





# investment

INVESTMENT

<b>56</b>	Letter of Certification
<b>57</b>	Report of Investment Activity
<b>59</b>	Investment Summary
<b>60</b>	Investment Results
<b>69</b>	Investment Allocation
<b>72</b>	Supporting Schedules



## letter of certification

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The Northern Trust Company  
50 South La Salle Street  
Chicago, Illinois 60603  
312-630-6000



To the Board of Trustees and the Executive Director:

The Northern Trust Company as Master Trustee has provided annual Statements of Account for the State Universities Retirement System Master Trust (“Trust”) which, to the best of its knowledge, provide a complete and accurate reflection of The Northern Trust Company’s record of the investments, receipts, disbursements, purchases and sales of securities and other transactions pertinent to the Trust for the period July 1, 2018 through June 30, 2019.

In addition to the custody of assets, pursuant to and in accordance with the terms of the agreement establishing the Trust, The Northern Trust Company provided and continues to provide the following services as Master Trustee:

1. Receive and hold all amounts paid to the Trust Fund by the Board of Trustees.
2. Accept and deliver securities in connection with investment transactions in accordance with the instructions of appointed Investment Managers.
3. Collect dividends and registered interest payments.
4. Collect matured or called securities and coupons to the extent provided in the operating guidelines of The Northern Trust Company in effect from time to time.
5. Transfer securities to a lending agent appointed by the Board of Trustees pursuant to directions from such lending agent.
6. Begin, maintain or defend any litigation necessary in connection with the investment, reinvestment of the Trust Fund and the administration of the Trust.
7. Invest cash balances held from time to time in the individual investment management accounts in short term-cash equivalent securities.
8. Exercise rights of ownership with respect to securities held in the trust fund, including but not limited to, proxy voting in accordance with the instructions of appointed Investment Managers; respond to stock subscriptions, conversion rights, and other capital changes pursuant to procedures set forth in the operating guidelines of The Northern Trust Company in effect from time to time.
9. Hold securities in the name of the Trust or nominee form or other means as provided in the agreement establishing the Trust.
10. Use the Federal Book Entry Account System for deposit of Treasury securities, and clearing corporations as defined in Article 8 of the Illinois Uniform Commercial Code for the deposit of other securities.
11. Employ agents with the consent of the Board of Trustees to the extent provided in the agreement establishing the Trust.
12. Provide disbursement services.
13. Provide security fail float income to the extent provided in the operating guidelines of The Northern Trust Company in effect from time to time.

**THE NORTHERN TRUST COMPANY**

By:   
Matt Pfaff, Client Service Manager

NTAC:3NS-20

## report of investment activity



1901 Fox Drive, Champaign, IL 61820-7333  
800-275-7877 • 217-378-8800 • (Fax) 217-378-9800  
www.surs.org

December 11, 2019

Board of Trustees  
State Universities Retirement System  
1901 Fox Drive  
Champaign, IL 61820

Dear Board of Trustees:

I am pleased to present the Investment Section of the SURS Comprehensive Annual Financial Report for the fiscal year ended June 30, 2019, including this report on Investment Activity. SURS maintains both a defined benefit and a defined contribution plan, known as the Self-Managed Plan (SMP). As of June 30, 2019, the defined benefit plan is valued at approximately \$19.7 billion while the SMP is valued at approximately \$2.7 billion.

Investment performance is calculated using a time-weighted rate of return. Returns are calculated by Northern Trust using industry best practices. Northern Trust calculated performance rates of return by portfolio and all composites used throughout this section. The SURS portfolio returned 6.01% during fiscal year 2019, net of fees, trailing the policy portfolio return of 6.85%.

The Total Fund's underperformance relative to the policy portfolio for Fiscal Year 2019 was due to the following factors:

- A below target allocation to the fixed income asset class which was one of the better performing asset classes;
- A structural overweight to small-to-midcap U.S. equity securities; and
- Underperformance by SURS' active managers in several strategic classes.

Seven of twelve asset classes either matched or outperformed the benchmark over the fiscal year; however, the U.S. equity portfolio, which is the largest asset class and the largest single contributor to relative performance, underperformed by 1.6%. Much of the underperformance resulted from a structural overweight to small-to-midcap securities. Over the past 12 months, large cap securities as measured by the Russell 1000 Index returned 10% while small cap securities as measured by the Russell 2000 Index declined by -3.3%. This level of small-cap underperformance, while not unprecedented, has not consistently occurred since 1999. Staff and SURS' investment consultant are working to structure the overall equity portfolio to minimize any structural biases.

In contrast, SURS' active managers in the global equity, emerging market debt, and commodities portfolios performed exceptionally well relative to the benchmark. The best absolute performance for the year was delivered by the private equity portfolio and emerging market debt portfolio, returning 13.6% and 10.8%, respectively. The commodities portfolio was the best relative performing asset class, outpacing its benchmark by 2.7%.

From a long-term perspective, the SURS portfolio has performed well, earning an 8.1% annualized rate of return over the past 30 years, exceeding the 7.8% policy portfolio return. This return also exceeds the 8.0% average assumed rate of return in effect over the last 30 years and the current 6.75% assumed rate of return. In inflation-adjusted terms, the Total Fund returned 5.7% over this time period, significantly exceeding the actuarial real assumed rate target of 4.5% (6.75% less the 2.25% assumed rate of price inflation).

When compared to a universe of other large public funds, the SURS return ranks slightly above median for the one-year period, slightly below median for the three- and five-year periods, and in or near top quartile for the ten-year period ending June 30, 2019.

As discussed last year, SURS completed a search for the general investment consultant relationship, which led to the selection of Pension Consulting Alliance (PCA), effective March 1, 2018<sup>1</sup>. Following the selection, PCA and staff immediately began the preparation of an asset/liability study. An asset/liability study is used to develop an asset allocation recommendation that will best meet plan liabilities over time.

<sup>1</sup> Effective March 2019, PCA merged into Meketa Investment Group, Inc. (MIG), another well-regarded institutional investment consultant.

## report of investment activity

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An important duty of the SURS Board of Trustees is to approve an asset allocation strategy. An asset allocation recommendation was approved by the Board of Trustees in September 2018. The outcomes of the study resulted in a modification of the investment strategy including SURS adoption of a risk-based, functional framework for allocating capital within the Total Fund. This framework makes use of strategic/functional classes that in-turn utilize underlying asset classes and strategies. As a result, each of SURS's existing asset classes are now being remapped to various risk-based, functional strategic classes. We believe the new framework, which will be implemented during Fiscal Year 2020, leads to greater transparency and improved diversification.

Along with the new framework, the asset allocation will introduce new allocations designed to significantly reduce the overall equity risk in the portfolio. As of June 30, 2019, manager searches are underway for new mandates in systematic trend following and alternative risk premia. These new allocations will be gradually introduced over the next couple of years.

Other key accomplishments during FY 2019 was the completion of searches for a real asset consultant and a discretionary private equity advisor. The first of these searches resulted in the September 2018 selection of Callan as SURS real asset investment consultant. The second search, completed in June 2019, resulted in the retention of TorreyCove Capital Partners as the discretionary private equity advisor. These firms will partner with SURS to provide oversight to the existing portfolio, and formulate and implement long-term strategies designed to efficiently achieve portfolio objectives.

SURS continues to display a strong commitment to diversity as investments with firms owned by minorities, females, and persons with a disability (MFDB), continue to grow and are approximately \$6.0 billion or 30.3% of the Total Fund.

Sincerely,



Douglas C. Wesley, CFA  
Chief Investment Officer

## investment summary

The SURS Board of Trustees is charged with the responsibility of investing the assets entrusted to them solely for the benefit of the System's participants and beneficiaries. The Trustees, in carrying out their responsibilities, adhere to applicable Illinois statutes and the prudent expert rule, which states that the Trustees must act with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character with like aims. In carrying out their fiduciary duties, the Trustees have set forth clearly defined investment policy, objectives, and strategies.

### Investment Policy

The Board approves the *Statement of Investment Policy*, which outlines the investment philosophy and practices of SURS. The policy describes the organization and division of responsibilities necessary to implement the Board's philosophy and objectives prudently; establishes a framework for making investment decisions and monitoring investment activity; and promotes effective communication between the Board, staff, and other involved parties.

