



financial

FINANCIAL

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Independent Auditor's Report

Honorable Frank J. Mautino
Auditor General
State of Illinois
and
The Board of Trustees
State Universities Retirement System of Illinois

Report on the Financial Statements

As Special Assistant Auditors for the Auditor General, we have audited the accompanying Statement of Plan Net Position of the State Universities Retirement System of the State of Illinois (System), a component unit of the State of Illinois, as of June 30, 2019, and the related Statement of Changes in Plan Net Position for the year then ended, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the System's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the plan net position of the System as of June 30, 2019, and the respective changes in plan net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Report on Summarized Comparative Information

We have previously audited the System's 2018 financial statements, and we expressed an unmodified audit opinion in our report dated December 14, 2018. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2018, is consistent, in all material respects, with the audited financial statements from which it has been derived.

auditor's report

The actuarially determined pension liability, calculated as required by GASB Statements No. 67, is dependent on several assumptions including the assumption that future required contributions from all sources are made based on statutory requirements in existence as of the date of this report. These assumptions are discussed in Note V of the financial statements. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the schedule of changes in the employer net pension liability and related ratios, the schedule of net pension liability, the schedule of contributions from employers and other contributing entities, the schedule of investment returns, and notes to the required supplementary information as listed in the table of contents be presented to supplement the financial statements. Such information, although not part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit for the year ended June 30, 2019 was conducted for the purpose of forming an opinion on the System's basic financial statements.

The other supplementary financial information in the financial section and the accompanying introductory, investment, actuarial, and statistical sections, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The other supplementary financial information in the financial section, as listed in the table of contents, has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America by us and other auditors. In our opinion, the other supplementary financial information in the financial section, as listed in the table of contents, is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

We have also previously audited, in accordance with auditing standards generally accepted in the United States of America, the System's financial statements as of and for the year ended June 30, 2018 (not presented herein), and have issued our report thereon dated December 14, 2018 which contained an unmodified opinion on those financial statements.

In addition, the introductory, investment, actuarial, statistical and plan summary and legislative sections, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

BKD, LLP

Decatur, Illinois
December 11, 2019

management's discussion and analysis

This section presents management's discussion and analysis of the State Universities Retirement System's (SURS or the System) financial statements and the major factors affecting the operations and investment performance of the System during the year ended June 30, 2019, with comparative reporting entity totals for the year ended June 30, 2018. Please read this section in conjunction with the Letter of Transmittal included in the Introductory Section, the financial statements, and other information that is presented in the Financial Section of the Comprehensive Annual Financial Report.

Financial Highlights

- Contributions from the State and employers were \$1,713.3 million, an increase of \$36.0 million, or 2.1% from fiscal year 2018.
- The System's benefit payments were \$2,617.2 million, an increase of \$119.3 million or 4.8% for fiscal year 2019.
- The System's return on investment, net of investment management fees, was 6.0% for fiscal year 2019.
- The System's net position at the end of fiscal year 2019 was \$22.4 billion, an increase of \$625.4 million or 2.9%.

Overview of Financial Statements and Accompanying Information

The Financial Section comprises of four components: (1) Financial Statements, (2) Notes to the Financial Statements, (3) Required Supplementary Information, and (4) Other Supplementary Information.

- The financial statements presented in this report are the Statement of Plan Net Position as of June 30, 2019 and the Statement of Changes in Plan Net Position for the year ended June 30, 2019. The difference between the System's assets and liabilities is defined as Plan Net Position. These statements present separate totals for the defined benefit plan and the Self-Managed Plan.
 - The Statement of Plan Net Position details the net position (assets less liabilities equals net position). The Statement of Plan Net Position reports the funds available to pay benefits.
 - The Statement of Changes in Plan Net Position presents the additions and deductions from the plan net position. Over time the increase or decrease in net position is a useful indicator of the health of SURS financial position.
- The Notes to the Financial Statements are an integral part of the financial statements and provide facts and detailed information to assist the reader in understanding the statements. Disclosures include the description of the plan, summary of significant accounting policies, and detailed presentations of major assets and liabilities.
- Required Supplementary Information presents schedules related to employer net pension liability, employer contributions, and investment returns.
- Other Supplementary Schedules consist of detailed information supporting administrative and investment expenses and fees paid to consultants.

General Market Risk

SURS is exposed to general market risk. This general market risk is reflected in asset valuations fluctuating with market volatility. Any impact from market volatility on SURS investment portfolios depends in large measure on how deep the market downturn is, how long it lasts, and how it fits within fiscal year reporting periods. The resulting market risk and associated realized and unrealized gains and losses could significantly impact SURS financial condition.

Financial Analysis of the System

The State Universities Retirement System serves 213,475 members in its defined benefit plan and 23,435 members in its Self-Managed Plan. The funds needed to finance the benefits provided by SURS are accumulated through the collection of member and employer contributions and through income on investments. The total net position of the System increased from \$21.8 billion as of June 30, 2018 to \$22.4 billion as of June 30, 2019. This \$0.6 billion change was chiefly due to an increase in investments.

management's discussion and analysis

Plan Net Position

The summary of plan net position for the System is presented below:

Condensed Statement of Plan Net Position

| REPORTING ENTITY (\$ IN MILLIONS) | 2019 | 2018 | Change | |
|---|--------------------|--------------------|-----------------|------------|
| | | | Amount | % |
| Cash and short-term investments | \$ 819.4 | \$ 672.5 | \$ 146.9 | 21.8 |
| Receivables and prepaid expenses | 224.4 | 145.9 | 78.5 | 53.8 |
| Pending investment sales | 360.5 | 290.2 | 70.3 | 24.2 |
| Investments and securities lending collateral | 22,510.7 | 22,158.2 | 352.5 | 1.6 |
| Capital assets, net | 9.8 | 6.1 | 3.7 | 60.7 |
| Total assets | 23,924.8 | 23,272.9 | 651.9 | 2.8 |
| Payable to brokers-unsettled trades | 483.3 | 603.5 | (120.2) | (19.9) |
| Securities lending collateral | 876.6 | 779.6 | 97.0 | 12.4 |
| Other liabilities | 118.0 | 68.3 | 49.7 | 72.8 |
| Total liabilities | 1,477.9 | 1,451.4 | 26.5 | 1.8 |
| TOTAL PLAN NET POSITION | \$ 22,446.9 | \$ 21,821.5 | \$ 625.4 | 2.9 |

Overall, net position increased by \$625.4 million, or 2.9%, mainly due to the total investment income. The increase in receivables and prepaid expenses is largely due to the increase in the receivable from brokers for unsettled trades at fiscal year end as a result of a larger number of trades outstanding for fiscal year 2019 compared to 2018.

The investment allocation strategy for the plans making up the reporting entity as of June 30, 2019 and 2018 is as follows:

Investment Allocation Strategy

| | 2019 | 2018 |
|---|---------------|---------------|
| DEFINED BENEFIT PLAN | | |
| Equities | 50.0% | 50.0% |
| Fixed income | 19.0 | 19.0 |
| Real Estate Investment Trusts | 4.0 | 4.0 |
| Real estate | 6.0 | 6.0 |
| Private equity | 6.0 | 6.0 |
| Hedged strategies | 5.0 | 5.0 |
| Emerging market debt | 3.0 | 3.0 |
| Treasury Inflation Protected Securities | 4.0 | 4.0 |
| Commodities | 2.0 | 2.0 |
| Opportunity Fund | 1.0 | 1.0 |
| TOTAL | 100.0% | 100.0% |
| SELF-MANAGED PLAN | | |
| Equities | 73.7% | 75.5% |
| Fixed income | 24.5 | 22.9 |
| Real estate | 1.8 | 1.6 |
| TOTAL | 100.0% | 100.0% |

Proper implementation of the investment policy requires that a periodic adjustment, or rebalancing of assets, be made to ensure conformance with policy target levels. Such rebalancing is necessary to reflect sizable cash flows and performance imbalances among investment managers who are hired to manage assets with a specified strategy. SURS rebalancing policy calls for rebalancing, as soon as practical, if a strategy exceeds or falls below its target allocation by three percentage points. Ongoing rebalancing of the investment portfolio occurred as needed during the year with the assistance of the System's cash flows. The allocation of assets within the Self-Managed Plan is totally determined by the individual members and also reflects gains or losses over the past year.

management's discussion and analysis

Changes in Plan Net Position

The summary of changes in plan net position for the System is presented below:

Condensed Statement of Changes in Plan Net Position

| REPORTING ENTITY (\$ IN MILLIONS) | 2019 | 2018 | Change | |
|---|-----------------|-------------------|-------------------|---------------|
| | | | Amount | % |
| Employer contributions | \$ 58.1 | \$ 48.0 | \$ 10.1 | 21.0 |
| Non-employer contributing entity contributions | 1,655.2 | 1,629.3 | 25.9 | 1.6 |
| Member contributions | 368.6 | 366.9 | 1.7 | 0.5 |
| Net investment income | 1,292.4 | 1,758.8 | (466.4) | (26.5) |
| Total additions | 3,374.3 | 3,803.0 | (428.7) | (11.3) |
| Benefits | 2,617.2 | 2,497.9 | 119.3 | 4.8 |
| Refunds | 115.0 | 123.8 | (8.8) | (7.1) |
| Administrative expense | 16.7 | 14.9 | 1.8 | 12.1 |
| Total deductions | 2,748.9 | 2,636.6 | 112.3 | 4.3 |
| NET INCREASE (DECREASE) IN PLAN NET POSITION | \$ 625.4 | \$ 1,166.4 | \$ (541.0) | (46.4) |

Additions

Additions to plan net position are in the form of employer and member contributions and returns on investment funds. For fiscal year 2019, non-employer contributing entity contributions increased by \$25.9 million due to higher contributions from the State of Illinois as a result of a change in the plan election assumptions due to the provisions of Public Act 100-0023. Employer contributions increased by \$10.1 million or 21.0%. Member contributions increased by \$1.7 million or 0.5%. Net investment income for fiscal year 2019 was \$1,292.4 million for the System, representing a \$466.4 million decrease from the prior year. For the defined benefit plan, the overall rate of return was 6.0% (net of all investment management fees).

Given the long-term orientation of the SURS defined benefit investment program, it is important to track investment returns over several time periods to correctly assess performance, especially given recent market volatility. The defined benefit plan returns are as follows:

| TIME PERIOD | 1-YEAR | 3-YEAR | 5-YEAR | 10-YEAR | 20-YEAR | 30-YEAR |
|--------------------------|--------|--------|--------|---------|---------|---------|
| Annualized Return | 6.0% | 8.8% | 5.8% | 9.7% | 6.2% | 8.1% |

The total rate of return over a 30-year period of 8.1% was higher compared with the actuarial rate of return assumption of 6.75% in effect for fiscal year 2019. Under the direction of the Illinois Auditor General, the State Actuary recommends that the Board annually review the interest rates, payroll growth, and inflation assumption should changes in market conditions or plan demographics call for such an adjustment. Public Act 99-0232 signed August 2015 requires SURS to have an experience study performed by the System actuaries every three years.

management's discussion and analysis

Deductions

The expenses of the System relate to the provision of retirement annuities and other benefits, refunds to terminated employees, and the cost of administering the System. These expenses for fiscal year 2019 totaled \$2.7 billion, an increase of \$112.3 million or 4.3% over expenses for 2018. This increase is primarily due to the \$119.3 million increase in defined benefit plan and defined contribution plan retirement and survivor annuity payments. Portable lump sum distributions and refunds decreased by \$8.8 million or 7.1%. Administrative expenses increased by \$1.8 million or 12.1% from fiscal year 2018 to 2019.

Future Outlook

The experience review for the years June 30, 2014 to June 30, 2017, was performed in February of 2018 and the assumptions adopted as of June 30, 2018. Public Act 96-0889 caps Tier 2 members' earnings at \$114,952 in 2019 and future cost of living adjustments at the lesser of 3% or one-half of the change in the Consumer Price Index. This modification of Tier 2 members' earnings decreases the anticipated amount of future payroll and contributions.

The employer contributions for fiscal year 2020, mainly provided by the State of Illinois, will increase by approximately \$199.5 million or 12.1%.

Benefit payments are projected to continue to grow due to increasing numbers of retirees, the 3% annual increase, and the impact of salary increases at the participating agencies. SURS will continue to structure its portfolio with the objective of maximizing returns over the long term to help offset the shortage in employer contributions.

Requests for Information

This financial report is designed to provide a general overview of the System's finances. For questions concerning the information in this report or for additional information, contact State Universities Retirement System, 1901 Fox Drive, Champaign, Illinois 61820.

financial statements

Statement of Plan Net Position as of June 30, 2019 With Comparative Reporting Entity Totals as of June 30, 2018

| | 2019 | | | 2018 |
|--|--------------------------|-------------------------|--------------------------|--------------------------|
| | Defined Benefit Plan | Self-Managed Plan | Total | |
| ASSETS | | | | |
| Cash and short-term investments | \$ 819,413,471 | \$ - | \$ 819,413,471 | \$ 672,523,980 |
| Receivables | | | | |
| Members | 12,384,509 | 4,683,007 | 17,067,516 | 15,077,426 |
| Non-employer contributing entity | 150,635,000 | 2,353,640 | 152,988,640 | 76,803,782 |
| Federal, trust funds, and other | 6,922,334 | 61,111 | 6,983,445 | 6,586,210 |
| Pending investment sales | 360,501,773 | - | 360,501,773 | 290,212,669 |
| Interest and dividends | 47,226,953 | - | 47,226,953 | 47,303,282 |
| Total receivables | 577,670,569 | 7,097,758 | 584,768,327 | 435,983,369 |
| Prepaid expenses | 147,246 | - | 147,246 | 158,297 |
| Investments, at fair value | | | | |
| Equity investments | 10,442,831,732 | 70,018,218 | 10,512,849,950 | 10,773,499,828 |
| Fixed income investments | 4,844,127,034 | 36,021,393 | 4,880,148,427 | 4,784,437,115 |
| Real estate investments | 1,187,332,769 | 7,928,568 | 1,195,261,337 | 1,012,089,478 |
| Alternative investments | 2,435,703,884 | 15,960,713 | 2,451,664,597 | 2,437,471,544 |
| Mutual fund and variable annuities | - | 2,592,580,384 | 2,592,580,384 | 2,370,017,322 |
| Total investments | 18,909,995,419 | 2,722,509,276 | 21,632,504,695 | 21,377,515,287 |
| Securities lending collateral | 878,205,520 | - | 878,205,520 | 780,639,420 |
| Capital assets, at cost, net of accum deprec \$20,143,800 and \$19,688,845 respectively | 9,796,210 | - | 9,796,210 | 6,109,409 |
| TOTAL ASSETS | 21,195,228,435 | 2,729,607,034 | 23,924,835,469 | 23,272,929,762 |
| LIABILITIES | | | | |
| Benefits payable | 10,467,190 | - | 10,467,190 | 13,124,100 |
| Refunds payable | 5,200,177 | - | 5,200,177 | 4,946,571 |
| Securities lending collateral | 876,550,517 | - | 876,550,517 | 779,626,493 |
| Payable to brokers for unsettled trades | 483,348,912 | - | 483,348,912 | 603,464,724 |
| Reverse repurchase agreements | 85,456,713 | - | 85,456,713 | 34,476,500 |
| Administrative expenses payable | 16,856,965 | - | 16,856,965 | 15,763,409 |
| TOTAL LIABILITIES | 1,477,880,474 | - | 1,477,880,474 | 1,451,401,797 |
| PLAN NET POSITION | \$ 19,717,347,961 | \$ 2,729,607,034 | \$ 22,446,954,995 | \$ 21,821,527,965 |

The accompanying notes are an integral part of the financial statements.

