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Table 8

Table 9

The CalSTRS Investment Portfolio generated **9.0 percent absolute return** net of manager fees on its investments for the fiscal year ending June 30, 2018.

Investment Expenses

**Broker Commissions** 

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# **INVESTMENT CONSULTANTS' REPORTS**



The CalSTRS Investment Portfolio produced a strong positive absolute return over the latest fiscal year, besting its benchmark return and the median fund return. The portfolio increased by \$15.1 billion over the past 12 months, ending with a value of \$223.8 billion on June 30, 2018, despite significant net cash outflows during the year. As highlighted below, the CalSTRS portfolio is broadly diversified, holding investments ranging from publicly traded short-term bonds to privately held partnerships. Clearly, the scale and breadth of investments make the management and oversight of these assets highly complex. In light of these factors, CalSTRS has been effective in utilizing its resources in a cost-efficient manner to ensure that benefits continue to flow to CalSTRS participants.

### **Investment Allocation**

The Teachers' Retirement Board adopts long-term strategic allocation targets to be implemented over several years. The fiscal year-end report reflects strategic allocation guidelines for the 2017-18 fiscal year as adopted by the Board. As of year-end, the portfolio's actual allocation was slightly different from policy (see table below). As of June 30, 2018, the Real Estate class was slightly overweighted, while Fixed Income and Cash were slightly underweighted. All of these classes were, however, within policy ranges. Moreover, the remaining classes were in-line with policy.

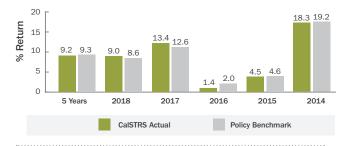
Asset Allocation as of June 30, 2018				
	CalSTRS Policy	CalSTRS Actual*		
Cash	2%	1%		
Global Equity	54%	<b>54</b> %		
Private Equity	8%	8%		
Real Estate	<b>12</b> %	13%		
Fixed Income	13%	12%		
Inflation Sensitive	2%	2%		
Risk Mitigating Strategies (RMS)	9%	9%		

<sup>\*</sup>Additional assets (<1%) held in the *Innovative Strategies* and *Strategic Overlay* classes Note: Allocations may not sum to 100% due to rounding

#### Last 12 Months Ending June 30 (Net of Mgr Fees)



Periods Ending June 30 (Net of Mgr Fees)



### **Investment Results (Net of Manager Fees)**

Over the last year, the CalSTRS portfolio produced an absolute return of 9.0 percent (net of manager fees), ranking in the second quartile among its large public pension fund peers<sup>1</sup>. During this period, the CalSTRS portfolio results bested the policy benchmark<sup>2</sup> return by 40 basis points (top bar chart). Relative outperformance was primarily driven by the Private Markets, Fixed Income, and Inflation Sensitive classes.

During the last three years, the CalSTRS portfolio generated a 7.8 percent average annual return (net of manager fees), ranking in the first quartile among peer funds. Over the last five years, the CalSTRS portfolio produced an average annual return of 9.2 percent, trailing its policy benchmark by 10 basis points per year (bottom bar chart) but ranking in the first quartile among peers. Due in large part to the benchmark not fully reflecting the opportunity set, the Private Equity strategic class was the primary contributor to the relative underperformance versus the benchmark over this period. Overall, these total portfolio results outpaced the CalSTRS actuarial rate of return. Previous fiscal year periods are presented here as well. The CalSTRS Investment Portfolio outperformed its policy benchmark (net of manager fees) in two of the last five fiscal years<sup>3</sup>.

Pension Consulting Alliance, LLC

<sup>&</sup>lt;sup>1</sup> Per State Street Universe of Master Trust Public Funds with assets in excess of \$10 billion.

<sup>&</sup>lt;sup>2</sup> The policy benchmark consists of passively managed strategic class portfolios weighted by CalSTRS policy allocations. The difference between actual results and the benchmark are due to two factors: i) deviations from policy, and ii) active decisions on the part of CalSTRS and its investment managers.

<sup>&</sup>lt;sup>3</sup> CalSTRS investment performance is calculated using a daily time-weighted return geometrically linked to calculate a monthly return. Periods longer than one month are geometrically linked to calculate annualized "time-weighted" rates of return.

