85
<i>STRS CUSTOM RUSSELL 3000</i>			12.63	10.73	9.78	-13.95
CALSTRS MSCI USA IMI	32,056,738					
<i>MSCI CALSTRS Index on USA IMI</i>						
STRS - US EQUITY ALLOCATION	16,593					
<i>STRS MSCI USA IMI97</i>						

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
\* From inception to 7/31/2021 - STRS US Equity Index. From 8/1/2021 to current - STRS Custom MSCI USA IMI.

California State Teachers Retirement  
Non-US Equity - Market Review  
Periods Ending June 30, 2022



MSCI Global & Non-U.S. Equity - Market Review



MSCI Global & Non-U.S. Equity - Market Review Summary

	20 Year	10 Year	5 Year	3 Year	1 Year
MSCI ACWI ex US	5.78	4.83	2.50	1.35	-19.42
MSCI EAFE + Canada	5.47	5.37	2.66	1.70	-16.76
MSCI Emerging Markets	9.20	3.06	2.18	0.57	-25.28
MSCI Europe	5.27	5.44	2.16	1.24	-17.61
MSCI Japan	4.03	5.59	1.76	1.01	-19.93
MSCI Pacific	5.33	5.38	2.31	0.72	-18.10
MSCI United Kingdom			2.24	1.21	-4.00
MSCI World	7.32	9.51	7.67	7.00	-14.34

Note: Indices are standard market versions at net. Returns greater than 1 year are annualized.  
Returns greater than 1 year are annualized.

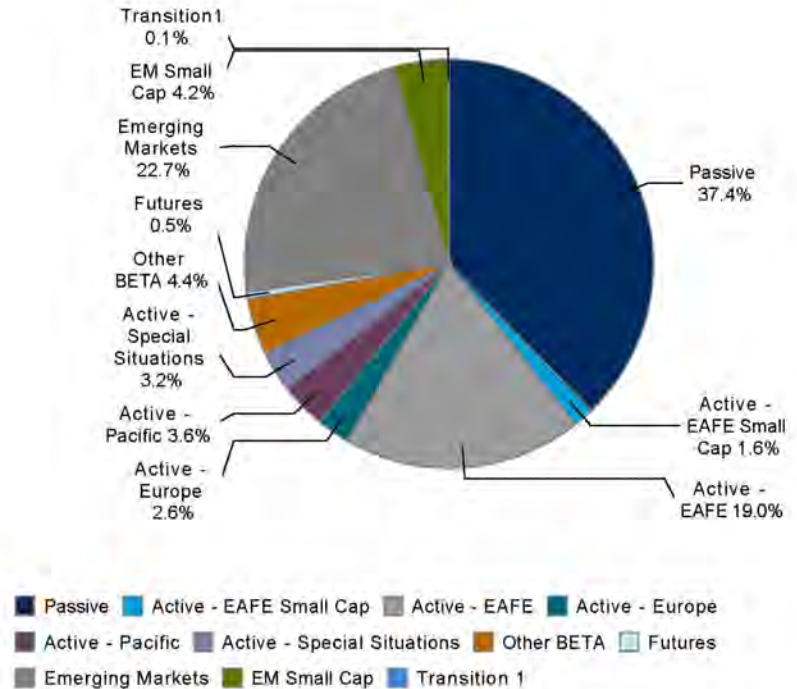
**California State Teachers Retirement**  
Non-US Equity  
Periods Ending June 30, 2022



**Non-US Equity Fund Allocations**

	Market Value (\$ in Thousands)	Actual Weight (Percentage %)
<b>Developed</b>		
Non-US Equity Developed Passive	16,064,023	37.4
Non-US Equity Developed Active	14,957,328	34.8
EAFE Small Cap	700,471	1.6
EAFE	8,077,279	18.8
Europe	1,118,683	2.6
Pacific	1,546,967	3.6
Special Situations	1,377,019	3.2
Other BETA	1,902,711	4.4
Futures	234,198	0.5
Non-US Equity Developed	31,021,351	72.3
<b>Emerging Markets</b>		
Emerging Markets	9,734,270	22.7
EM Small Cap	1,785,602	4.2
Non-US Equity Emerging Markets	11,871,943	27.7
Transition 1	36,890	0.1
Transition 2	38	0.0
Hybrid Transition	1,953	0.0
<b>Total Non-US Equity</b>		
Total Non-US Equity	42,932,175	100.0

**Asset Allocation**



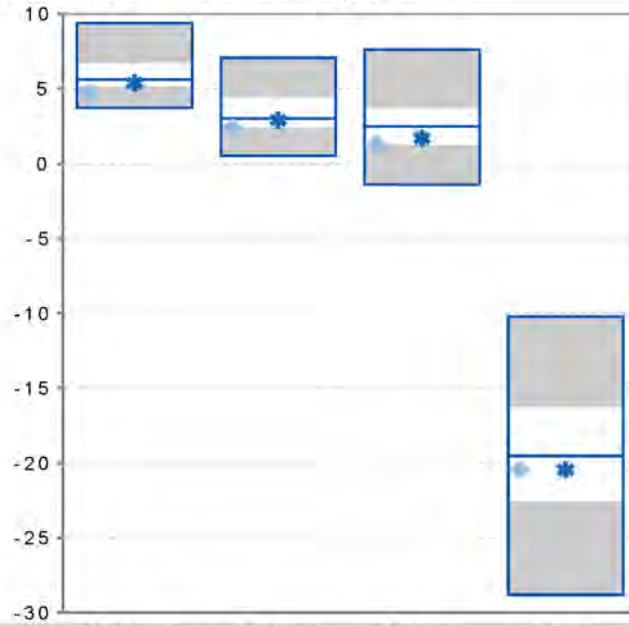
\* End of period weights



California State Teachers Retirement  
Non-US Equity Hedged  
Periods Ending June 30, 2022

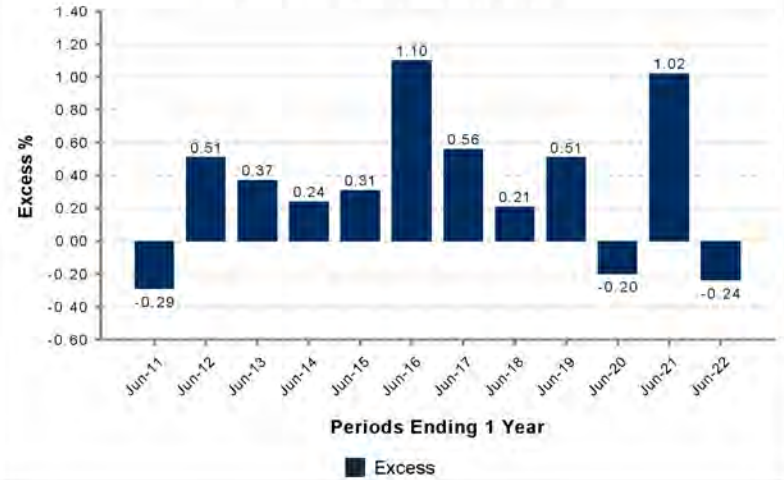


State Street Universe - International Equity Pools



	10 Years	5 Years	3 Years	1 Year
Number of Observations	85	90	93	94
5th Percentile	9.38	7.06	7.62	-10.24
25th Percentile	6.66	4.42	3.65	-16.30
50th Percentile	5.62	3.02	2.47	-19.53
75th Percentile	5.12	2.39	1.23	-22.57
95th Percentile	3.71	0.53	-1.41	-28.81
★ NON-US EQUITY HEDGED	5.43 57	2.95 56	1.75 69	-20.40 58
◆ STRS NON-US EQUITY INDEX	4.85 81	2.52 71	1.43 73	-20.35 57

Non-US Equity Hedged  
Rolling 1 Year Excess Return



Top 10 Holdings

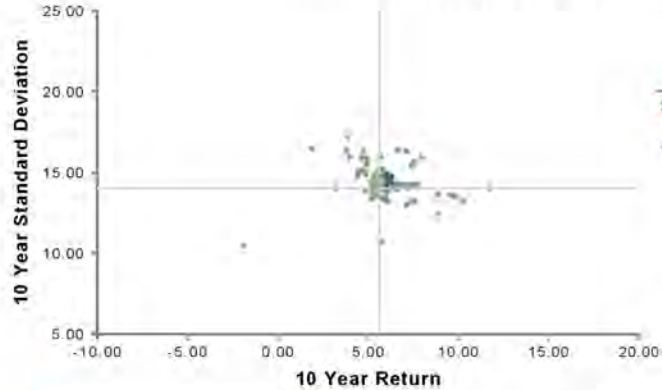
Security Name	Ending Market Value (\$ in Thousands)	Percentage %
MSCI EMGMKT SEP22	649,198	1.5
TAIWAN SEMICONDUCTOR MANUFAC	581,972	1.4
MSCI EAFE SEP22	503,603	1.2
SAMSUNG ELECTRONICS CO LTD	457,176	1.1
NESTLE SA REG	438,015	1.0
ROCHE HOLDING AG GENUSSCHEIN	425,217	1.0
TENCENT HOLDINGS LTD	413,415	1.0
ALIBABA GROUP HOLDING LTD	388,169	0.9
ASML HOLDING NV	313,880	0.7
NOVARTIS AG REG	292,331	0.7

Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.

California State Teachers Retirement  
Non-US Equity Hedged - Risk vs Return  
Periods Ending June 30, 2022



10 Year Risk  
State Street Universe - International Equity Pools

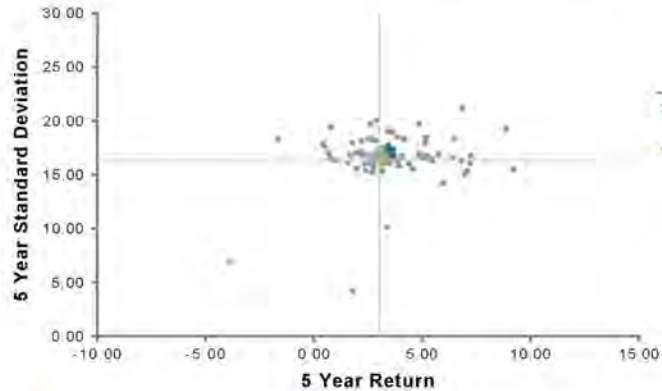


	10 Year Return	10 Year Standard Deviation
NON-US EQUITY HEDGED	5.43 57	14.04 51
STRS NON-US EQUITY INDEX	4.85 81	13.96 47
Median	5.62	14.03
5th Percentile	9.38	12.82
25th Percentile	6.66	13.70
50th Percentile	5.62	14.03
75th Percentile	5.12	14.89
95th Percentile	3.71	16.19

10 Year  
Risk Information & Statistics

NON-US EQUITY HEDGED	
Historic Beta	1.00
Information Ratio	0.73
Jensens Alpha	0.55
R-Squared	1.00
Sharpe Ratio	0.46
Tracking Error	0.77
Treynor Ratio	6.36

5 Year Risk  
State Street Universe - International Equity Pools



	5 Year Return	5 Year Standard Deviation
NON-US EQUITY HEDGED	2.95 56	16.33 51
STRS NON-US EQUITY INDEX	2.52 71	16.06 34
Median	3.02	16.33
5th Percentile	7.06	14.78
25th Percentile	4.42	15.87
50th Percentile	3.02	16.33
75th Percentile	2.39	17.70
95th Percentile	0.53	19.40

5 Year  
Risk Information & Statistics

NON-US EQUITY HEDGED	
Historic Beta	1.02
Information Ratio	0.24
Jensens Alpha	0.17
R-Squared	1.00
Sharpe Ratio	0.10
Tracking Error	0.79
Treynor Ratio	1.58

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information

## California State Teachers Retirement Non-US Equity Hedged Periods Ending June 30, 2022



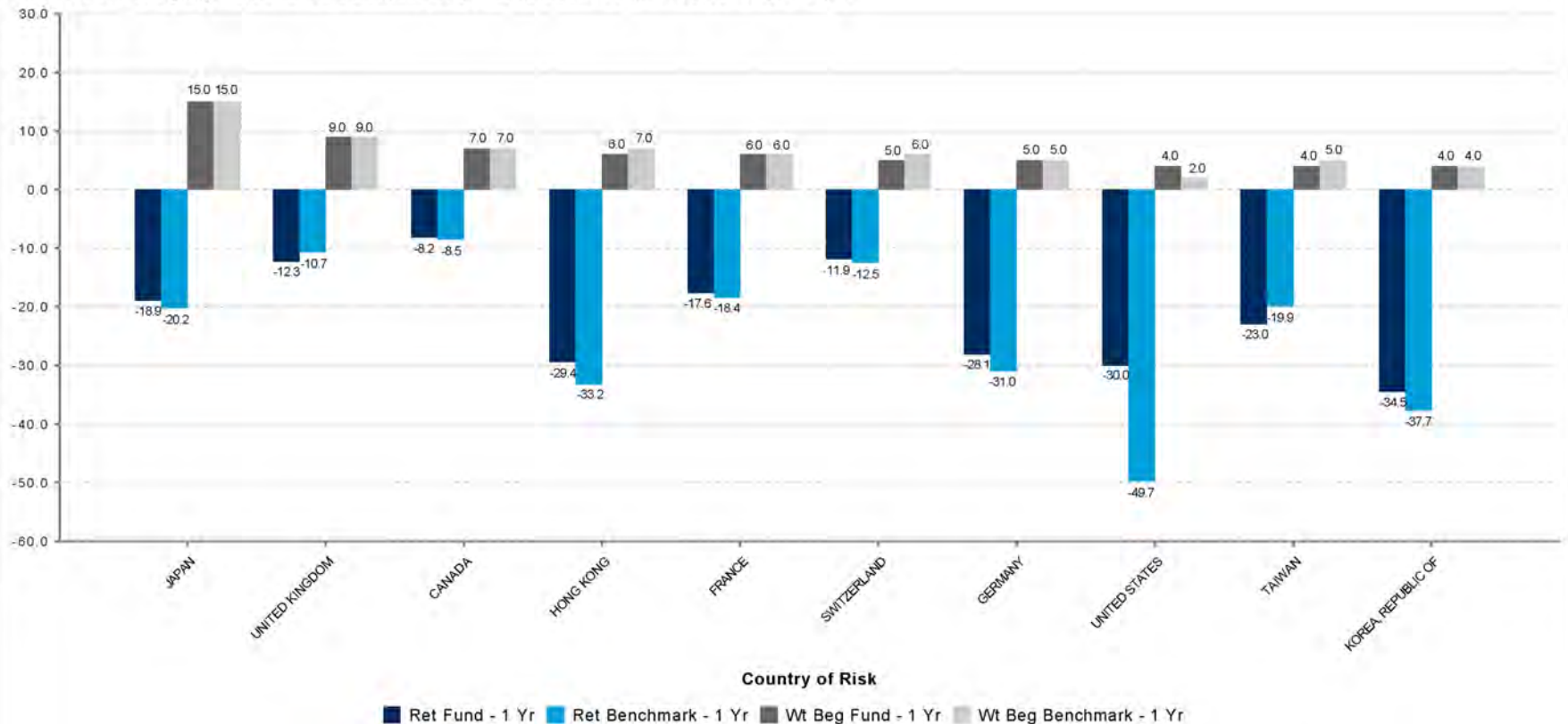
### Attribution Highlights

- During the 2021/2022 fiscal year, Non-U.S. Equity Hedged underperformed the benchmark, STRS Non-U.S. Equity Index by 5 basis points (-20.40% vs. -20.35%).
- Security selection in United Kingdom contributed to the underperformance.

### 1 Year Attribution

	Allocation - 1 Yr	Selection - 1 Yr
NON-US EQUITY HEDGED	0.8	-1.0

1 Year Non-US Equity Returns/Allocations vs. STRS Custom MSCI ACWI Free ex US



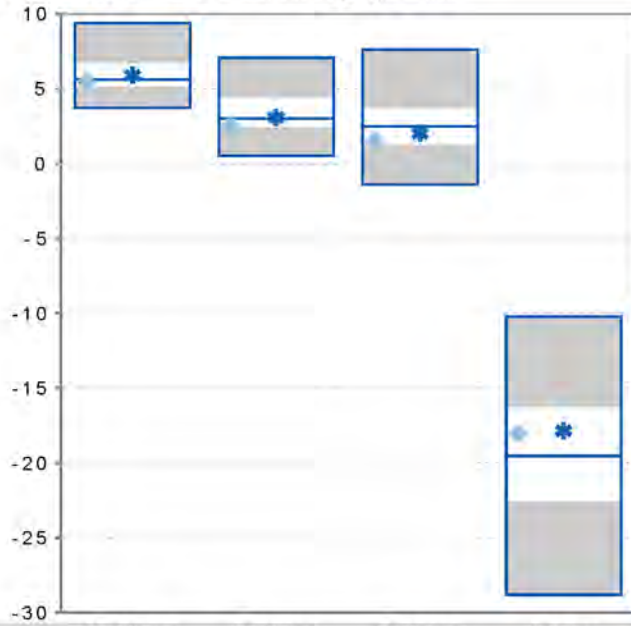
Note: Returns are gross of fees. Weights are beginning of period.  
Attribution is calculated using monthly average weights and Modified Dietz rate of returns.