financial statements

Statement of Changes in Plan Net Position for the Year Ended June 30, 2019 With Comparative Reporting Entity Totals for the Year Ended June 30, 2018

| | 2019 | | | 2018 |
|----------------------------------|--------------------------|-------------------------|--------------------------|--------------------------|
| | Defined Benefit Plan | Self-Managed Plan | Total | |
| ADDITIONS | | | | |
| Contributions | | | | |
| Employer | \$ 49,415,109 | \$ 8,718,499 | \$ 58,133,608 | \$ 48,004,864 |
| Non-employer contributing entity | 1,592,639,155 | 62,514,845 | 1,655,154,000 | 1,629,307,607 |
| Member | 280,017,618 | 88,570,595 | 368,588,213 | 366,944,715 |
| Total Contributions | 1,922,071,882 | 159,803,939 | 2,081,875,821 | 2,044,257,186 |
| Investment Income | | | | |
| Net appreciation | | | | |
| in fair value of investments | 796,113,840 | 162,649,839 | 958,763,679 | 1,467,434,542 |
| Interest | 155,798,932 | - | 155,798,932 | 127,396,974 |
| Dividends | 237,287,406 | - | 237,287,406 | 232,971,148 |
| Securities lending | 5,191,144 | - | 5,191,144 | 4,741,875 |
| | 1,194,391,322 | 162,649,839 | 1,357,041,161 | 1,832,544,539 |
| Less investment expense | | | | |
| Asset management expense | 64,109,736 | - | 64,109,736 | 73,281,987 |
| Securities lending expense | 468,824 | - | 468,824 | 426,769 |
| Net investment income | 1,129,812,762 | 162,649,839 | 1,292,462,601 | 1,758,835,783 |
| TOTAL ADDITIONS | 3,051,884,644 | 322,453,778 | 3,374,338,422 | 3,803,092,969 |
| DEDUCTIONS | | | | |
| Benefits | 2,558,990,197 | 58,206,662 | 2,617,196,859 | 2,497,944,964 |
| Refunds of contributions | 80,538,398 | 34,513,261 | 115,051,659 | 123,842,578 |
| Administrative expense | 16,083,589 | 579,285 | 16,662,874 | 14,848,138 |
| TOTAL DEDUCTIONS | 2,655,612,184 | 93,299,208 | 2,748,911,392 | 2,636,635,680 |
| Net increase | 396,272,460 | 229,154,570 | 625,427,030 | 1,166,457,289 |
| Plan Net Position | | | | |
| Beginning of year | 19,321,075,501 | 2,500,452,464 | 21,821,527,965 | 20,655,070,676 |
| PLAN NET POSITION | | | | |
| END OF YEAR | \$ 19,717,347,961 | \$ 2,729,607,034 | \$ 22,446,954,995 | \$ 21,821,527,965 |

The accompanying notes are an integral part of the financial statements.

notes to the financial statements

I. Description of SURS

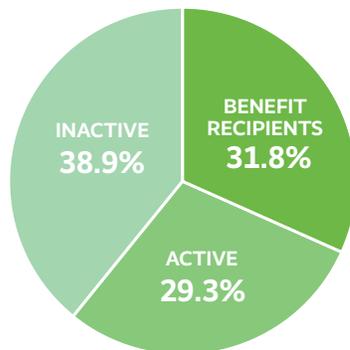
The State Universities Retirement System (SURS or the System) is the administrator of a cost-sharing, multiple-employer defined benefit plan and a multiple-employer defined contribution plan. The SURS Board of Trustees consists of six elected and five appointed board members. Legislation effective January 1, 1998, required SURS to introduce a portable benefit package to the existing defined benefit plan and to offer a defined contribution plan. The portable benefit package and the defined contribution plan are available to all members whose employers elect to make the options available. As of June 30, 2019, the two options available in the defined benefit plan are the traditional benefit package and the portable benefit package. The defined contribution plan is known as the Self-Managed Plan. The membership, contributions, and benefit provisions related to these plans are presented in the following summary of the provisions of SURS in effect as of June 30, 2019, as defined in the Illinois Compiled Statutes. Interested parties should refer to the SURS Member Guide or the statutes for more complete information.

A. Defined Benefit Plan

SURS was established on July 21, 1941, to provide retirement annuities and other benefits for employees of the state universities, certain affiliated organizations and certain other state educational and scientific agencies and for survivors, dependents, and other beneficiaries of such employees.

SURS is included in the State of Illinois' comprehensive annual financial report as a component unit. SURS is governed by Chapter 40, Act 5, Article 15, of the Illinois Compiled Statutes. These statutes assign the State Legislature the authority to establish and amend the benefit provisions of the plan. Operation of the System and the direction of its policies are the responsibility of the Board of Trustees of the System. It is also these statutes that define the scope of SURS reporting entity. There are no statutory provisions for termination of the System. The Illinois Constitution provides that the pension obligation of the State shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired.

Defined Benefit Plan



1. Membership

Participation is required as a condition of employment.

Employees are ineligible to participate if (a) employed less than full-time and attending classes with an employer; (b) receiving a retirement annuity from SURS; or (c) excluded by subdivision (a) (7)(f) or (a)(19) of Section 210 of the Federal Social Security Act from the definition of employment given in that Section.

2. Benefit Provisions

A traditional benefit plan was established in 1941. Public Act 90-0448 was enacted effective January 1, 1998, which established an alternative defined benefit program known as the portable benefit package. This option is offered in addition to the traditional benefit option. The traditional and portable plan Tier 1 refers to members who began participation prior to January 1, 2011. Public Act 96-0889 revised the traditional and portable benefit plans for members who begin participation on or after January 1, 2011, and who do not have other eligible Illinois reciprocal system services. The revised plan is referred to as Tier 2. New employees are allowed 6 months after their date of hire to make an irrevocable election. The following is a summary of the benefit provisions as of June 30, 2019.

At June 30, 2019 and 2018, the number of participating employers was:

| | 2019 | 2018 |
|--------------------|-----------|-----------|
| Universities | 9 | 9 |
| Community Colleges | 39 | 39 |
| Allied Agencies | 11 | 11 |
| State Agencies | 2 | 2 |
| | 61 | 61 |

Note: Excluded from the employer totals above is the State of Illinois, a non-employer contributing entity.

At June 30, 2019 and 2018, defined benefit plan membership consisted of:

| | 2019 | 2018 |
|--------------------|----------------|---------|
| Benefit Recipients | 67,842 | 66,169 |
| Active Members | 62,589 | 62,844 |
| Inactive Members | 83,044 | 82,115 |
| | 213,475 | 211,128 |

notes to the financial statements

| | Traditional Plan - Tier 1 | Traditional Plan - Tier 2 | Portable Plan |
|---|---|---|--|
| Retirement Vesting | 5 years of service | 10 years of service | 5 years of service (Tier 1) and 10 years of service (Tier 2) |
| Retirement Age Requirement | Age 62, with at least 5 years Age 60, with at least 8 years At any age with at least 30 years | Age 67, with at least 10 years of service | Tier 1-Same as Traditional Plan Tier 1 Age Requirement Tier 2-Same as Traditional Plan Tier 2 Age Requirement |
| Final Rate of Earnings (FRE) | Average earnings during 4 highest consecutive academic years; or Average of the last 48 months prior to termination. | Average earnings during 8 high consecutive academic years of the last 10; or Average of the high 96 consecutive months of last 120 months (if applicable). | Tier 1-Same as Traditional Plan Tier 1 FRE Tier 2-Same as Traditional Plan Tier 2 FRE |
| Retirement Benefit AAI (Automatic Annual Increase) | The AAI is 3% compounded annually. | The AAI is calculated using the lesser of 3% or one-half of the change in the consumer price index. The increase will not be compounded. | Tier 1-Same as Traditional Plan Tier 1 AAI Tier 2-Same as Traditional Plan Tier 2 AAI |
| Survivor Benefits | An eligible survivor receives a minimum of 50% of the member's earned retirement annuity. | An eligible survivor receives 66 2/3% of the member's earned retirement annuity. | Based upon selection at retirement of 50%, 75% or 100% of the member's earned retirement annuity. |
| Survivor AAI (Automatic Annual Increase) | The AAI is 3%, compounded annually. | The AAI is calculated using the lesser of 3% or one-half of the change in the consumer price index. The increase will not be compounded. | Tier 1-Same as Traditional Plan Tier 1 Survivor AAI Tier 2-Same as Traditional Plan Tier 2 Survivor AAI |

SURS also provides disability, death, and refund benefits as authorized in Chapter 40, Act 5, Article 15, of the Illinois Compiled Statutes.

Disability benefits are payable to all members with at least 2 years of service credit if they are unable to reasonably perform the duties of their assigned position due to a physical or mental impairment as certified by a physician. The benefit becomes payable when sick leave payments are exhausted or after 60 days of the disability, whichever is later. The benefit is payable at a rate of 50% of the monthly rate of compensation on the date the disability began. Disability benefits are reduced by any payments received under the Workers' Compensation or the Occupational Diseases Act. If a member remains disabled after receiving the maximum benefits due, they may be eligible for a disability retirement annuity equal to 35% of the monthly rate of compensation on the date the disability began.