# INVESTMENT CONSULTANTS' REPORTS



BOSTON MA
CHICAGO IL
MIAMI FL
PORTLAND OR
SAN DIEGO CA
LONDON UK

#### MEKETA INVESTMENT GROUP

#### 2018 CalSTRS Investment Review

During the fiscal year ending June 30, 2018, the value of CalSTRS' investments increased from \$208.7 billion to \$223.8 billion. A positive investment return of 9.0% (net of fees) more than offset the cash outflows to pay for benefits in excess of contributions. We highlight below the portfolio allocation, performance, and investment attribution. The investment portfolio remains well diversified by asset type and geography, in a mix of private and public investments in the United States and abroad.

#### **Asset Allocation**

During fiscal year 2017-18, the Teachers' Retirement staff continued to spend time moving assets systematically toward the new Asset Allocation Policy that was adopted during the previous fiscal year, specifically within the RMS portfolio.

Most asset class allocations were very close to targets at fiscal year-end, with 54% of assets in Global Equity, 12% in Fixed Income, 8% in Private Equity, 13% in Real Estate, 9% in Risk Mitigating Strategies, 1% in Cash, 2% in Inflation Sensitive, and well under 1% in Innovative Strategies.

#### Investment Performance and 2018 Fiscal Year Market Environment Overview

The fiscal year was largely a story of two environments. In 2017, we saw synchronized global growth, low volatility, tax cuts in the U.S. at year-end, and a weak U.S. dollar. During the last two quarters of 2017 most asset classes were up, particularly riskier ones. Emerging markets lead the way in Q3  $(+7.9\%^1)$  and Q4  $(+7.4\%^1)$ . U.S. and international equities also posted strong returns over both quarters, while fixed income assets were modestly up.

The trends of 2017 persisted into early 2018, but the environment quickly changed. In 2018, we have seen volatility increase from its very low levels, interest rates and inflation rise, the U.S. dollar rebound, and trade tensions between the U.S. and others heat-up. In this environment, U.S. equities were one of the few asset classes to produce positive returns, while international equities and most fixed income asset classes fell. High yield bonds did post a modest gain (+0.2%<sup>2</sup>) in the first two quarters of 2018.

The net result of the two environments on the fiscal year returns ending June 2018 was that equities increased, particularly in the U.S, while in fixed income TIPS and high yield bonds posted relatively modest returns and the broad U.S. bond market slightly declined. Emerging market bonds fell.

For the fiscal year, U.S. equities, as represented by the Russell 3000, rose +14.8%. The trend of U.S. growth stocks outperforming value stocks persisted, and small capitalization stocks (+17.6%) outperformed large capitalization (+14.5%) and mid-capitalization (+12.3%) stocks. The MSCI EAFE, representing foreign developed markets, grew at less than half the rate of U.S. equities, up +6.8%. Emerging market equities' strong returns in 2017 were balanced by an 8.0% decline in the second quarter of 2018, as a stronger dollar and trade tensions weighed on results. The MSCI Emerging Markets Equity index gained +8.2% for the full fiscal year.

<sup>&</sup>lt;sup>1</sup> MSCI Emerging Markets Index.

<sup>&</sup>lt;sup>2</sup> Barclays High Yield.

# **INVESTMENT CONSULTANTS' REPORTS**

Within fixed income, positive returns in the final two quarters of 2017 moved to concerns over rising interest rates and inflation, creating headwinds in 2018. In the U.S., the Federal Reserve increased interest rates for the seventh time in June to a range of 1.75% to 2.00%, and continued to reduce its balance sheet. The rate increases contributed to the flattening of the U.S. yield curve during the fiscal year. Over the trailing year, TIPS (+2.1%) and high yield bonds (+2.6%) increased, while the broad U.S. bond market, represented by the Barclays Aggregate Index, fell 0.4%. Similar to emerging market equities, returns for emerging market bonds in the second quarter of 2018 weighed on the fiscal year results. In this case, more dramatically as the 10.4% decline in the second quarter for emerging market bonds (as represented by JPM GBI-EM Global Diversified – Local Currency) led to a -2.3% return for the trailing year.

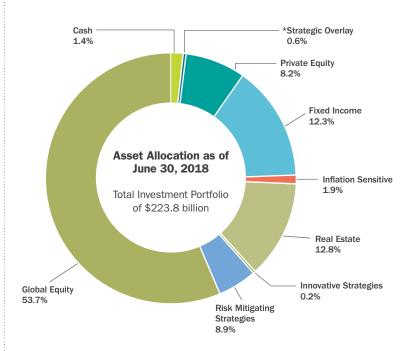
Within other asset classes, natural resource stocks (S&P Global Natural Resources Index) rose +24.8% commodities (Bloomberg Commodity Index) gained +7.4%, and REITS (MSCI U.S. REIT Index) gained +3.6%. Oil prices finished the fiscal year at over \$60/barrel, representing a dramatic increase from their recent lows. Cuts from OPEC and strong growth globally contributed to the rise in oil prices.

