



# INVESTMENT

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# LETTER OF CERTIFICATION



The Northern Trust Company  
50 South LaSalle Street  
Chicago, Illinois 60603

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, 2019 through June 30, 2020.

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**

NTAC:3NS-20

By: 

\_\_\_\_\_  
Matt Pfaff, Client Service Manager





# REPORT OF INVESTMENT ACTIVITY



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[www.surs.org](http://www.surs.org)

December 11, 2020

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, 2020, 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, 2020, the assets in the defined benefit plan are valued at approximately \$19.6 billion while the assets in the SMP are valued at approximately \$3.0 billion.

Fiscal Year 2020 has seen remarkable shifts in economic and financial market performance. Global financial markets entered calendar 2020 on relatively strong footing. In January, the first COVID-19 case was acknowledged by Chinese authorities. By virtue of greater freedom of travel and 21st century globalization, the virus spread far more quickly than was initially expected based on previous viral outbreaks. In March, in an effort to contain the spread, countries responded by enacting stringent lockdowns leading to an abrupt halt in production and consumption. Similarly, businesses were forced to temporarily close and layoffs expanded dramatically and swiftly.

The impact on the economy and financial markets was extreme. U.S. equities ended their 10-year bull market, entering bear market territory (defined as a decline of 20%) at the fastest pace in history. From its peak, the S&P 500 declined by 34% in 24 trading days. Other global equity markets also rapidly entered bear market territory and continued their path downward throughout the month of March. With limited data on COVID-19, the pendulum clearly swung towards pessimism regarding the virus' impact and the likely path of activity going forward. After ending the year 2019 below 14, the VIX fear index spiked above its prior peak during the Global Financial Crisis, briefly breaching 80 in early March. At the depth of the drawdown on March 23, 2020, global equity indices were down more than 30%. Investors universally fled risk assets, in all forms, during the selloff in favor of perceived safer assets like US Treasuries.

To combat the expected significant decline in economic activity, fiscal and monetary authorities globally responded with immediate and historic stimulus measures. The Federal Reserve, in the midst of the March drawdown, immediately cut the Fed Funds Target Rate effectively to zero, and subsequently introduced aggressive stimulus measures, including backstop liquidity, funding programs, and trillions of dollars in promised asset purchases. Meanwhile, fiscal authorities released over \$2.4 trillion in targeted stimulus, with the promise of additional measures in the future. Importantly, both the speed of the response, and the breadth of the response, made the joint monetary/fiscal stimulus unprecedented.

Robust stimulus across global developed and emerging economies, coupled with incremental positive news regarding the spread of COVID-19, and economies slowly reopening, set the stage for a relatively rapid rebound in risk assets. The S&P 500 rebounded from March 23 lows and experienced its best 50-day performance in history. In the second calendar quarter of 2020, broad equity markets such as the Russell 3000 (US equities), the MSCI EAFE, (developed market equities), and the MSCI Emerging Markets (emerging market equities) generated total returns of 22.0%, 14.9%, and 18.1%, respectively. Given support from the Federal Reserve and increased risk appetite, credit recovered rapidly as well, with the Bloomberg Barclays US High Yield index generating a return of 10.2%. The broader fixed income market, as measured by the Bloomberg Barclays US Aggregate, benefitted from monetary stimulus, producing a 2.9% total return. While the VIX remained elevated relative to its pre-crisis levels at 30.4 as of June 2020, it had fallen significantly since the peak of the crisis in the first calendar quarter. Given the significant changes to the global economy and capital markets brought about by the COVID-19 pandemic SURS expects to complete an evaluation of the asset allocation during fiscal year 2021.

INVESTMENT



## REPORT OF INVESTMENT ACTIVITY

During fiscal year 2020, the SURS portfolio returned 2.64%, net of fees, exceeding the policy portfolio return of 2.00%. The positive relative performance was especially noteworthy, given the significant portfolio restructuring completed during the fiscal year. As discussed last year, SURS has adopted a risk-based, functional framework for allocating capital. 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 have been remapped to various risk-based, functional strategic classes. Based on these changes, the verbiage below highlights the performance of the SURS's new risk-based strategic classes.

The Total Fund's outperformance relative to the policy portfolio for Fiscal 2020 was primarily due to:

- Strong relative performance by the aggregate Traditional Growth portfolio and the option strategies sub-class of the Stabilized Growth portfolio;
- Strong absolute and relative performance by the Inflation Sensitive class due to a legacy commodities allocation; and
- Outperformance by the newly implemented Crisis Risk Offset class, which was funded during the fiscal year.

From a long-term perspective, the SURS portfolio has performed well, earning an 7.9% annualized rate of return over the past 30 years, exceeding the 7.6% policy portfolio return. This return is also in line with the 8.0% average assumed rate of return in effect over the last 30 years and the current 6.75% assumed rate of return.

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.

SURS continues to display a strong commitment to diversity as investments with firms owned by minorities, women, and persons with a disability (MWDB), continue to grow. The search activity and portfolio restructuring completed during the fiscal year presented an opportunity to further demonstrate this important initiative. Assets managed by diverse firms now represent approximately \$7.2 billion or 37% 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 achieve long-term, sustainable, investment performance necessary to meet or exceed the System’s assumed rate of return, net of all management fees with appropriate consideration for portfolio volatility (risk) and liquidity.