California State Teachers Retirement  
Non-US Equity Developed  
Periods Ending June 30, 2022

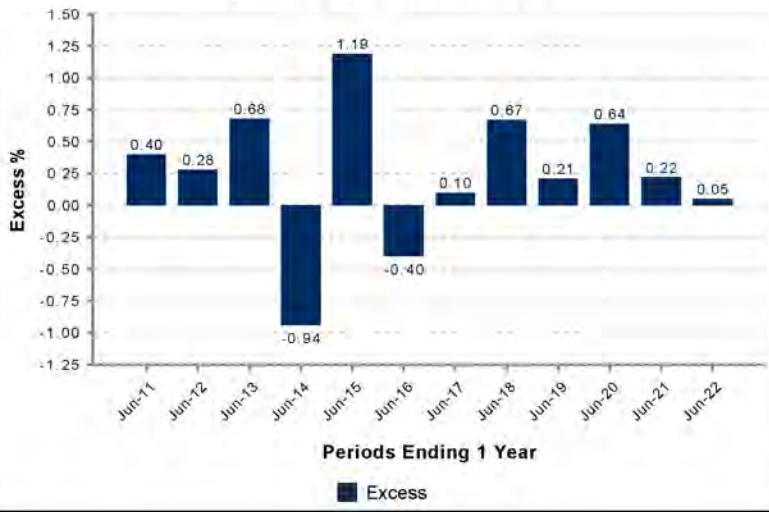


State Street Universe - International Equity Pools



	10 Years	5 Years	3 Years	1 Year
Number of Observations	85	90	93	94
5th Percentile	9.38	7.06	7.62	-10.24
25th Percentile	6.66	4.42	3.65	-16.30
50th Percentile	5.62	3.02	2.47	-19.53
75th Percentile	5.12	2.39	1.23	-22.57
95th Percentile	3.71	0.53	-1.41	-28.81
★ NON - US EQUITY DEV	5.96 39	3.14 49	2.08 60	-17.79 35
★ STRS CUSTOM MSCI EAFE+CAN IMI	5.58 54	2.66 63	1.65 70	-17.93 36

Non-US Equity Developed  
Rolling 1 Year Excess Return



Top 10 Holdings

Security Name	Ending Market Value (\$ in Thousands)	Percentage %
MSCI EAFE SEP22	503,603	1.6
NESTLE SA REG	438,015	1.4
ROCHE HOLDING AG GENUSSSCHEIN	425,217	1.4
ASML HOLDING NV	313,880	1.0
NOVARTIS AG REG	292,331	0.9
NOVO NORDISK A/S B	265,520	0.9
ASTRAZENECA PLC	247,345	0.8
SANOFI	244,011	0.8
SHELL PLC	234,509	0.8
LVMH MOET HENNESSY LOUIS VUI	226,904	0.7

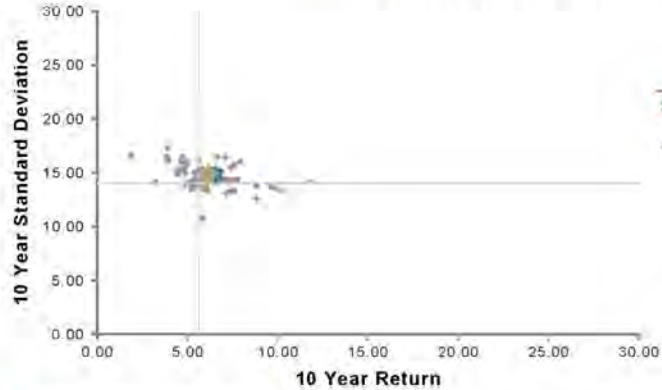
Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.



California State Teachers Retirement  
Non-US Equity Developed - Risk vs Return  
Periods Ending June 30, 2022



10 Year Risk  
State Street Universe - International Equity Pools



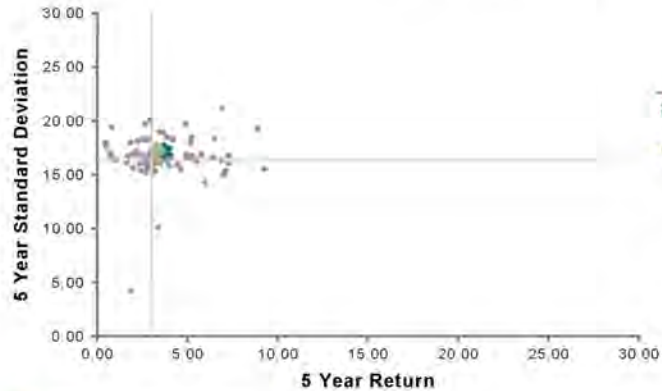
	10 Year Return	10 Year Standard Deviation
NON - US EQUITY DEV	5.96 39	14.03 49
STRS_CUSTOM MSCI EAFE+CAN IMI	5.58 54	14.09 56
Median	5.62	14.03
5th Percentile	9.38	12.82
25th Percentile	6.66	13.70
50th Percentile	5.62	14.03
75th Percentile	5.12	14.89
95th Percentile	3.71	16.19

NON - US EQUITY DEV STRS\_CUSTOM MSCI EAFE+CAN IMI

10 Year  
Risk Information & Statistics

NON - US EQUITY DEV	
Historic Beta	0.99
Information Ratio	0.53
Jensens Alpha	0.34
R-Squared	1.00
Sharpe Ratio	0.51
Tracking Error	0.58
Treynor Ratio	7.01

5 Year Risk  
State Street Universe - International Equity Pools



	5 Year Return	5 Year Standard Deviation
NON - US EQUITY DEV	3.14 49	16.38 52
STRS_CUSTOM MSCI EAFE+CAN IMI	2.66 63	16.37 52
Median	3.02	16.33
5th Percentile	7.06	14.78
25th Percentile	4.42	15.87
50th Percentile	3.02	16.33
75th Percentile	2.39	17.70
95th Percentile	0.53	19.40

NON - US EQUITY DEV STRS\_CUSTOM MSCI EAFE+CAN IMI

5 Year  
Risk Information & Statistics

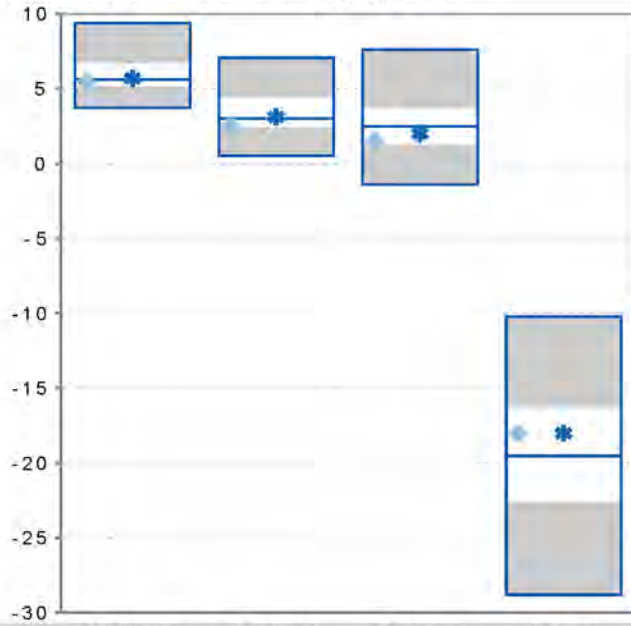
NON - US EQUITY DEV	
Historic Beta	1.00
Information Ratio	0.61
Jensens Alpha	0.35
R-Squared	1.00
Sharpe Ratio	0.12
Tracking Error	0.58
Treynor Ratio	1.90

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.

California State Teachers Retirement  
Non-US Equity Developed Active  
Periods Ending June 30, 2022

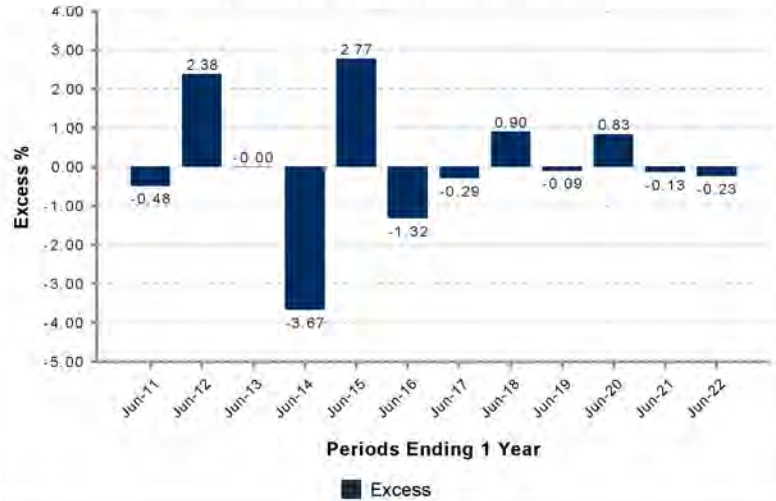


State Street Universe - International Equity Pools



	10 Years	5 Years	3 Years	1 Year
Number of Observations	85	90	93	94
5th Percentile	9.38	7.06	7.62	-10.24
25th Percentile	6.66	4.42	3.65	-16.30
50th Percentile	5.62	3.02	2.47	-19.53
75th Percentile	5.12	2.39	1.23	-22.57
95th Percentile	3.71	0.53	-1.41	-28.81
NON-US EQUITY DEVELOPED ACTIVE	5.74 47	3.17 48	2.07 61	-17.96 37
STRS CUSTOM MSCI EAFE+CAN IMI	5.58 54	2.66 63	1.65 70	-17.93 36

Non-US Equity Developed Active  
Rolling 1 Year Excess Return



Top 10 Holdings

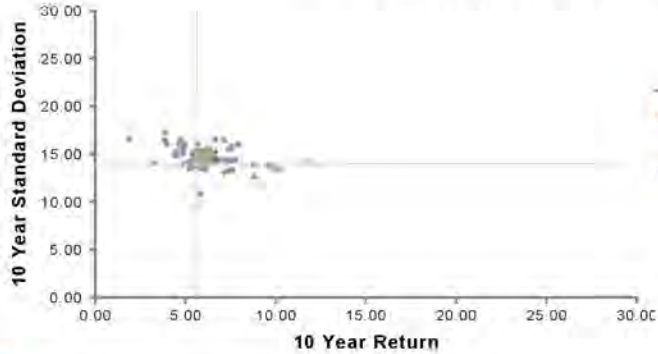
Security Name	Ending Market Value (\$ in Thousands)	Percentage %
MSCI EAFE SEP22	369,835	2.5
ROCHE HOLDING AG GENUSSSCHEIN	217,577	1.5
NESTLE SA REG	146,297	1.0
SANOFI	142,212	1.0
ASML HOLDING NV	141,716	0.9
NOVARTIS AG REG	127,811	0.9
SHELL PLC	116,166	0.8
NIPPON TELEGRAPH + TELEPHONE	107,753	0.7
NOVO NORDISK A/S B	99,958	0.7
SONY GROUP CORP	93,301	0.6

Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.

**California State Teachers Retirement**  
**Non-US Equity Developed Active - Risk vs Return**  
**Periods Ending June 30, 2022**



**10 Year Risk**  
**State Street Universe - International Equity Pools**



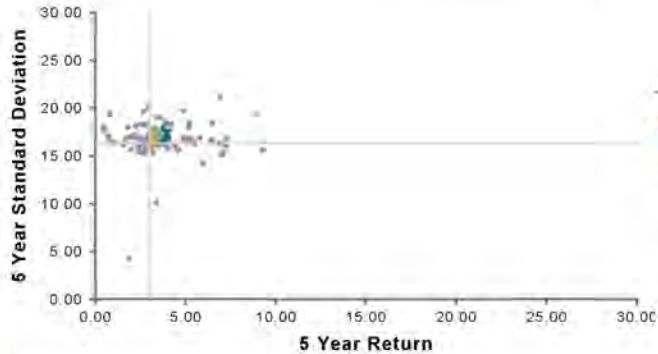
	10 Year Return	10 Year Standard Deviation
NON-US EQUITY DEVELOPED ACTIVE	5.74 47	13.96 47
STRS CUSTOM MSCI EAFE+CAN IMI	5.58 54	14.09 56
Median	5.62	14.03
5th Percentile	9.38	12.82
25th Percentile	6.66	13.70
50th Percentile	5.62	14.03
75th Percentile	5.12	14.89

- NON-US EQUITY DEVELOPED ACTIVE
- ◆ STRS CUSTOM MSCI EAFE+CAN IMI

**10 Year Risk Information & Statistics**

	NON-US EQUITY DEVELOPED ACTIVE
Historic Beta	0.99
Information Ratio	0.06
Jensens Alpha	0.14
R-Squared	0.99
Sharpe Ratio	0.49
Tracking Error	1.18
Treynor Ratio	6.80

**5 Year Risk**  
**State Street Universe - International Equity Pools**



	5 Year Return	5 Year Standard Deviation
NON-US EQUITY DEVELOPED ACTIVE	3.17 48	16.38 52
STRS CUSTOM MSCI EAFE+CAN IMI	2.66 63	16.37 52
Median	3.02	16.33
5th Percentile	7.06	14.78
25th Percentile	4.42	15.87
50th Percentile	3.02	16.33
75th Percentile	2.39	17.70

- NON-US EQUITY DEVELOPED ACTIVE
- ◆ STRS CUSTOM MSCI EAFE+CAN IMI

**5 Year Risk Information & Statistics**

	NON-US EQUITY DEVELOPED ACTIVE
Historic Beta	1.00
Information Ratio	0.22
Jensens Alpha	0.25
R-Squared	1.00
Sharpe Ratio	0.11
Tracking Error	1.12
Treynor Ratio	1.80

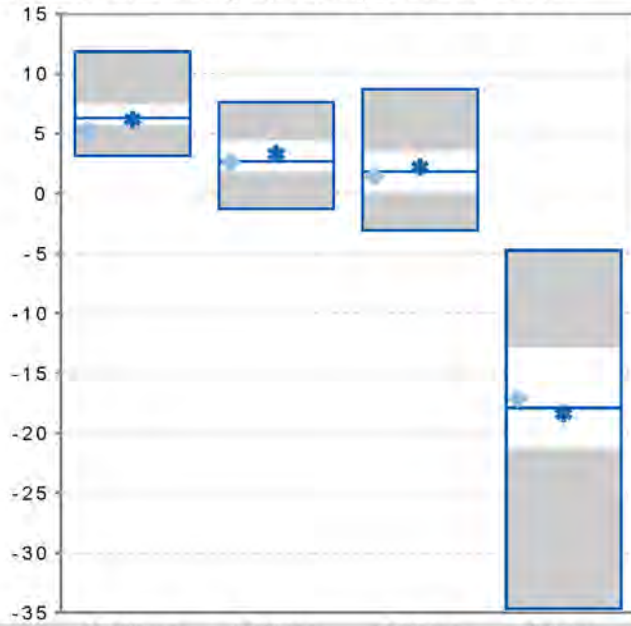
Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.



California State Teachers Retirement  
Non-US Equity Active EAFE  
Periods Ending June 30, 2022

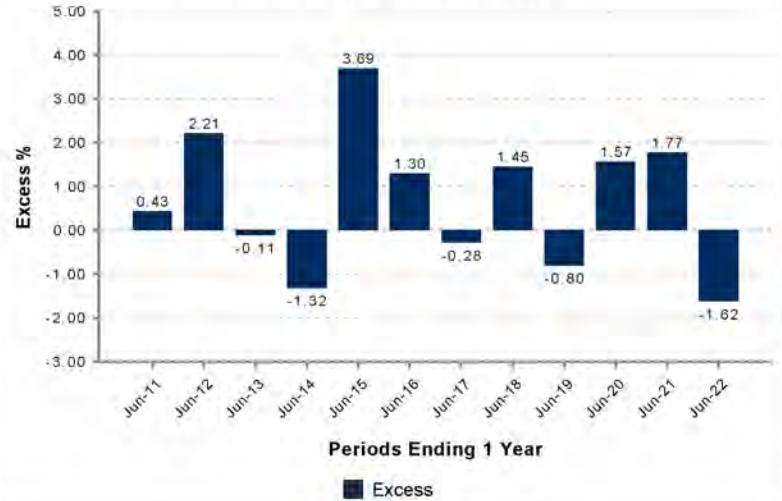


State Street Universe - International Equity Developed Market Funds



	10 Years	5 Years	3 Years	1 Year
Number of Observations	115	164	173	183
5th Percentile	11.85	7.61	8.72	-4.75
25th Percentile	7.42	4.39	3.51	-12.90
50th Percentile	6.31	2.68	1.83	-17.91
75th Percentile	5.68	1.77	0.08	-21.30
95th Percentile	3.15	-1.30	-3.07	-34.67
★ NON-USEQ ACT EAFE	6.26 51	3.39 38	2.28 42	-18.31 56
◆ STRS CUSTOM MSCI EAFE+CAN	5.41 83	2.76 50	1.61 56	-16.98 42

Non-US Equity Active EAFE  
Rolling 1 Year Excess Return



Top 10 Holdings

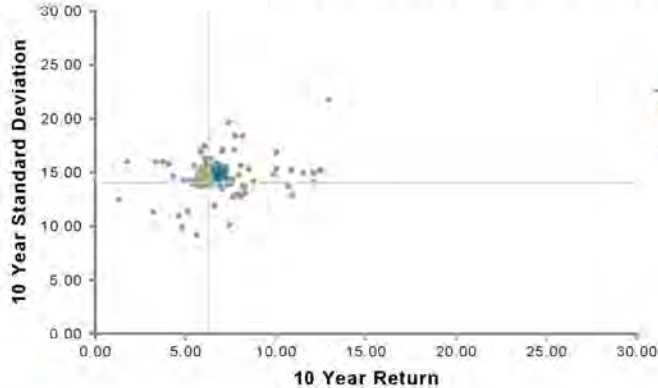
Security Name	Ending Market Value (\$ in Thousands)	Percentage %
ROCHE HOLDING AG GENUSSSCHEIN	132,553	1.6
NOVARTIS AG REG	101,686	1.3
ASML HOLDING NV	95,070	1.2
ENEL SPA	83,139	1.0
SHELL PLC	82,585	1.0
SANOFI	79,961	1.0
GSK PLC	71,990	0.9
BP PLC	68,326	0.8
HONDA MOTOR CO LTD	67,062	0.8
NOVO NORDISK A/S B	66,365	0.8

Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.