Death benefits are payable to named beneficiaries upon the death of any member of this System. Under the traditional benefit package, monthly survivor benefits may be paid to eligible survivors if the member established a minimum of 1.5 years of service credit prior to the date of death. If no qualified survivor exists at the date of retirement, the member is paid a refund of all survivor contributions plus interest. Under the portable benefit package, survivor benefits are available through a reduction of the retirement annuity calculated as described above. No refund of survivor contributions is available if there is no qualified survivor at the time of retirement. These provisions are designed to allow the impact of the portable benefit package's enhanced refund opportunity to be cost neutral.

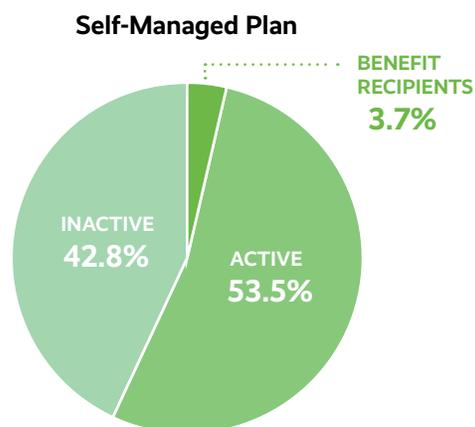
Upon the death of an annuitant, SURS will pay either a death benefit to a non-survivor beneficiary or a monthly survivor benefit to an eligible survivor. The amount of the monthly survivor benefit will differ depending upon whether the annuitant had selected the traditional benefit package or the portable benefit package.

Upon termination of service, a lump sum refund is available to all members. Under the traditional benefit package, this refund consists of all member contributions and interest at 4.5%. Under the portable benefit package, this refund consists of all member contributions and total interest credited, plus for those members with greater than or equal to 5 years of service credit, an equal amount of employer contributions. Under both defined benefit plan options, a member with 5 or more years of service credit who does not apply for a refund may apply for a normal retirement benefit payable at age 62.

notes to the financial statements

B. Self-Managed Plan

SURS is the plan sponsor and administrator of a defined contribution plan established as of January 1, 1998, by the Illinois General Assembly as an amendment to the Illinois Pension Code through Illinois Public Act 90-0448. This plan is referred to as the Self-Managed Plan (SMP) and is offered to employees of all SURS employers who elect to participate. This plan is a qualified money purchase pension plan under Section 401(a) of the Internal Revenue Code. The assets of the SMP are maintained under a trust administered by the SURS Board of Trustees in accordance with the Illinois Pension Code, and are made up of the account balances of individual members.



At June 30, 2019 and 2018, the number of SMP participating employers was:

| | 2019 | 2018 |
|--------------------|-----------|-----------|
| Universities | 9 | 9 |
| Community Colleges | 39 | 39 |
| Allied Agencies | 8 | 8 |
| State Agencies | 2 | 2 |
| | 58 | 58 |

Note: Excluded from the employer totals above is the State of Illinois, a non-employer contributing entity.

1. Membership

A member may elect participation in the SMP if (a) all participation criteria for the defined benefit plan are met; (b) the employer has elected through Board action to offer the Self-Managed Plan; (c) the employee is on active status at the plan offering date; and (d) the employee is not eligible to retire as of the employer plan offering date. The member election is irrevocable. New employees are allowed 6 months from the date of hire in which to make their election. If no election is received, members are considered to be part of the defined benefit plan, under the traditional benefit option.

At June 30, 2019 and 2018, the SMP membership consisted of:

| | 2019 | 2018 |
|--------------------|---------------|---------------|
| Benefit Recipients | 871 | 739 |
| Active Members | 12,531 | 12,106 |
| Inactive Members | 10,033 | 9,759 |
| | 23,435 | 22,604 |

2. Benefit Provisions

The SMP provides retirement, disability, death, and survivor benefits as authorized in Chapter 40, Act 5, Article 15, of the Illinois Compiled Statutes, and amended by Public Act 90-0448.

Retirement benefits are payable to members meeting minimum vesting requirements of 5 years of service credit at age 62, 8 years of service credit at age 55, or 30 years of service credit regardless of age. The distribution options available upon reaching retirement eligibility are the following: a lump sum distribution consisting of all employee and employer contributions and related investment earnings; a single life annuity; a 50% or 100% joint and survivor annuity; a single life annuity with a guaranteed period of 10, 15, or 20 years as elected by the member; and a 50% or 100% joint and survivor annuity with a guaranteed period of 10, 15, or 20 years as elected by the member.

Disability benefits are payable to all members with at least 2 years of service credit if they are unable to reasonably perform the duties of their assigned position due to physical impairment as certified by a physician. The benefit becomes payable when sick leave payments are exhausted or after 60 days of the disability, whichever is later. The benefit is payable at a rate of 50% of the monthly rate of compensation on the date the disability began. Disability benefits are reduced by any payments under Workers' Compensation or the Occupational Diseases Act.

Upon termination of service with less than 5 years of service credit, a lump sum distribution is available which consists of employee contributions and related investment earnings. The employer contributions and related investment earnings are forfeited. Upon termination of service with greater than 5 years of service credit but where the member is not yet eligible for retirement, a lump sum distribution is available which consists of employee and employer contributions and related investment earnings.

notes to the financial statements

Death benefits are payable to named beneficiaries upon the death of any member of this plan. If the member has less than 1.5 years of service credit, the death benefit payable is the employee contributions and related investment earnings. If the member has 1.5 or more years of service credit, the death benefit payable is the employee and employer contributions and related investment earnings.

II. Summary of Significant Accounting Policies

A. Reporting Entity

The System is a component unit of the State of Illinois. As defined by accounting principles generally accepted in the United States of America established by the Governmental Accounting Standards Board (GASB), the financial reporting entity consists of a primary government as well as its component units, which are legally separate organizations for which the elected officials of the primary government are financially accountable, or for which the nature and significance to the primary government are such that exclusion would cause the reporting entity's financial statements to be misleading or otherwise incomplete. Financial accountability is defined as:

1. Appointment of a voting majority of the organization's board and either (a) the ability to impose will by the primary government or (b) the possibility that the organization will provide a financial benefit to or impose a financial burden on the primary government; or
2. Fiscal dependency on the primary government and there is a potential for the organization to provide specific financial benefits to, or impose specific financial burdens on, the primary government. Based upon the required criteria, the System has no component units.

B. Measurement Focus and Basis of Accounting

For both the defined benefit plan and the Self-Managed Plan (SMP), the financial transactions are recorded using the economic resources measurement focus and accrual basis of accounting. Member and employer contributions are recognized as revenue when due pursuant to statutory or contractual requirements. Benefits and refunds are recognized as expenses when due and payable in accordance with the terms of the plans.

C. Use of Estimates

The preparation of the System's financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates and those differences could be material. The System uses an actuary to determine the actuarial accrued liability for the defined benefit plan and to determine the actuarially determined contribution.

D. Risks and Uncertainties

The System invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market, and credit risk. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near-term, and those such changes could materially affect the amounts reported in the Statement of Plan Net Position.

E. Cash and Short-Term Investments

Included in the \$819,413,471 of cash and short-term investments presented in the Statement of Plan Net Position is \$39,151,128 of short-term investments with original maturities less than 90 days. For purposes of the various data tables presented in Note IV, this group of short-term investments is included as part of fixed income investments. Short-term investments are generally reported at cost, which approximates fair value.

F. Investments

Investments are governed by Chapter 40, Act 5, Articles 1 and 15, of the Illinois Compiled Statutes. The most important aspect of the statutes is the prudent expert rule, which establishes a standard of care for all fiduciaries. (A fiduciary is any person who has authority or control with respect to the management or administration of plan assets.) The prudent expert rule states that fiduciaries must discharge their duties with the care, skill, prudence, and diligence that a prudent person acting in a like capacity and familiar with such matters would use under conditions prevailing at the time. Purchases and sales of securities are recorded on a trade-date basis. Interest income is reported on the accrual basis. Dividends are recorded on the ex-dividend date.

notes to the financial statements

For the defined benefit plan, investments are generally reported at fair value. Marketable securities (stocks, bonds, warrants, and options) are traded on public exchanges. The Northern Trust Company, SURS custodial bank, establishes these prices using third-party pricing services. Generally, these values are reported at the last reported sales price. Certain investments that do not have an established market value are reported at estimated fair value obtained from a custodial bank or investment management firm. These investments include commingled investment pools, where the underlying assets are individually marked to market (i.e., estimated fair value) on a daily basis and individually traded on publicly recognized exchanges. The investment manager, using methods approved by the Chartered Financial Analyst (CFA) Institute (formerly known as the Association for Investment Management Research) or other industry standards, values non-marketable securities (real estate and private equity). These methods generally include detailed property level appraisals and discounted cash flow analysis.