### Investment Strategies

#### ■ Strategic Asset Allocation

The purpose of the strategic allocation is to establish a framework that has a high likelihood, in the judgment of the Board, of realizing the System’s long-term funding success. Strategic allocation involves establishing target allocation percentages for each approved strategic class and their sub-class components. The asset-liability study completed in September 2018 resulted in significant structural changes to SURS asset allocation targets. The foundation of these changes consisted of a transition from conventional asset classes to functional asset classes as the basis of portfolio weighting. The transition to functional classes was completed during Fiscal Year 2020.

The functional asset classes are categorized broadly as growth oriented or diversifying. Growth-oriented strategies include risk-taking assets or strategies that produce high total returns relative to other asset classes. The three strategic components within this group are shown and described below.

- **Non-Traditional Growth**

Provide growth in excess of Traditional Growth through exposure to investments driven by exposure to the equity risk and illiquidity risk premiums (i.e. Private Equity and Non-Core Real Assets, which includes real estate and infrastructure)

- **Traditional Growth**

Provide growth in line with traditional public equity markets (i.e. U.S. Equity, Non-U.S. Equity, Global Equity and REITs)

- **Stabilized Growth**

Provide growth through strategies that are exposed to market beta, exhibiting expected returns similar to Traditional Growth but with lower volatility (i.e. Credit fixed income including emerging market debt, options strategies, and Core Real Assets)

Diversifying strategies provide two forms of diversification via anchor strategies and offset strategies. Anchor strategies are characterized by low volatility and high liquidity. Offset strategies, in contrast, tend to be higher volatility strategies that have zero-to-negative correlation to public equity markets. These strategies, described below, are designed to perform well in the event of a prolonged equity market downturn.

- **Inflation Sensitive**

Provide an anchor to the portfolio with minimal exposure to equity risk that is designed to help protect the portfolio during periods of high inflation. (i.e. U.S. TIPS)

- **Principal Protection**

Provide an anchor to the portfolio by exhibiting low volatility with minimal exposure to equity risk. Designed to provide consistent, stable returns during most market environments and preserve principal during periods where growth investments are experiencing significant drawdowns. (i.e. Core Fixed Income)

- **Crisis Risk Offset**

Provide an offset to growth risk through liquid exposures to risk premiums expected to exhibit offsetting behavior to growth investments during periods of significant drawdown (i.e. Long Duration Treasury, Systematic Trend Following, Alternative Risk Premia)



# INVESTMENT SUMMARY

The following table shows the sub-asset classes from June 30, 2020 and 2019, mapped into the appropriate functional class:

Functional Asset Class		Allocation as of	
		2020	2019
Growth Oriented	<b>Traditional Growth</b>	<b>43.9%</b>	<b>52.0%</b>
	U.S. Equity	18.8	22.6
	Non-U.S. Equity	15.1	19.2
	Global Equity	10.0	8.0
	REITs	-	2.2
	<b>Stabilized Growth</b>	<b>24.3</b>	<b>24.6</b>
	Option Strategies	6.0	4.0
	Credit Fixed Income	14.0	16.2
	Core Real Assets	4.3	4.4
	<b>Non-Traditional Growth</b>	<b>11.2</b>	<b>9.7</b>
Non-Core Real Assets	3.1	2.6	
Private Equity	8.1	7.1	
Diversifying	<b>Inflation Sensitive</b>	<b>5.4</b>	<b>5.6</b>
	U.S. TIPS	5.4	3.7
	Commodities	-	1.9
	<b>Principal Protection</b>	<b>8.5</b>	<b>8.1</b>
	Core Fixed Income	8.5	8.1
	<b>Crisis Risk Offset</b>	<b>5.5</b>	<b>0.0</b>
	Systematic Trend Following	1.7	0.0
Alternative Risk Premia	2.0	0.0	
Long Duration	1.8	0.0	
Cash	<b>Cash</b>	<b>1.2</b>	<b>0.0</b>
	Cash	1.2	0.0

Each functional group employs one or more investment managers and strategies as a method to ensure overall fund diversification. 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.

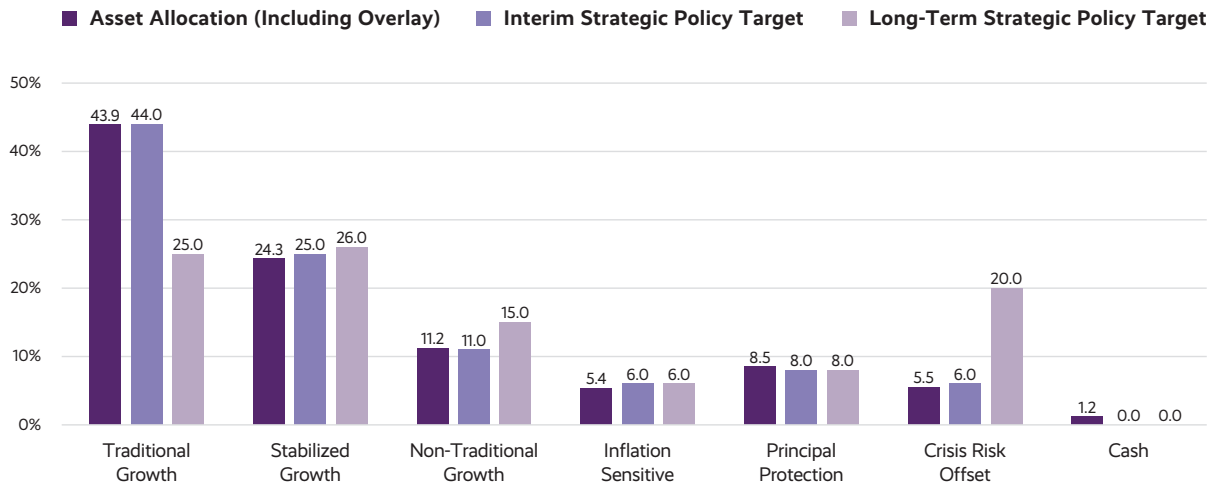
## ■ Rebalancing

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 strategic classes. SURS rebalancing policy calls for rebalancing, as soon as practical, if a strategic 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.