California State Teachers Retirement  
Non-US Equity Active EAFE - Risk vs Return  
Periods Ending June 30, 2022



10 Year Risk  
State Street Universe - Int'l Equity Developed Market Funds



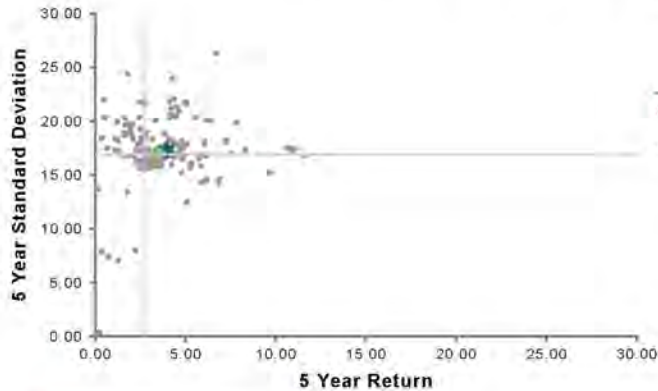
	10 Year Return	10 Year Standard Deviation
NON-USEQ ACT EAFE	6.26 51	14.05 45
STRS_CUSTOM MSCI EAFE+CAN	5.41 83	13.96 40
Median	6.31	14.09
5th Percentile	11.85	11.01
25th Percentile	7.42	13.66
50th Percentile	6.31	14.09
75th Percentile	5.68	15.09
95th Percentile	3.15	17.19

NON-USEQ ACT EAFE STRS\_CUSTOM MSCI EAFE+CAN

10 Year  
Risk Information & Statistics

NON-USEQ ACT EAFE	
Historic Beta	1.00
Information Ratio	0.52
Jensens Alpha	0.84
R-Squared	0.99
Sharpe Ratio	0.40
Tracking Error	1.60
Treynor Ratio	5.61

5 Year Risk  
State Street Universe - Int'l Equity Developed Market Funds



	5 Year Return	5 Year Standard Deviation
NON-USEQ ACT EAFE	3.39 38	16.53 45
STRS_CUSTOM MSCI EAFE+CAN	2.76 50	16.10 34
Median	2.68	16.93
5th Percentile	7.61	7.78
25th Percentile	4.39	15.84
50th Percentile	2.68	16.93
75th Percentile	1.77	18.70
95th Percentile	-1.30	21.56

NON-USEQ ACT EAFE STRS\_CUSTOM MSCI EAFE+CAN

5 Year  
Risk Information & Statistics

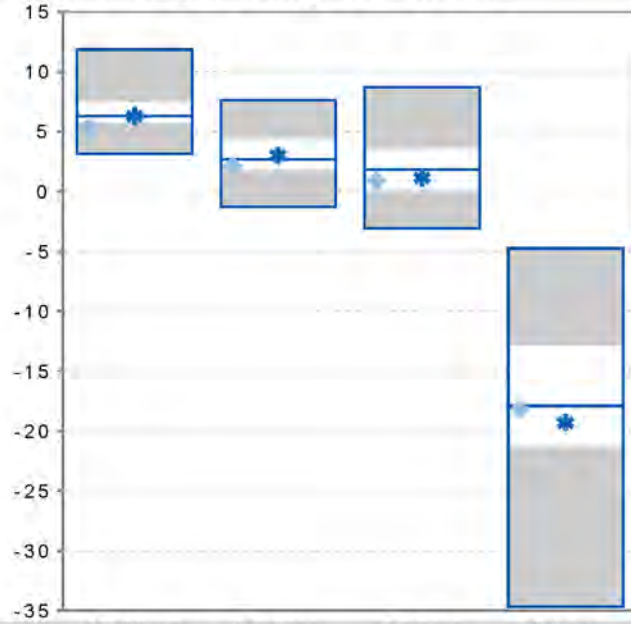
NON-USEQ ACT EAFE	
Historic Beta	1.02
Information Ratio	0.20
Jensens Alpha	0.28
R-Squared	0.99
Sharpe Ratio	0.12
Tracking Error	1.62
Treynor Ratio	1.92

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information

California State Teachers Retirement  
Non-US Equity Active Europe  
Periods Ending June 30, 2022

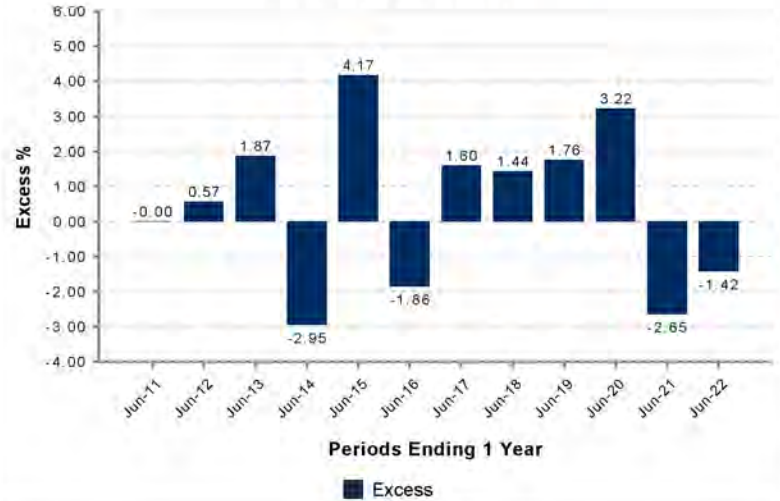


State Street Universe: Int'l Equity Developed Market Funds



	10 Years	5 Years	3 Years	1 Year
Number of Observations	115	164	173	183
5th Percentile	11.85	7.61	8.72	-4.75
25th Percentile	7.42	4.39	3.51	-12.90
50th Percentile	6.31	2.68	1.83	-17.91
75th Percentile	5.68	1.77	0.08	-21.30
95th Percentile	3.15	-1.30	-3.07	-34.67
★ NON-USEQ ACT EUROPE	6.36 47	3.09 44	1.21 65	-19.24 61
◆ STRS CUSTOM MSCI EUROPE	5.50 82	2.27 67	1.07 66	-17.98 53

Non-US Equity Active Europe  
Rolling 1 Year Excess



Top 10 Holdings

Security Name	Ending Market Value (\$ in Thousands)	Percentage %
NESTLE SA REG	57,205	5.1
ROCHE HOLDING AG GENUSSSCHEIN	50,092	4.5
SANOFI	41,237	3.7
ASTRAZENECA PLC	36,460	3.3
ASML HOLDING NV	34,426	3.1
SHELL PLC	33,581	3.0
TOTALENERGIES SE	31,897	2.9
LVMH MOET HENNESSY LOUIS VUI	29,813	2.7
RELX PLC	28,770	2.6
SAP SE	27,414	2.5

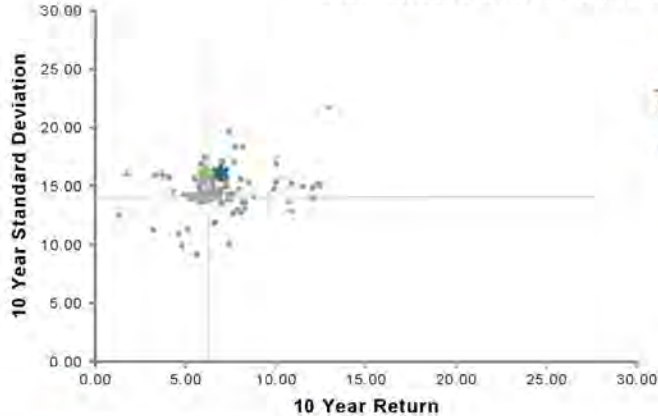
Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.



**California State Teachers Retirement**  
**Non-US Equity Active Europe - Risk vs Return**  
**Periods Ending June 30, 2022**



**10 Year Risk**  
**State Street Universe - Int'l Equity Developed Market Funds**



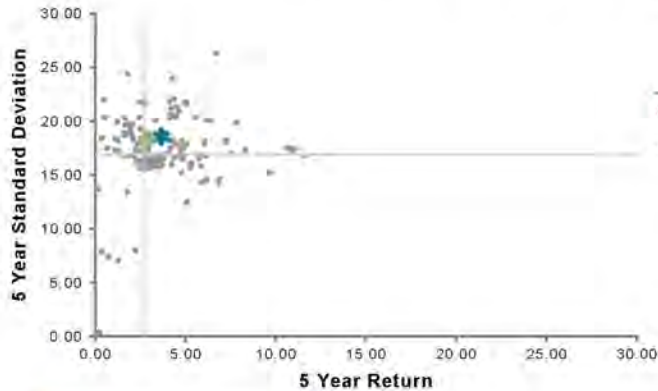
	10 Year Return	10 Year Standard Deviation
* NON-USEQ ACT EUROPE	6.36 47	15.40 82
* STRS CUSTOM MSCI EUROPE	5.50 82	15.31 78
Median	6.31	14.09
5th Percentile	11.85	11.01
25th Percentile	7.42	13.66
50th Percentile	6.31	14.09
75th Percentile	5.68	15.09
95th Percentile	3.15	17.19

\* NON-USEQ ACT EUROPE \* STRS CUSTOM MSCI EUROPE

**10 Year Risk Information & Statistics**

NON-USEQ ACT EUROPE	
Historic Beta	1.00
Information Ratio	0.42
Jensens Alpha	0.91
R-Squared	0.98
Sharpe Ratio	0.51
Tracking Error	2.13
Treynor Ratio	7.71

**5 Year Risk**  
**State Street Universe - Int'l Equity Developed Market Funds**



	5 Year Return	5 Year Standard Deviation
* NON-USEQ ACT EUROPE	3.09 44	17.77 63
* STRS CUSTOM MSCI EUROPE	2.27 67	17.45 60
Median	2.68	16.93
5th Percentile	7.61	7.78
25th Percentile	4.39	15.84
50th Percentile	2.68	16.93
75th Percentile	1.77	18.70
95th Percentile	-1.30	21.56

\* NON-USEQ ACT EUROPE \* STRS CUSTOM MSCI EUROPE

**5 Year Risk Information & Statistics**

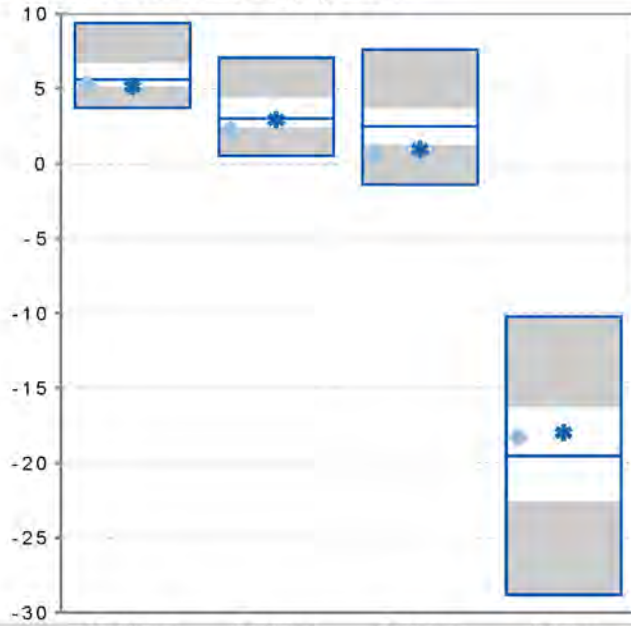
NON-USEQ ACT EUROPE	
Historic Beta	1.01
Information Ratio	0.36
Jensens Alpha	0.81
R-Squared	0.98
Sharpe Ratio	0.11
Tracking Error	2.25
Treynor Ratio	1.96

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.

California State Teachers Retirement  
Non-US Equity Active Pacific  
Periods Ending June 30, 2022

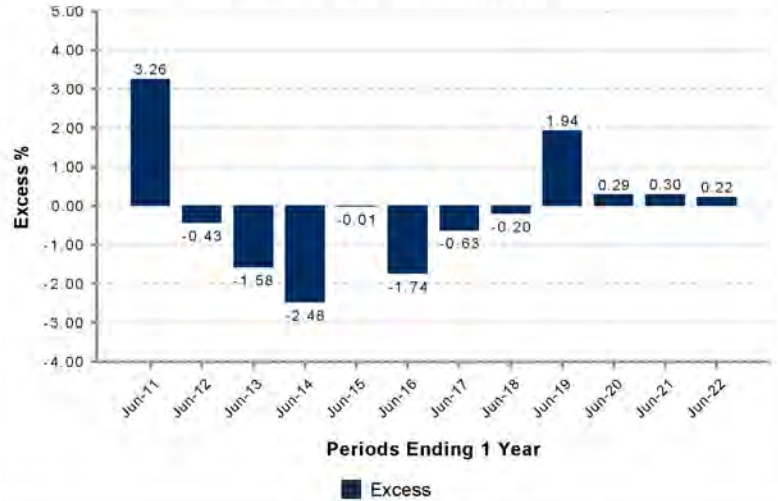


State Street Universe: Int'l Equity Pools



	10 Years	5 Years	3 Years	1 Year
Number of Observations	85	90	93	94
5th Percentile	9.38	7.06	7.62	-10.24
25th Percentile	6.66	4.42	3.65	-16.30
50th Percentile	5.62	3.02	2.47	-19.53
75th Percentile	5.12	2.39	1.23	-22.57
95th Percentile	3.71	0.53	-1.41	-28.81
★ NON-USEQ ACT PACIFIC	5.21 74	2.98 52	1.01 82	-17.92 36
◆ STRS CUSTOM MSCI PACIFIC	5.43 59	2.38 77	0.74 85	-18.14 37

Non-US Equity Active Pacific  
Rolling 1 Year Excess Return



Top 10 Holdings

Security Name	Ending Market Value (\$ in Thousands)	Percentage %
TOYOTA MOTOR CORP	52,770	3.4
BHP GROUP LTD	46,224	3.0
AIA GROUP LTD	42,199	2.7
COMMONWEALTH BANK OF AUSTRAL	34,131	2.2
SONY GROUP CORP	33,149	2.1
CSL LTD	28,675	1.9
KEYENCE CORP	21,416	1.4
MITSUBISHI UFJ FINANCIAL GRO	20,642	1.3
NATIONAL AUSTRALIA BANK LTD	20,121	1.3
HONG KONG EXCHANGES + CLEAR	19,062	1.2

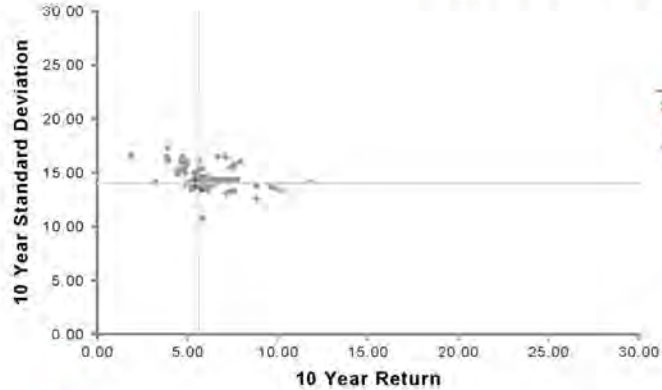
Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.



**California State Teachers Retirement**  
**Non-US Equity Active Pacific - Risk vs Return**  
**Periods Ending June 30, 2022**



**10 Year Risk**  
**State Street Universe - Int'l Equity Pools**



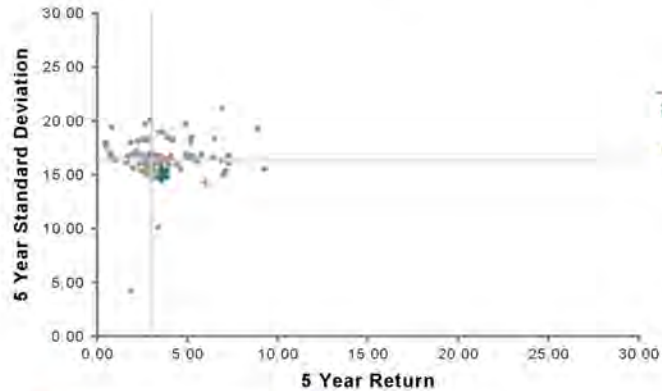
	<b>10 Year Return</b>	<b>10 Year Standard Deviation</b>
NON-USEQ ACT PACIFIC	5.21 74	13.17 10
STRS_CUSTOM MSCI PACIFIC	5.43 59	13.26 12
Median	5.62	14.03
5th Percentile	9.38	12.82
25th Percentile	6.66	13.70
50th Percentile	5.62	14.03
75th Percentile	5.12	14.89
95th Percentile	3.71	16.19

NON-USEQ ACT PACIFIC STRS\_CUSTOM MSCI PACIFIC

**10 Year Risk Information & Statistics**

<b>NON-USEQ ACT PACIFIC</b>	
Historic Beta	0.98
Information Ratio	-0.14
Jensens Alpha	-0.15
R-Squared	0.98
Sharpe Ratio	0.46
Tracking Error	1.99
Treynor Ratio	6.10

**5 Year Risk**  
**State Street Universe - Int'l Equity Pools**



	<b>5 Year Return</b>	<b>5 Year Standard Deviation</b>
NON-USEQ ACT PACIFIC	2.98 52	14.27 4
STRS_CUSTOM MSCI PACIFIC	2.38 77	14.39 4
Median	3.02	16.33
5th Percentile	7.06	14.78
25th Percentile	4.42	15.87
50th Percentile	3.02	16.33
75th Percentile	2.39	17.70
95th Percentile	0.53	19.40

NON-USEQ ACT PACIFIC STRS\_CUSTOM MSCI PACIFIC

**5 Year Risk Information & Statistics**

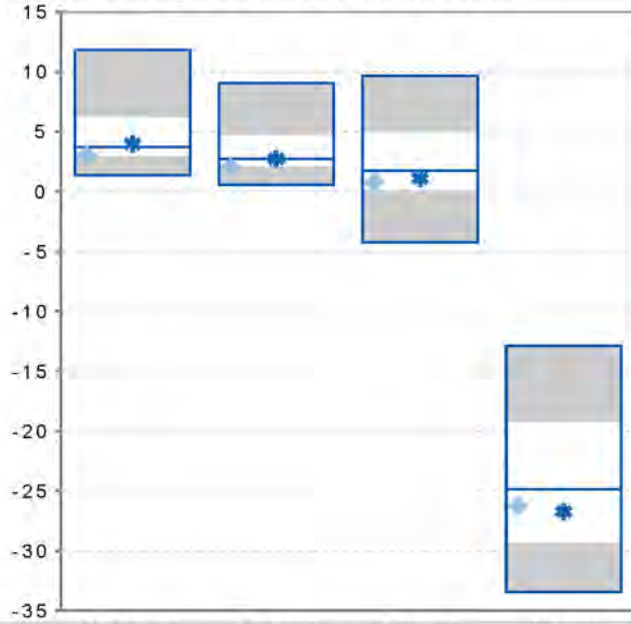
<b>NON-USEQ ACT PACIFIC</b>	
Historic Beta	0.99
Information Ratio	0.32
Jensens Alpha	0.54
R-Squared	0.99
Sharpe Ratio	0.13
Tracking Error	1.63
Treynor Ratio	1.82

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.