For the SMP, investments are reported at fair value by the service providers. These investments include both mutual and variable annuity funds where the underlying assets are marked to market (i.e., estimated fair value) on a daily basis and individually traded on publicly recognized exchanges. Generally, the values on the underlying investments are reported at the last reported sales price.

G. Capital Assets

Capital assets are recorded at historical cost and depreciated over the estimated useful life of each asset. Annual depreciation is computed using the straight-line method.

H. Administrative Expenses

System administrative expenses (which include amounts for both the defined benefit and defined contribution [Self-Managed] plans) are budgeted and approved by the System's Board of Trustees. Funding for these expenses is included in the non-employer contribution as determined by the annual actuarial valuation and appropriated by the State of Illinois.

I. Prior Year Comparative Information

The financial statements include certain prior-year summarized comparative information in total, but not at the level of detail required for a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the System's financial statements as of and for the year ended June 30, 2018, from which the summarized comparative information was derived.

J. New Accounting Pronouncements

GASB Statement No. 84, Fiduciary Activities, is effective for financial reporting periods beginning after December 15, 2018. The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. SURS does not have activities which fall within the scope of Statement No. 84; therefore there is no impact on its financial statements.

GASB issued Statement No. 87, Leases, is effective for financial reporting periods beginning after December 15, 2019. The objective of this Statement is to improve the accounting and financial reporting for leases by governments. This statement will require recognition of certain lease assets and liabilities for leases that previously were categorized as operating leases and recognized as inflow of resources or outflows of resources based on the payment provisions of the contract. This Statement is not considered to have a material impact on the System's financial statements.

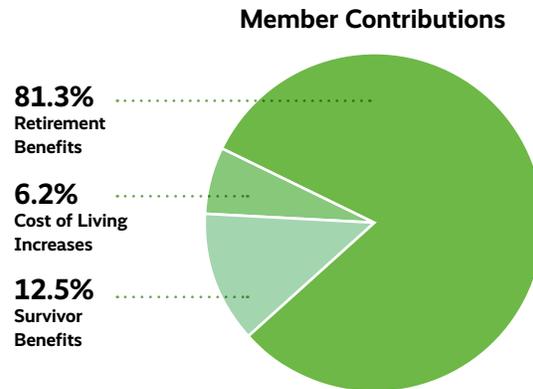
notes to the financial statements

III. Contributions and Plan Net Position Designations

A. Defined Benefit Plan

1. Membership Contributions

In accordance with Chapter 40, Act 5, Article 15, of the Illinois Compiled Statutes, members of the traditional benefit package contribute 8% of their gross earnings; 6.5% of those are designated for retirement annuities, 0.5% for post-retirement increases, and 1% for survivor benefits. Police officers and fire fighters contribute 9.5% of earnings; the additional 1.5% is a normal retirement contribution. Members of the portable benefit package contribute 8% of their gross earnings; 6.5% of those are designated for retirement annuities, 0.5% for post-retirement increases, and 1% for enhanced refund benefits. Police officers and fire fighters contribute 9.5% of earnings; the additional 1.5% is a normal retirement contribution. These Statutes assign the authority to establish and amend the contribution provisions of the plan to the State Legislature. The member contributions are picked up by the employer and treated as employer contributions for income tax purposes. Retirement contributions are based on the gross earnings before the employer pick-up and are included in earnings. All contributions on pre-1981 earnings and service credit payments, plus future other public employment, prior service, refund repayments, leave payments, military service payments, and the employee portion of Early Retirement Option payments, are considered as previously taxed, unless qualifying funds are rolled over to SURS to make these purchases, or unless the payments are made in installments through employer deductions from payroll. Previously taxed contributions will be recovered tax-free when distributed to the employee in the form of benefits or payments or to his or her beneficiary as a death and/or survivor benefit.



2. Interest Credited on Member Contributions

For the traditional and portable benefit packages, the interest rate credited is fixed by the Board of Trustees and is 6.5% for the year ended June 30, 2019. For purposes of lump sum refunds to former members, the traditional benefit package offers an interest rate of 4.5%, compounded annually, and the portable benefit package offers an interest rate equal to the credited rate, compounded annually. A change brought forth by the enactment of Public Act 94-0004 and effective July 1, 2005, calls for the Comptroller of the State of Illinois to set the interest rate credited to member contribution balances for purposes of the calculation of retirement annuities under the money purchase formula. That rate is 6.75% for the year ended June 30, 2019 and 6.5% for the year ended June 30, 2020.

Members certified after July 1, 2005 will not be eligible for the money purchase formula calculation. Rather, their retirement annuity will be calculated using the general formula.

3. Employer Contributions

On an annual basis, an actuarial valuation is performed in order to determine the amount of statutorily required contributions from the State of Illinois (non-employer contributing entity) and the normal cost. Public Act 99-0232 requires an actuarial experience study is performed every 3 years to determine the assumptions to be used in the annual valuation. The last actuarial experience study was performed in February 2018. To determine the funding method, Public Act 88-0593 was passed by the Illinois General Assembly in 1994. This Act, which took effect on July 1, 1995, provides a 50-year schedule of State contributions to the System designed to achieve a 90% funded ratio by fiscal year 2045. This plan requires the State as the non-employer contributing entity to make continuing appropriations to meet the normal actuarially-determined cost of the System, plus amortize the unfunded accrued liability. The fiscal year 2019 State contributions were \$1,592,639,155 for the defined benefit plan and \$62,514,845 for the Self-Managed Plan. The employer normal cost calculation is based on the same actuarial results, assumptions and methods used to calculate the State contribution. This is the employer contribution rate that is to be applied to all earnings paid from federal, grant and trust funds. The Board of Trustees has adopted 12.29% of covered earnings as the employer normal cost for fiscal year 2019. In compliance with Public Act 94-0004, employers must pay the System the present value of the increase in benefits resulting from the portion of the increase in earnings that is in excess of 6%. In compliance with Public Act 100-0023, employers must pay the System the normal cost of the portion of an employee's earnings that exceed the amount of salary set for the Governor. The fiscal year 2019 employer defined benefit contributions were \$49,415,109.

notes to the financial statements

4. Net Position Accounts

The System maintains two designated accounts that reflect the assignment of net position to employee and benefit accounts:

- a. The Employee Contribution account records the pension assets contributed by each employee and the interest income earned by those contributions.
- b. The Benefits from Employee and Employer Contributions account records the net position available for annuities in force and available for future retirement, death and disability benefits, the undistributed investment income, the unexpended administrative expense allocation, and the variations in actuarial assumptions.

Balances in these designated accounts as of June 30, 2019 are as follows:

| | |
|---|--------------------------|
| Employee contributions | \$ 6,594,083,564 |
| Benefits from employee and employer contributions | 13,123,264,397 |
| TOTAL NET POSITION | \$ 19,717,347,961 |

5. Ownership of Greater than 5 Percent of Net Position Available for Benefits

There are no significant investments in any one organization that represent 5% or more of plan net position available for benefits.

B. Self-Managed Plan

1. Membership Contributions

In accordance with Chapter 40, Act 5, Article 15, of the Illinois Compiled Statutes, members contribute 8% of their gross earnings. These statutes assign the State Legislature the authority to establish and amend the contribution provisions of the plan.

The member contributions are picked up by the employer and treated as employer contributions for income tax purposes. Retirement contributions are based on the gross earnings before the employer pick-up and are included in earnings.

Service credit purchase payments are considered as previously taxed, unless qualifying funds are rolled over to SURS to make these purchases. Previously taxed contributions will be recovered tax-free when distributed to the employee in the form of benefits or refunds, or to his or her beneficiary as a death and/or survivor benefit.

2. Employer Contributions

The State of Illinois (non-employer contributing entity) shall make the employer contribution to SURS on behalf of SMP employers on a monthly basis in accordance with the applicable provisions of the Illinois Pension Code. The fiscal year 2019 defined contribution plan State contributions were \$62,514,845 and employer contributions were \$8,718,499. In accordance with Chapter 40, Act 5, Article 15 of the Illinois Compiled Statutes, employer contributions credited to the SMP participant are at a rate of 7.6% of the member's gross earnings, less the amount retained by SURS to provide disability benefits (0.25% as of July 1, 2018).