# INVESTMENT RESULTS

## Policy vs. Actual

Percentage



### Long-Term Investment Results

For the 10-year period ended June 30, 2020, SURS total fund earned an annualized total return, net of all investment management expenses, of 8.5%. This matched the policy portfolio benchmark.

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. As of June 30, 2020, the strategic policy portfolio is comprised of the benchmarks shown below.

Asset Class	Benchmark	Strategic Policy Portfolio
<b>Traditional Growth</b>	MSCI ACWI IMI	44.0%
<b>Stabilized Growth</b>		
Credit Fixed Income	Custom blended benchmark <sup>1</sup>	14.0
Core Real Assets	NCREIF ODCE	5.0
Options Strategies	Custom blended benchmark <sup>2</sup>	6.0
<b>Non-Traditional Growth</b>		
Private Equity	MSCI ACWI IMI +2%	8.0
Non-Core Real Assets	Custom blended benchmark <sup>3</sup>	3.0
<b>Inflation Sensitive</b>	BB Barclays U.S. TIPS	6.0
<b>Principal Protection</b>	BC U.S. Intermediate Agg x Credit Bond	8.0
<b>Crisis Risk Offset</b>		
Systematic Trend Following	CS Mngd Fut Liq 15% Volatility	2.1
Alternative Risk Premia	90 Day T-Bill + 2%	1.8
Long Duration	BBG Barclays U.S. Long Govt	2.1
		<b>100.0%</b>

<sup>1</sup>S&P/LSTA Lev Loan Index, Barclays Cap Global Agg Credit, JPM CEMBI Broad, JPM EMBI Global Diversified, JPM GBI-EM Global Diversified, and BB Barclays Global High Yield

<sup>2</sup>CBOE S&P 500 PutWrite Index, CBOE S&P 500 BuyWrite Index, MSCI ACWI ex USA ND, and 90 Day T-Bill

<sup>3</sup>NCREIF ODCE + 1.5% and CPI U + 500 bps





# INVESTMENT RESULTS

	Fiscal Year Ended June 30					Since Inception	Annualized		
	2016	2017	2018	2019	2020		3 yrs	5 yrs	10 yrs
<b>Total Fund</b>									
State Univ. Retirement NEW	0.2%	12.2%	8.2%	6.0%	2.6%		5.6%	5.8%	8.5%
SURS Policy Benchmark	0.8	11.7	7.9	6.8	2.0		5.5	5.8	8.5
CPI U	1.0	1.6	2.9	1.6	0.6		1.7	1.6	1.7
<b>Traditional Growth</b>									
SURS Total Traditional Growth	(2.3)	18.7	11.5	5.3	1.7		6.1	6.7	-
Performance Benchmark	(2.1)	17.8	11.0	5.8	1.4		6.0	6.5	-
Total U.S. Equity	0.8	18.9	14.9	7.3	4.2		8.7	9.0	13.3
DJ U.S. Total Stock Market TR	2.0	18.5	14.8	8.9	6.4		10.0	10.0	13.7
Non-U.S. Equity	(9.6)	20.9	7.4	0.6	(5.0)		0.8	2.3	5.6
SURS Non-U.S. Equity Blend	(10.2)	20.5	7.3	1.3	(4.8)		1.1	2.3	5.0
Global Equity (1)	(2.4)	21.6	13.6	7.5	8.4		9.8	9.5	10.9
SURS Global Equity Blend	(3.7)	18.8	10.7	5.7	1.3		5.9	6.3	9.1
<b>Stabilized Growth (Inception 9/30/2019)</b>									
SURS Total Stabilized Growth	-	-	-	-	-	(0.7)	-	-	-
Performance Benchmark	-	-	-	-	-	(0.6)	-	-	-
Options Strategies (Inception 4/30/2018)	-	-	-	3.0	1.3	2.9	-	-	-
SURS Option Strategies Blend	-	-	-	1.1	(6.2)	(1.6)	-	-	-
Core Real Assets (2)	11.8	6.6	6.6	5.6	1.2		4.4	6.4	8.9
NCREIF Open-End Divers Core NT	12.6	7.4	7.1	6.5	3.9		5.9	7.5	10.4
Credit Fixed Income (Inception 9/30/2019)	-	-	-	-	-	(0.8)	-	-	-
SURS Credit Fixed Income Blend	-	-	-	-	-	0.1	-	-	-
Emerging Market Debt	3.9	7.4	(1.4)	10.8	(3.0)		1.9	3.4	-
SURS Total EMD	4.9	6.5	(1.5)	10.4	(1.0)		2.5	3.8	-
Credit Ex Dedicated EMD	3.1	2.7	1.0	7.1	0.5		2.8	2.9	-
SURS Credit Ex D. EMD Blend	6.0	(0.3)	(0.4)	7.9	3.0		3.4	3.2	-
<b>Non-Traditional Growth</b>									
SURS Total Non-Traditional Growth	5.0	11.3	13.8	11.2	1.4		8.7	8.4	-
Performance Benchmark	6.4	17.7	14.7	11.1	(4.8)		6.7	8.7	-
Non-Core Real Estate (2)	13.6	9.8	12.4	10.3	(0.6)		7.2	9.3	12.3
NCREIF ODCE + 1.5% (Qtr Lag)	14.1	9.0	8.7	8.1	5.5		7.4	9.0	11.9
Infrastructure (2)	8.8	2.4	2.1	5.4	7.8		5.0	5.1	6.3
CPI U + 500 bps (Qtr Lag)	5.9	7.5	7.5	6.9	6.6		7.0	6.9	6.8
Real Estate Debt (2) (Inception 12/31/2017)	-	-	-	5.5	(6.4)		-	-	-
NCREIF ODCE + 1.5% (Qtr Lag)	-	-	-	8.1	5.5		-	-	-
Private Equity (2)	4.4	12.9	16.5	13.6	0.6		10.0	9.1	11.1
SURS Total PE Blend	2.8	21.6	17.2	11.9	(8.6)		6.2	8.4	13.2
<b>Inflation Sensitive</b>									
SURS Total Inflation Sensitive	3.9	(1.0)	5.1	1.8	7.4		4.7	3.4	-
Inflation Sensitive Blend	4.4	(2.6)	3.8	0.9	6.8		3.8	2.6	-
U.S. TIPS	3.8	(0.1)	2.1	4.9	7.8		4.9	3.7	3.5
BB Barclays U.S. TIPS	4.4	(0.6)	2.1	4.8	8.3		5.0	3.7	3.5