California State Teachers Retirement  
Non-US Equity Emerging Markets  
Periods Ending June 30, 2022

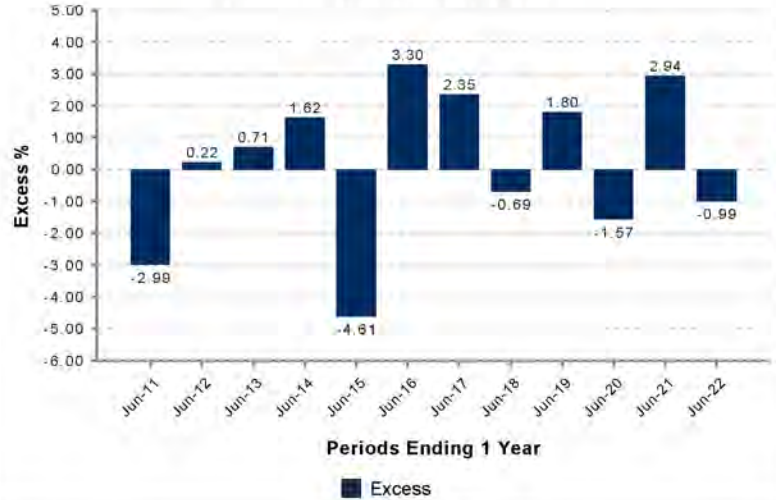


State Street Universe - Int'l Equity Emerging Market Funds



	10 Years	5 Years	3 Years	1 Year
Number of Observations	48	67	78	78
5th Percentile	11.82	9.03	9.66	-12.88
25th Percentile	6.15	4.68	4.87	-19.23
50th Percentile	3.71	2.72	1.73	-24.87
75th Percentile	2.96	2.05	0.07	-29.35
95th Percentile	1.35	0.56	-4.27	-33.46
★ NON-US EQUITY EM	4.05 43	2.79 49	1.16 55	-26.66 66
◆ STRS CUSTOM MSCI EM IMI	3.21 67	2.22 69	0.94 60	-26.08 65

Non-US Equity Emerging Markets  
Rolling 1 Year Excess Return



Top 10 Holdings

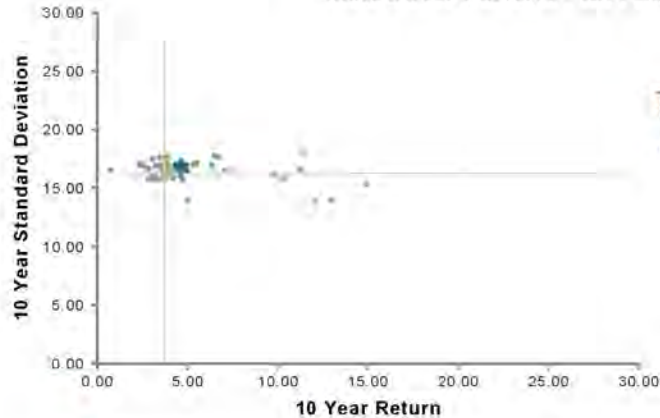
Security Name	Ending Market Value (\$ in Thousands)	Percentage %
MSCI EMGMKT SEP22	648,947	5.5
TAIWAN SEMICONDUCTOR MANUFAC	574,276	4.8
SAMSUNG ELECTRONICS CO LTD	436,730	3.7
TENCENT HOLDINGS LTD	407,567	3.4
ALIBABA GROUP HOLDING LTD	364,735	3.1
PING AN INSURANCE GROUP CO H	199,902	1.7
RELIANCE INDUSTRIES LTD	182,757	1.5
HOUSING DEVELOPMENT FINANCE	151,145	1.3
JD.COM INC CL A	138,545	1.2
PETROLEO BRASILEIRO SPON ADR	134,137	1.1

Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.

**California State Teachers Retirement**  
**Non-US Equity Emerging Markets - Risk vs Return**  
**Periods Ending June 30, 2022**



**10 Year Risk**  
**State Street Universe - Int'l Equity Emerging Market Funds**



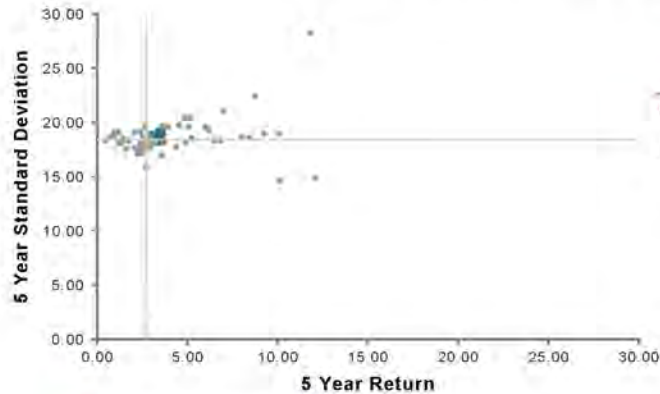
	10 Year Return	10 Year Standard Deviation
NON-US EQUITY EM	4.05 43	16.00 41
STRS_CUSTOM_MSCI_EM_IMI	3.21 67	15.80 33
Median	3.71	16.26
5th Percentile	11.82	13.72
25th Percentile	6.15	15.62
50th Percentile	3.71	16.26
75th Percentile	2.96	16.74
95th Percentile	1.35	17.47

**10 Year**  
**Risk Information & Statistics**

	NON-US EQUITY EM
Historic Beta	1.00
Information Ratio	0.47
Jensens Alpha	1.05
R-Squared	0.98
Sharpe Ratio	0.30
Tracking Error	2.24
Treynor Ratio	4.76

NON-US EQUITY EM STRS\_CUSTOM\_MSCI\_EM\_IMI

**5 Year Risk**  
**State Street Universe - Int'l Equity Emerging Market Funds**



	5 Year Return	5 Year Standard Deviation
NON-US EQUITY EM	2.79 49	17.90 33
STRS_CUSTOM_MSCI_EM_IMI	2.22 69	17.40 18
Median	2.72	18.42
5th Percentile	9.03	15.68
25th Percentile	4.68	17.80
50th Percentile	2.72	18.42
75th Percentile	2.05	18.87
95th Percentile	0.56	20.22

**5 Year**  
**Risk Information & Statistics**

	NON-US EQUITY EM
Historic Beta	1.02
Information Ratio	0.02
Jensens Alpha	0.01
R-Squared	0.99
Sharpe Ratio	0.06
Tracking Error	2.16
Treynor Ratio	1.12

NON-US EQUITY EM STRS\_CUSTOM\_MSCI\_EM\_IMI

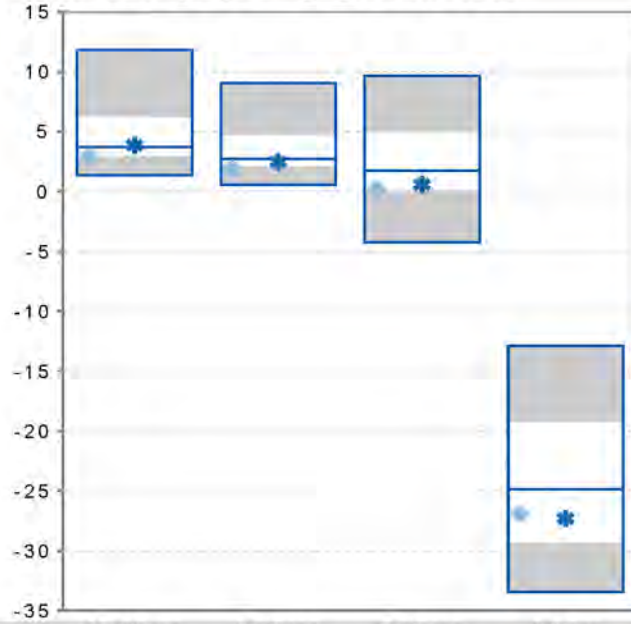
Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.



California State Teachers Retirement  
Non-US Active Equity Emerging Markets  
Periods Ending June 30, 2022

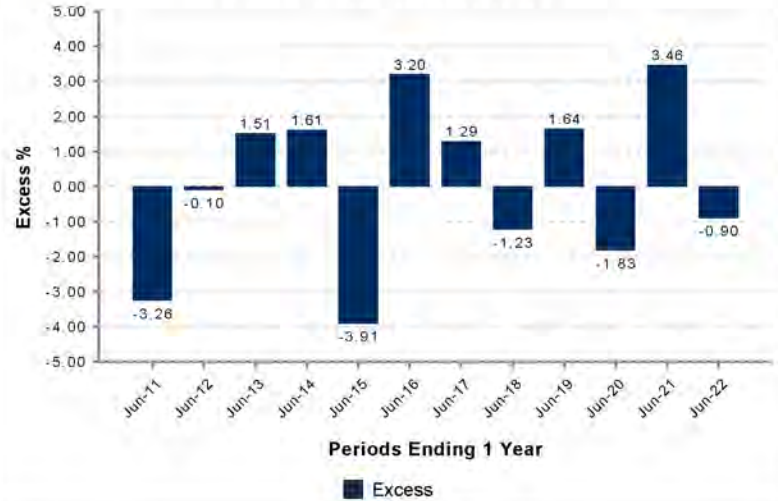


State Street Universe - Int'l Equity Emerging Market Funds



	10 Years	5 Years	3 Years	1 Year
Number of Observations	48	67	78	78
5th Percentile	11.82	9.03	9.66	-12.88
25th Percentile	6.15	4.68	4.87	-19.23
50th Percentile	3.71	2.72	1.73	-24.87
75th Percentile	2.96	2.05	0.07	-29.35
95th Percentile	1.35	0.56	-4.27	-33.46
* NON-US EQUITY ACTIVE EMG MKT	3.93 48	2.55 54	0.65 63	-27.23 69
• STRS_CUSTOM MSCI EM	3.08 70	2.07 74	0.37 69	-26.72 67

Non-US Equity Active Emerging Markets  
Rolling 1 Year Excess Return



Top 10 Holdings

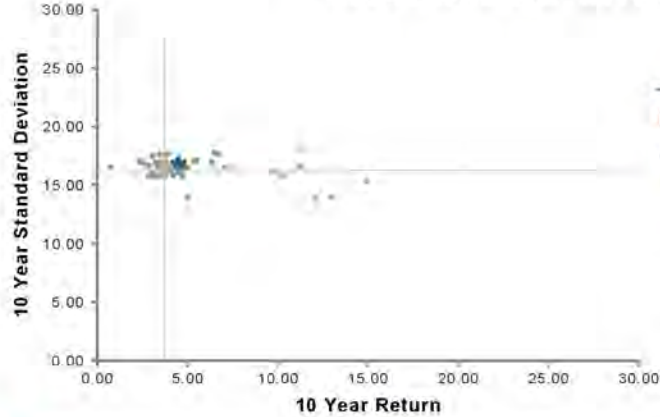
Security Name	Ending Market Value (\$ in Thousands)	Percentage %
TAIWAN SEMICONDUCTOR MANUFAC	574,276	5.9
SAMSUNG ELECTRONICS CO LTD	436,730	4.5
TENCENT HOLDINGS LTD	407,567	4.2
ALIBABA GROUP HOLDING LTD	364,735	3.7
PING AN INSURANCE GROUP CO H	199,902	2.1
RELIANCE INDUSTRIES LTD	182,757	1.9
HOUSING DEVELOPMENT FINANCE	151,145	1.6
JD.COM INC CL A	138,545	1.4
PETROLEO BRASILEIRO SPON ADR	134,137	1.4
TAIWAN SEMICONDUCTOR SP ADR	133,719	1.4

Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\* Gross of fees returns are based on best available expense information.

**California State Teachers Retirement**  
**Non-US Equity Active Emerging Markets - Risk vs Return**  
**Periods Ending June 30, 2022**



**10 Year Risk**  
**State Street Universe - Int'l Equity Emerging Market Funds**



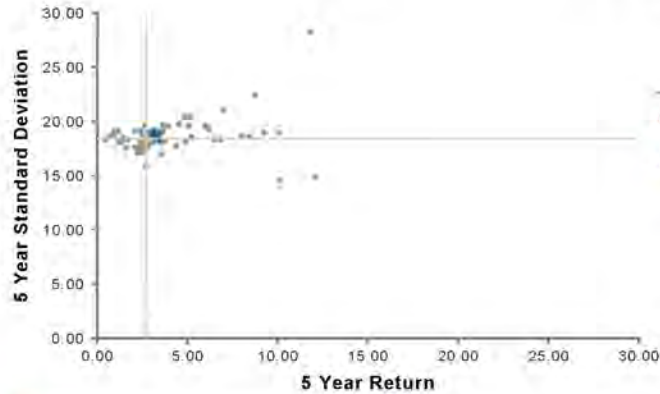
	10 Year Return	10 Year Standard Deviation
★ NON-US EQUITY ACTIVE EMG MKT	3.93 48	15.96 41
◆ STRS CUSTOM MSCI EM	3.08 70	15.87 37
Median	3.71	16.26
5th Percentile	11.82	13.72
25th Percentile	6.15	15.62
50th Percentile	3.71	16.26
75th Percentile	2.96	16.74
95th Percentile	1.35	17.47

**10 Year Risk Information & Statistics**

	NON-US EQUITY ACTIVE EMG MKT
Historic Beta	0.99
Information Ratio	0.47
Jensens Alpha	1.09
R-Squared	0.98
Sharpe Ratio	0.29
Tracking Error	2.28
Treynor Ratio	4.62

● NON-US EQUITY ACTIVE EMG MKT ◆ STRS CUSTOM MSCI EM

**5 Year Risk**  
**State Street Universe - Int'l Equity Emerging Market Funds**



	5 Year Return	5 Year Standard Deviation
★ NON-US EQUITY ACTIVE EMG MKT	2.55 54	17.83 30
◆ STRS CUSTOM MSCI EM	2.07 74	17.30 17
Median	2.72	18.42
5th Percentile	9.03	15.68
25th Percentile	4.68	17.80
50th Percentile	2.72	18.42
75th Percentile	2.05	18.87
95th Percentile	0.56	20.22

**5 Year Risk Information & Statistics**

	NON-US EQUITY ACTIVE EMG MKT
Historic Beta	1.02
Information Ratio	-0.02
Jensens Alpha	-0.07
R-Squared	0.98
Sharpe Ratio	0.05
Tracking Error	2.34
Treynor Ratio	0.89

● NON-US EQUITY ACTIVE EMG MKT ◆ STRS CUSTOM MSCI EM

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Non-US Equity

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<b>NON-US EQUITY HEDGED</b>	42,932,175	5.98	5.21	2.71	1.51	-20.59
<i>STRS NON-US EQUITY INDEX</i>		5.83	4.85	2.52	1.43	-20.35
<b>NON-US EQUITY UN-HEDGED</b>	42,932,175		5.21	2.71	1.51	-20.59
<i>STRS NON-US EQUITY INDEX</i>			4.85	2.52	1.43	-20.35
<b>NON - US EQUITY DEV</b>	31,021,351	5.94	5.83	3.01	1.95	-17.89
<i>STRS CUSTOM MSCI EAFE+CAN IMI</i>		5.48	5.58	2.66	1.65	-17.93
<b>NON-US EQUITY DEVELOPED PASSIVE</b>	16,064,023	6.30	6.02	3.13	2.11	-17.55
<i>STRS Non-US Equity Passive (Daily)</i>		5.84	5.58	2.66	1.65	-17.93
<b>NON-USEQ PASS UNHDGD</b>	16,064,023	6.24	6.02	3.13	2.11	-17.55
<i>STRS Non-US Equity Passive (Daily)</i>		5.84	5.58	2.66	1.65	-17.93
<b>NON-US EQUITY PASSIVE EAFE</b>	16,064,023	5.92	6.02	3.13	2.11	-17.55
<i>STRS CUSTOM MSCI EAFE+CAN IMI</i>		5.48	5.58	2.66	1.65	-17.93
BLACKROCK EAFE + CA IMI	5,657					
<i>STRS CUSTOM MSCI EAFE+CAN IMI</i>						
CALSTRS EAFE + CANADA	16,057,574			3.00	2.12	-17.55
<i>STRS MSCI EAFE+CAN IMI</i>				2.52	1.65	-17.93
EAFE+CANADA SMALL CAP	792					
<i>MSCI CalSTRS EAFE + CA SC Custom Net</i>						
<b>NON-US EQUITY DEVELOPED ACTIVE</b>	14,957,328	5.55	5.51	2.91	1.81	-18.16
<i>STRS CUSTOM MSCI EAFE+CAN IMI</i>		5.48	5.58	2.66	1.65	-17.93
<b>EAFE SMALL CAP</b>	700,471				-1.56	-25.90
<i>MSCI CalSTRS EAFE + CA SC Custom Net</i>					1.95	-23.11
MONDRIAN EAFE SMALL	295,452				-1.72	-27.18
<i>MSCI CalSTRS EAFE + CA SC Custom Net</i>					1.95	-23.11