3. Net Position Accounts

The SMP maintains three designated accounts that reflect the assignment of net position to employee contributions, disability benefits, and employer forfeiture accounts:

- a. The Employee Contribution account records the pension assets contributed by each employee and the corresponding employer contribution, and the investment income earned by those contributions.
- b. The Disability Benefits account reflects the pension assets contributed by the employer and held to fund member disability benefits.
- c. The Employer Forfeiture account reflects the pension assets contributed by the employer but forfeited from member accounts due to termination prior to reaching 5 years of service. Future employer contributions are reduced by the total forfeitures held by the defined contribution plan.

notes to the financial statements

The assets related to disability benefits and employer forfeitures are commingled with the investment assets of the defined benefit plan. Investment gain or loss is credited to these balances based upon the annual investment return of the commingled assets. For fiscal year 2019, the investment income credited to these balances was \$7,315,300.

Balances in these designated accounts as of June 30, 2019 are as follows:

| | |
|---------------------------|-------------------------|
| Employee contributions | \$ 2,599,672,802 |
| Disability benefits | 115,415,180 |
| Employer forfeitures | 14,519,052 |
| TOTAL NET POSITION | \$ 2,729,607,034 |

4. Ownership of Greater than 5 Percent of Net Position Available for Benefits

There are no significant investments in any one organization that represent 5% or more of plan net position available for benefits.

IV. Deposits and Investments

Fair Value Measurement

The System categorizes the fair value measurements of its investments based on the hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure an asset's fair value: Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs. Investments that are measured at fair value using the net asset value (NAV) per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The System's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability. The table on page 31 shows the fair value leveling of the investments for the System.

Short-term securities generally include investments in money market-type securities reported at cost plus accrued interest, which approximates market or fair value.

Equity (including real estate investment trust securities) and derivative securities classified in Level 1 are valued using prices quoted in active markets for those securities.

Debt and debt derivative securities classified in Level 2 and Level 3 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features and ratings. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Index-linked debt securities are valued by multiplying the external market price feed by the applicable day's Index Ratio. Level 2 debt securities have non-proprietary information that was readily available to market participants from multiple independent sources which are known to be actively involved in the market. Level 3 debt securities use proprietary information or single source pricing. Equity and equity derivative securities classified in Level 2 are securities whose values are derived daily from associated traded securities. Equity securities classified in Level 3 are valued with last trade data having limited trading volume.

The valuation method for certain equity, fixed income and marketable alternatives investments is based on the investments' NAV per share (or its equivalent) provided by the investee. The table on page 32 shows the investments of the System measured at the NAV per share.

notes to the financial statements

Commingled Equity Funds

This type of investment consists of equities diversified across all sectors. The fair values of the investments in this type have been determined using the NAV per share of the investments.

Commingled Fixed Income Funds

This type of investment consists of fixed income securities diversified across all sectors. The fair values of the investments in this type have been determined using the NAV per share of the investments.

Hedge Funds

This type of investment includes limited partnerships that engage in various alternative strategies including long/short credit, long/short equity, event-driven equity, market neutral, managed futures and options strategies. The fair values of the investments in this type have been determined using the NAV per share of the investments.

Private Equity Partnerships

This type of investment consists of limited partnerships. The types of strategies included in this portfolio are venture capital, buyouts, special situations, mezzanine and distressed debt. Infrastructure fund investments are included in private equity partnerships. Private equity partnerships have an approximate life of 10 years and are considered illiquid. Redemptions are restricted over the life of the partnership. During the life of the partnerships, distributions are received as underlying partnership investments are realized. The System has no plans to liquidate the total portfolio. As of June 30, 2019, it is probable all of the investments in this type will be sold at an amount different from the NAV per share (or its equivalent) of the System's ownership interest in partner's capital.

Real Estate Funds

This type includes investments in core open-end funds and non-core real estate funds. Investments in open-end funds have limited redemption availability as redemption opportunities are based on available liquidity. Non-core funds do not offer redemptions. The nature of these investments is that distributions from each investment will be received as the underlying investments are liquidated. The System has no plans to liquidate the total portfolio. As of June 30, 2019, it is probable all of the investments in this type will be sold at an amount different from the NAV per share (or its equivalent) of the System's ownership interest in partner's capital.

Self-Managed Plan Funds

Investments in open-end mutual funds and variable annuities whose fair values are determined by quoted prices in active markets for identical assets are categorized as Level 1. One stable value fund and two commingled equity pools, consisting of equities diversified across all sectors, have fair values determined using the NAV per share of the investments.

notes to the financial statements

Investments and Short-Term Holdings Measured at Fair Value (\$ in thousands)

| | As of June 30, 2019 | Fair Value Measurements Using | | |
|---|---------------------|-------------------------------|--------------|-----------|
| | | Level 1 | Level 2 | Level 3 |
| DEFINED BENEFIT PLAN | | | | |
| Investments by Fair Value Level | | | | |
| Debt securities | | | | |
| U.S. government | \$ 1,685,875 | \$ 1,685,875 | \$ - | \$ - |
| U.S. agency obligations | 743,874 | - | 711,049 | 32,825 |
| U.S. municipal obligations | 24,253 | - | 22,712 | 1,541 |
| U.S. corporate obligations | 705,826 | - | 705,721 | 105 |
| U.S. asset backed | 246,743 | - | 222,383 | 24,360 |
| Fixed income funds | 269,376 | 269,376 | - | - |
| Foreign obligations | 383,772 | - | 369,096 | 14,676 |
| Total debt securities | \$ 4,059,719 | \$ 1,955,251 | \$ 2,030,961 | \$ 73,507 |
| Short-term securities and cash adjustments | \$ 10,668 | \$ 10,668 | \$ - | \$ - |
| Equity securities | | | | |
| U.S. equity securities | \$ 5,440,705 | \$ 5,440,420 | \$ - | \$ 285 |
| Foreign equity securities | 2,457,389 | 2,457,150 | - | 239 |
| Total equity securities | \$ 7,898,094 | \$ 7,897,570 | \$ - | \$ 524 |
| Investments Measured at the Net Asset Value (NAV) | | | | |
| Commingled fixed income funds | \$ 860,817 | | | |
| Commingled equity funds | 2,076,185 | | | |
| Commingled foreign equity funds | 541,337 | | | |
| Private real estate funds | 1,195,262 | | | |
| Private equity funds | 1,411,912 | | | |
| Hedge funds | 687,292 | | | |
| Commodity funds | 352,460 | | | |
| Total investments measured at the NAV | 7,125,265 | | | |
| Total investments by fair value level and measured at the NAV | \$ 19,093,746 | | | |
| Investment Derivative Instruments | | | | |
| U.S. fixed income derivatives | \$ (8,078) | \$ - | \$ (8,078) | \$ - |
| Foreign fixed income derivatives | (3,827) | - | (3,827) | - |
| U.S. equity derivatives | (2,548) | (2,550) | 1 | 1 |
| Foreign equity derivatives | (218) | (218) | - | - |
| Total investment derivative instruments | \$ (14,671) | \$ (2,768) | \$ (11,904) | \$ 1 |
| Invested Securities Lending Collateral | | | | |
| Fixed income securities | \$ 878,206 | \$ - | \$ 878,206 | \$ - |
| SELF-MANAGED PLAN | | | | |
| Mutual funds and variable annuities | | | | |
| Fixed income funds | \$ 570,740 | \$ 570,740 | \$ - | \$ - |
| Equity funds | 1,622,245 | 1,622,245 | - | - |
| Real estate funds | 46,826 | 46,826 | - | - |
| Total Self-Managed Plan assets by fair value level | \$ 2,239,811 | \$ 2,239,811 | \$ - | \$ - |
| Investments measured at the Net Asset Value (NAV) | 352,770 | | | |
| Total investments by fair value level and measured at the NAV | \$ 2,592,581 | | | |

notes to the financial statements

Investments Measured at Net Asset Value (\$ in thousands)

| | | Unfunded Commitments | Redemption Frequency (if Currently Eligible) | Redemption Notice Period |
|--|---------------------|-------------------------|--|-----------------------------|
| DEFINED BENEFIT PLAN | | | | |
| Commingled fixed income funds ⁽¹⁾ | \$ 860,817 | \$ - | Daily, Monthly | 1-10 Days |
| Commingled international equity and global real estate investment funds ⁽¹⁾ | 2,617,522 | - | Daily, Monthly | 2-5 Days |
| Private real estate funds ⁽²⁾ | 1,195,262 | 163,200 | Quarterly, if Eligible | 45-90 Days, if Eligible |
| Private equity funds ⁽²⁾ | 1,411,912 | 775,396 | Not Eligible | N/A |
| Hedge funds ⁽³⁾ | 687,292 | - | Daily, Monthly, Quarterly, Semi-Annually, Annually | 3-90 Days |
| Commodity funds ⁽⁴⁾ | 352,460 | - | Daily, Monthly | 1-30 Days |
| | \$ 7,125,265 | \$ 938,596 | | |
| SELF-MANAGED PLAN | | | | |
| Stable value fund ⁽⁵⁾ | \$ 65,240 | \$ - | Daily, Annually | 1-365 Days |
| Commingled equity pools ⁽⁶⁾ | 287,530 | - | Daily, if Eligible | 1 Day, if Eligible |
| | \$ 352,770 | \$ - | | |

⁽¹⁾ **Commingled funds.** Nine fixed income funds, seven international equity funds and one real estate investment fund are considered to be commingled in nature. Each are valued at the net asset value of units held at the end of the period based upon the fair value of the underlying holdings.