# INVESTMENT RESULTS

	Fiscal Year Ended June 30						Annualized		
	2016	2017	2018	2019	2020	Since Inception	3 yrs	5 yrs	10 yrs
<b>Principal Protection</b>									
SURS Total Principal Protection	6.1	(0.6)	(0.0)	7.4	6.5		4.5	3.8	-
Performance Benchmark	6.0	(0.3)	(0.4)	7.9	7.5		4.9	4.1	-
<b>Crisis Risk Offset (Inception 11/30/2019)</b>									
SURS Total Crisis Risk Offset	-	-	-	-	-	3.1	-	-	-
Performance Benchmark	-	-	-	-	-	3.0	-	-	-
Systematic Trend Following (Inception 11/30/2019)									
CS Mngd Fut Liq 15% Volatility	-	-	-	-	-	(4.4)	-	-	-
	-	-	-	-	-	(9.5)	-	-	-
Long Duration (Inception 12/03/2019)									
BBG Barclays U.S. Long Govt	-	-	-	-	-	16.6	-	-	-
	-	-	-	-	-	16.7	-	-	-
Alternative Risk Premia (Inception 11/30/2019)									
90 Day T-Bills + 2%	-	-	-	-	-	(2.9)	-	-	-
	-	-	-	-	-	1.6	-	-	-

Return calculations (except for private, infrastructure 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.

### Self-Managed Plan

Fiscal year 2020 marks the twenty-second complete year of the Self-Managed Plan (SMP). As of June 30, 2020, the SMP had accumulated plan assets of approximately \$3.0 billion. This represents an increase of approximately \$294 million since the end of fiscal year 2019. Contributing to the growth in plan assets was a market-related increase of \$224 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 71% equity, 27% fixed income, and 2% real estate. This was a 3% 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, 2020

	U.S. Equity	Non-U.S. Equity	Fixed Income	Balanced	Real Estate	Total
<b>Fidelity Funds</b>						
Fidelity Managed Income Portfolio Class 2	\$ -	\$ -	\$ 80,057,210	\$ -	\$ -	\$ 80,057,210
Fidelity U.S. Bond Index Institutional Premium	-	-	68,107,884	-	-	68,107,884
PIMCO Total Return Institutional	-	-	58,032,127	-	-	58,032,127
Fidelity Puritan Class K	-	-	-	246,457,112	-	246,457,112
Ariel Fund Institutional	30,838,582	-	-	-	-	30,838,582
American Beacon Large Cap Value Institutional	13,556,418	-	-	-	-	13,556,418
Wells Fargo Small Company Growth R6	23,524,943	-	-	-	-	23,524,943
Fidelity Growth Company Commingled Pool	210,523,712	-	-	-	-	210,523,712
Fidelity Extended Market Index Premium	53,647,540	-	-	-	-	53,647,540
Fidelity Contrafund Commingled Pool	151,276,640	-	-	-	-	151,276,640
Fidelity Low Priced Stock Class K	43,898,109	-	-	-	-	43,898,109
Fidelity 500 Index Institutional Premium	284,545,044	-	-	-	-	284,545,044
Fidelity Diversified International Class K	-	53,227,943	-	-	-	53,227,943
Fidelity Global ex-U.S. Index Institutional Premium	-	34,786,388	-	-	-	34,786,388
Fidelity Real Estate Investment	-	-	-	-	20,663,580	20,663,580
Fidelity Freedom Index Funds - Inst Premium (1)	-	-	-	423,201,848	-	423,201,848
<b>Fidelity Total</b>	<b>811,810,988</b>	<b>88,014,331</b>	<b>206,197,221</b>	<b>669,658,960</b>	<b>20,663,580</b>	<b>1,796,345,080</b>
						<b>62.3%</b>
<b>TIAA-CREF Funds</b>						
CREF Money Market Account R3	-	-	8,790,956	-	-	8,790,956
Vanguard Federal Money Market Fund	-	-	25,425,760	-	-	25,425,760
TIAA Traditional Annuity	-	-	144,620,520	-	-	144,620,520
CREF Bond Market Account R3	-	-	67,996,512	-	-	67,996,512
CREF Inflation-Linked Bond Account R3	-	-	31,539,811	-	-	31,539,811
CREF Social Choice Account R3	-	-	-	60,332,750	-	60,332,750
CREF Equity Index Account R3	106,252,431	-	-	-	-	106,252,431
CREF Growth Account R3 (3)	366,507	-	-	-	-	366,507
CREF Stock Account R3	185,962,539	-	-	-	-	185,962,539
CREF Global Equities Account R3	-	68,329,133	-	-	-	68,329,133
Dimensional Target Date Ret Inc Fund - Inst (2)	-	-	-	12,067,190	-	12,067,190
TIAA Real Estate Account	-	-	-	-	22,791,957	22,791,957
TIAA-CREF Large-Cap Growth Index - Institutional	176,723,716	-	-	-	-	176,723,716
TIAA-CREF Lifecycle Index Funds - Institutional	-	-	-	177,193,230	-	177,193,230
<b>TIAA-CREF Total</b>	<b>469,305,193</b>	<b>68,329,133</b>	<b>278,373,559</b>	<b>249,593,170</b>	<b>22,791,957</b>	<b>1,088,393,012</b>
						<b>37.7%</b>
<b>GRAND TOTAL</b>	<b>\$ 1,281,116,181</b>	<b>\$ 156,343,464</b>	<b>\$ 484,570,780</b>	<b>\$ 919,252,130</b>	<b>\$ 43,455,537</b>	<b>\$ 2,884,738,092</b>
	<b>44.4%</b>	<b>5.4%</b>	<b>16.8%</b>	<b>31.9%</b>	<b>1.5%</b>	<b>100.0%</b>
<b>SMP Forfeiture Reserve (4)</b>						<b>12,250,123</b>
<b>SMP Disability Reserve (4)</b>						<b>119,475,981</b>
<b>Total SMP Investments</b>						<b>\$ 3,016,464,196</b>