Sincerely,

Stephen P. McCourt, CFA Managing Principal

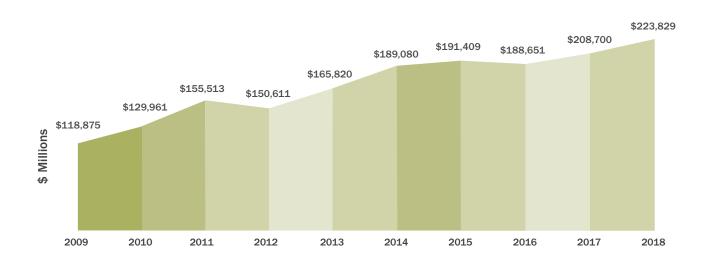
Investment values and the related returns for the CalSTRS Investment Portfolio (Total Fund) are presented differently within the Investments and Financial sections of the CAFR for various reasons; therefore, the reader needs to understand the methodology presented in each section. In the following pages, news releases and on CalSTRS website, the investment values and related returns are presented using common investment industry practices that reflect the way in which CalSTRS manages its investment portfolio. The presentation based on investment industry practices provides timely information that is easily compared to benchmarks and peer results.

Within the Financial Section, the same information is reported in accordance with U.S. Generally Accepted Accounting Principles. The primary difference between the presentations is the categorization of the investments. Additional differences result from the timing of recognition of performance for certain investments in the portfolio. In accordance with investment industry practices, private asset performance is reported with a quarter lag; for financial reporting purposes, adjustments are made to bring results current. Both sets of numbers are relevant but reflect different methodologies and serve different purposes.



\*Strategic Overlay consists of the Currency Management Program and Derivative Overlay.

#### Table 1 Market Value of Investments (Fiscal years ended June 30)



Performance information in this section is reported net of fees and is calculated using a time-weighted return methodology. Also, the investment information on the CalSTRS website is reported consistent with investment industry standards and is comparable to the global financial markets and other pension plans and institutional investors. For more information, see CalSTRS.com.

CalSTRS Investment Portfolio performed above standards due to a very strong second half of the fiscal year and shifts to a more global portfolio. In the 2017–18 fiscal year, CalSTRS generated 8.99 percent return net of fees, well above the 7.00 percent actuarial rate of return for funding purposes, above the policy benchmark of 8.65 percent, and near the top of all public pension plans in the U.S.; however, one year is a very short time period when you have a 30-year investment horizon. As a long-term investor it is much more

meaningful to review the CalSTRS investment performance over longer time periods. At June 30, 2018, the investment portfolio generated 7.81 percent return net of fees over the past three years, 9.15 percent over the last five years and 6.50 over the past 20 years. Compared to other U.S. public pensions plans, CalSTRS investment returns ranked in the top quartile over three and five years ending June 30, 2018.

While this annual report provides a significant amount of information regarding the CalSTRS Investment Portfolio, it only represents one point in time: June 30, 2018. It is difficult to compare this time measurement to the movement and complexity of the investment portfolio in this highly dynamic global financial market. For more current investment information, as well as videos detailing key aspects of the investment portfolio, see CalSTRS.com.





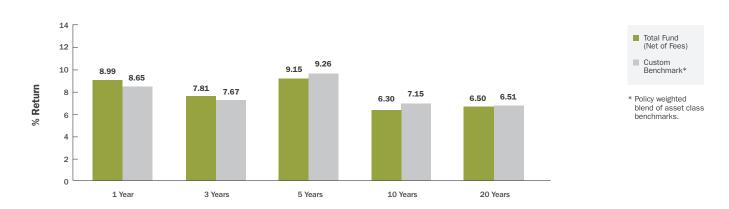


Table 4 Time-Weighted Returns Net of Fees by Portfolio Types (as of June 30, 2018)