### Investment Objectives

The investment objective of the total portfolio is to produce annualized investment returns, net of all management fees, which exceed the return of a composite market benchmark or policy portfolio. The policy portfolio is comprised of market indices which are consistent with the overall asset allocation. The policy portfolio reflects a passive implementation of the investment policy. The strategic policy portfolio is comprised of the benchmarks shown below.

### Investment Strategies

#### ■ Asset Allocation

Asset allocation studies are completed to provide an efficient allocation of assets to achieve overall risk and return objectives. The asset/liability study completed in September 2018 will result in significant structural changes to SURS asset allocation targets over the next few years. The foundation of these changes will be a transition from conventional asset classes to functional asset classes as the basis of portfolio weighting. The transition to functional classes will begin during Fiscal Year 2020. As of June 30, 2019, the strategic asset allocation targets are:

Asset Class	Benchmark	Strategic Policy Portfolio
U.S. Equity	Dow Jones U.S. Total Stock Market Index	23.0%
Non-U.S. Equity	MSCI All Country World ex-U.S. Index	19.0
Global Equity	MSCI All Country World Index	8.0
Private Equity	Dow Jones U.S. Total Stock Market Index + 3.0%	6.0
Fixed Income	Bloomberg Barclays U.S. Aggregate Bond Index	19.0
TIPS	Bloomberg Barclays U.S. TIPS Index	4.0
Emerging Market Debt	Blend of JPMorgan GBI-EM Global Diversified, JPMorgan EMBI Global Diversified, and JPMorgan CEMBI Broad	3.0
Direct Real Estate	NCREIF Open End Diversified Core Equity Index	6.0
REITs	FTSE EPRA/NAREIT Developed Index	4.0
Commodities	Bloomberg Commodity Index	2.0
Hedged Strategies	Custom benchmark of the combined investments	5.0
Opportunity Fund	Custom benchmark of the combined investments	1.0
		<b>100.0%</b>

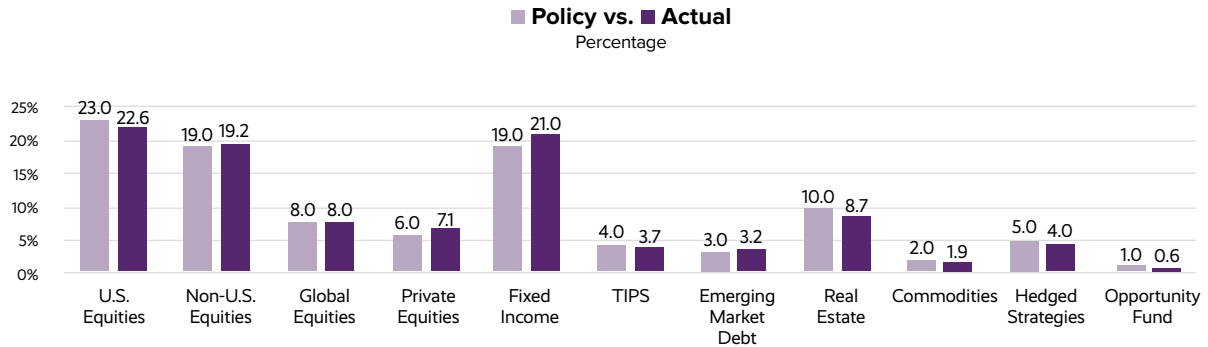
#### ■ Diversification

SURS invests in multiple asset classes utilizing various investment managers and strategies as a method to ensure overall fund diversification. As of June 30, 2019, the System had retained the services of 52 investment management firms, several of which manage multiple mandates, and an additional 14 managers through the Progress Emerging Manager of Managers program, of which five also have a direct relationship with SURS. Each investment management firm is afforded full discretion to diversify its portfolio(s) in a manner deemed appropriate. The Trustees have developed guidelines to direct the investment managers in their execution of the overall investment policy. The guidelines are specific to the asset class and strategy managed.

# investment results

## Rebalancing

Proper implementation of the investment policy requires that a periodic adjustment, or rebalancing, of assets be conducted as needed to ensure conformance with policy target levels. Such rebalancing is necessary to reflect cash flows and performance imbalances among investment managers who are hired to manage assets with a specified strategy. Although a strategy may be within a specified asset class, the manager may be authorized to utilize other instruments in another asset class. SURS rebalancing policy calls for rebalancing, as soon as practical, if an asset class exceeds or falls below its target allocation by 3%. Ongoing rebalancing of the investment portfolio occurred as needed during the year with the assistance of a cash overlay strategy and System cash flows.



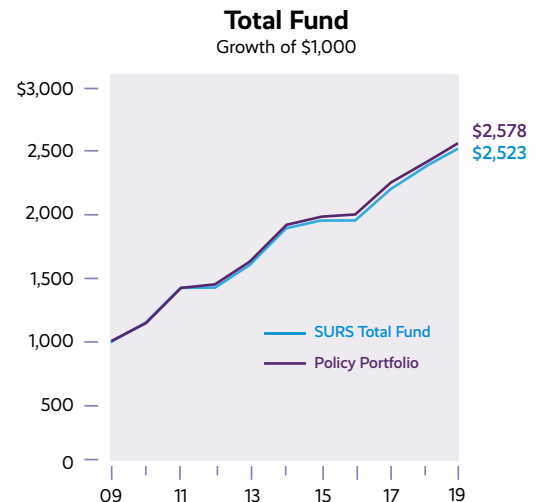
## Long-Term Investment Results

For the 10-year period ended June 30, 2019, SURS total fund earned an annualized total return, net of all investment management expenses, of 9.7%. This trailed the policy portfolio benchmark by 0.2% annualized.

This performance is best illustrated by the growth of \$1,000 invested in SURS total fund, the policy portfolio and median public funds index during the past 10 years. The ending points indicate that \$1,000 invested in SURS total fund would have grown to \$2,523, while the same \$1,000 invested in the policy portfolio would have grown to \$2,578.

## Fiscal Year 2019 Results

For the fiscal year ended June 30, 2019, SURS total fund returned 6.0%, trailing the market goal, or policy portfolio, by 0.8%. For the period, 6 of the 12 asset class portfolios – global equity, TIPS, emerging market debt, REITs, direct real estate, and commodities – met or exceeded the returns of their respective benchmarks. Strong absolute returns were experienced in U.S. equity, global equity, private equity, fixed income, emerging market debt, REITs, and direct real estate.



## investment results

	Fiscal Year Ended June 30					Annualized		
	2015	2016	2017	2018	2019	3 yrs	5 yrs	10 yrs
<b>Total Fund</b>								
SURS	2.9%	0.2%	12.2%	8.2%	6.0%	8.8%	5.8%	9.7%
Policy Portfolio	2.9	0.8	11.7	7.9	6.8	8.8	6.0	9.9
CPI-U	0.1	1.0	1.6	2.9	1.6	2.0	1.5	1.7
<b>U.S. Equity</b>								
SURS	7.6	0.8	18.9	14.9	7.3	13.6	9.7	14.7
Performance Benchmark	7.2	2.0	18.5	14.8	8.9	14.0	10.1	14.7
<b>Non-U.S. Equity</b>								
SURS	(3.7)	(9.6)	20.9	7.4	0.6	9.3	2.6	6.9
Performance Benchmark	(5.3)	(10.2)	20.5	7.3	1.3	9.4	2.2	6.5
<b>Global Equity (1)</b>								
SURS	2.7	(2.4)	21.6	13.6	7.5	14.1	8.3	11.4
Performance Benchmark	0.7	(3.7)	18.8	10.7	5.7	11.6	6.2	10.1
<b>Private Equity (2)</b>								
SURS	6.2	4.4	12.9	17.5	13.6	14.2	10.0	12.9
Performance Benchmark	15.2	2.6	21.1	16.8	11.7	16.5	13.3	19.0
<b>Fixed Income</b>								
SURS	1.7	4.3	1.2	0.6	7.1	2.9	2.9	4.6
Performance Benchmark	1.9	6.0	(0.3)	(0.4)	7.9	2.3	2.9	3.9
<b>TIPS</b>								
SURS	(2.4)	3.8	(0.1)	2.1	4.9	2.3	1.6	3.9
Performance Benchmark	(1.7)	4.4	(0.6)	2.1	4.8	2.1	1.8	3.6
<b>Emerging Market Debt</b>								
SURS	-	3.9	7.4	(1.4)	10.8	5.5	-	-
Performance Benchmark	-	4.9	6.5	(1.5)	10.4	5.0	-	-
<b>Direct Real Estate (1)</b>								
SURS	12.2	12.2	7.4	8.1	7.1	7.6	9.5	9.1
Performance Benchmark	11.1	12.6	7.4	7.1	6.6	7.0	9.2	7.7
<b>Real Estate (REITs)</b>								
SURS	1.7	15.4	-	6.6	8.9	5.1	6.4	13.3
Performance Benchmark	1.7	15.5	0.2	5.6	7.7	4.5	6.0	13.2
<b>Hedged Strategies</b>								
SURS	-	-	6.1	4.1	1.7	3.9	-	-
Performance Benchmark	-	-	5.9	6.8	5.5	6.0	-	-
<b>Commodities</b>								
SURS	-	-	(2.7)	11.5	(4.1)	1.3	-	-
Performance Benchmark	-	-	(6.5)	7.3	(6.8)	(2.2)	-	-
<b>Opportunity Fund</b>								
SURS	5.4	8.7	0.2	3.6	5.7	3.1	4.7	12.1
Performance Benchmark	5.0	6.0	7.6	7.6	7.1	7.4	6.7	10.1

Return calculations (except for private equities and direct real estate) were prepared using a time-weighted rate of return methodology in accordance with the Performance Presentation Standards of the CFA Institute.