- (1) As of June 30, 2020, 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.
- (2) As of June 30, 2020, the Dimensional Target Date Retirement Income series is the default fund for members who have selected TIAA but have not yet selected individual mutual funds/variable annuities/commingled pools.
- (3) 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.
- (4) 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, 2020 (\$ in thousands)**

	Fair Value
<b>Traditional Growth</b>	
<b>U.S. Equity Managers</b>	
Channing Capital Management	\$ 78,111
EARNEST Partners	180,665
Matarin Capital Management	79,919
Northern Trust Asset Management	1,112,671
RhumbLine Advisers	1,162,249
Xponance	722,405
T. Rowe Price	300,602
Transition Manager	41,918
<b>Subtotal</b>	<b>3,678,540</b>
<b>Non-U.S. Equity Managers</b>	
Ativo Capital Management	269,496
BlackRock	1,853,227
GlobeFlex Capital	284,932
Strategic Global Advisors	310,610
Xponance	223,522
<b>Subtotal</b>	<b>2,941,787</b>
<b>Global Equity Managers</b>	
Mondrian Investment Partners	574,410
T. Rowe Price	702,779
Wellington Management	648,683
<b>Subtotal</b>	<b>1,925,872</b>
<b>Stabilized Growth</b>	
<b>Option Strategies Managers</b>	
AQR Global Risk-Managed BuyWrite Fund	283,913
Gladius Capital Management	283,547
KKR Prisma Codlin Fund	9,184
Neuberger Berman U.S. Equity Index PutWrite Fund	591,653
PAAMCO Newport Monarch Fund	6,401
<b>Subtotal</b>	<b>1,174,698</b>
<b>Core Real Asset Managers</b>	
Blackstone Property Partners	199,146
Carlyle Property Investors	108,938
Heitman America Real Estate Trust	212,438
JPMCB Strategic Property Fund	228,500
UBS Trumbull Property Fund	85,837
<b>Subtotal</b>	<b>834,859</b>
<b>Emerging Market Debt Managers</b>	
Colchester Local Markets Debt Fund	143,160
Prudential Emerging Markets Debt Blend	325,777
<b>Subtotal</b>	<b>468,937</b>
<b>Credit Ex Dedicated EMD Managers</b>	
Neuberger Berman	954,026
Pacific Investment Management Co - Global Credit	966,019
Bivium Emerging Managers	352,205
<b>Subtotal</b>	<b>2,272,250</b>
<b>Non-Traditional Growth</b>	
<b>Non-Core Real Asset Managers</b>	
Blackstone Property Partners Europe VI	13,287
Blue Vista Real Estate Partners IV	33,404
Brookfield Asset Management	45,606
Crow Holdings Realty Partners	34,045
Dune Real Estate Partners	147,498
Franklin Templeton Real Estate Advisors	84,991
Long Wharf Real Estate Partners VI	4,504
StepStone REGPF II	39,277
<b>Subtotal</b>	<b>402,612</b>
<b>Real Estate Debt Managers</b>	
Basis Investment Group Real Estate Fund I	18,183
Oaktree Real Estate Debt Fund II	17,450
<b>Subtotal</b>	<b>35,633</b>