Portfolio Type/Associated Index <sup>1</sup>	1 Yr	3 Yr	5 Yr	<b>10</b> Yr
Global Equity	11.67	9.24	10.84	7.60
Global Equity Custom Index <sup>2</sup>	11.83	9.21	10.76	7.57
U.S. Equity	15.42	11.63	13.39	10.12
Russell 3000 Custom Index	15.30	11.60	13.33	10.17
Non-U.S. Equity	8.19	5.93	6.63	3.05
MSCI All Country World Index ex-U.S. Custom Investable Market Index	7.98	5.27	6.12	2.53
Fixed Income	0.26	2.36	2.97	4.47
U.S. Debt Custom Index <sup>3</sup>	(0.24)	1.91	2.43	3.96
Real Estate	10.50	9.90	10.77	1.50
Real Estate Custom Index <sup>4</sup>	7.11	9.00	10.42	6.29
Private Equity	13.82	11.12	12.35	8.82
Private Equity Custom Index <sup>5</sup>	14.66	10.50	12.97	11.28
Inflation Sensitive	8.51	7.24	5.37	_
Inflation Sensitive Custom Index <sup>6</sup>	4.50	4.50	4.47	_
Risk Mitigating Strategies <sup>7</sup>	1.78	(2.92)	0.19	_
Risk Mitigating Strategies Custom Index <sup>8</sup>	1.71	(2.55)	(0.94)	_
Innovative Strategies <sup>9</sup>	11.44	5.77	3.64	_
Innovative Strategies Custom Index <sup>10</sup>	6.51	6.30	4.17	_
Cash/Liquidity <sup>11</sup>	1.61	1.25	0.93	0.20
Bloomberg Barclays Capital 3-Month Treasury Bill	1.37	0.69	0.44	0.38

CalSTRS' investment performance is calculated using a daily time-weighted return geometrically linked to calculate a monthly return. Periods longer than one month are geometrically linked to calculate annualized 'time-weighted' rates of return. Custom public indices are updated quarterly in accordance with CalSTRS restricted securities list. Exclusions include tobacco, illegal California firearms, geopolitical and thermal coal companies.

<sup>&</sup>lt;sup>1</sup> Index benchmarks are as of June 30, 2018 and are subject to be updated based on changes within the portfolio policies. For additional information on benchmarks, please refer to the respective investment policies at CalSTRS.com.

<sup>&</sup>lt;sup>2</sup> Custom weighted blend of MSCI All Country World Index ex-U.S. Investable Market and Russell 3000 custom indices.

<sup>&</sup>lt;sup>3</sup> 95% Bloomberg Barclays U.S. Aggregate + 5% Bloomberg Barclays U.S. High Yield 2% Issuer Capped custom indices.

<sup>&</sup>lt;sup>4</sup> NCREIF ODCE Value Weighted Index net of fees qtr lag. Previously NCREIF Property Index qtr lag through June 2013.

<sup>&</sup>lt;sup>5</sup> Weighted blend of the underlying sub-asset components. Previously, Russell 3000 Custom Index qtr lag + 3% from July 2008 through June 2014.

<sup>&</sup>lt;sup>6</sup> Weighted blend of Bloomberg Barclays Global Inflation Linked Series L Index, Alerian MLP Daily Index and CPI+4% qtr lag. Previously, a weighted blend of Bloomberg Barclays Global Inflation Linked Series L Index and CPI+4% qtr lag. Previously, a weighted blend of Bloomberg Barclays Global Inflation Linked Series L Index and CPI+5% qtr lag.

<sup>&</sup>lt;sup>7</sup> New asset class approved by the board in November 2015 and established in July 2016. Prior to July 2016, the assets in this program were part of Absolute Return.

<sup>&</sup>lt;sup>8</sup> Weighted blend of Bloomberg Barclays U.S. Treasury 20+year Total Return Index, SG Trend Index, HFRI Macro: Discretionary Thematic Index and the Eurekahedge MF Risk Premia Index.

<sup>&</sup>lt;sup>9</sup> Prior to July 2016, this investment strategy was part of Absolute Return. Returns prior to the restructure reflects the historical Absolute Return performance.

<sup>&</sup>lt;sup>10</sup> Weighted blend of 60% MSCI EAFE + Canada/ 40% BarCap U.S. blended and Bloomberg Barclays Capital 3-Month Treasury Bill. Previously, a weighted blend of 60% MSCI EAFE + Canada/ 40% BarCap U.S. blended, Custom Tactical index and Bloomberg Barclays Capital 3-Month Treasury Bill from July 2016 to December 2016. Returns prior to July 2016 reflects Absolute Return historical performance.

<sup>&</sup>lt;sup>11</sup> Includes the Securities Lending Program loss incurred in FY 2008-2009 and subsequent income earned through December 2013.