- (1) MSCI World Index through July 2008; asset-weighted benchmark of MSCI World Index and MSCI All Country World Index (ACWI) from August 2008 through November 2008; MSCI ACWI since December 2008.
- (2) Private equity returns and direct real estate returns were prepared using an Internal Rate of Return (IRR) methodology which is consistent with industry standards. Additionally, the returns for both the portfolio and the benchmark are reported one quarter in arrears due to the length of the performance reporting cycle.



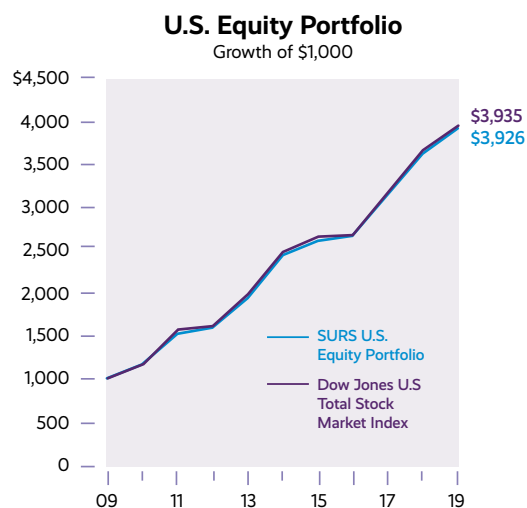
## investment results

### U.S. Equities

For the fiscal year 2019, SURS U.S. equity portfolio returned 7.3%. SURS portfolio trailed its market benchmark, the Dow Jones U.S. Total Stock Market Index, by 1.6%. Over the past year growth stocks outperformed value stocks, and large cap stocks outpaced small cap stocks. The SURS U.S. equity portfolio had a structural overweight to small- and mid-cap securities relative to the Dow Jones U.S. Total Stock Market Index. The returns from this portfolio are expected to track consistently with the broad market.

The accompanying chart indicates the growth of \$1,000 invested in the U.S. equity market during the past 10 years. The ending points indicate that \$1,000 invested in SURS U.S. equity portfolio would have increased to \$3,926 (net of investment management expenses), while the same \$1,000 invested in the Dow Jones U.S. Total Stock Market Index would have grown to \$3,935.

	FY 2019	3 YR	5 YR	10 YR
<b>SURS</b>	<b>7.3%</b>	<b>13.6%</b>	<b>9.7%</b>	<b>14.7%</b>
Dow Jones U.S. Total Stock Market	8.9	14.0	10.1	14.7
Dow Jones U.S. Large Cap	10.2	14.3	10.6	14.7
Dow Jones U.S. Large Cap Growth	10.0	18.1	12.4	15.7
Dow Jones U.S. Large Cap Value	8.9	10.8	8.5	13.3
Dow Jones U.S. Small Cap	(1.9)	11.6	7.0	14.6
Dow Jones U.S. Small Cap Growth	1.1	15.4	7.6	15.0
Dow Jones U.S. Small Cap Value	(4.7)	7.9	6.3	14.0
S&P 500	10.4	14.2	10.7	14.7
Russell 3000	9.0	14.0	10.2	14.7
Russell 2000	(3.3)	12.3	7.1	13.4



### TEN LARGEST U.S. EQUITY HOLDINGS (excludes commingled funds)

	Shares	Carrying Value
Microsoft Corp	1,248,036	\$ 167,186,903
Amazon.com Inc	74,105	140,327,451
Apple Inc	690,592	136,681,969
Facebook Inc Class A	495,022	95,539,246
Visa Inc	459,560	79,756,638
Johnson & Johnson	502,977	70,054,637
Exxon Mobil Corp	753,926	57,773,349
Alphabet Inc Class A	50,683	54,879,552
Cisco Systems Inc	921,031	50,408,027
Alphabet Inc Class C	44,608	48,217,233

**Note:** A complete list of the portfolio holdings is available upon request.

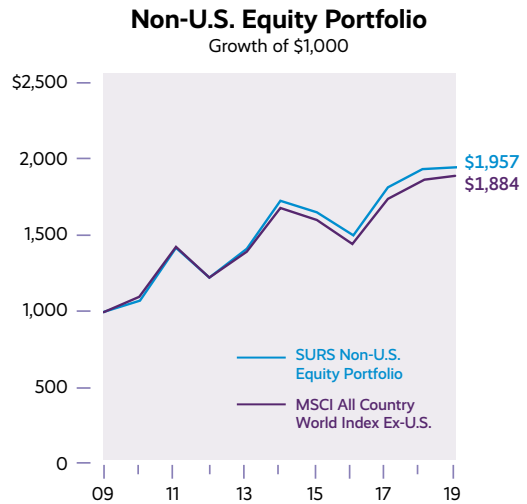
## investment results

### Non-U.S. Equities

For fiscal year 2019, SURS non-U.S. equity portfolio returned 0.6%, trailing its benchmark return by 0.7%. The non-U.S. equity portfolio performance benchmark, the MSCI All Country World Ex-US Index, rose 1.3% during the fiscal year. The benchmark represents a mixture of both developed and emerging markets, which varies over time depending on market performance. This mix accurately portrays the manner in which SURS non-U.S. equity investments are allocated.

The accompanying chart indicates the growth of \$1,000 invested in the non-U.S. equity markets during the past 10 years. The ending points indicate that \$1,000 invested in SURS non-U.S. equity portfolio would have grown to \$1,957 (net of investment management expenses), while the same \$1,000 invested in the performance benchmark would have grown to \$1,884.

	FY 2019	3 YR	5 YR	10 YR
<b>SURS</b>	<b>0.6%</b>	<b>9.3%</b>	<b>2.6%</b>	<b>6.9%</b>
MSCI All Country World Index (ACWI) Ex-US	1.3	9.4	2.2	6.5
MSCI EAFE	1.1	9.1	2.2	6.9
MSCI Emerging Markets	1.2	10.7	2.5	5.8



TEN LARGEST NON-U.S. EQUITY HOLDINGS (excludes commingled funds)	Shares	Carrying Value
Nestle SA (Switzerland)	363,309	\$ 37,657,444
Allergan PLC (Ireland)	197,536	33,073,452
Samsung Electronics Co Ltd (Republic of Korea)	750,923	30,566,302
Sanofi SA (France)	310,580	26,848,495
Roche Holdings AG (Switzerland )	94,126	26,514,570
Tencent Holdings Ltd (China)	516,910	23,329,596
Total SA (France)	391,580	21,973,265
Royal Bank of Canada (Canada)	252,009	20,070,080
GlaxoSmithKline PLC (United Kingdom)	983,691	19,738,142
Alibaba Group Holding Ltd (China)	114,861	19,463,196

**Note:** A complete list of the portfolio holdings is available upon request.



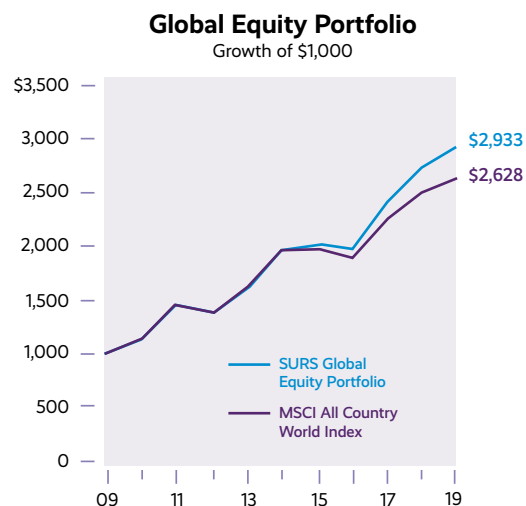
## investment results

### Global Equities

SURS global equity portfolio surpassed its benchmark, the MSCI All Country World Index (ACWI) by 1.8% for the fiscal year, returning 7.5%.