# INVESTMENT ALLOCATION

## Defined Benefit Plan Investment Allocation, June 30, 2020 (\$ in thousands) (continued)

	Fair Value
<b>Infrastructure Managers</b>	
Alinda Capital Partners	\$ 23,260
Macquarie Infrastructure Partners	126,418
<b>Subtotal</b>	<b>149,678</b>
<b>Private Equity Managers</b>	
Adams Street Partners	925,825
Fairview Capital Partners	80,433
Mesirow Financial Private Equity	111,044
Muller & Monroe Asset Management	89,329
Pantheon Ventures	423,318
Aksia TorreyCove Partners	73,570
<b>Subtotal</b>	<b>1,703,519</b>
<b>Inflation Sensitive</b>	
<b>Treasury Inflation-Protected Securities Managers</b>	
RhumbLine Advisers	1,062,285
<b>Subtotal</b>	<b>1,062,285</b>
<b>Principal Protection</b>	
<b>Fixed Income Managers</b>	
Cash	337,546
Garcia Hamilton & Associates	421,005
LM Capital Group	368,446
Pugh Capital Management	369,733
Ramirez Asset Management	243,287
<b>Subtotal</b>	<b>1,740,017</b>
<b>Crisis Risk</b>	
<b>Systematic Trend Following Managers</b>	
Aspect Capital	94,800
Campbell & Company	88,040
Credit Suisse Asset Management	87,528
Longtail Alpha	67,322
<b>Subtotal</b>	<b>337,690</b>
<b>Long Duration Managers</b>	
Rhumbline Long Duration	360,362
<b>Subtotal</b>	<b>360,362</b>
<b>Alternative Risk Premia Managers</b>	
ARP Investments	82,960
Lombard Odier	102,776
PIMCO Alternative Risk	77,107
PIMCO Commodity Alpha Fund	118,500
<b>Subtotal</b>	<b>381,343</b>
<b>Cash Overlay</b>	
Parametric Clifton	167,224
<b>Subtotal</b>	<b>167,224</b>
<b>SMP Forfeiture/Disability Reserves</b>	(131,726) (a)
<b>TOTAL FUND</b>	<b>\$ 19,505,580 (b)</b>

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

(b) Amount includes net pending transactions of (\$61,821) and accrued investment income receivable of \$47,440.





# SUPPORTING SCHEDULES

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

	Shares	Carrying Value
Apple Inc	633,005	\$ 230,920,224
Microsoft Corp	1,049,605	213,605,114
Amazon.com Inc	68,792	189,784,745
Facebook Inc Class A	370,305	84,085,156
Alphabet Inc Class C	44,770	63,287,320
Visa Inc Class A	327,404	63,244,631
Johnson & Johnson	426,913	60,036,775
Alphabet Inc Class A	40,092	56,852,461
Mastercard Inc Class A	165,626	48,975,608
Procter & Gamble	402,983	48,184,677

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

**TEN LARGEST NON-U.S. EQUITY HOLDINGS** (excludes commingled funds)

	Shares	Carrying Value
Nestle SA (Switzerland)	310,930	\$ 34,369,488
London Stock Exchange Group (United Kingdom)	285,364	29,469,954
Roche Holdings AG (Switzerland)	77,025	26,691,107
ASML Holdings NV (Netherlands)	66,503	24,417,092
HDFC Bank Ltd (India)	507,872	23,087,861
Sanofi SA (France)	222,397	22,643,028
GlaxoSmithKline PLC (United Kingdom)	995,519	20,131,216
Check Point Software Technologies (Israel)	185,900	19,971,237
Alibaba Group Holding Ltd (China)	88,444	19,077,371
Samsung Electronics Co Ltd (Republic of Korea)	427,085	18,747,215

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

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

Asset Description	S & P Rating	Interest Rate	Maturity Date	Par Value	Carrying Value
U.S. Treasury Bonds	AA+	3.125%	November 15, 2028	\$ 81,400,000	\$ 98,414,508
U.S. Treasury Notes	AA+	0.375	July 15, 2023	34,674,000	39,780,363
U.S. Treasury Inflation-Indexed Notes	AA+	0.125	January 15, 2023	34,565,000	39,328,160
U.S. Treasury Inflation-Indexed Bonds	AA+	0.625	January 15, 2024	33,690,000	38,986,967
U.S. Treasury Inflation-Indexed Notes	AA+	0.125	July 15, 2024	34,508,000	38,917,744
Federal Home Loan Bank Bond	AA+	FLTG	September 13, 2021	38,905,000	38,875,715
U.S. Treasury Inflation-Indexed Notes	AA+	0.125	April 15, 2022	35,021,000	37,457,470
U.S. Treasury Inflation-Indexed Notes	AA+	0.250	January 15, 2025	32,692,000	37,229,611
U.S. Treasury Inflation-Indexed Bonds	AA+	0.125	January 15, 2022	31,766,000	36,469,218
U.S. Treasury Inflation-Indexed Notes	AA+	0.125	July 15, 2022	31,473,000	35,915,094