### **Global Equity**

For the fiscal year ending June 30, 2018, the \$120.3 billion Global Equity Portfolio represented 53.7 percent of the Total Fund. Approximately half of the portfolio's assets are internally managed in passively implemented index strategies, and the remaining assets are managed by external investment managers. As of June 30, 2018, the portfolio had 54 percent of its assets in U.S. equity and 46 percent in non-U.S. equity.

As shown on Table 4, the Global Equity Portfolio generated 11.67 percent one year return net of fees, trailing

its policy benchmark by 16 basis points. The relative underperformance was attributable to the portfolio's exposure to governance funds whose deep value strategies struggled to keep up in a market environment that primarily rewarded growth-oriented stocks.

Table 5 lists the largest public equity holdings as of June 30, 2018, which represents 9.3 percent of the Global Equity Portfolio.

For more information about the Global Equity Portfolio, please refer to the Investments section at CalSTRS.com.

Table 5	Largest Public Equity Holdings (as of June 30, 2018)
	(CalSTRS maintains a complete list of portfolio holdings)

Security Name	Shares	Market Value
APPLE INC	10,134,316	\$1,875,963,235
MICROSOFT CORP	16,671,931	1,644,019,116
AMAZON.COM INC	905,740	1,539,576,852
ALPHABET INC	1,289,303	1,447,195,197
FACEBOOK INC A	5,165,665	1,003,792,023
JOHNSON + JOHNSON	6,428,737	780,062,948
EXXON MOBIL CORP	9,256,525	765,792,313
BERKSHIRE HATHAWAY INC CL B	4,063,074	758,372,762
JPMORGAN CHASE + CO	7,057,703	735,412,653
SAMSUNG ELECTRONICS CO LTD	15,024,733	628,895,284

### **Corporate Governance**

For the fiscal year ending June 30, 2018, the Corporate Governance Portfolio had approximately \$6.0 billion of assets under management, which include the governance and sustainability funds and low carbon index within the Global Equity Portfolio. The governance funds invest in companies with poor governance structures and engage management to improve governance and enhance longterm shareholder value. The sustainability funds integrate environmental, social and governance (ESG) factors into their long-term investment strategy to deliver market outperformance. Lastly, the low carbon index strategies managed internally focus on an index designed to have significantly lower exposures to carbon emissions and to fossil fuel reserves than the broad market. The Corporate Governance Portfolio had a one year return net of fees of 9.62 percent.

CalSTRS believes voting proxies is an important fundamental shareholder right, and staff always exercises our rights in a manner consistent with the interests of our beneficiaries, California public school teachers. We believe we can use our proxy votes to affect necessary changes designed to enhance the company's long-term value. Over the course of each year, CalSTRS votes approximately 8,000 proxies, with more than half of them being voted during U.S. proxy season, which occurs in the months of April, May and June.

When voting proxies, CalSTRS follows our Corporate Governance Principles, which can be found at CalSTRS.com. These principles, which serve as guidelines for our proxy voting, consider best corporate governance practices on topics such as the board of directors, auditors, executive and director compensation, compensation plans and governance structure.

During fiscal year 2017–18, CalSTRS voted on 83,828 proposals at 8,613 meetings held by companies in our Global Equity Portfolio, which represented 5.0 percent increase from the 79,782 proposals voted in the prior fiscal year. These meetings resulted in CalSTRS voting on proposals covering a variety of topics, including director elections, auditor ratifications, advisory votes on executive compensation, compensation plans, mergers and acquisitions, and shareholder proposals. For additional information on shareholder voting, please refer to the Corporate Governance Annual Report available at CalSTRS.com.

CalSTRS believes the overall market continues to demonstrate improved governance with many large companies reflecting governance best practices. These companies are also engaging shareholders on various issues, including executive compensation, board composition, and ESG concerns during the proxy off-season. However, there are some companies that continue to demonstrate suboptimal governance and, because of this, CalSTRS will continue to use our proxy votes to enhance their long-term shareholder value.

For additional information on the Corporate Governance program, please refer to the Corporate Governance section at CalSTRS.com.

#### **Fixed Income**

For the fiscal year ending June 30, 2018, the Fixed Income Portfolio had total assets of \$27.5 billion representing 12.3 percent of the Total Fund. The Fixed Income Unit operates a hybrid model portfolio that takes advantage of the benefits and efficiencies of both internal and external asset management. Eighty-four percent of the portfolio's assets are managed by internal staff using enhanced core and high yield strategies with a moderate level of risk. The remaining 16 percent is managed by external managers using broader opportunistic strategies which assume a higher level of risk and therefore a higher level of expected return.