The accompanying chart indicates the growth of \$1,000 invested in the global equity markets during the past 10 years. The ending points indicate that \$1,000 invested in SURS global equity portfolio would have grown to \$2,933 (net of investment management expenses), while the same \$1,000 invested in the performance benchmark would have grown to \$2,628.

	FY 2019	3 YR	5 YR	10 YR
<b>SURS</b>	<b>7.5%</b>	<b>14.1%</b>	<b>8.3%</b>	<b>11.4%</b>
MSCI All Country World Index (ACWI)	5.7	11.6	6.2	10.1
MSCI World	6.3	11.8	6.6	10.7
Dow Jones U.S. Total Stock Market	8.9	14.0	10.1	14.7
MSCI EAFE	1.1	9.1	2.2	6.9
MSCI ACWI Ex-US	1.3	9.4	2.2	6.5



### Private Equities

SURS private equity portfolio posted a positive return of 13.6% during fiscal year 2019. The portfolio's benchmark, the Dow Jones U.S. Total Stock Market Index + 3%, returned 11.7%. As of June 30, 2019, the valuation of SURS private equity portfolio was \$1.4 billion, representing 7.1% of total plan assets. Since inception, the asset class has added significant value to the SURS investment program.

SURS private equity portfolio is well diversified. Since its inception in 1990, the SURS private equity portfolio has made commitments to numerous partnership funds. The private equity portfolio is diversified by vintage year, general partner groups and sub-asset class types. This diversification effort has benefited the portfolio as different sub-classes perform better under different economic and market conditions.

	FY 2019	3 YR	5 YR	10 YR	Since Inception
<b>SURS</b>	<b>13.6%</b>	<b>14.2%</b>	<b>10.0%</b>	<b>12.9%</b>	<b>20.3%</b>
Dow Jones U.S. Total Stock Market +3%	11.7	16.5	13.3	19.0	13.4

## investment results

### Fixed Income

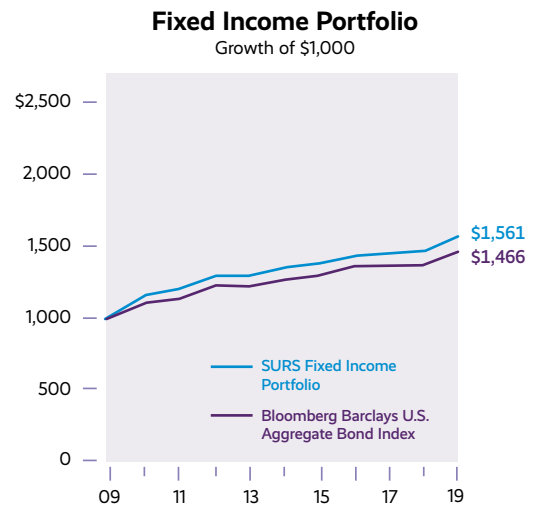
The SURS fixed income portfolio returned 7.1% for fiscal year 2019, trailing the 7.9% return of the portfolio's benchmark by 0.8%. The fixed income portfolio's benchmark is the Bloomberg Barclays U.S. Aggregate Bond Index, which reflects the manner in which the assets are invested. SURS investment managers typically employ a Core / Core plus approach that utilizes securities which include government, corporate, mortgage, high yield, and non-U.S. sectors. This asset class has proven to be the most consistent asset of all the portfolios, generating above benchmark returns in 25 of the past 31 fiscal years.

During fiscal year 2013, an unconstrained fixed income investment strategy was introduced into the portfolio. The addition of the unconstrained strategy provided further diversification and downside protection within the overall fixed income portfolio by introducing a strategy that has a low correlation with SURS other fixed income strategies. The unconstrained portfolio employs both a top-down and a bottom-up approach to the global fixed income universe with the opportunity to add exposure to securities outside of those included in the Bloomberg Barclays U.S. Aggregate Index.

SURS fixed income portfolio is structured to capture the return of the broad market over the long term. Consequently, the returns from this portfolio will tend to track that of the broad fixed income market (Bloomberg Barclays U.S. Aggregate Bond Index) over longer periods of time.

The accompanying chart indicates the growth of \$1,000 invested in the U.S. fixed income market during the past 10 years. The ending points show that \$1,000 invested in SURS U.S. fixed income portfolio would have grown to \$1,561 (net of investment management expenses), while the same \$1,000 invested in the portfolio's benchmark would have grown to \$1,466.

	FY 2019	3 YR	5 YR	10 YR
<b>SURS</b>	<b>7.1%</b>	<b>2.9%</b>	<b>2.9%</b>	<b>4.6%</b>
Bloomberg Barclays U.S. Aggregate	7.9	2.3	2.9	3.9
Bloomberg Barclays Universal	8.1	2.8	3.2	4.4
Long Term Government	12.3	1.4	5.7	6.5
Intermediate Government	6.2	1.3	1.9	2.4
Long Term Corporate	15.2	5.4	5.8	8.5
Intermediate Corporate	8.6	3.2	3.3	5.1
Mortgage-Backed	6.2	2.1	2.6	3.2



### TEN LARGEST FIXED INCOME HOLDINGS (excludes commingled funds)

Asset Description	S & P Rating	Interest Rate	Maturity Date	Par Value	Carrying Value
U.S. Treasury Inflation-Indexed Notes	AA+	0.125%	July 15, 2026	\$ 46,614,000	\$ 49,356,152
Fannie Mae Mortgage-Backed Bonds	AA+	3.500	September 12, 2049	47,400,000	48,434,410
U.S. Treasury Bonds	AA+	2.875	May 15, 2049	43,068,000	46,203,910
U.S. Treasury Notes	AA+	2.000	May 31, 2024	44,506,000	45,029,302
U.S. Treasury Inflation-Indexed Notes	AA+	0.125	April 15, 2022	38,170,000	39,794,078
U.S. Treasury Inflation-Indexed Notes	AA+	0.625	January 15, 2026	34,107,000	37,562,467
U.S. Treasury Notes	AA+	1.625	June 30, 2024	34,990,000	34,974,954
U.S. Treasury Inflation-Indexed Notes	AA+	0.250	January 15, 2025	31,102,000	33,593,642
U.S. Treasury Bonds	AA+	2.500	May 15, 2046	32,870,000	32,679,979
U.S. Treasury Notes	AA+	0.125	July 15, 2024	29,071,000	31,232,777

**Note:** A complete list of the portfolio holdings is available upon request.



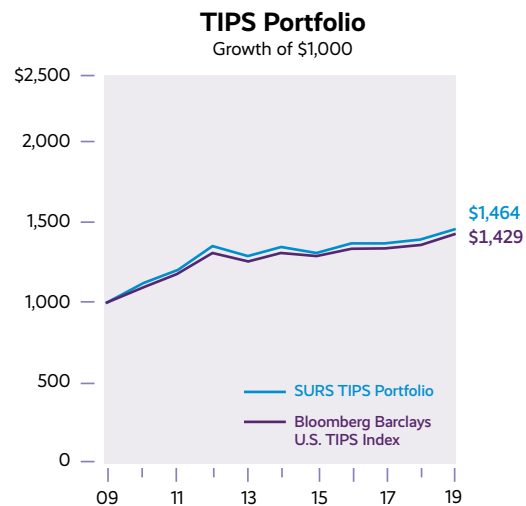
## investment results

### Treasury Inflation-Protected Securities (TIPS)

At June 30, 2019, TIPS accounted for a 3.7% allocation of the total fund. During fiscal year 2018, the TIPS portfolio was transitioned from active to passive management. The TIPS portfolio returned 4.9% for fiscal year 2019, surpassing its Bloomberg Barclays U.S. TIPS benchmark by 0.1%. The portfolio's 10-year return outpaced the annualized benchmark return by 0.3%.