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



# SUPPORTING SCHEDULES

## Summary Schedule of Domestic Equity Investment Commissions For the Year Ended June 30, 2020

Investment Brokerage Firm	2020		
	Commission	Shares Traded	Commission per Share
Loop Capital Markets	\$ 106,533	7,019,160	\$ 0.02
Goldman Sachs	60,679	2,076,571	0.03
Penserra Securities	50,361	5,175,548	0.01
Barclays	39,938	3,945,326	0.01
Sturdivant and Company	32,413	3,505,387	0.01
Cabrera Capital Markets	22,911	1,140,147	0.02
Williams Capital Group	22,208	951,128	0.02
Robert W. Baird & Company	21,746	791,137	0.03
Siebert Brandford Shank & Company	21,259	1,960,934	0.01
Stifel, Nicolaus & Company	20,061	734,473	0.03
William Blair & Company	16,519	576,840	0.03
Capital Institutional Services, Inc (CAPIS)	12,418	1,035,490	0.01
KeyBanc Capital Markets	12,049	467,428	0.03
Jefferies & Company	11,578	527,038	0.02
Craig-Hallum	11,400	380,011	0.03
Raymond James & Associates	11,051	396,868	0.03
Dash Financial	10,700	1,069,964	0.01
Piper Jaffray & Company	9,996	333,676	0.03
Wells Fargo Advisors	9,072	498,351	0.02
Stephens	8,985	302,673	0.03
Cowen & Company	8,669	341,152	0.03
SunTrust Robinson Humphrey	8,631	276,755	0.03
ITG (Investment Technology Group)	8,523	415,600	0.02
JP Morgan Chase & Company	8,036	276,442	0.03
Seaport Group	7,971	317,852	0.03
RBC Capital Markets	5,598	241,387	0.02
North South Capital	5,299	118,228	0.04
CL King & Associates	5,213	280,935	0.02
Cornerstone Macro	4,830	294,427	0.02
Citigroup Global Markets	4,706	779,090	0.01
Oppenheimer & Company	4,703	156,765	0.03
Needham & Company	4,495	149,823	0.03
CAPIS (Capital Institutional Services)	4,282	163,227	0.03
Liquidnet	4,208	218,829	0.02
Luminex Trading & Analytics	3,679	269,529	0.01
CastleOak Securities	3,311	357,818	0.01
Alex Brown	3,136	128,667	0.02
DA Davidson & Company	3,118	152,828	0.02
Berenberg Bank	2,850	105,464	0.03
Telsey Advisory Group	2,623	111,183	0.02
BMO Capital Markets	2,562	91,012	0.03
Bank of America Securities	2,116	135,820	0.02
Morgan Stanley	2,060	92,289	0.02
Jones & Associates	2,037	65,409	0.03
JMP Securities	1,998	98,946	0.02
MKM Partners	1,979	65,950	0.03
O'Neil Securities, Inc.	1,973	65,770	0.03
Evercore Partners	1,707	92,331	0.02
Northland Securities	1,580	52,669	0.03
BTIG (Bass Trading International Group)	1,546	93,965	0.02
All Other Brokers	22,124	1,264,210	0.02
<b>Grand Total, All Brokers</b>	<b>\$ 657,437</b>	<b>40,162,522</b>	<b>\$ 0.02</b>



# SUPPORTING SCHEDULES

## Summary Schedule of International Equity Investment Commissions For the Year Ended June 30, 2020

Investment Brokerage Firm	2020		
	Commission	Shares Traded	Commission per Share
UBS	\$ 195,351	69,830,772	\$ 0.00
Loop Capital Markets	171,618	14,398,127	0.01
North South Capital	144,929	26,617,687	0.01
Instinet	120,395	36,868,134	0.00
Fig Group LLC	118,804	48,185,133	0.00
Credit Suisse	84,566	11,424,488	0.01
Penserra Securities	79,591	20,383,970	0.00
ITG (Investment Technology Group)	61,737	10,123,976	0.01
Morgan Stanley	59,668	8,559,012	0.01
Macquarie Securities	57,138	7,213,618	0.01
Goldman Sachs	37,788	4,514,402	0.01
Jefferies & Company	37,567	6,624,401	0.01
Citigroup Global Markets	34,980	6,353,643	0.01
Liquidnet	30,208	15,185,533	0.00
Bank of America	30,036	2,407,576	0.01
Cabrera Capital Markets	27,219	20,304,884	0.00
Mischler Financial Group	26,159	4,121,758	0.01
Cowen & Company	23,180	3,142,678	0.01
Merrill Lynch	18,521	2,326,848	0.01
JP Morgan Chase & Company	16,364	967,908	0.02
Royal Bank of Canada	15,642	2,287,812	0.01
Exane	8,890	1,160,558	0.01
CLSA	8,501	1,355,022	0.01
Berenberg Bank	8,432	192,565	0.04
Barclays	8,271	671,479	0.01
BTIG (Bass Trading International Group)	8,072	865,573	0.01
Daiwa Securities Group	7,623	245,004	0.03
HSBC	7,084	1,156,823	0.01
Societe Generale Securities	6,169	3,144,873	0.00
INTL FCSStone	3,867	193,350	0.02
Numis	3,796	338,906	0.01
Cantor Fitzgerald	3,786	113,187	0.03
CastleOak Securities	3,604	260,400	0.01
BMO Capital Markets	3,567	392,269	0.01
Auerbach Grayson & Company	3,423	185,529	0.02
Handelsbanken	2,608	91,382	0.03
SMBC Nikko Securities	2,196	166,574	0.01
Sumitomo Mitsui Banking Corporation	1,648	151,641	0.01
Goodbody	1,496	349,929	0.00
Sanford C. Bernstein	1,425	831,029	0.00
Carnegie	1,418	6,941	0.20
Maybank	1,310	115,000	0.01
BTG Pactual	1,233	216,300	0.01
JMP Securities	1,028	217,880	0.00
Baypoint Trading	991	49,540	0.02
CIBC (Canadian Imperial Bank of Commerce)	961	51,800	0.02
CAPIS (Capital Institutional Services)	684	165,100	0.00
JonesTrading Institutional Services	671	141,000	0.00
Canaccord Adams	622	148,170	0.00
Mizuho Securities	531	31,300	0.02
All Other Brokers	4,630	774,731	0.01
<b>Grand Total, All Brokers</b>	<b>\$ 1,499,997</b>	<b>335,626,215</b>	<b>\$ 0.00</b>