As shown on Table 4, the Fixed Income Portfolio generated 0.26 percent one year return net of fees, outperforming its benchmark by 50 basis points. The three, five and 10 year net returns were positive and have outperformed the benchmark by 45, 54 and 51 basis points, respectively. The portfolios overweight to credit, both investment grade and high yield, accounted for much of the outperformance.

Table 6 lists the largest fixed income holdings as of June 30, 2018, which represents 9.9 percent of the Fixed Income Portfolio.

The Fixed Income Unit manages two additional programs: Securities Lending and Currency Management discussed in the next two sections. For more information about the Fixed Income Portfolio, refer to the Investments section at CalSTRS.com.

Table 6	Largest Fixed Income Holdings (as of June 30, 2018)
	(CalSTRS maintains a complete list of portfolio holdings)

Security Name	Maturity Date	Interest Rate	Par Value	Market Value
US TREASURY N/B	6/15/20	1.500%	\$340,000,000	\$333,346,197
US TREASURY N/B	5/15/21	2.625	305,000,000	305,057,965
US TREASURY N/B	11/30/24	2.125	300,000,000	288,095,994
US TREASURY N/B	2/28/21	1.125	295,000,000	283,854,900
US TREASURY N/B	2/15/47	3.000	278,250,000	279,229,454
US TREASURY N/B	12/31/23	2.250	270,000,000	262,890,892
US TREASURY N/B	5/15/44	3.375	245,000,000	262,382,752
US TREASURY N/B	5/15/47	3.000	245,520,000	246,261,475
US TREASURY N/B	3/31/24	2.125	246,363,500	237,829,476
US TREASURY N/B	1/31/19	1.125	235,000,000	233,538,295

### **Securities Lending Program**

The Securities Lending Program is a low-risk strategy that allows the fund to use its existing asset base and lending expertise to generate additional income. For the fiscal year ended June 30, 2018, the Securities Lending Program earned approximately \$98.1 million in additional net income for the fund, which was an increase of just under a million dollars over the previous year. The increase in earnings is attributed to several factors: increased utilization of U.S. treasuries over the past year, increased balances from rising equity markets and a generally improving fixed income intrinsic rate over the year. For additional information on the Securities Lending Program, refer to the Investments section at CalSTRS.com.

### **Currency Management Program**

The Currency Management Program is designed to address the global nature of all the fund's assets and attempts to add value on a fund-wide basis. The currency markets are some of the most liquid and volatile markets CalSTRS operates within. The internally managed core strategy underperformed by 1.6 basis points for the year ending June 30, 2018, while the opportunistic external strategy underperformed by over 59 basis points for the same period. For the internally managed portion, returns were roughly flat as currency valuations were left largely unchanged on the year. For the externally managed program, some of the detracted performance can be attributed to an overall underperformance of carry and commodity currencies, in which the managers were generally long on those currencies. Since inception, the Currency Management Program has outperformed its benchmark by nearly 45 basis points on an annualized basis.

### **Home Loan Program**

The CalSTRS Home Loan Program was established by legislation in 1984 and provided home ownership to qualified participants, which attributed to CalSTRS' investment mortgage asset objectives. New home loan origination activity was suspended by the board on October 1, 2011. Staff continues to manage the existing assets of \$58.5 million for the fiscal year ending June 30, 2018, within the Fixed Income Portfolio.

### **Private Equity**

The Private Equity Portfolio ended the June 30, 2018, fiscal year with a market value of \$18.3 billion or 8.2 percent of the Total Fund. The portfolio consists primarily of investments in limited partnerships, which accounts for 93.1 percent of the allocation with the remaining assets consisting of co-investments.

As shown in Table 4, the Private Equity Portfolio generated 13.82 percent one-year return net of fees and 11.12 percent three-year return net of fees, underperforming its policy benchmark by 84 basis points and outperforming by 62 basis points, respectively. The portfolio has underperformed its benchmark for the five-year and 10-year periods, primarily due to the reasons described in the following paragraph.