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Non-US Equity

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
PRINCIPAL EAFE SMALL	398,482				-1.58	-24.63
<i>MSCI CalSTRS EAFE + CA SC Custom Net</i>					1.95	-23.11
SSGA AQE EAFE SMALL	6,537					
<i>MSCI CalSTRS EAFE + CA SC Custom Net</i>						
<b>NON-USEQ ACT EAFE</b>	8,077,279	5.78	5.99	3.07	1.95	-18.60
<i>STRS CUSTOM MSCI EAFE+CAN</i>		5.37	5.41	2.76	1.61	-16.98
MONDRIAN EAFE	1,424,331	6.43	5.32	2.03	1.05	-11.59
<i>STRS MSCI EAFE + CAN BLENDED INDEX</i>		5.54	5.64	2.79	1.61	-16.98
TEMPLETON-FIDUCIARY EAFE	1,274,077	7.24	6.62	4.21	0.16	-37.31
<i>STRS CUSTOM MSCI EAFE+CAN</i>		5.37	5.41	2.76	1.61	-16.98
LAZARD ASSET MGMT EAFE	9,534					
<i>STRS CUSTOM MSCI EAFE+CAN</i>						
PZENA INVESTMENT MANAGEMENT	1,301,745			2.46	3.48	-16.41
<i>STRS CUSTOM MSCI EAFE+CAN</i>				2.76	1.61	-16.98
AQR EAFE EQUITY	5,608					
<i>STRS CUSTOM MSCI EAFE+CAN</i>						
ARROWSTREET CAPITAL	1,491,387			6.30	7.29	-11.70
<i>STRS CUSTOM MSCI EAFE+CAN</i>				2.76	1.61	-16.98
PYRFORD EAFE	761,016				3.57	-8.61
<i>STRS CUSTOM MSCI EAFE+CAN</i>					1.61	-16.98
JP MORGAN EAFE	505,163					
<i>STRS CUSTOM MSCI EAFE+CAN</i>						
<b>NON-US DEVELOPING MANAGERS</b>	1,304,419			2.70	1.27	-19.77
<i>STRS CUSTOM MSCI EAFE+CAN</i>				2.76	1.61	-16.98
<b>XPONANCE</b>	788,200			3.00	1.58	-17.38

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Non-US Equity

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<i>STRS CUSTOM MSCI EAFE+CAN</i>				2.76	1.61	-16.98
<b>LEIA EAFE</b>	514,564			2.35	0.84	-23.19
<i>STRS CUSTOM MSCI EAFE+CAN</i>				2.76	1.61	-16.98
<b>Progress EAFE</b>	1,655					
<i>STRS CUSTOM MSCI EAFE+CAN</i>						
<b>XUSEQ-A SPECIAL SITUATION</b>	1,377,019			5.53	5.96	-14.56
<i>STRS CUSTOM MSCI ACWI EX US</i>				2.53	1.23	-19.96
<b>SSGM EAFE BETA</b>	2,240					
<i>STRS CUSTOM MSCI EAFE+CAN</i>						
<b>NON US SPECIAL SITUATION-P</b>	4,764					
<i>STRS CUSTOM MSCI EAFE+CAN</i>						
<b>CALSTRS MSCI CANADA</b>	1,010,349		5.50	7.71	8.69	-7.99
<i>STRS CUSTOM MSCI CANADA IMI</i>			4.65	6.78	7.72	-8.64
<b>SSGM EAFE SMALL BETA</b>	1,145					
<i>MSCI CalSTRS EAFE + CA SC Custom Net</i>						
<b>CALSTRS MSCI EAFE + CANADA SC</b>	358,520					-22.77
<i>MSCI CalSTRS EAFE + CA SC Custom Net</i>						-23.11
<b>XUS OTHER BETA</b>	1,902,711					-14.31
<i>STRS CUSTOM MSCI EAFE+CAN</i>						-16.98
<b>ACADIAN ASSET MANAGEMENT</b>	1,011,078				1.21	-12.98
<i>MSCI World ex USA (CALSTRS) Min Vol(USD)</i>					-0.99	-12.80
<b>CALSTRS MSCI WORLD EX USA DMF</b>	891,633					-15.82
<i>MSCI World ex USA Custom DMF</i>						-16.15
<b>NON-USEQ ACT EUROPE</b>	1,118,683	6.41	6.09	2.83	0.96	-19.40

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Non-US Equity

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<i>STRS CUSTOM MSCI EUROPE</i>		5.18	5.50	2.27	1.07	-17.98
FIDELITY	1,118,683	6.60	6.25	2.78	0.96	-19.40
<i>STRS CUSTOM MSCI EUROPE</i>		5.18	5.50	2.27	1.07	-17.98
<b>NON-USEQ ACT PACIFIC</b>	1,546,967	4.90	5.06	2.91	1.01	-17.92
<i>STRS CUSTOM MSCI PACIFIC</i>		5.32	5.43	2.38	0.74	-18.14
CALSTRS PAC BASIN	1,546,967				1.01	-17.92
<i>STRS CUSTOM MSCI PACIFIC</i>					0.74	-18.14
CALSTRS-FUTURES EQUITIZATION NONUS	234,198		-4.06	-31.24	-46.36	-25.82
<b>NON-US EQUITY EM</b>	11,871,943		3.51	2.25	0.62	-27.07
<i>STRS CUSTOM MSCI EM IMI</i>			3.21	2.22	0.94	-26.08
<b>NON-US EQUITY ACTIVE EMG MKT</b>	9,734,270		3.40	2.03	0.13	-27.62
<i>STRS CUSTOM MSCI EM</i>			3.08	2.07	0.37	-26.72
BAILLIE GIFFORD & CO	1,688,520		5.94	4.38	1.29	-33.84
<i>STRS CUSTOM MSCI EM</i>			3.08	2.07	0.37	-26.72
LAZARD ASSET MGMT	800,106		2.31	0.41	-0.66	-19.57
<i>STRS CUSTOM MSCI EM</i>			3.08	2.07	0.37	-26.72
MONDRIAN INVESTMENT	1,477,868		2.00	1.30	0.48	-23.70
<i>STRS CUSTOM MSCI EM</i>			3.08	2.07	0.37	-26.72
T ROWE PRICE	184					
<i>STRS CUSTOM MSCI EM</i>						
J.P.MORGAN GEM OPPORTUNITIES	1,060,784			2.72	-1.27	-30.64
<i>STRS CUSTOM MSCI EM</i>				2.07	0.37	-26.72
SCHRODER GEM CORE EQUITY	1,821,107			3.62	1.95	-28.01

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Non-US Equity

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<i>STRS CUSTOM MSCI EM</i>				2.07	0.37	-26.72
AQR EMERGING EQUITY	1,452,517			1.78	2.47	-26.26
<i>STRS CUSTOM MSCI EM</i>				2.07	0.37	-26.72
SSGA-EM	184,879			1.72	-0.26	-26.10
<i>STRS CUSTOM MSCI EM</i>				2.07	0.37	-26.72
CALSTRS EMERGING MARKETS	1,202,622					-26.89
<i>MSCI CALSTRS INDEX ON EM ESG FOCUS</i>						-27.36
SSGM EM ESG Index	45,684					-26.05
<i>MSCI CALSTRS INDEX ON EM ESG FOCUS</i>						-27.36
<b>EM SMALL CAP</b>	1,785,602				5.11	-20.73
<i>MSCI CalSTRS EM Small Cap Custom</i>					5.45	-21.24
AQR EM SMALL CAP	721,829				6.61	-20.81
<i>MSCI CalSTRS EM Small Cap Custom</i>					5.45	-21.24
JP MORGAN EM SMALL CAP	617,614				2.82	-21.27
<i>MSCI CalSTRS EM Small Cap Custom</i>					5.45	-21.24
SSGA EM SMALL CAP	446,159				5.34	-19.85
<i>MSCI CalSTRS EM Small Cap Custom</i>					5.45	-21.24
EM CASH EQUITIZATION	352,070					
BLACKROCK NON-USEQ TRANSITION 2	38					
<i>STRS MSCI EAFE + CANADA CUSTOM</i>						
STRS - NON-US TRANSITION	36,890					
<i>STRS CUSTOM MSCI EAFE+CAN</i>						
GE HYBRID TRANSITION	1,953					

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - Global Mandate**

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>GLOBAL MANDATE</b> <i>MSCI CalSTRS on ACWI IMI Custom</i>	442,114				
<b>RBC GLOBAL FOCUS EQUITY</b> <i>MSCI CALSTRS Index on ACWIexSaudi Arabia</i>	442,114				

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - Sustainable Investment & Stewardship Strategies**

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>TOTAL SISS</b>	8,841,861		7.35	6.37	-18.68
<i>TOTAL SISS INDEX</i>			7.75	6.18	-16.72
<b>TOTAL SISS PUBLIC EQUITY</b>	8,821,232		7.34	6.36	-18.71
<i>TOTAL SISS INDEX</i>			7.74	6.16	-16.76
<b>SISS PUBLIC EQUITY</b>	8,820,722		7.26	6.42	-18.70
<i>SISS INDEX</i>			7.78	6.12	-16.76
<b>SISS ACTIVE EQUITY</b>	4,017,043	10.11	6.09	5.40	-21.98
<i>SISS ACTIVE EQUITY INDEX</i>		8.76	6.81	5.96	-16.76
<b>SISS US EQUITY</b>	1,421,621	10.81	7.44	8.39	-13.27
<i>STRS US EQUITY INDEX</i>		12.63	10.73	9.78	-13.95
<b>TRIAN PARTNERS</b>	350,014	11.79	6.05	6.26	-8.36
<i>STRS CUSTOM RUSSELL 1000</i>		12.88	11.14	10.18	-13.12
<b>STARBOARD VALUE</b>	347,883		13.61	14.01	-7.90
<i>STRS CUSTOM RUSSELL 2000</i>			5.21	4.23	-25.36
<b>IMPACTIVE SIERRA FUND LP</b>	423,588			15.34	-10.20
<i>STRS CUSTOM RUSSELL 2000</i>				4.23	-25.36
<b>LEGION PARTNERS</b>	300,137		11.83	6.93	-29.06
<i>STRS CUSTOM RUSSELL 2000</i>			5.21	4.23	-25.36
<b>SISS GLOBAL EQUITY</b>	1,451,768	11.73	8.22	5.24	-25.10
<i>SISS GLOBAL EQUITY INDEX</i>		8.76	6.81	5.96	-16.76
<b>AGF INVESTMENT AMERICA INC</b>	503,403	9.71	8.72	8.12	-22.83
<i>STRS CUSTOM MSCI WORLD(NET)</i>		9.58	7.81	6.98	-14.46

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - Sustainable Investment & Stewardship Strategies**

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
GENERATION INV MGMT	694,357	12.57	7.92	4.17	-26.53
<i>STRS CUSTOM MSCI WORLD(NET)</i>		<i>9.58</i>	<i>7.81</i>	<i>6.98</i>	<i>-14.46</i>
IMPAX LEADERS CALSTRS	254,009			5.45	-22.25
<i>MSCI CalSTRS on ACWI IMI Custom</i>				<i>5.96</i>	<i>-16.76</i>
<b>SISS EX-US EQUITY</b>	679,022			4.27	-18.62
<i>STRS CUSTOM MSCI EAFE+CAN</i>				<i>1.61</i>	<i>-16.98</i>
SCHRODER INTERNATIONAL EQUITY	679,022			4.27	-18.62
<i>STRS CUSTOM MSCI EAFE+CAN</i>				<i>1.61</i>	<i>-16.98</i>
<b>SISS EM EQUITY</b>	464,632		-0.84	0.09	-35.64
<i>STRS CUSTOM MSCI EM</i>			<i>2.07</i>	<i>0.37</i>	<i>-26.72</i>
CARTICA CAPITAL	158,437		-1.87	-1.93	-43.38
<i>STRS CUSTOM MSCI EM</i>			<i>2.07</i>	<i>0.37</i>	<i>-26.72</i>
HERMES GLOBAL EM	306,195			0.49	-30.15
<i>STRS CUSTOM MSCI EM</i>				<i>0.37</i>	<i>-26.72</i>
<b>SISS PASSIVE EQUITY</b>	4,803,679		9.35	7.20	-15.33
<i>MSCI CalSTRS on ACWI IMI Custom</i>			<i>6.81</i>	<i>5.96</i>	<i>-16.76</i>
<b>LOW CARBON</b>	3,877,148		9.26	7.05	-15.53
<i>STRS CUSTOM LOW CARBON INDEX</i>			<i>8.79</i>	<i>6.45</i>	<i>-15.73</i>
CALSTRS LOW CARBON INDEX	2,573				
<i>CalSTRS Low Carbon Custom Index</i>					
CALSTRS LOW CARBON EM INDEX	348,922				-25.89
<i>LOW CARBON EM BLENDED INDEX</i>					<i>-26.26</i>
CALSTRS LOW CARBON US INDEX	2,291,593				-13.66

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - Sustainable Investment & Stewardship Strategies**

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<i>MSCI USA Custom Low Carbon Target Gross</i>					-13.67
CALSTRS LOW CARBON EX-US INDEX	1,234,060				-16.79
<i>MSCI WORLD x US CUSTOM LOW CARBON TARGET</i>					-17.12
<b>LC TRANSITION READINESS</b>	926,531				-14.56
<i>STRS LCTR Custom Index</i>					-14.43
US LC TRANSITION READINESS	621,219				-12.92
<i>STRS CUSTOM RUSSELL 1000</i>					-13.12
EX-US LC TRANSITION READINESS	305,312				-17.73
<i>STRS CUSTOM MSCI EAFE+CAN</i>					-16.98
SISS OVERLAY	0				
SISS TRANSITION DEVELOPED	263				
<i>STRS Custom Zero Return</i>					
SISS TRANSITION GLOBAL	247				
<i>STRS Custom Zero Return</i>					
<b>TOTAL SISS PRIVATE ASSETS</b>	20,630				
<i>TOTAL SISS PRIVATE ASSETS INDEX</i>					
<b>SISS PRIVATE EQUITY</b>	16,263				
<i>SISS PRIVATE EQUITY INDEX</i>					
VISTA CO INV	16,263				
<i>SISS PRIVATE EQUITY INDEX</i>					
<b>SISS INNOVATIVE STRATEGIES</b>	4,367				

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - Sustainable Investment & Stewardship Strategies**

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<i>SISS INNOVATIVE STRATEGIES INDEX</i>					
SER CAPITAL PARTNERS FUND I	4,367				
<i>STRS Custom 3 month tbill Gross QTR Lag</i>					

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - Innovation Global Equity**

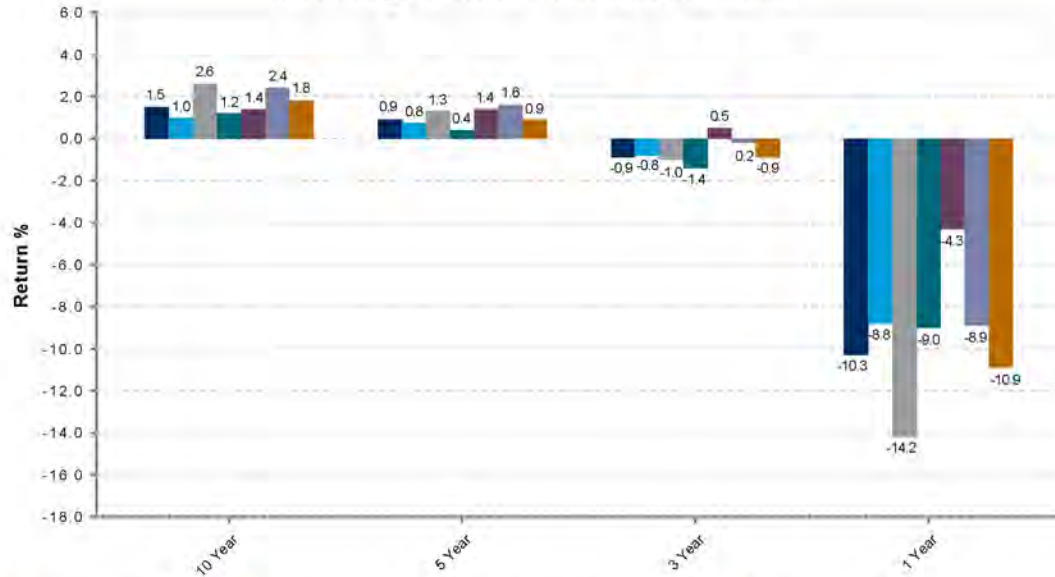
	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>INNOVATION-GLOBAL EQUITY</b>	237				
<i>STABILIZED EQUITY BLENDED INDEX</i>					
<b>STABILIZED EQUITY</b>	237				
<i>STABILIZED EQUITY BLENDED INDEX</i>					
<b>LOW VOLATILITY</b>	237				
<i>LOW VOLATILITY BLENDED INDEX</i>					
<b>LOW VOLATILITY - NON-US</b>	237				
<i>LOW VOLATILITY - NON-US BLENDED INDEX</i>					
<b>ROBECO</b>	237				
<i>MSCI World ex USA (CALSTRS) Min Vol(USD)</i>					