# SUPPORTING SCHEDULES

## Summary Schedule of Global Equity Investment Commissions For the Year Ended June 30, 2020

Investment Brokerage Firm	2020		
	Commission	Shares Traded	Commission per Share
JP Morgan Chase & Company	\$ 72,803	9,423,886	\$ 0.01
Credit Suisse	54,443	4,823,547	0.01
UBS	41,362	3,655,624	0.01
Morgan Stanley	41,151	2,658,121	0.02
Sanford C. Bernstein	41,083	13,338,137	0.00
Goldman Sachs	40,087	5,502,669	0.01
Jefferies & Company	36,471	3,896,377	0.01
Bank of America Securities	34,134	4,662,637	0.01
Cabrera Capital Markets	32,241	2,494,040	0.01
Instinet	26,592	2,434,318	0.01
CLSA	22,358	9,257,993	0.00
Telsey Advisory Group	22,259	1,133,439	0.02
Penserra Securities	21,639	500,137	0.04
Citigroup Global Markets	21,310	2,319,893	0.01
Loop Capital Markets	18,623	5,512,962	0.00
Nomura	16,808	2,462,995	0.01
Macquarie Securities	14,340	849,370	0.02
Barclays	13,333	754,663	0.02
Virtu Financial Capital Markets	12,025	1,872,846	0.01
BMO Capital Markets	11,560	829,806	0.01
RBC Capital Markets	11,129	1,047,448	0.01
Liquidnet	11,103	2,541,707	0.00
Exane	9,567	723,701	0.01
Redburn Partners	8,560	746,043	0.01
Cowen & Company	7,382	743,114	0.01
Berenberg Bank	7,372	145,485	0.05
Siebert Brandford Shank & Company	7,262	287,463	0.03
Mischler Financial Group	7,126	667,615	0.01
Wells Fargo Advisors	6,599	235,464	0.03
Evercore Partners	6,114	419,294	0.01
Credit Agricole	6,098	2,845,359	0.00
BTG Pactual	5,850	401,284	0.01
Drexel Hamilton	5,252	269,342	0.02
Robert W. Baird & Company	4,765	186,783	0.03
HSBC	4,758	3,386,379	0.00
ITG (Investment Technology Group)	4,705	801,169	0.01
BTIG (Bass Trading International Group)	4,490	300,781	0.01
North South Capital	4,105	164,213	0.03
Mizuho Securities	2,893	127,771	0.02
Banco Itau	2,879	177,818	0.02
Carnegie	2,791	213,453	0.01
DnB NOR Markets	2,745	128,825	0.02
Williams Capital Group	2,732	109,260	0.03
Daiwa Securities Group	2,630	347,200	0.01
Mediobanca	2,514	20,267	0.12
CastleOak Securities	2,459	163,243	0.02
Samsung Securities	2,445	41,456	0.06
Danske Bank	2,429	58,096	0.04
Keefe, Bruyette & Woods	2,411	122,170	0.02
Wolfe Trahan Securities	2,066	83,758	0.02
All Other Brokers	36,203	5,570,841	0.01
<b>Grand Total, All Brokers</b>	<b>\$ 784,061</b>	<b>101,460,262</b>	<b>\$ 0.01</b>



# SUPPORTING SCHEDULES

## Summary Schedule of Fixed Income Investment Brokerage For the Year Ended June 30, 2020

	2020
Investment Brokerage Firm	Fair Value Traded
Williams Capital Group	\$ 1,212,171,584
Goldman Sachs	743,365,166
Cabrera Capital Markets	723,301,741
JP Morgan Chase & Company	699,206,511
Loop Capital Markets	644,226,403
Citigroup Global Markets	600,270,550
Bank of America	449,743,563
Wells Fargo Advisors	447,049,238
Morgan Stanley	410,162,689
Barclays	286,563,139
Jefferies & Company	248,710,336
Deutsche Bank	207,658,318
Credit Suisse	199,989,292
MFR Securities	184,083,255
CastleOak Securities	160,681,023
Alamo Capital	120,765,268
UBS	111,805,141
Great Pacific Securities	109,346,596
BNP Paribas	108,018,849
Mizuho Securities	93,931,623
RBC Capital Markets	93,720,912
Mischler Financial Group	89,064,870
HSBC	86,446,604
Nomura	84,359,053
INTL FCStone	82,260,598
MarketAxess	75,547,802
Janney Montgomery Scott	64,220,318
Bank of America Securities	60,482,085
Robert W. Baird & Company	54,296,357
Societe Generale Securities	53,886,802
State Street Bank & Trust	45,143,622
Royal Bank of Canada	44,453,456
Oppenheimer & Company	38,256,672
KeyBanc Capital Markets	37,392,173
Merrill Lynch	35,640,558
First Tennessee	33,312,582
Mitsubishi UFJ Securities	32,964,454
NatWest Markets Securities Inc	31,221,870
BCP Securities	31,049,036
Stifel, Nicolaus & Company	30,125,587
US Bancorp	29,521,400
Westpac Group	27,364,782
Stephens	27,014,991
SunTrust Robinson Humphrey	26,455,465
Standard Chartered	26,215,672
BB&T	25,753,127
Millennium Advisors	23,970,362
TD Securities	21,242,934
Northern Trust Securities	19,151,559
Credit Agricole	18,964,357
All Other Brokers	364,876,853
<b>Grand Total, All Brokers</b>	<b>\$ 9,475,427,200</b>