Private Equity is difficult to benchmark; the CalSTRS Private Equity Portfolio benchmark has changed twice over the past decade. Regarding the longer term performance metrics, the benchmark for these periods includes a large component linked to public equity market performance plus a spread. Given the abnormally strong performance of public equity markets in the wake of the global financial crisis of 2008, it is neither surprising nor atypical that the CalSTRS Private Equity Portfolio is underperforming such a benchmark. Regarding the short-term performance metrics, the Private Equity Portfolio has substantially increased its investment pace over the past two years and therefore J-curve affects are influencing performance.

For current information on the CalSTRS Private Equity Portfolio, please refer to the Investments section at CalSTRS.com.

#### **Real Estate**

The Real Estate Portfolio ended fiscal year 2017–18 with a market value of \$28.7 billion or 12.8 percent of the Total Fund. Over the last several years, staff has emphasized an increase in joint ventures, separate accounts and open ended funds in order to increase internal management control and lower fees. As of June 30, 2018, these strategies combined made up 82.4 percent of the Real Estate Portfolio. In addition, staff has emphasized an increase in investments in core and value-add strategies. The core strategy has reached its policy target of 60 percent.

Real Estate is a long-term asset with performance results influenced by various factors. As shown on Table 4, the Real Estate Portfolio generated 10.50 percent one-year return net of fees outperforming its policy benchmark by 339 basis points. The 10-year underperformance is due to a historical over weight in pre-crisis higher risk strategies. The bulk of those investments have been liquidated. Staff is focused on increasing investments in higher control vehicles with low to moderate leverage and risk. Investments that staff has recommended since the global financial crisis of 2008 have outperformed the benchmark in all time periods.

For current information on the CalSTRS Real Estate Portfolio, please refer to the Investments section at CalSTRS.com.

#### **Inflation Sensitive**

For the fiscal year ending June 30, 2018, the \$4.2 billion Inflation Sensitive Portfolio represented 1.9 percent of the Total Fund. The Inflation Sensitive Portfolio invests in strategies that include infrastructure, commodities, U.S. treasury inflation protected securities, timberland and agriculture. The long-term allocation target, as set by the board in April 2016, for the Inflation Sensitive Portfolio is 4 percent of the Total Fund.

For the fiscal year ending June 30, 2018, the Inflation Sensitive Portfolio generated an 8.51 percent one–year return net of fees, outperforming its policy benchmark return of 4.50 percent by 401 basis points. The outperformance can be attributed to the continued execution of the infrastructure strategy, which includes investments across a variety of risk characteristics which provide essential services in businesses with high barriers to entry. Also, this strategy has begun to enter a more mature phase and is beginning to achieve greater cash flow potential.

The infrastructure strategy returned a net 12.1 percent, beating its benchmark by 629 basis points. The commodities strategy returned a net 7.8 percent, beating its benchmark by 196 basis points. The U.S. treasury inflation protected securities strategy had a net return of 2.2 percent, besting its benchmark by 38 basis points. The timberland and agriculture strategies had less than one year of performance since inception and are in their development stage. Over the previous three-years, the Inflation Sensitive Portfolio outperformed its benchmark by 274 basis points.

For more information about the Inflation Sensitive Portfolio, refer to the Investments section at CalSTRS.com.

### **Risk Mitigating Strategies**

For the fiscal year ending June 30, 2018, the Risk Mitigating Strategies (RMS) Portfolio had total assets of \$20.0 billion representing 8.9 percent of the Total Fund. The RMS Portfolio was established on July 1, 2016, with a long-term target allocation of 9.0 percent of the Total Fund. Prior to this, the assets in this program were part of the Absolute Return Portfolio. The RMS Portfolio invests in strategies that further diversify CalSTRS' overall investment portfolio and primarily its significant equity exposure. These strategies include trend following, long-duration U.S. Treasuries, global macro and systematic risk premia. Rather than focusing on achieving a specific return objective, the RMS Portfolio is expected to help the Total Fund achieve its return objective by protecting capital during extended equity downturns or volatile periods.

The RMS portfolio generated a positive 1.78 percent one- year return net of fees for the fiscal year ending June 30, 2018, slightly outperforming its policy benchmark by 7 basis points. The outperformance is due to strong positive relative performance from global macro and a slight positive relative contribution from long-duration U.S. Treasuries. This was almost fully offset by negative relative performance from trend following. The long-term returns for the RMS portfolio are expected to be positive and exhibit low correlation to equity markets.

For more information about the RMS Portfolio, refer to the Investments section at CalSTRS.com.