⁽²⁾ **Private real estate and private equity funds.** The real estate investments are 19 core, value-add, and opportunistic real estate funds. The private equity funds are 231 limited partnership interests in equity or debt securities of privately held companies. Real estate closed-end funds and private equity funds are not eligible for redemption.

⁽³⁾ **Hedge funds.** Four funds invest in a select group of underlying managers that implement a number of different alternative investment strategies and invest in a variety of markets through limited partnerships, limited liability companies and other investment entities.

⁽⁴⁾ **Commodity funds.** The two funds are invested with one active long-only manager and one active long/short manager.

⁽⁵⁾ **Stable value fund.** The fund is invested in fixed income securities and shares of money market funds. It is valued at the net asset value of units held at the end of the period based upon the fair value of the underlying holdings.

⁽⁶⁾ **Commingled equity pools.** The two pools are commingled in nature. Each is valued at the net asset value of units held at the end of the period based upon the fair value of the underlying holdings.

Custodial Credit Risk for Deposits

Custodial credit risk for deposits is the risk that in the event of a financial institution failure, SURS deposits may not be returned. Cash held in the investment-related bank account in excess of \$250,000 is uninsured. SURS has a formal policy to address custodial credit risk. Deposits are under the custody of The Northern Trust Company, which has an Aa2 Long Term Bank Deposit rating by Moody's and an AA rating by Fitch. At June 30, 2019, the carrying amount of cash was \$819,413,471. The bank balance was \$786,888,072, of which \$5,730,114 was foreign currency deposits and was exposed to custodial credit risk. The carrying amount of cash includes short-term bills and notes of \$39,151,128, which are considered to be investments for the purpose of assessing custodial credit risk.

Overlay Program

SURS employs a manager to provide an overlay program to ensure the System's major asset classes remain within a certain percentage of their targeted weights. Market movements can lead to significant implicit tilts within the portfolio. For example, a sharp decline in equities will many times be accompanied by stability within fixed income. Consequently, the equity position will decrease as a percentage of assets while fixed income will increase. This causes an implicit tilt towards fixed income. The overlay program brings these implicit tilts back within an acceptable band and is a cost-effective way to rebalance assets.

notes to the financial statements

Investment Policies

Investments are governed by Chapter 40, Act 5, Articles 1 and 15, of the Illinois Compiled Statutes. The most important aspect of the statutes is the prudent expert rule, which establishes a standard of care for all fiduciaries. (A fiduciary is any person who has authority or control with respect to the management or administration of plan assets.) The prudent expert rule states that fiduciaries must discharge their duties with the care, skill, prudence and diligence that a prudent person acting in a like capacity and familiar with such matters would use under conditions prevailing at the time. The SURS Board of Trustees has adopted an Investment Policy that contains general policies for investments. The Investment Policy was updated in June 2019 to change the class structure for SURS fixed income investments and add a stand-alone class structure for inflation-sensitive investments. The Investment Procurement Policy was revised in March 2019 to specify procurement requirements for investments recommended by a specialty consultant. The Investment Section of this report contains a summary of these policies. Within the prudent expert framework, the SURS Board of Trustees establishes specific investment guidelines in the investment management agreement of each individual investment management firm and monitors the firms accordingly.

Investment Commitments

Alternative investment portfolios consist of passive interests in limited partnerships. The System had outstanding commitments to private equity limited partnerships of approximately \$775.4 million as of June 30, 2019. The System had outstanding commitments of approximately \$131.6 million to real estate partnerships and approximately \$31.6 million to infrastructure partnerships as of June 30, 2019.

Investments

The carrying values of investments by type at June 30, 2019 are summarized below:

EQUITY INVESTMENTS

| | |
|-----------------------------|------------------|
| U.S. equities | \$ 7,516,889,865 |
| Non-U.S. equities | 2,998,726,497 |
| U.S. private equity | 1,057,615,322 |
| Non-U.S. private equity | 354,297,017 |
| U.S. equity derivatives | (2,548,261) |
| Non-U.S. equity derivatives | (218,151) |

FIXED INCOME INVESTMENTS

| | |
|-----------------------------------|---------------|
| U.S. government obligations | 1,574,833,334 |
| U.S. agency obligations | 815,764,800 |
| U.S. corporate fixed income | 1,761,368,168 |
| U.S. fixed income, other | 345,646,259 |
| Non-U.S. fixed income securities | 381,666,553 |
| U.S. short-term investments | 100,842,990 |
| Non-U.S. short-term investments | (48,917,982) |
| U.S. fixed income derivatives | (8,077,681) |
| Non-U.S. fixed income derivatives | (3,826,886) |

REAL ESTATE INVESTMENTS

| | |
|----------------------|---------------|
| U.S. real estate | 1,078,348,211 |
| Non-U.S. real estate | 116,913,126 |

HEDGE FUND INVESTMENTS

| | |
|-------------|-------------|
| Hedge funds | 687,291,975 |
|-------------|-------------|

COMMODITIES INVESTMENTS

| | |
|-------------|-------------|
| Commodities | 352,460,283 |
|-------------|-------------|

MUTUAL FUND AND VARIABLE ANNUITIES

| | |
|---|---------------|
| Self-Managed Plan mutual funds and variable annuities | 2,592,580,384 |
|---|---------------|

| | |
|--------------------------|--------------------------|
| TOTAL INVESTMENTS | \$ 21,671,655,823 |
|--------------------------|--------------------------|

- (a) Fixed income investments presented in this table include \$39,151,128 of short-term investments with maturities of less than 90 days, which are included in the cash and short-term investments total on the financial statements.
- (b) U.S. short-term investments principally consist of money market funds and options.
- (c) Fixed income investments presented in this table include \$19,564,726 of short-term investments with maturities greater than 90 days.
- (d) Fixed income investments presented in this table include commingled funds, derivatives, cash, and cash equivalent holdings.

notes to the financial statements

Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty to a transaction, the System will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. SURS has adopted a formal policy specific to custodial credit risk. To minimize custodial credit risk, SURS performs due diligence on service providers, provides investment parameters for investment vehicles, monitors the financial condition of the custodian, endeavors to have all investments held in custodial accounts through specific sources, and requires the custodian to meet certain requirements. At June 30, 2019, no investments were uninsured and unregistered, with securities held by the counterparty or by its trust department or agent but not in the System's name.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of the System's investment in a single issue. SURS has not adopted a formal policy specific to concentration of credit risk. However, this area is addressed with each of the relevant investment managers in the investment management agreement between the parties. The System's investment portfolios are managed by professional investment management firms. These firms must maintain diversified portfolios and must comply with risk management guidelines specific to each of their investment management agreements. Excluding U.S. government and agency issues, the portfolios are limited to a 5% allocation in any single investment grade U.S. issuer. Allocation limits also apply to international issuers. At June 30, 2019, SURS had no investments in any one issuer that represented 5% or more of the System's total investments.