The accompanying chart indicates the growth of \$1,000 invested in the U.S. TIPS market during the past 10 years. The ending points indicate that \$1,000 invested in SURS U.S. TIPS portfolio would have grown to \$1,464 (net of investment management expenses), while the same \$1,000 invested in the portfolio's benchmark would have grown to \$1,429.

	FY 2019	3 YR	5 YR	10 YR
<b>SURS</b>	<b>4.9%</b>	<b>2.3%</b>	<b>1.6%</b>	<b>3.9%</b>
Bloomberg Barclays U.S. TIPS	4.8	2.1	1.8	3.6



### Emerging Market Debt

SURS emerging market debt portfolio employs a combination of strategies including local currency, corporate, and blended strategies. The combination of strategies provides diversification within the asset class and gives SURS exposure to government and corporate emerging market debt denominated in U.S. dollar or local currency. Emerging market debt became a new asset class in fiscal year 2015 with a target allocation of 3% of the overall SURS portfolio. The emerging market debt portfolio returned 10.8% for fiscal year 2019, exceeding the annualized custom benchmark return by 0.4%.

	FY 2019	3 YR
<b>SURS</b>	<b>10.8%</b>	<b>5.5%</b>
Custom Benchmark	10.4	5.0
JPM CEMBI Broad	10.7	5.8
JPM EMBI Global Diversified	12.4	5.5
JPM GBI-EM Global Diversified	9.0	4.2

## investment results

### Real Estate

The real estate asset class target allocation of 10% is subdivided into two components: 4% to global REITs and 6% to direct real estate. As of June 30, 2019, actual allocations were 2.2% and 6.5%, respectively.

The direct real estate portfolio returned 7.1% for the fiscal year, exceeding its benchmark by 0.5%. The National Council of Real Estate Investment Fiduciaries (NCREIF) Open End Diversified Core Equity (ODCE) Index benchmark returned 6.6% for the same period. The returns from this asset class lag one quarter due to the time frame associated with data collection for both accounting and performance reporting purposes.

During fiscal year 2017 the REIT portfolio was transitioned from active to passive management. SURS REIT portfolio returned 8.9% during the fiscal year, exceeding its benchmark, the FTSE EPRA/NAREIT Developed Index, by 1.2%. The portfolio's five- and ten-year returns exceeded the benchmark returns by 0.4% and 0.1% on an annualized basis.

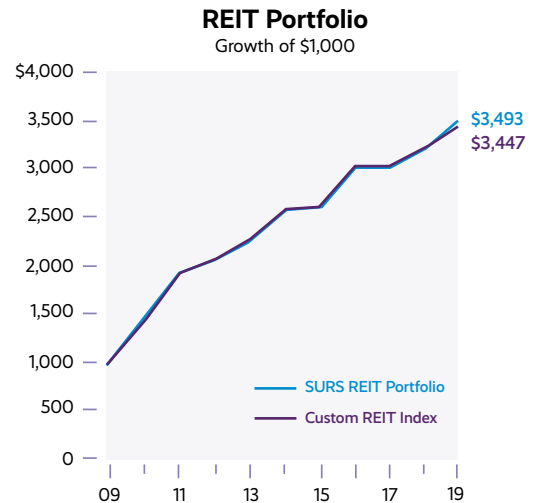
The accompanying chart indicates the growth of \$1,000 invested in the REIT market during the past 10 years. The ending points indicate that \$1,000 invested in SURS REIT portfolio would have increased to \$3,493 (net of investment management expenses), while the same \$1,000 invested in the performance benchmark would have grown to \$3,447.

#### DIRECT REAL ESTATE

	FY 2019	3 YR	5 YR	10 YR
<b>SURS</b>	<b>7.1%</b>	<b>7.6%</b>	<b>9.5%</b>	<b>9.1%</b>
NCREIF ODCE Index	6.6	7.0	9.2	7.7

#### REAL ESTATE (REIT)

	FY 2019	3 YR	5 YR	10 YR
<b>SURS</b>	<b>8.9%</b>	<b>5.1%</b>	<b>6.4%</b>	<b>13.3%</b>
Performance Benchmark	7.7	4.5	6.0	13.2
FTSE EPRA/NAREIT Developed	7.7	4.5	4.9	10.6
FTSE EPRA/NAREIT Developed Ex-US	6.1	6.8	3.5	8.3



## investment results

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### Opportunity Fund

The SURS Board of Trustees created the Opportunity Fund during fiscal year 2000 to provide an arena for investments in new opportunities, which might otherwise not be included in the total investment portfolio. Each of the investment portfolios is evaluated on an annual basis to determine whether or not they continue to merit inclusion in the Fund. This unique portfolio has been designed in such a manner that no more than approximately 5% of the total fund assets can be invested in the Fund. As of June 30, 2019, an infrastructure portfolio is the only type of investment in the Opportunity Fund.

In order to accurately monitor these investments, a custom benchmark has been established. The benchmark reflects a passive implementation of the various portfolios included in the Fund. The Opportunity Fund returned 5.7% during the fiscal year, trailing its custom benchmark return by 1.4%.

	FY 2019	3 YR	5 YR	10 YR
<b>SURS</b>	<b>5.7%</b>	<b>3.1%</b>	<b>4.7%</b>	<b>12.1%</b>
Performance Benchmark	7.1	7.4	6.7	10.1

### Commodities

The commodities asset class has a target allocation of 2% of the overall SURS portfolio. The Board of Trustees selected two active commodities managers, which were funded in June 2016. The third full fiscal year performance for commodities resulted in the portfolio returning (4.1)%, outpacing the benchmark return by 2.7%.

	FY 2019	3 YR
<b>SURS</b>	<b>(4.1)%</b>	<b>1.3%</b>
Performance Benchmark	(6.8)	(2.2)

### Hedged Strategies

Starting in fiscal year 2018, the original 3% Fund of Hedge Fund allocation was complemented with a 2% allocation to options writing strategies. The 2018 asset/liability study resulted in the SURS submitting withdrawal requests from the Fund of Hedge Fund managers and increasing the target allocation to options writing strategies. As of June 30, 2019, the fund of hedge fund allocation has been reduced to 0.8% and the option strategies have increased to 3.2%. The options writing portion of the portfolio, returned 3.0% for the fiscal year, exceeding its benchmark return of 1.1%. However, the overall hedged strategies portfolio returned 1.7% for fiscal year 2019, trailing its benchmark return by 3.8%.

	FY 2019	3 YR
<b>SURS</b>	<b>1.7%</b>	<b>3.9%</b>
Performance Benchmark	5.5	6.0

### Self-Managed Plan

Fiscal year 2019 marks the twenty-first complete year of the Self-Managed Plan (SMP). As of June 30, 2019, the SMP had accumulated plan assets of approximately \$2.7 billion. This represents an increase of approximately \$229 million since the end of fiscal year 2018. Contributing to the growth in plan assets was a market-related increase of \$163 million. During the past several years, SMP participants have continued to maintain a balanced exposure to equities. In aggregate, the total funds invested by SMP participants have an allocation of 74% equity, 24% fixed income, and 2% real estate. This was a 1% decrease in the equity allocation as compared to last year's position.

A detailed schedule of the funds available in this plan, along with the investment totals for each fund, can be found in the accompanying table.