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

## California State Teachers Retirement US Fixed Income Market Review Periods Ending June 30, 2022

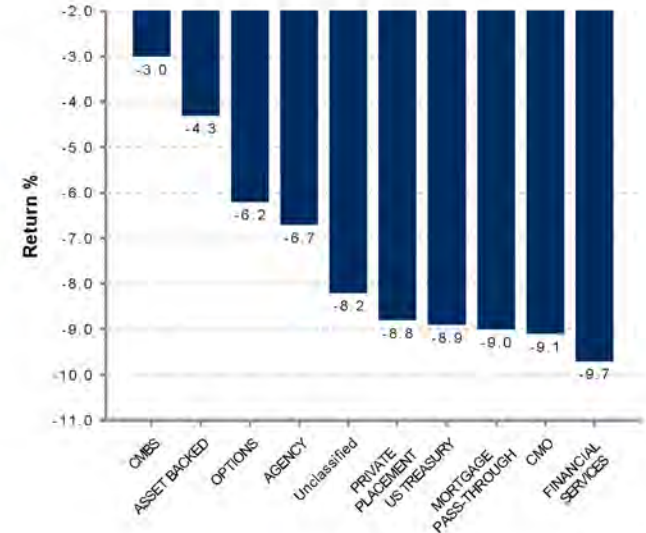


**Bloomberg US Fixed Income - Market Review**



■ Bloomberg Aggregate  
■ Bloomberg Government  
■ Bloomberg Corporate  
■ Bloomberg MBS  
■ Bloomberg ABS  
■ Bloomberg CMBS  
■ Bloomberg US Universal

**Bloomberg Aggregate Index  
1 Year Sector Return**



■ Ret Benchmark - 1 Yr

**Bloomberg U.S. Fixed Income - Market Review Summary**

	20 Year	10 Year	5 Year	3 Year	1 Year
Bloomberg Aggregate	3.57	1.54	0.88	-0.93	-10.29
Bloomberg Government	3.17	1.03	0.76	-0.85	-8.82
Bloomberg Corporate	4.59	2.62	1.28	-0.99	-14.19
Bloomberg MBS	3.27	1.18	0.36	-1.44	-9.03
Bloomberg ABS	2.80	1.43	1.38	0.51	-4.27
Bloomberg CMBS	4.12	2.43	1.60	-0.22	-8.90
Bloomberg US Universal	3.87	1.83	0.94	-0.94	-10.89

Note: Indices are standard market versions. Returns greater than 1 year are annualized.  
Note: Sector returns are calculated using constituent level data of the index.

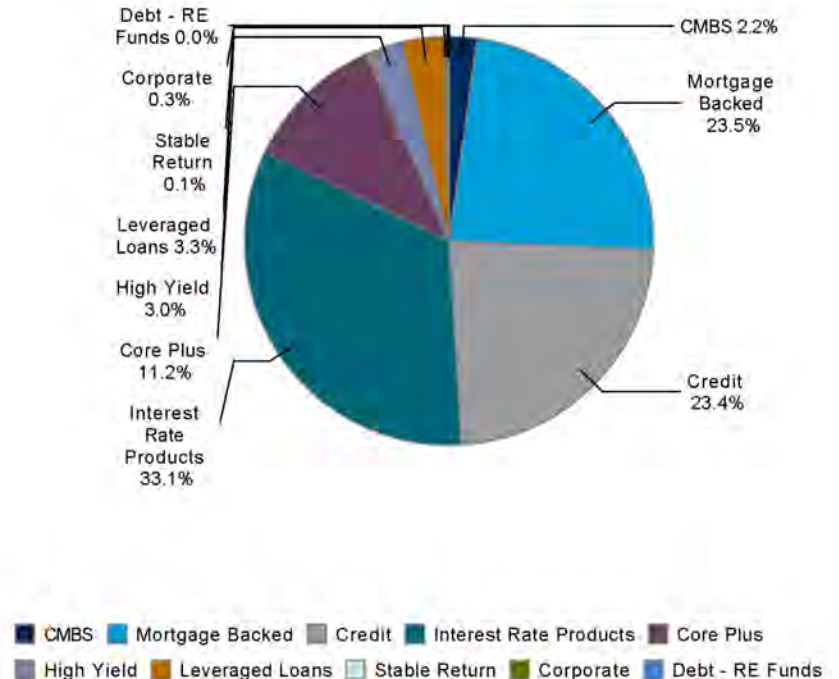
## California State Teachers Retirement Total Fixed Income - Asset Allocation Periods Ending June 30, 2022



### Total Fixed Income Allocations

	Market Value (\$ in Thousands)	Actual Weight (Percentage %)
<b>Core Debt</b>		
CMBS	701,565	2.2
Mortgage Backed	7,450,162	23.5
Credit	7,402,445	23.4
Interest Rate Products	10,484,895	33.1
Core Overlay	1	0.0
<b>Total Debt-Core</b>	<b>26,039,068</b>	<b>82.1</b>
<b>Opportunistic Debt</b>		
Core Plus	3,550,475	11.2
High Yield	938,504	3.0
Leveraged Loans	1,038,373	3.3
Overlay	105	0.0
<b>Total Opportunistic Debt</b>	<b>5,527,457</b>	<b>17.4</b>
<b>Stable Return</b>		
STRS-Enhanced HLP	23,095	0.1
Stable Return	23,095	0.1
<b>Debt-Private</b>		
Corporate	99,577	0.3
Debt - RE Funds	12,283	0.0
<b>Total Debt-Private</b>	<b>111,860</b>	<b>0.4</b>
<b>Total Fixed Income</b>		
<b>Total Fixed Income</b>	<b>31,701,481</b>	<b>100.0</b>

### Asset Allocations



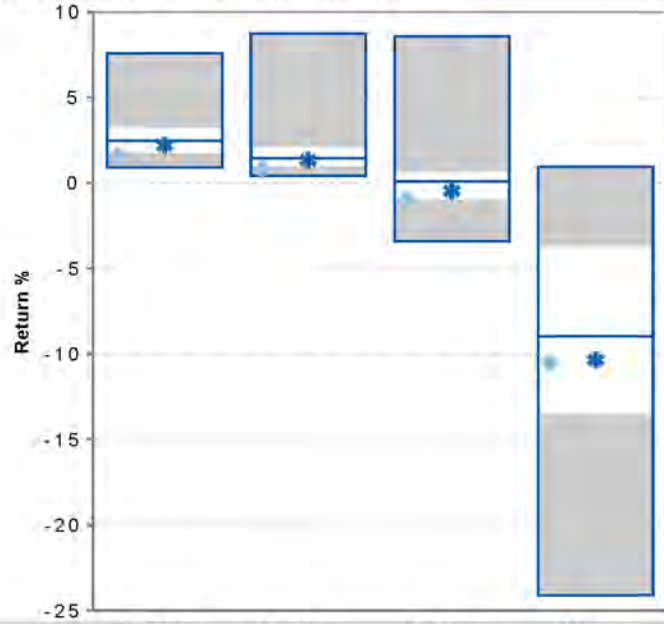
\* End of period weights



**California State Teachers Retirement**  
**Total Fixed Income**  
**Periods Ending June 30, 2022**

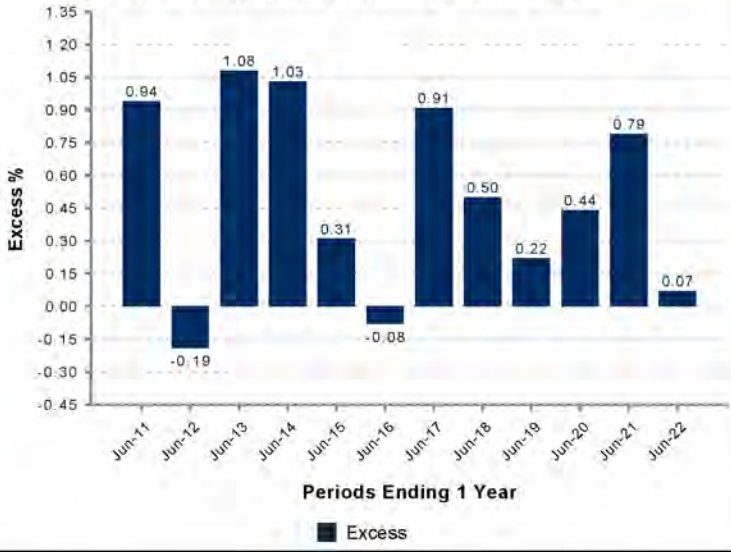


**State Street Universe - US Fixed Income Pools**



	10 Years	5 Years	3 Years	1 Year
Number of Observations	54	67	77	84
5th Percentile	7.58	8.74	8.56	0.94
25th Percentile	3.20	2.05	0.61	-3.75
50th Percentile	2.45	1.43	0.09	-8.95
75th Percentile	1.75	0.93	-1.01	-13.54
95th Percentile	0.92	0.42	-3.40	-24.10
★ TOTAL FIXED INCOME	2.25 58	1.38 54	-0.41 63	-10.30 57
◆ STRS US DEBT CUSTOM INDEX	1.69 79	0.95 75	-0.86 71	-10.39 58

**Total Fixed Income - Rolling 1 Year Excess**



**Top 10 Holdings**

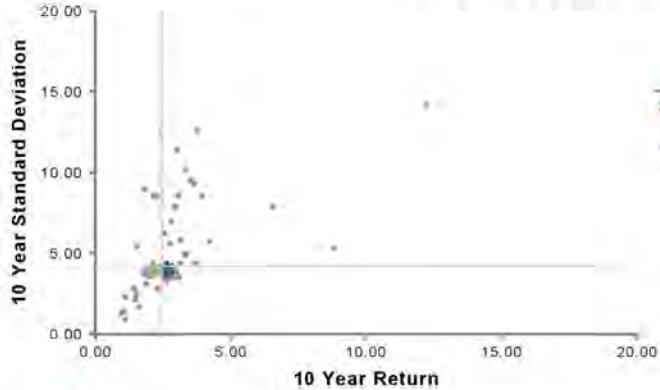
Security Name	Maturity Date	Ending Market Value (\$ in Thousands)	Percentage %
90DAY EUR FUTR DEC22	12/19/2022	526,093	1.7
US LONG BOND(CBT) SEP22	09/21/2022	318,838	1.0
US TREASURY N/B	05/15/2024	318,475	1.0
US TREASURY N/B	08/15/2024	293,677	0.9
US TREASURY N/B	03/15/2025	291,580	0.9
US TREASURY N/B	01/31/2024	291,368	0.9
US TREASURY N/B	06/30/2028	288,767	0.9
US TREASURY N/B	05/15/2044	282,443	0.9
US TREASURY N/B	02/29/2024	278,161	0.9
US TREASURY N/B	01/31/2028	276,982	0.9

Note: Returns for Universe are gross of fees. Returns for rolling 1 year excess are net of manager fees. Returns greater than 1 year are annualized.  
\*Gross of fees returns are based on best available expense information.

**California State Teachers Retirement**  
**Total Fixed Income - Risk vs Return**  
**Periods Ending June 30, 2022**



**10 Year Risk**  
**State Street Universe - US Fixed Income Pools**



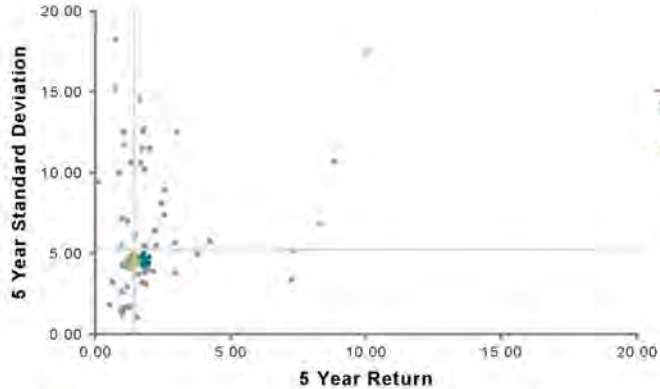
★ TOTAL FIXED INCOME	2.25	5.8	3.48	2.9
◆ STRS US DEBT CUSTOM INDEX	1.69	7.9	3.45	2.8
Median	2.45		4.19	
5th Percentile	7.58		1.19	
25th Percentile	3.20		3.36	
50th Percentile	2.45		4.19	
75th Percentile	1.75		8.35	
95th Percentile	0.92		12.35	

★ TOTAL FIXED INCOME ◆ STRS US DEBT CUSTOM INDEX

**10 Year**  
**Risk Information & Statistics**

TOTAL FIXED INCOME	
Historic Beta	1.00
Information Ratio	1.65
Jensens Alpha	0.58
R-Squared	0.99
Sharpe Ratio	0.54
Tracking Error	0.35
Treynor Ratio	1.83

**5 Year Risk**  
**State Street Universe - US Fixed Income Pools**



★ TOTAL FIXED INCOME	1.38	5.4	4.06	3.8
◆ STRS US DEBT CUSTOM INDEX	0.95	7.5	4.01	3.5
Median	1.43		5.24	
5th Percentile	8.74		1.31	
25th Percentile	2.05		3.59	
50th Percentile	1.43		5.24	
75th Percentile	0.93		10.01	
95th Percentile	0.42		14.38	

★ TOTAL FIXED INCOME ◆ STRS US DEBT CUSTOM INDEX

**5 Year**  
**Risk Information & Statistics**

TOTAL FIXED INCOME	
Historic Beta	1.01
Information Ratio	1.12
Jensens Alpha	0.43
R-Squared	0.99
Sharpe Ratio	0.07
Tracking Error	0.38
Treynor Ratio	0.27

Note: Returns are gross of fees. Returns greater than 1 year are annualized.  
\* Gross returns are based on best available expense information.



**California State Teachers Retirement**  
**Total Fixed Income - Performance Summary**  
**Periods Ending June 30, 2022**



**Performance Summary - Total Fixed Income**

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<b>TOTAL FIXED INCOME</b>	31,701,481	4.18	2.22	1.35	-0.44	-10.32
<i>STRS US DEBT CUSTOM INDEX</i>		3.86	1.69	0.95	-0.86	-10.39
<b>DEBT-PUBLIC</b>	31,589,621	4.18	2.22	1.35	-0.44	-10.32
<i>STRS US DEBT CUSTOM INDEX</i>		3.86	1.69	0.95	-0.86	-10.39
<b>DEBT- CORE/OPP</b>	31,566,526	4.20	2.22	1.35	-0.44	-10.33
<i>STRS DEBT-CORE/OPPORTUNISTIC CUSTOM INDEX</i>		3.87	1.71	0.98	-0.81	-10.26
<b>DEBT - CORE</b>	26,039,068	3.92	1.90	1.19	-0.60	-10.23
<i>STRS DEBT-CORE CUSTOM INDEX</i>		3.68	1.54	0.88	-0.93	-10.27
<b>CORE DEBT - PRE OVERLAY</b>	26,039,067	3.91	1.86	1.16	-0.60	-10.24
<i>STRS DEBT-CORE CUSTOM INDEX</i>		3.68	1.54	0.88	-0.93	-10.27
<b>STRS INTEREST RATE PRODUCTS</b>	10,484,895	3.58	1.23	1.00	-0.57	-8.71
<i>STRS GOVERNMENT INDEX</i>		3.36	1.03	0.76	-0.85	-8.82
<b>STRS CREDIT</b>	7,402,445	4.84	2.66	1.39	-0.87	-13.59
<i>STRS CREDIT CUSTOM INDEX</i>		4.56	2.45	1.25	-1.00	-13.61
<b>US DEBT SECURITIZED</b>	8,151,727	3.43	1.60	0.68	-1.11	-8.90
<i>STRS SECURITIZED INDEX</i>		3.26	1.25	0.46	-1.33	-8.97
<b>MBS</b>	7,450,162	3.49	1.53	0.61	-1.19	-8.89
<i>STRS MBS INDEX</i>		3.27	1.18	0.36	-1.44	-9.03
<b>CMBS</b>	701,565		2.54	1.69	-0.11	-8.91
<i>Bloomberg CMBS: Erisa Eligible</i>			2.35	1.58	-0.16	-8.89

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
\*Gross of fees returns are based on best available expense information.

**California State Teachers Retirement**  
**Total Fixed Income - Performance Summary**  
Periods Ending June 30, 2022



**Performance Summary - Total Fixed Income**

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
STRS CORE OVERLAY	1		0.04	0.03	0.01	0.01
<i>STRS ABSOLUTE RETURN INDEX</i>			0.00	0.00	0.00	0.00
<b>DEBT OPPORTUNISTIC</b>	5,527,457		3.56	2.00	0.14	-10.84
<i>STRS US DEBT CUSTOM INDEX</i>			1.69	0.95	-0.86	-10.39
<b>OPPORTUNISTIC DEBT - PRE OVERLAY</b>	5,527,352		3.57	1.99	0.21	-10.84
<i>STRS US DEBT CUSTOM INDEX</i>			1.69	0.95	-0.86	-10.39
<b>HIGH YIELD</b>	938,504	6.46	4.79	2.56	0.69	-11.63
<i>STRS US HYCP 2% CAP CUSTOM INDEX</i>		7.25	4.47	2.11	0.21	-12.83
CALSTRS HY	469,688		4.48	2.36	0.19	-11.67
<i>STRS US HYCP 2% CAP CUSTOM INDEX</i>			4.47	2.11	0.21	-12.83
BLACKROCK HIGH YIELD	468,817		5.07	3.01	1.19	-11.59
<i>STRS US HYCP 2% CAP CUSTOM INDEX</i>			4.47	2.11	0.21	-12.83
<b>DEBT CORE PLUS</b>	3,550,475		2.43	1.43	-0.41	-12.32
<i>STRS US UNIVERSAL CUSTOM INDEX</i>			1.84	0.97	-0.89	-10.72
WAMCO	1,662,418		2.58	1.22	-1.07	-13.93
<i>STRS US UNIVERSAL CUSTOM INDEX</i>			1.84	0.97	-0.89	-10.72
LM CAPITAL GROUP	453,232		2.18	1.44	-0.16	-10.38
<i>STRS US UNIVERSAL CUSTOM INDEX</i>			1.84	0.97	-0.89	-10.72
CALSTRS CORE PLUS	1,434,825					-10.76
<i>STRS US UNIVERSAL CUSTOM INDEX</i>						-10.72

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
\*Gross of fees returns are based on best available expense information.