## **Innovative Strategies**

For the fiscal year ending June 30, 2018, the \$483.1 million Innovative Strategies Portfolio represented 0.2 percent of the Total Fund. The objective of this portfolio is to help mitigate the Total Fund's dependency on economic growth and low inflation to meet long-term expectations. This is achieved by incubating and graduating new strategies expected to diversify the risk of the Total Fund while providing attractive real returns over a market cycle. The framework will help improve CalSTRS' investment process and provide tools to mitigate the impact of a severe macroeconomic or market event. As shown on Table 4, for the fiscal year ending June 30, 2018, the Innovative Strategies Portfolio generated 11.44 percent one-year return net of fees outperforming its policy benchmark of 6.51 percent. With the graduation of RMS into its own asset class in July 2016, returns longer than one year reflects the historical Absolute Return Portfolio performance. For more information about the Innovative Strategies Portfolio. refer to the Investments section at CaISTRS.com.

Table 7 represents the investment summary by portfolio type and the comparative totals between current and prior year.

Table 7

**Investment Summary for the Current and Previous Fiscal Year** (Dollars in Millions)

June 30	, 2017			Jun	e 30, 2018	
Portfolio Type	Book Value	Net Asset Value	Book Value	Net Asset Value	% of Net Asset Value	Net Value Change
Global Equity	\$91,730	\$117,746	\$92,286	\$120,282	53.7%	\$2,536
Fixed Income	30,818	30,725	28,612	27,495	12.3	(3,230)
Private Equity	19,558	16,911	21,338	18,316	8.2	1,405
Real Estate	27,056	26,230	28,956	28,733	12.8	2,503
Inflation Sensitive	2,615	2,760	3,876	4,178	1.9	1,418
Risk Mitigating Strategies	11,697	10,657	20,576	19,990	8.9	9,333
Innovative Strategies	317	413	348	483	0.2	70
Strategic Overlay	301	200	918	1,288	0.6	1,088
Cash	3,054	3,058	3,057	3,064	1.4	6
PORTFOLIO TOTAL	\$187,146	\$208,700	\$199,967	\$223,829	100%	\$15,129
Adjustments:						
Securities Lending Collateral		18,191		21,932		
Accruals		2,387		1,622		
Cash & Cash Equivalent		(459)		(153)		
STRP PLAN ASSETS-INVESTMENTS		\$228,819		\$247,230		

Table 8 summarizes the investment expenses by portfolio types for the fiscal year ending June 30, 2018.

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**Investment Expenses** 

July 1, 2017, through June 30, 2018 (Dollars in Thousands)

Portfolio Type	Net Asset Value	Investment Expenses*	Basis Points
Global Equity	\$120,281,611	\$197,050	16.4
Fixed Income	27,494,646	20,249	7.4
Private Equity	18,316,311	9,723	5.3
Real Estate	28,733,081	17,075	5.9
Inflation Sensitive	4,177,378	1,998	4.8
Risk Mitigating Strategies	19,989,905	15,687	7.8
Innovative Strategies	483,137	150	3.1
Strategic Overlay	1,288,323	8,888	**
Cash	3,064,376	948	3.1
Total Assets and Expenses	\$223,828,768	\$271,768	12.1

<sup>\*</sup> Investment Expenses reflected in this table generally represent direct costs associated with investing. Certain expenses including carried interest and management fees related to private assets are not included; however, these certain expenses may be reflected within the net asset value.

<sup>\*\*</sup> Strategic Overlay calculates basis points using notional values instead of net asset values.

Table 9 summarizes the broker commissions for the fiscal year ending June 30, 2018.

Table 9 Broker Commissions
July 1, 2017, through June 30, 2018

Broker Name	Commission	Shares	Commission Per Share (Avg)
CITIGROUP	\$3,597,415	1,055,112,494	\$0.003
INSTINET	2,303,786	981,406,843	0.002
MERRILL LYNCH	2,274,990	850,286,825	0.003
J P MORGAN	2,072,872	567,983,423	0.004
GOLDMAN SACHS	2,072,486	668,565,700	0.003
MORGAN STANLEY	1,506,759	601,227,110	0.003
UBS	1,472,749	664,713,538	0.002
CREDIT SUISSE FIRST BOSTON	1,363,586	813,853,402	0.002
BARCLAYS CAPITAL	784,771	108,467,405	0.007
STATE STREET BANK AND TRUST CO	665,773	168,746,797	0.004
ALL OTHER BROKERS	8,984,653	2,351,727,138	0.004
TOTAL COMMISSIONS	\$27,099,840	8,832,090,675	\$0.003