# investment allocation

## Self-Managed Plan Investment Allocation, June 30, 2019

	U.S. Equity	Non-U.S. Equity	Fixed Income	Balanced	Real Estate	Total
<b>Fidelity Funds</b>						
Fidelity Managed Income Portfolio Class 2	\$ -	\$ -	\$ 65,239,988	\$ -	\$ -	\$ 65,239,989
Fidelity U.S. Bond Index Institutional	-	-	48,163,101	-	-	48,163,101
PIMCO Total Return Institutional	-	-	47,994,770	-	-	47,994,770
Fidelity Puritan Class K	-	-	-	228,961,460	-	228,961,460
Ariel Fund Institutional	38,783,200	-	-	-	-	38,783,200
American Beacon Large Cap Value Institutional	14,678,234	-	-	-	-	14,678,234
Wells Fargo Small Company Growth R6	25,853,182	-	-	-	-	25,853,182
Fidelity Growth Company Commingled Pool	152,281,943	-	-	-	-	152,281,943
Fidelity Extended Market Index Premium	52,982,920	-	-	-	-	52,982,920
Fidelity Contrafund Commingled Pool	135,247,871	-	-	-	-	135,247,871
Fidelity Low Priced Stock Class K	48,143,437	-	-	-	-	48,143,437
Fidelity 500 Index Institutional	265,502,916	-	-	-	-	265,502,916
Fidelity Diversified International Class K	-	50,314,950	-	-	-	50,314,950
Fidelity Global ex-U.S. Index Institutional	-	34,454,062	-	-	-	34,454,062
Fidelity Real Estate Investment	-	-	-	-	24,119,656	24,119,656
Fidelity Freedom Index 2005 (I)	-	-	-	1,407,834	-	1,407,834
Fidelity Freedom Index 2010 (I)	-	-	-	2,842,619	-	2,842,619
Fidelity Freedom Index 2015 (I)	-	-	-	8,297,900	-	8,297,900
Fidelity Freedom Index 2020 (I)	-	-	-	37,377,617	-	37,377,617
Fidelity Freedom Index 2025 (I)	-	-	-	56,669,722	-	56,669,722
Fidelity Freedom Index 2030 (I)	-	-	-	61,685,707	-	61,685,707
Fidelity Freedom Index 2035 (I)	-	-	-	59,020,047	-	59,020,047
Fidelity Freedom Index 2040 (I)	-	-	-	56,735,670	-	56,735,670
Fidelity Freedom Index 2045 (I)	-	-	-	35,020,076	-	35,020,076
Fidelity Freedom Index 2050 (I)	-	-	-	29,925,918	-	29,925,918
Fidelity Freedom Index 2055 (I)	-	-	-	11,810,398	-	11,810,398
Fidelity Freedom Index 2060 (I)	-	-	-	2,476,576	-	2,476,576
Fidelity Freedom Index Income	-	-	-	3,559,303	-	3,559,303
<b>Fidelity Total</b>	<b>733,473,703</b>	<b>84,769,012</b>	<b>161,397,860</b>	<b>595,790,847</b>	<b>24,119,656</b>	<b>1,599,551,078</b>
						<b>61.7%</b>
<b>TIAA-CREF Funds</b>						
CREF Money Market Account R3	-	-	5,664,383	-	-	5,664,383
Vanguard Federal Money Market Fund	-	-	14,692,558	-	-	14,692,558
TIAA Traditional Annuity	-	-	135,880,278	-	-	135,880,278
CREF Bond Market Account R3	-	-	57,129,964	-	-	57,129,964
CREF Inflation-Linked Bond Account R3	-	-	27,345,668	-	-	27,345,668
CREF Social Choice Account R3	-	-	-	57,565,031	-	57,565,031
CREF Equity Index Account R3	103,293,224	-	-	-	-	103,293,224
CREF Growth Account R3 (2)	633,627	-	-	-	-	633,627
CREF Stock Account R3	186,694,978	-	-	-	-	186,694,978
CREF Global Equities Account R3	-	66,063,871	-	-	-	66,063,871
Dimensional 2005 Target Date Ret Income Fund	-	-	-	91	-	91
Dimensional 2010 Target Date Ret Income Fund	-	-	-	18,053	-	18,053
Dimensional 2015 Target Date Ret Income Fund	-	-	-	115,060	-	115,060
Dimensional 2020 Target Date Ret Income Fund	-	-	-	514,235	-	514,235
Dimensional 2025 Target Date Ret Income Fund	-	-	-	863,536	-	863,536
Dimensional 2030 Target Date Ret Income Fund	-	-	-	1,082,799	-	1,082,799
Dimensional 2035 Target Date Ret Income Fund	-	-	-	718,505	-	718,505
Dimensional 2040 Target Date Ret Income Fund	-	-	-	355,439	-	355,439
Dimensional 2045 Target Date Ret Income Fund	-	-	-	954,338	-	954,338
Dimensional 2050 Target Date Ret Income Fund	-	-	-	612,153	-	612,153
Dimensional 2055 Target Date Ret Income Fund	-	-	-	652,551	-	652,551
Dimensional 2060 Target Date Ret Income Fund	-	-	-	456,754	-	456,754
Dimensional Retirement Income Fund	-	-	-	20,850	-	20,850
TIAA Real Estate Account	-	-	-	-	22,706,590	22,706,590
TIAA-CREF Large-Cap Growth Index - Institutional	148,564,331	-	-	-	-	148,564,331
TIAA-CREF Lifecycle Index Fund 2010 - Institutional	-	-	-	1,246,098	-	1,246,098
TIAA-CREF Lifecycle Index Fund 2015 - Institutional	-	-	-	3,007,600	-	3,007,600
TIAA-CREF Lifecycle Index Fund 2020 - Institutional	-	-	-	12,155,199	-	12,155,199
TIAA-CREF Lifecycle Index Fund 2025 - Institutional	-	-	-	18,646,348	-	18,646,348
TIAA-CREF Lifecycle Index Fund 2030 - Institutional	-	-	-	24,792,995	-	24,792,995
TIAA-CREF Lifecycle Index Fund 2035 - Institutional	-	-	-	27,000,738	-	27,000,738
TIAA-CREF Lifecycle Index Fund 2040 - Institutional	-	-	-	33,278,064	-	33,278,064
TIAA-CREF Lifecycle Index Fund 2045 - Institutional	-	-	-	21,303,476	-	21,303,476
TIAA-CREF Lifecycle Index Fund 2050 - Institutional	-	-	-	10,950,740	-	10,950,740
TIAA-CREF Lifecycle Index Fund 2055 - Institutional	-	-	-	3,968,894	-	3,968,894
TIAA-CREF Lifecycle Index Fund 2060 - Institutional	-	-	-	1,219,223	-	1,219,223
TIAA-CREF Lifecycle Retirement Inc - Institutional	-	-	-	2,861,064	-	2,861,064
<b>TIAA-CREF Total</b>	<b>439,186,160</b>	<b>66,063,871</b>	<b>240,712,851</b>	<b>224,359,834</b>	<b>22,706,590</b>	<b>993,029,306</b>
						<b>38.3%</b>
<b>GRAND TOTAL</b>	<b>\$ 1,172,659,863</b>	<b>\$ 150,832,883</b>	<b>\$ 402,110,711</b>	<b>\$ 820,150,681</b>	<b>\$ 46,826,246</b>	<b>\$ 2,592,580,384</b>
	45.2%	5.8%	15.5%	31.7%	1.8%	100.0%
<b>SMP Forfeiture Reserve (3)</b>						<b>14,519,051</b>
<b>SMP Disability Reserve (3)</b>						<b>115,409,841</b>
<b>Total SMP Investments</b>						<b>\$ 2,722,509,276</b>

- As of June 30, 2019, the Fidelity Freedom Fund (lifecycle) series is the default fund for members who have selected the Self-Managed Plan but have not yet selected individual mutual funds and/or variable annuities.
- CREF Growth Account is no longer an approved option for the Self-Managed Plan. Assets remaining in the Account were invested prior to the termination of this option.
- These assets are commingled with the SURS defined benefit plan investments and accrue interest equal to the overall annual rate of return of the fund, net of fees.