**California State Teachers Retirement**  
**Total Fixed Income - Performance Summary**  
**Periods Ending June 30, 2022**



**Performance Summary - Total Fixed Income**

	Ending Market Value (\$ in Thousands)	20 Year	10 Year	5 Year	3 Year	1 Year
<b>LEVERAGED LOANS</b>	1,038,373		4.06	2.94	2.15	-2.48
<i>STRS S&amp;P/LSTA Leveraged Loan Index</i>			3.74	2.91	2.09	-2.78
CREDIT SUISSE BL	795,107		4.24	2.94	2.10	-2.62
<i>STRS S&amp;P/LSTA Leveraged Loan Index</i>			3.74	2.91	2.09	-2.78
ARES BANK LOAN	243,266					
<i>STRS S&amp;P/LSTA Leveraged Loan Index</i>						
STRS OPPORTUNISTIC OVERLAY	105		-0.00	0.01	-0.07	0.01
<i>STRS ABSOLUTE RETURN INDEX</i>			0.00	0.00	0.00	0.00
<b>STABLE RETURN</b>	23,095		6.34	5.24	5.11	6.51
STRS-ENHANCED HLP	23,095	5.82	5.23	5.24	5.11	6.51
<i>Debt Opportunity Policy Benchmark</i>		3.65	1.69	0.95	-0.86	-10.39
<b>DEBT-PRIVATE</b>	111,860					-5.92
<i>STRS PRIVATE CREDIT CUSTOM INDEX</i>						-9.49
CORPORATE	99,577					3.40
<i>STRS US DEBT CUSTOM INDEX</i>						-10.39
DEBT - RE Funds	12,283					66.85
<i>STRS US DEBT CUSTOM INDEX 1 QTR LAG</i>						-3.97

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
\*Gross of fees returns are based on best available expense information.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - Inflation Sensitive**

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>TOTAL INFLATION SENSITIVE</b>	16,412,524	7.04	10.05	11.95	17.52
<i>TOTAL INFLATION SENSITIVE INDEX</i>		5.47	6.58	8.75	12.90
<b>TOTAL INFLATION SENSITIVE XSISS</b>	16,412,524	7.04	10.05	11.95	17.52
<i>STRS TOTAL IS INDEX</i>		5.47	6.58	8.75	12.90
<b>INFLATION SENSITIVE</b>	16,412,524	7.02	10.00	11.95	17.52
<i>STRS INFLATION SENSITIVE</i>		5.47	6.59	8.75	12.90
<b>INFLATION SENSITIVE COMMODITIES</b>	4,933,001		9.10	15.42	22.59
<i>STRS INFLATION SENSITIVE COMMODITIES INDEX</i>			7.22	13.69	23.81
PIMCO COMMODITIES	1,804,369			14.96	24.80
<i>Bloomberg Commodity Price Index</i>				13.69	23.81
INVESCO COMMODITIES	1,136,733			14.06	16.50
<i>Bloomberg Commodity Price Index</i>				13.69	23.81
BCOM SWAP	1,991,899		10.67	18.27	27.49
<i>Bloomberg Commodity Price Index</i>			7.22	13.69	23.81
<b>INFLATION SENSITIVE EX. COMMODITIES</b>	11,479,523	6.97	9.86	10.29	14.72
<i>STRS INFLATION SENSITIVE EX COM</i>		5.17	5.97	6.52	8.37
<b>INFLATION BOND</b>	2,656,085	2.45	3.30	3.12	-5.05
<i>STRS INFLATION BOND INDEX</i>		2.38	3.16	3.04	-5.14
U.S. TIPS	2,656,085			3.12	-5.05
<i>Bloomberg U.S. Treasury: U.S. TIPS</i>				3.04	-5.14
<b>TOTAL INFRASTRUCTURE</b>	8,229,318	8.21	12.71	13.34	22.18
<i>INFRASTRUCTURE CUSTOM INDEX</i>		6.48	7.07	7.91	12.85

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Inflation Sensitive

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>INFRASTRUCTURE PRIVATE AGGREGATE</b>	8,212,100	8.53	12.82	13.31	20.13
<i>INFRASTRUCTURE PRIVATE BLENDED</i>		6.57	7.48	8.34	12.85
CALSTRS INFRA PRIVATE	3,040,538	8.66	12.10	11.68	17.14
<i>INFRASTRUCTURE PRIVATE BLENDED</i>		6.57	7.48	8.34	12.85
<b>INFRASTRUCTURE CO-INVEST AGGREGATE</b>	1,543,185		16.81	13.86	11.91
<i>INFRASTRUCTURE PRIVATE BLENDED</i>			7.48	8.34	12.85
BASALT CO-INVEST	161,438		17.98	1.34	2.32
<i>INFRASTRUCTURE PRIVATE BLENDED</i>			7.48	8.34	12.85
STONEPEAK CO-INVEST	930,809		13.47	18.90	18.82
<i>INFRASTRUCTURE PRIVATE BLENDED</i>			7.48	8.34	12.85
GEPIF CO-INVEST	84,781				-24.27
<i>INFRASTRUCTURE PRIVATE BLENDED</i>					12.85
ARDIAN CO-INVEST	126,249				-5.29
<i>INFRASTRUCTURE PRIVATE BLENDED</i>					12.85
CAPITAL DYNAMICS CO-INVEST	64,975				5.31
<i>INFRASTRUCTURE PRIVATE BLENDED</i>					12.85
ISQ CO-INVEST	67,408				
<i>INFRASTRUCTURE PRIVATE BLENDED</i>					
ARCLIGHT CO-INVEST	107,524				
<i>INFRASTRUCTURE PRIVATE BLENDED</i>					
<b>INFRASTRUCTURE MANAGED ACCOUNT AGGREGATE</b>	3,628,377		12.32	14.08	25.06
<i>INFRASTRUCTURE PRIVATE BLENDED</i>			7.48	8.34	12.85
ARGO	1,262,842		8.15	8.20	9.38
<i>INFRASTRUCTURE PRIVATE BLENDED</i>			7.48	8.34	12.85

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Inflation Sensitive

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
AREVON	749,747		10.39	10.81	9.53
<i>INFRASTRUCTURE PRIVATE BLENDED</i>			7.48	8.34	12.85
GOLDEN BRIDGE	146				
<i>INFRASTRUCTURE PRIVATE BLENDED</i>					
STEPSTONE	618,089			7.58	7.40
<i>INFRASTRUCTURE PRIVATE BLENDED</i>				8.34	12.85
UBS	624,117				41.57
<i>INFRASTRUCTURE PRIVATE BLENDED</i>					12.85
HARBERT	373,436				7.20
<i>INFRASTRUCTURE PRIVATE BLENDED</i>					12.85
INFRASTRUCTURE OVERLAY	17,218		2.97	2.48	12.84
<b>TIMBERLAND</b>	267,560			3.31	7.59
<i>NCREIF TIMBERLAND FUND QTR LAG</i>				3.69	9.46
TIMBERLAND ACCOUNTS	267,560			3.31	7.59
<i>NCREIF TIMBERLAND FUND QTR LAG</i>				3.69	9.46
<b>AGRICULTURE</b>	326,560			0.68	5.65
<i>STRS CUSTOM CPI+300 BPS QTR LAG</i>				7.30	11.78
AG FUNDS	326,560			0.68	5.65
<i>STRS CUSTOM CPI+300 BPS QTR LAG</i>				7.30	11.78

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Innovative Strategies

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>TOTAL INNOVATIVE STRATEGIES</b>	3,218,831	5.02	8.36	7.07	12.99
<i>TOTAL INNOVATIVE STRATEGIES INDEX</i>		3.15	3.20	1.50	0.53
<b>INNOVATIVE STRATEGIES</b>	3,214,464	5.03	8.36	7.08	13.02
<i>Innovative Strategies Blended Index</i>		3.15	3.20	1.50	0.53
<b>TOTAL INNOVATION</b>	3,214,397	7.01	8.32	7.08	13.02
<i>INNOVATION INDEX</i>		4.01	3.20	1.50	0.53
<b>INNOVATION PRIVATE ASSETS</b>	3,214,397		26.11	10.91	13.02
<i>INNOVATION PA BLENDED INDEX</i>			2.22	2.47	0.53
<b>PRIVATE EQUITY</b>	379,965				50.27
<i>PRIVATE EQUITY CUSTOM</i>					0.06
BLACKROCK LTPC	379,965				50.27
<i>STRS Custom 3 month tbill Gross Blend</i>					0.06
<b>PRIVATE CREDIT</b>	2,834,433		25.02	9.32	8.90
<i>PRIVATE CREDIT CUSTOM BLENDED CM</i>			2.42	2.80	0.59
<b>DIRECT LENDING</b>	2,499,003		15.39	9.84	9.19
<i>PRIVATE DEBT CUSTOM BENCHMARK</i>			1.58	1.40	0.24
STONE POINT CAPITAL	173,500				5.51
<i>STRS Custom 3 month tbill Gross QTR Lag</i>					0.06
<b>ARCMONT STRATEGIC PARTNERSHIP</b>	215,200			11.83	12.92
<i>ARCMONT STRATEGIC PARTNERSHIP INDEX</i>				0.61	0.06
ARCMONT EUROPEAN DL FUND	206,302			11.82	12.89
<i>S&amp;P LSTA Lvrge Loan Qtr Lag+175BPS Blend</i>				0.61	0.06
ARCMONT CS	8,898				
<i>STRS Custom 3 month tbill Gross QTR Lag</i>					

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
Due to the plan structure change on 7/2016, the Innovation aggregate returns include Risk Mitigating Strategies and Absolute Return performance.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Innovative Strategies

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>HPS STRATEGIC PARTNERSHIP</b>	454,696			10.34	11.98
<i>HPS STRATEGIC PARTNERSHIP INDEX</i>				0.61	0.06
HPS GLOBAL DIRECT LENDING	388,588			9.77	12.55
<i>S&amp;P LSTA Lvrgrd Loan Qtr Lag+175BPS Blend</i>				0.61	0.06
HPS SSOF	66,108				7.48
<i>STRS Custom 3 month tbill Gross Blend</i>					0.06
<b>OR STRATEGIC PARTNERSHIP</b>	897,397				11.09
<i>OR STRATEGIC PARTNERSHIP INDEX</i>					0.06
ORCC III	488,525				14.06
<i>STRS Custom 3 month tbill Gross QTR Lag</i>					0.06
ORO I	408,872				8.56
<i>STRS Custom 3 month tbill Gross QTR Lag</i>					0.06
<b>ARES STRETEGIC PARTNERSHIP</b>	758,211		16.73	7.89	7.47
<i>ARES STRATEGIC PARTNERSHIP INDEX</i>			2.04	2.17	0.60
ARES SSG SLO II	41,089		10.27	1.31	0.35
<i>STRS Leveraged Loan QTR Lag+300bps Blend</i>			6.84	10.30	6.33
ARES EUROPEAN DL SMA	508,842			9.96	10.00
<i>S&amp;P LSTA Lvrgrd Loan Qtr Lag+175BPS Blend</i>				0.61	0.06
ARES SSG SLO III	90,784				
<i>STRS Custom 3 month tbill Gross QTR Lag</i>					
ARES SME FUND	117,497				
<i>STRS Custom 3 month tbill Gross QTR Lag</i>					
<b>REAL ASSETS CREDIT</b>	335,429			6.44	7.29
<i>REAL ASSETS CUSTOM</i>				7.44	3.06
CASTLELAKE STABLE YIELD	117,698			6.44	12.24
<i>STRS Leveraged Loan QTR Lag+300bps Blend</i>				10.30	6.33
SPROTT PRIVATE LENDING FUND II	67,122			12.50	12.19

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
Due to the plan structure change on 7/2016, the Innovation aggregate returns include Risk Mitigating Strategies and Absolute Return performance.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



**Performance Summary - Innovative Strategies**

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<i>STRS Custom 3 month tbill Gross Blend</i>				0.61	0.06
SPROTT STREAMING AND ROYALTIES	150,609				
<i>STRS Custom 3 month tbill Gross QTR Lag</i>					

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.  
Due to the plan structure change on 7/2016, the Innovation aggregate returns include Risk Mitigating Strategies and Absolute Return performance.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Risk Mitigating Strategies

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>TOTAL RISK MITIGATING STRATEGIES</b>	30,903,507	3.85	6.58	7.65	8.93
<i>STRS TOTAL RMS</i>		2.42	6.30	7.61	6.76
<b>RISK MITIGATING STRATEGIES</b>	30,903,481	3.89	6.67	7.79	8.86
<i>RMS CUSTOM INDEX</i>		2.43	6.33	7.62	6.77
<b>GLOBAL MACRO</b>	3,509,186	4.15	4.24	3.39	1.86
<i>STRS CUSTOM DISCRETIONARY THEMATIC</i>		2.28	3.77	5.54	-6.77
BRIDGEWATER	765,356	3.30	2.00	2.37	31.67
<i>STRS CUSTOM DISCRETIONARY THEMATIC</i>		2.28	3.77	5.54	-6.77
GRATICULE	893,544		0.52	2.26	-3.07
<i>STRS CUSTOM DISCRETIONARY THEMATIC</i>			3.77	5.54	-6.77
QMS	570,297		1.81	0.48	3.80
<i>STRS CUSTOM DISCRETIONARY THEMATIC</i>			3.77	5.54	-6.77
EMSO	877,540			-1.38	-14.40
<i>STRS CUSTOM DISCRETIONARY THEMATIC</i>				5.54	-6.77
MACROA	402,449				9.06
<i>STRS CUSTOM DISCRETIONARY THEMATIC</i>					-6.77
<b>TREND FOLLOWING</b>	17,506,423		11.10	16.37	33.51
<i>STRS CUSTOM TREND INDEX</i>			10.24	14.98	31.00
GRAHAM CAPITAL	3,168,543		10.01	15.28	33.49
<i>STRS CUSTOM TREND INDEX</i>			10.24	14.98	31.00
CMAP TT FUND LIMITED	3,337,598			19.52	38.17
<i>STRS CUSTOM TREND INDEX</i>				14.98	31.00
ALPHA SIMPLEX	4,288,006		13.39	21.76	39.45
<i>STRS CUSTOM TREND INDEX</i>			10.24	14.98	31.00

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.



California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Risk Mitigating Strategies

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
FORT	867,483		-3.90	-10.80	-28.75
<i>STRS CUSTOM TREND INDEX</i>			<i>10.24</i>	<i>14.98</i>	<i>31.00</i>
ISAM	2,276,020		17.25	31.50	70.43
<i>STRS CUSTOM TREND INDEX</i>			<i>10.24</i>	<i>14.98</i>	<i>31.00</i>
LYNX	3,568,774		13.69	14.61	32.79
<i>STRS CUSTOM TREND INDEX</i>			<i>10.24</i>	<i>14.98</i>	<i>31.00</i>
<b>SYSTEMATIC RISK PREMIA</b>	968,513			-4.94	2.61
<i>STRS CUSTOM RISK PREMIA</i>				<i>0.47</i>	<i>3.95</i>
AB CAS	423,422			-5.09	-4.59
<i>STRS CUSTOM RISK PREMIA</i>				<i>0.47</i>	<i>3.95</i>
BR STYLE	545,092				12.69
<i>STRS CUSTOM RISK PREMIA</i>					<i>3.95</i>
<b>LONG US TREASURY</b>	8,919,359		0.61	-2.93	-19.04
<i>Bloomberg U.S. Treasury: 20+ Year</i>			<i>0.42</i>	<i>-3.13</i>	<i>-19.17</i>
LONG DURATION U.S. TREASURIES	8,919,359		0.61	-2.93	-19.04
<i>Bloomberg U.S. Treasury: 20+ Year</i>			<i>0.42</i>	<i>-3.13</i>	<i>-19.17</i>
RMS TRANSITION	26				
<i>STRS RMS TRANSITION INDEX</i>					

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

California State Teachers Retirement  
Performance Summary  
Periods Ending June 30, 2022



Performance Summary - Strategic Overlay

	Ending Market Value (\$ in Thousands)	10 Year	5 Year	3 Year	1 Year
<b>STRATEGIC OVERLAY</b>	12,506,310	0.16	0.10	0.04	-2.39
<b>CURRENCY - ABSOLUTE RETURN</b>	10,867	0.01	-0.03	-0.03	-0.11
<i>STRS CURRENCY ABSOLUTE RETURN</i>		0.00	0.00	0.00	0.00
<b>CURRENCY - OPPORTUNISTIC</b>	7,629	0.06	-0.18	-0.12	-0.97
<i>STRS CURRENCY ABSOLUTE RETURN</i>		0.00	0.00	0.00	0.00
LEE OVERLAY PARTNERS LTD	8,327	0.48	0.09	-0.18	-1.14
<i>STRS CURRENCY ABSOLUTE RETURN</i>		0.00	0.00	0.00	0.00
MILLENNIUM GLOBAL INVESTMENTS LTD	-417	-0.02	-0.58	-0.48	-1.05
<i>STRS CURRENCY ABSOLUTE RETURN</i>		0.00	0.00	0.00	0.00
CIBC	-281				-0.69
<i>STRS CURRENCY ABSOLUTE RETURN</i>					0.00
<b>CURRENCY - CORE</b>	3,238	-0.01	-0.01	-0.03	-0.02
<i>STRS CURRENCY ABSOLUTE RETURN</i>		0.00	0.00	0.00	0.00
CALSTRS CURRENCY-NON US EQUITY	3,238	-0.01	-0.01	-0.03	-0.02
<i>STRS CURRENCY ABSOLUTE RETURN</i>		0.00	0.00	0.00	0.00
<b>DERIVATIVE OVERLAY</b>	12,495,443				24.41
<i>STRS CURRENCY ABSOLUTE RETURN</i>					0.00
CALSTRS EQUITIES	542				4.01
<i>Zero Return Index DAILY ONLY</i>					0.00
GLOBAL EQUITY	11,630,518				36.30
<i>Bloomberg U.S. Treasury Bellwethers: 3M</i>					0.17
RMS	577,609				55.81
<i>Bloomberg U.S. Treasury Bellwethers: 3M</i>					0.17
INFLATION SENSITIVE	286,774				
<i>Bloomberg U.S. Treasury Bellwethers: 3M</i>					

Note: Returns are net of manager fees. Returns greater than 1 year are annualized.