# investment allocation

## Defined Benefit Plan Investment Allocation, June 30, 2019 (\$ in thousands)

	Fair Value
<b>U.S. Equity Managers</b>	
Northern Trust Asset Management	\$ 1,273,725
RhumbLine Advisers	1,089,317
CastleArk Management	119,449
Channing Capital Management	93,284
Denali Advisors	49,194
EARNEST Partners	175,210
Gladius Capital Management	458,143
Matarin Capital Management	93,120
Piedmont Investment Advisors	694,706
T. Rowe Price	460,463
<b>Subtotal</b>	<b>4,506,611</b>
<b>Non-U.S. Equity Managers</b>	
BlackRock Custom International Fund	1,126,442
BlackRock Emerging Markets	372,375
Ativo Capital Management	294,553
BlackRock International Alpha Tilts	541,335
Fidelity Institutional Asset Management	583,983
GlobeFlex Capital	310,985
Progress Emerging Managers	228,255
Strategic Global Advisors	330,226
<b>Subtotal</b>	<b>3,788,154</b>
<b>Global Equity Managers</b>	
Mondrian Investment Partners	587,355
T. Rowe Price	638,556
Wellington Management	618,364
<b>Subtotal</b>	<b>1,844,275</b>
<b>Private Equity Managers</b>	
Adams Street Partners	27,377
Adams Street 2018 Global Fund	12,654
Adams Street 2017 Global Fund	39,085
Adams Street 2016 Global Fund	86,770
Adams Street 2015 Global Fund	101,540
Adams Street 2014 Global Fund	102,567
Adams Street 2013 Global Fund	105,612
Adams Street 2012 Global Fund	82,255
Adams Street 2009 Global Offering	102,576
Adams Street 2008 Global Offering	94,286
Adams Street 2007 Global Opportunities Portfolio	41,211
Adams Street Global Opportunities Secondary Fund	5,485
Adams Street Global Secondary Fund 5	13,776
Adams Street 2004 Non-U.S. Fund	6,153
Fairview Lincoln Fund I	66,807
Mesirow Private Equity Fund VII-B	26,055
Mesirow Private Equity Special Fund B	21,907
Muller & Monroe Emerging Private Equity Fund-of-Funds	61,064
Muller & Monroe Private Equity Fund-of-Funds	6,890
Pantheon Europe Fund III	10,550
Pantheon Europe Fund VI	26,887
Pantheon Europe Fund VII	35,085
Pantheon Multi-Strategy Program 2014	74,856
Pantheon Multi-Strategy Program 2017	12,189
Pantheon Access 2018	7,688
Pantheon Global Secondary Fund II	2,814
Pantheon USA Fund IX	100,500
Pantheon USA Fund VIII	97,923
Pantheon Ventures	72,698
Progress Venture Emerging Managers	330
<b>Subtotal</b>	<b>\$ 1,445,590</b>

## investment allocation

### Defined Benefit Plan Investment Allocation, June 30, 2019 (\$ in thousands) (continued)

	Fair Value
<b>Fixed Income Managers</b>	
Cash	\$ 225,553
State Street Global Advisors	579,686
Garcia Hamilton & Associates	334,164
LM Capital Group	174,570
Neuberger Berman	375,406
Pacific Investment Management Co - Total Return	426,267
Pacific Investment Management Co - Unconstrained	597,981
Progress Emerging Managers	158,034
Pugh Capital Management	175,063
Smith Graham & Company	112,774
TCW / Metropolitan West Asset Management	589,978
<b>Subtotal</b>	<b>3,749,476</b>
<b>Treasury Inflation-Protected Securities</b>	
RhumbLine Advisers	728,417
<b>Subtotal</b>	<b>728,417</b>
<b>Emerging Market Debt</b>	
Colchester Local Markets Debt Fund	148,863
Progress Emerging Managers	140,072
Prudential Emerging Markets Debt Blend	336,943
<b>Subtotal</b>	<b>625,878</b>
<b>Direct Real Estate</b>	
Basis Investment Group Real Estate Fund I	12,920
Blackstone Property Partners	200,181
Blue Vista Real Estate Partners IV	33,822
Brookfield Strategic Real Estate Partners II	30,474
Brookfield Strategic Real Estate Partners III	7,482
Carlyle Property Investors	103,306
Crow Holdings Realty Partners VII	24,263
Crow Holdings Realty Partners VIII	9,773
Dune Real Estate Parallel Fund II	25,520
Dune Real Estate Fund III	136,768
Franklin Templeton Emrg Mgr REFF	30,973
Franklin Templeton Private Real Estate Fund	16,767
Franklin Templeton MDP RE 2015	46,917
Heitman America Real Estate Trust	217,174
JPMCB Strategic Property Fund	225,396
Oaktree Real Estate Debt Fund II	11,997
StepStone REGPF II	40,213
UBS Trumbull Property Fund	115,183
<b>Subtotal</b>	<b>1,289,129</b>
<b>Real Estate Investment Securities</b>	
BlackRock Developed Real Estate Index	424,581
<b>Subtotal</b>	<b>424,581</b>
<b>Cash Overlay</b>	
Parametric Clifton	126,061
<b>Subtotal</b>	<b>126,061</b>
<b>Hedged Strategies</b>	
AQR Global Risk-Managed BuyWrite Fund	175,120
Gladius Capital Management	94,044
KKR Prisma Codlin Fund	27,607
Neuberger Berman US Equity Index PutWrite Fund	359,149
PAAMCO Newport Monarch Fund	125,419
<b>Subtotal</b>	<b>781,339</b>
<b>Commodities</b>	
Invesco Balanced Risk Commodity Trust	239,376
PIMCO Commodity Alpha Fund	113,085
<b>Subtotal</b>	<b>352,461</b>
<b>Infrastructure Managers</b>	
Alinda Capital Partners	23,586
Macquarie Infrastructure Partners II	21,881
Macquarie Infrastructure Partners III	56,763
Macquarie Infrastructure Partners IV	19,516
<b>Subtotal</b>	<b>121,746</b>
<b>SMP Forfeiture/Disability Reserves</b>	<b>(129,929) (a)</b>
<b>TOTAL FUND</b>	<b>\$ 19,653,789 (b)</b>

(a) These assets are commingled with the SURS defined benefit plan investments.

(b) Amount includes net pending transactions of (\$122,847) and accrued investment income receivable of \$47,227.

## supporting schedules

### Top 50 Brokers and Total Domestic Equity Investment Commissions For the Year Ended June 30, 2019

Investment Brokerage Firm	2019		
	Commission	Shares Traded	Commission per Share
Loop Capital Markets	\$ 146,633	8,125,604	\$ 0.02
Robert W. Baird & Company	68,227	2,053,403	0.03
Williams Capital Group	56,012	4,572,804	0.01
Penserra Securities	46,657	3,644,225	0.01
Barclays	46,609	3,440,554	0.01
Stifel, Nicolaus & Company	43,233	1,447,705	0.03
BNY Mellon	35,871	1,195,692	0.03
JP Morgan Chase & Company	33,592	1,139,839	0.03
CAPIS (Capital Institutional Services)	33,557	1,123,241	0.03
Goldman Sachs	33,459	1,402,243	0.02
Cheevers & Company	29,723	1,188,895	0.03
Merrill Lynch	28,408	2,840,832	0.01
ITG (Investment Technology Group)	27,686	1,102,941	0.03
CastleOak Securities	24,814	1,913,529	0.01
JonesTrading Institutional Services	22,824	743,900	0.03
Oppenheimer & Company	19,504	1,584,439	0.01
Stephens	17,776	581,792	0.03
Craig-Hallum	17,542	584,740	0.03
William Blair & Company	15,933	530,618	0.03
Credit Suisse	14,505	454,920	0.03
CL King & Associates	13,881	505,634	0.03
KeyBanc Capital Markets	13,182	442,088	0.03
Cowen & Company	12,538	623,278	0.02
Siebert Brandford Shank & Company	12,301	1,838,969	0.01
Raymond James & Associates	12,053	447,389	0.03
Weeden & Company	11,854	1,548,850	0.01
Cabrera Capital Markets	11,526	446,637	0.03
Piper Jaffray & Company	10,621	362,676	0.03
Jefferies & Company	9,902	405,979	0.02
Wells Fargo Advisors	9,208	465,227	0.02
Telsey Advisory Group	7,921	268,205	0.03
Seaport Group	7,343	244,767	0.03
Dash Financial	7,342	734,203	0.01
Ramirez & Company	6,312	595,680	0.01
O'Neil Securities, Inc.	5,834	194,476	0.03
Mischler Financial Group	5,261	526,055	0.01
Morgan Stanley	5,178	198,288	0.03
Keefe, Bruyette & Woods	5,121	158,230	0.03
SunTrust Robinson Humphrey	5,075	168,701	0.03
Citigroup Global Markets	4,988	213,085	0.02
North South Capital	4,868	116,000	0.04
Needham & Company	4,617	153,885	0.03
Northland Securities	4,589	165,040	0.03
BMO Capital Markets	4,247	207,663	0.02
DA Davidson & Company	4,183	157,346	0.03
Cornerstone Macro	4,107	147,796	0.03
Canaccord Adams	4,072	135,727	0.03
ISI Group	3,943	112,665	0.04
RBC Capital Markets	3,853	292,059	0.01
Leerink Swann & Company	3,659	128,512	0.03
All Other Brokers	57,277	3,028,750	0.02
<b>Grand Total, All Brokers</b>	<b>\$ 1,039,421</b>	<b>54,705,776</b>	<b>\$ 0.02</b>

## supporting schedules

### Top 50 Brokers and Total International Equity Investment Commissions For the Year Ended June 30, 2019

Investment Brokerage Firm	2019		
	Commission	Shares Traded	Commission per Share
Loop Capital Markets	\$ 160,762	22,953,157	\$ 0.01
North South Capital	159,455	9,510,781	0.02
Fig Group LLC	155,720	47,832,918	0.00
UBS	137,745	38,800,874	0.00
ITG (Investment Technology Group)	108,380	18,431,694	0.01
Instinet	108,131	24,576,114	0.00
Credit Suisse	86,826	6,577,371	0.01
Goldman Sachs	77,689	11,946,670	0.01
Cabrera Capital Markets	76,685	8,507,095	0.01
Penserra Securities	66,180	17,284,475	0.00
Jefferies & Company	54,119	5,195,440	0.01
Citigroup Global Markets	50,747	6,211,661	0.01
JP Morgan Chase & Company	42,397	2,128,725	0.02
Northern Trust Securities	40,132	8,240,473	0.00
CLSA	38,337	16,516,013	0.00
Mischler Financial Group	28,510	2,771,402	0.01
Morgan Stanley	28,111	4,091,505	0.01
Bank of America	26,442	1,342,012	0.02
Macquarie Securities	25,974	1,820,945	0.01
Deutsche Bank	23,009	1,662,649	0.01
Liquidnet	20,876	1,805,563	0.01
Cowen & Company	20,342	1,101,486	0.02
Exane	15,760	904,436	0.02
BTIG (Bass Trading International Group)	14,304	986,487	0.01
Bank of New York ConvergEx Execution	12,767	1,535,510	0.01
Weeden & Company	10,543	3,848,323	0.00
Cantor Fitzgerald	8,868	295,722	0.03
Merrill Lynch	8,577	2,310,244	0.00
Barclays	8,244	620,079	0.01
HSBC	5,121	730,335	0.01
Societe Generale Securities	4,933	506,744	0.01
Scotia Capital	4,891	620,050	0.01
Royal Bank of Canada	3,995	238,190	0.02
Maybank	2,337	544,000	0.00
CastleOak Securities	1,888	98,911	0.02
Mirabaud Securities	1,850	1,500	1.23
Berenberg Bank	1,705	16,715	0.10
JonesTrading Institutional Services	1,440	298,550	0.00
CAPIS (Capital Institutional Services)	1,167	273,200	0.00
Investec Securities	994	280,905	0.00
Handelsbanken	987	29,736	0.03
BMO Capital Markets	966	62,800	0.02
Williams Capital Group	944	23,589	0.04
Daiwa Securities Group	909	50,187	0.02
Nordea Bank	759	46,912	0.02
Joh. Berenberg, Gossler & Company	754	8,966	0.08
Auerbach Grayson & Company	677	130,630	0.01
Autonomous Research	633	7,690	0.08
MainFirst	630	28,194	0.02
Cormark Securities	627	32,900	0.02
All Other Brokers	5,227	663,984	0.01
<b>Grand Total, All Brokers</b>	<b>\$ 1,659,066</b>	<b>274,504,512</b>	<b>\$ 0.01</b>



## supporting schedules

### Top 50 Brokers and Total Global Equity Investment Commissions For the Year Ended June 30, 2019

Investment Brokerage Firm	2019		
	Commission	Shares Traded	Commission per Share
Morgan Stanley	\$ 88,478	6,557,757	\$ 0.01
Sanford C. Bernstein	65,136	12,502,142	0.01
JP Morgan Chase & Company	64,131	6,488,328	0.01
Goldman Sachs	39,538	7,607,797	0.01
Citigroup Global Markets	39,259	6,776,577	0.01
UBS	37,409	3,913,775	0.01
Bank of America	36,172	2,687,322	0.01
Cabrera Capital Markets	33,326	3,122,385	0.01
Credit Suisse	32,511	2,667,550	0.01
CLSA	30,210	10,110,375	0.00
Credit Agricole	27,364	1,030,653	0.03
Telsey Advisory Group	26,564	1,358,658	0.02
Instinet	26,313	2,328,787	0.01
ITG (Investment Technology Group)	26,241	3,940,408	0.01
Penserra Securities	25,890	643,182	0.04
Jefferies & Company	21,552	1,270,929	0.02
RBC Capital Markets	19,139	1,391,379	0.01
Macquarie Securities	18,496	3,291,076	0.01
Cowen & Company	17,066	1,506,084	0.01
Loop Capital Markets	14,246	4,930,420	0.00
Bank of America Securities	13,100	1,112,146	0.01
Evercore Partners	12,947	775,797	0.02
Nomura	11,796	2,787,031	0.00
Mischler Financial Group	10,609	650,373	0.02
Virtu Financial Capital Markets	9,955	2,555,957	0.00
Banco Bradesco	9,387	710,552	0.01
Liquidnet	7,784	3,717,868	0.00
Merrill Lynch	6,869	2,603,551	0.00
Redburn Partners	6,110	737,876	0.01
Sumitomo Mitsui Banking Corporation	6,027	292,300	0.02
Academy Securities	5,957	352,620	0.02
BMO Capital Markets	5,637	312,567	0.02
Deutsche Bank	5,144	3,955,829	0.00
Samsung Securities	4,778	84,388	0.06
Mizuho Securities	4,754	125,451	0.04
CastleOak Securities	4,426	244,516	0.02
Stifel, Nicolaus & Company	3,875	147,174	0.03
HSBC	3,825	5,743,360	0.00
Drexel Hamilton	3,796	189,661	0.02
BTIG (Bass Trading International Group)	3,738	140,835	0.03
Williams Capital Group	3,487	148,804	0.02
Raymond James & Associates	3,329	104,965	0.03
Nordea Bank	3,287	91,817	0.04
CL King & Associates	3,259	158,449	0.02
Exane	3,061	253,331	0.01
SunTrust Robinson Humphrey	2,717	105,336	0.03
Cantor Fitzgerald	2,670	71,344	0.04
Barclays	2,572	404,153	0.01
BTG Pactual	2,339	162,915	0.01
SMBC Nikko Securities	2,337	71,000	0.03
All Other Brokers	44,488	8,534,589	0.01
<b>Grand Total, All Brokers</b>	<b>\$ 903,101</b>	<b>121,472,139</b>	<b>\$ 0.01</b>

## supporting schedules

### Top 50 Brokers and Total Fixed Income Investment Brokerage For the Year Ended June 30, 2019

Investment Brokerage Firm	2019
	Fair Value Traded
CastleOak Securities	\$ 1,534,356,147
JP Morgan Chase & Company	608,957,283
Goldman Sachs	591,143,702
Citigroup Global Markets	567,124,392
Morgan Stanley	425,614,855
Loop Capital Markets	376,679,296
Cabrera Capital Markets	349,878,436
Nomura	317,603,824
Bank of America Securities	293,944,420
Barclays	274,181,691
Credit Suisse	266,308,276
Merrill Lynch	235,282,808
Williams Capital Group	230,685,699
Wells Fargo Advisors	215,545,925
Deutsche Bank	197,135,504
HSBC	127,143,933
Mizuho Securities	124,938,252
BNP Paribas	118,402,165
Jefferies & Company	115,623,665
RBC Dain Rauscher	97,844,363
Citadel Securities	93,741,061
RBS Securities	90,010,179
Bank of America	77,210,110
TD Securities	60,936,482
RBC Capital Markets	59,133,491
Academy Securities	54,292,272
BMO Capital Markets	46,157,146
MFR Securities	45,082,243
First Tennessee	41,085,187
Citibank	39,245,721
UBS	38,580,133
Societe Generale Securities	33,387,313
Mischler Financial Group	29,085,262
CAPIS (Capital Institutional Services)	29,033,704
Brean Capital	25,115,831
INTL FCStone	15,172,216
National Financial Services	15,110,040
MarketAxess	14,552,846
Robert W. Baird & Company	14,458,579
Cantor Fitzgerald	13,824,440
BNY Mellon	9,595,202
Penserra Securities	9,415,789
Great Pacific Securities	9,358,275
Janney Montgomery Scott	9,074,470
Stifel, Nicolaus & Company	8,929,032
Royal Bank of Canada	8,893,962
Amherst Securities Group	8,868,097
Cantella & Co.	8,464,813
NatWest Markets Securities Inc	8,316,432
Tribal Capital Markets	8,092,914
All Other Brokers	101,198,233
<b>Grand Total, All Brokers</b>	<b>\$ 8,093,816,111</b>