## California State Teachers Retirement Rates of Return Annualized Periods Ending June 30, 2022



### **ATTRIBUTION**

**Weighting** – Measures the portion of the portfolio return that can be attributed to over/underweighting sectors/countries relative to the benchmark. Positive weighting occurs if the fund was over weighted in sectors/countries that performed well or underweighted in sectors/countries that did not perform well.

Sector weighting =  $[\text{benchmark return (sector)} - \text{benchmark return (total)}] \times [\text{portfolio beginning weight (sector)} - \text{benchmark beginning weight (sector)}] / 100$

**Selection** – Measures the portion of the portfolio return that can be attributed to the selection of securities within a sector/country relative to the benchmark. Positive selection occurs if the portfolio's sector/country return is greater than the benchmark sector/country return.

Sector selection =  $[\text{portfolio return (sector)} - \text{benchmark return (sector)}] \times [\text{portfolio beginning weight (sector)}] / 100$

### **RISK**

**Alpha** - A measure of value added after adjusting for risk. Beta is the measure of risk used in the calculation of alpha, so the accuracy of alpha is dependent on the accuracy of beta. Alpha is the difference between the manager's return and what one would expect the manager to return after adjusting for the amount of risk taken. Mathematically,  $\text{Alpha} = \text{Portfolio Return} - \text{Risk Free Rate} - \text{Beta} * (\text{Market Return} - \text{Risk Free Rate})$ ,  $\text{Alpha} = r_p - r_f - \text{Beta} (r_m - r_f)$ . A positive alpha is an indication of value added.

**Beta** - A measure of risk for domestic equities. The market has a beta of 1. A manager with a beta above 1 exhibits more risk than the market, while a manager with a beta below 1 is less risky than the market.

**Information Ratio** – In investing terminology, the ratio of expected return to risk, as measured by standard deviation. Usually, this statistical technique is used to measure a manager's performance against a benchmark.

**Jensen's Index** – An index that uses the capital asset pricing model to determine whether a money manager outperformed a market index.

**R2 (R Squared)** – A measure of how well a manager moves with the market. If a manager's performance closely tracks that of the market, the R2 will be closed to 1. Broadly diversified managers have an R2 of 0.90 or greater, while the R2 of undiversified managers will be lower.

**Sharpe Ratio** – A risk-adjusted measure developed by William F. Sharpe, calculated using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe ratio, the better the fund's historical risk-adjusted performance.

**Standard Deviation** – The degree of variability of a time series, such as quarterly returns, relative to the average. Standard deviation measures the volatility of the time series.

**Tracking Error** – When using an indexing strategy, the amount by which the performance of the portfolio differed from that of the benchmark.

**Treynor Index** – A measure of a portfolio's excess return per unit of risk, equal to the portfolio's rate of return minus the risk-free rate of return, divided by the portfolio's beta.

### **FIXED INCOME CHARACTERISTICS**

**Asset Backed Security (ABS)** - A fixed income security which has a specifically pledged collateral such as car loans, credit card receivables, lease loans, etc.

**Average Life** - The weighted average time to receipt of principal payments (including scheduled pay-downs and prepayments). For non-amortizing securities, the average life equals the time to the stated maturity.

**Average Maturity** - The market value-weighted average maturity of the bonds in a portfolio, where maturity is defined as Stated Final for bullet maturity bonds and Average Life for amortizing instruments, including mortgage pass-throughs, CMOs, amortizing asset-backed securities and ARMs.

**Collateralized Mortgage Obligation (CMO)** - A security backed by a pool of pass through securities and/or mortgages. Since CMOs derive their cash flow from the underlying mortgage collateral, they are referred to as derivatives. CMOs are structured so there are several classes of bondholders with varying stated maturities and varying certainty of the timing of cash flows.

**Coupon** - The coupon rate is the annual coupon (i.e., interest) payment value divided by the par value of the bond.

**Duration** - A weighted average maturity, expressed in years. All coupon and principal payments are weighted by the present value term for the expected time of payment. Duration is a measure of sensitivity to changes in interest rates with a longer duration indicating a greater sensitivity to changes in interest rates.



## California State Teachers Retirement Rates of Return Annualized Periods Ending June 30, 2022



**Effective Duration** – An option-adjusted measure of a bond's (or portfolio's) sensitivity to changes in interest rates. Calculated as the average percentage change in a bond's value (price plus accrued interest) under shifts of the Treasury curve +/- 100 bps. Incorporates the effect of embedded options for corporate bonds and changes in prepayments for mortgage-backed securities (including pass-throughs, CMOs and ARMs).

**Maturity** - The maturity for an individual bond is calculated as the number of years until principal is paid. For a portfolio of bonds, the maturity is a weighted average maturity, where the weighting factors are the individual security's percentage of the total portfolio.

**Mortgage Pass Through** - A security which "passes through" to the holder the interest and principal payments on a group of mortgages.

**Quality** – Relates to the credit risk of a bond (i.e., the issuer's ability to pay). Quality is most relevant for corporate bonds. Several rating organizations publish ratings of bonds including Moody's and Standard & Poor's. AAA is the highest quality rating, followed by AA+, AA, AA-, A+, A, A- and then BBB+, BBB, BBB-, BB+, BB, BB-, etc. Bonds rated above BBB- are said to be of investment grade.

**Yield (YTM)** - Yield to Maturity unless otherwise indicated. The single Internal Rate of Return which equates a bond's remaining cash flows to its market price. For mortgage pass-throughs, CMOs, asset-backed securities, and ARMs, YTM is calculated using the cash flows generated from the security's lifetime prepayment speed (PSA, CPR, ABS etc.).

**Yield to Maturity** – The discount rate that equates the present value of cash flows (coupons and principal) to the market price taking into account the time value of money.

### **EQUITY CHARACTERISTICS GLOSSARY**

**Debt/Equity Ratio** – Total long term debt divided by total common equity.

**Dividend Growth 5 Yrs** – the annualized growth rate of cash dividends per share for ex-dividend dates occurring during the reporting period, calculated via a least squares fit using the most recent year's DPS data and data from the previous four years. (Expressed in a percent.)

**Dividend Yield** – The current indicated annual income (dividend or coupon) divided by yesterday's composite closing price, stated as a percentage.

**EPS Growth 1 Yr** – the percent change, between the year with the most current Compustat data and the previous year, of the primary earnings per share including extraordinary items for the last 12 months ending the fiscal year of the company. (Expressed as a percent.)

**EPS Growth 5 Yr** – The annualized growth rate of primary earnings per share including extraordinary items calculated via a least squares fit using the most recent year's EPS data and data from the previous five years (Expressed as a percent.)

**EPS Stability 5 Yr** – The mean of the differences between actual EPS and trend line EPS for the past five years (20 quarters), expressed as a percentage of trend line EPS. Trend line EPS is based on a linear regression of the past twenty quarters actual EPS.

**Fundamental Beta** – An estimate of the security's systematic risk, based on the Vestek Fundamental Risk Model, which includes information on 48 fundamental variables of the company over the past sixty months.

**Historical Beta** – The beta from a regression of the monthly excess returns of the stock against the excess returns of the S&P 500 for the past sixty months.

**Payout Ratio** – Indicated annual dividend, based on most recent announced quarterly dividend, times four, plus any additional dividends to be paid during the current year, divided by the most recently reported annual earnings per common share outstanding.

**Price/Book Ratio** – The current market price of the stock divided by the most recently reported book value for the prior fiscal year.

**Price/Earnings Ratio (P/E)** – The P/E ratio of a common stock's price divided by earnings per share. The ratio is used as a valuation technique employed by investment managers.

**Profit Margin-1 Yr** – Net income divided by net sales. Value in characteristics file is actual value multiplied by 100.00. (Expressed in hundredths.)

**Quick Ratio** – The sum of cash and short term investments plus total receivables divided by total liabilities.

**ROA 1 Yr** – Net income divided by current assets plus net property plus other noncurrent assets including intangible assets, deferred items, and investments and advances. Value in characteristics file is actual value times 100 (Expressed in hundredths.)

**ROE 1 Yr** – Net income divided by total common equity. Value in characteristics file is actual value multiplied by 100.00. (Expressed in hundredths.)

### **UNIVERSE**

**Cumulative Report** – All periods on the report are affixed to the same end period.

**Consecutive Report** – Shows periods in successive order.

## California State Teachers Retirement Rates of Return Annualized Periods Ending June 30, 2022



Median – The middle value in a distribution, for which one half of the observations are greater and one half are less; a ranking of 50.

Observations – The number of different plans or portfolios contained within a particular universe.

Percent Allocation – Percent of Total Fund for a particular asset class, based on period ending, security level values.

Percentile – The number between 1 and 100 indicating an observation's position in the universe; derived by dividing the observations into parts in order of magnitude. For example, a score equal to or greater than 95 percent of all observations is in the 95th percentile.

Percentile Rank – A manager's rank signifies the percentage of managers in the universe performing better than the manager. For example, a manager with a rank of 10 means that only 10% of managers had returns greater than the manager's over the period of measurement. Likewise, a rank of 50 (i.e., the median manager) indicates that 50% of managers in the universe did better and 50% did worse.

Public Fund Master Trusts – The Universe that contains all Public Fund plans for which State Street provides performance data.

Public Fund Master Trusts > \$1 Billion – The Universe that contains all Public Fund plans with assets totaling more than \$1 Billion for which State Street provides performance data.

Public Fund Master Trusts > \$10 Billion – The Universe that contains all Public Fund plans with assets totaling more than \$10 Billion for which State Street provides performance data.

Rank – A particular observation's performance relative to others in the universe. The highest ranking is shown as 1, while the lowest is 100.

State Street Universe – The State Street Universe is a proprietary comparative universe service developed by State Street. It is one of the most comprehensive universes available, representing more than \$1 trillion in assets and contains over 5,000 portfolios.

### **BENCHMARK DEFINITIONS**

US Equity = STRS Custom MSCI USA IMI Index

Non-US Equity = STRS Custom MSCI ACWI IMI ex-US

Real Estate = STRS Real Estate Index

US Debt = STRS US Debt Custom Index

Domestic Large Cap = STRS Custom Russell 1000

Domestic Small Cap = STRS Custom Russell 2000

Growth = STRS Custom Russell 3000 Growth Index

Value = STRS Custom Russell 3000 Value Index

Pacific = STRS Custom MSCI Pacific

Europe = STRS Custom MSCI Europe

Emerging = STRS Custom Emerging

Private Real Estate = STRS Real Estate Index

Public Real Estate = STRS Real Estate Index

Credit = STRS Custom Credit

Government = STRS Custom Government

Mortgage = STRS Custom MBS

High Yield = STRS Custom HYCP

\*Custom is ex Tobacco, Firearms, and conflict countries



## California State Teachers Retirement Rates of Return Annualized Periods Ending June 30, 2022



**Barclays Capital U.S. Aggregate Bond Index** – The Barclays Capital Index covers the U.S. investment grade fixed rate bond market, including government and corporate securities, agency mortgage pass-through securities, and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis. To qualify for inclusion in the Aggregate Index, a bond or security must meet certain criteria: 1) It must have at least one year to final maturity regardless of call features. Asset-backed securities must have a remaining average life of at least one year while mortgages must have a weighted average maturity (WAM) of at least one year. There is no limit on final maturity; bonds with 50- and 100-year maturities may be included in the Aggregate Index. 2) It must have at least \$150 million par amount outstanding. The amount outstanding may differ from the original issue size due to various factors, including reopenings, sinking schedules, partial calls, and prepayments. 3) It must be rated investment grade (Baa3 or better) by Moody's Investor Services (unless it is a U.S. government or agency security, which are generally not formally rated). If a Moody's rating is unavailable, then Standard & Poor's Corporation rating is used. This implies that the index may include bonds that are split-rated. A bond rated Baa3 by Moody's and BB+ by S&P would be included; however, if Moody's assigns a rating below investment grade the bond will be excluded even if the S&P or Fitch rating is BBB- or better. 4) It must be fixed rate, although it can carry a coupon that steps up or changes according to a predetermined schedule. Adjustable or floating rate securities with periodic coupon changes based on changes in market rates that are excluded. Stripped securities created from coupon securities are excluded, while the underlying coupon security is included. Zero coupon bonds may be included. Medium-term notes are included only if they were underwritten issues and meet other eligibility criteria. 5) It must be dollar-denominated and nonconvertible. All corporate and asset-backed securities must be registered with the securities and Exchange Commission (SEC). 6) It must be publicly issued. Private placement securities including 144A securities are excluded.

**Russell 1000 Growth Index** – Measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 1000 Index** – Measures the performance of the 1,000 largest companies in the Russell 3000 Index, which represents approximately 92% of the total market capitalization of the Russell 3000 Index.

**Russell 1000 Value Index** – Measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

**Russell 2000 Growth Index** – Measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 2000 Index** – Measures the performance of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

**Russell 2000 Value Index** – Measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

**Russell 2500 Growth Index** – Measures the performance of those Russell 2500 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 2500 Index** – Measures the performance of the 2,500 smallest companies in the Russell 3000 Index, which represents approximately 17% of the total market capitalization of the Russell 3000 Index.

**Russell 2500 Value Index** – Measures the performance of those Russell 2500 companies with lower price-to-book ratios and lower forecasted growth values.

**Russell 3000 Index** – Measures the performance of the 3,000 largest U.S. companies based on total market capitalization, which represents approximately 98% of the investable U.S. equity market.

**Russell Midcap Growth Index** – Measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.

**Russell Midcap Index** – Measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 25% of the total market capitalization of the Russell 1000 Index.

**California State Teachers Retirement**  
Rates of Return Annualized  
Periods Ending June 30, 2022



---

**Russell Midcap Value Index** – Measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

**Morgan Stanley Capital International (MSCI) Europe, Australia, Far East (EAFE) Index** – The Morgan Stanley Capital EAFE Index replicates the industry composition of the stock exchanges in the developed international markets from Europe, Australia, and the Far East: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom; in addition, the index represents a sampling of large, medium, and small capitalization companies from each market, taking into account the stocks' liquidity.

**Morgan Stanley Capital International (MSCI) Emerging Markets Free (EMF) Gross Index** – Designation as an "emerging market" is determined by a number of factors. MSCI evaluates factors such as gross domestic product per capita; local government regulations; perceived investment risk; foreign ownership limits and capital controls; or the general perception by the investment community when determining an emerging classification of a market. "Free" reflects investable opportunities for global investors by taking into account local market restrictions on share ownership by foreigners. So the MSCI EMF Index is an arithmetic, market value-weighted average of the performance of securities listed on the stock exchanges of the following 26 countries: Argentina, Brazil Free, Chile, China Free, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia Free, Mexico, Morocco, Pakistan, Peru, Philippines Free, Poland, Russia, South Africa, Taiwan 80%, Thailand Free, Turkey, Venezuela.

This report was prepared for you by State Street Bank and Trust Company (or its affiliates, "State Street") utilizing scenarios, assumptions and reporting formats as mutually agreed between you and State Street and information or data provided by State Street's third party data sources ("Suppliers"). While reasonable efforts have been made to ensure the accuracy of the information contained in this report, there is no guarantee, representation or warranty, express or implied, as to its accuracy or completeness. This information is provided "as is" and State Street and its Suppliers disclaim any and all liability and makes no guarantee, representation, or warranty with respect to your use of or reliance upon this information in making any decisions or taking (or not taking) any actions. Neither State Street nor its Suppliers verify the accuracy or completeness of any data, including data provided by State Street for other purposes, or data provided by you or third parties. You should independently review the report (including, without limitation, the assumptions, market data, securities prices, securities valuations, tests and calculations used in the report), and determine that the report is suitable for your purposes.

State Street provides products and services to professional and institutional clients, which are not directed at retail clients. This report is for informational purposes only and it does not constitute investment research or investment, legal or tax advice, and it is not an offer or solicitation to buy or sell any product, service, or securities or any financial instrument, and it does not transfer rights of any kind (except the limited use and redistribution rights described below) or constitute any binding contractual arrangement or commitment of any kind. You may use this report for your internal business purposes and, if such report contains any data provided by Suppliers, including, but not limited to, market or index data, you may not redistribute this report, or an excerpted portion thereof, to any third party, including, without limitation, your investment managers, investment advisers, agents, clients, investors or participants, whether or not they have a relationship with you or have a reasonable interest in the report, without the prior written consent of each such third party data source. You are solely responsible and liable for any and all use of this report.