Credit Risk of Debt Securities

Credit risk is the risk that the issuer or other counterparty to an investment will not fulfill obligations. SURS has not adopted a formal policy specific to credit risk of debt securities. However, this area is addressed with each of the relevant investment managers in the investment management agreement between the parties. The quality ratings of investments in fixed income securities of the System as described by Standard & Poor's rating agency at June 30, 2019 are as follows on the next page:

notes to the financial statements

| Quality Rating: Standard & Poor's | Domestic ** | International | Total |
|---|-------------------------|-----------------------|-------------------------|
| AAA | \$ 128,866,882 | \$ 24,520,907 | \$ 153,387,789 |
| AA+ | 686,246,940 | 250,290 | 686,497,230 |
| AA | 29,028,802 | 5,210,173 | 34,238,975 |
| AA- | 29,456,140 | 8,916,201 | 38,372,341 |
| A+ | 51,266,133 | 37,646,049 | 88,912,182 |
| A | 55,276,442 | 16,392,401 | 71,668,843 |
| A- | 170,934,916 | 28,019,393 | 198,954,309 |
| BBB+ | 164,779,641 | 43,213,071 | 207,992,712 |
| BBB | 115,320,579 | 32,812,223 | 148,132,802 |
| BBB- | 92,737,076 | 66,312,301 | 159,049,377 |
| BB+ | 7,953,207 | 19,088,127 | 27,041,334 |
| BB | 8,690,490 | 11,908,918 | 20,599,408 |
| BB- | 9,603,332 | 45,724,802 | 55,328,134 |
| B+ | 2,383,154 | 20,570,963 | 22,954,117 |
| B | 6,712,774 | 11,971,484 | 18,684,258 |
| B- | 4,282,887 | 4,037,056 | 8,319,943 |
| CCC+ | 440,438 | 480,000 | 920,438 |
| CCC | 15,432,999 | - | 15,432,999 |
| CCC- | 1,005,555 | - | 1,005,555 |
| CC | 6,505,164 | - | 6,505,164 |
| D | 1,781,731 | 38,371 | 1,820,102 |
| Not Rated *** | 203,809,418 | 6,659,663 | 210,469,081 |
| Total credit risk: debt securities | \$ 1,792,514,700 | \$ 383,772,393 | \$ 2,176,287,093 |
| U.S. government & agencies * | 1,797,789,775 | - | 1,797,789,775 |
| TOTAL DEBT SECURITIES INVESTMENTS | \$ 3,590,304,475 | \$ 383,772,393 | \$ 3,974,076,868 |

* Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government agencies Federal Housing Administration (FHA), Government National Mortgage Association (GNMA), and Small Business Administration (SBA) are not considered to have credit risk.

** Domestic includes \$180,633,503 from Self-Managed Plan variable annuities and mutual funds.

*** The credit risk by quality ratings does not include commingled funds, derivatives, cash, and cash equivalent holdings for which there is no quality rating.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The System manages its exposure to fair value loss arising from increasing interest rates by diversifying the debt securities portfolio. The System has not adopted a formal policy specific to interest rate risk. However, this area is addressed with each of the relevant investment managers in the investment management agreement between the parties.

At June 30, 2019, the segmented time distribution of the various types of debt securities of the System are as follows:

| Type | 2019 Fair Value | Maturities in Years | | | | |
|---|-------------------------|-----------------------|-------------------------|-----------------------|-----------------------|-------------------------|
| | | Less than 1 year | 1 to 5 years | 5 to 10 years | 10 to 20 years | More than 20 years |
| U.S. government & agency fixed income * | \$ 2,457,094,932 | \$ 104,114,396 | \$ 793,222,433 | \$ 556,912,414 | \$ 123,267,006 | \$ 879,578,683 |
| U.S. corporate fixed income ** | 1,133,209,544 | 14,384,285 | 447,811,068 | 342,228,476 | 128,544,883 | 200,240,832 |
| Non-U.S. fixed income | 383,772,392 | 10,312,183 | 192,882,581 | 91,490,078 | 26,545,615 | 62,541,935 |
| TOTAL *** | \$ 3,974,076,868 | \$ 128,810,864 | \$ 1,433,916,082 | \$ 990,630,968 | \$ 278,357,504 | \$ 1,142,361,450 |

* Includes \$27,345,668 from Self-Managed Plan mutual fund.

** Includes \$153,287,835 from Self-Managed Plan variable annuities and mutual funds.

*** The segmented time distribution of debt securities does not include commingled funds, derivatives, cash and cash equivalent holdings for which there is no maturity date.

notes to the financial statements

Foreign Currency Risk

Foreign currency risk is the risk that changes in currency exchange rates will adversely affect the fair value of an investment or a deposit. SURS has not adopted a formal policy specific to foreign currency risk. However, this area is addressed with each of the relevant investment managers in the investment management agreement between the parties. International investment management firms maintain portfolios with diversified foreign currency risk for SURS. The System's exposure to foreign currency risk derives from its positions in foreign currency and foreign currency-denominated equity and fixed income investments.

At June 30, 2019 the System's exposure to foreign currency risk is as follows:

| Currency | Equity | Fixed Income * | Total |
|--|-------------------------|-----------------------|-------------------------|
| Argentine peso | \$ - | \$ 6,068,748 | \$ 6,068,748 |
| Australian dollar | 91,605,221 | (4,993,141) | 86,612,080 |
| Brazilian real | 14,765,768 | (69,481) | 14,696,287 |
| British pound sterling | 338,787,402 | 4,270,745 | 343,058,147 |
| Canadian dollar | 132,807,251 | (21,791) | 132,785,460 |
| Chilean peso | 2,517,664 | - | 2,517,664 |
| Chinese yuan renminbi | - | 124 | 124 |
| Colombian peso | - | 2,490,352 | 2,490,352 |
| Czech koruna | 2,950,335 | - | 2,950,335 |
| Danish krone | 34,419,830 | 57,500 | 34,477,330 |
| Euro | 608,449,508 | (12,427,867) | 596,021,641 |
| Hong Kong dollar | 188,241,521 | 200,650 | 188,442,171 |
| Hungarian forint | 2,513,835 | - | 2,513,835 |
| Indian rupee | - | 130,311 | 130,311 |
| Indonesian rupiah | 11,233,401 | - | 11,233,401 |
| Japanese yen | 450,411,175 | 1,367,876 | 451,779,051 |
| Malaysian ringgit | 821,810 | 1,140 | 822,950 |
| Mexican peso | 10,010,241 | (2,243,248) | 7,766,993 |
| New Israeli shekel | 6,893,702 | 5,320 | 6,899,022 |
| New Taiwan dollar | 28,405,598 | (3,104,903) | 25,300,695 |
| New Zealand dollar | 3,648,863 | 161,991 | 3,810,854 |
| Norwegian krone | 12,065,335 | 283,066 | 12,348,401 |
| Peruvian nuevo sol | - | 4,548,211 | 4,548,211 |
| Philippine peso | 3,260,987 | (50,315) | 3,210,672 |
| Polish zloty | 5,881,280 | 114,796 | 5,996,076 |
| Russian ruble | 178,191 | 91,094 | 269,285 |
| Singapore dollar | 44,905,890 | (3,225,776) | 41,680,114 |
| South African rand | 17,662,287 | 25,148 | 17,687,435 |
| South Korean won | 44,898,505 | - | 44,898,505 |
| Swedish krona | 51,874,551 | 541,182 | 52,415,733 |
| Swiss franc | 134,662,910 | 21,952 | 134,684,862 |
| Thai baht | 14,359,375 | 27 | 14,359,402 |
| Turkish lira | 2,062,178 | 51,336 | 2,113,514 |
| Total securities subject to foreign currency risk | \$ 2,260,294,614 | \$ (5,704,953) | \$ 2,254,589,661 |
| Foreign investments denominated in U.S. dollars | 1,384,363,696 | 334,626,638 | 1,718,990,334 |
| TOTAL FOREIGN INVESTMENT SECURITIES | \$ 3,644,658,310 | \$ 328,921,685 | \$ 3,973,579,995 |

* Includes Swaps, Options and Short-Term Investments. These derivatives and pending transactions have resulted in negative totals for certain currencies.

notes to the financial statements

Derivative Securities

The System invests in derivative securities through its investment managers. A derivative security is an investment whose value is derived from other financial instruments such as commodity prices, bond and stock prices, or a market index. The System's derivatives are considered investments. The fair value of all derivative financial instruments is reported in the Statement of Plan Net Position, and the change in the fair value is recorded in the Statement of Changes in Plan Net Position as net appreciation (depreciation) in fair value of investments.

In the case of an obligation to purchase (long a financial future or a call option), the full value of the obligation is held in cash or cash equivalents. For obligations to sell (short a financial future or a put option), the reference security is held in the portfolio. Derivative transactions involve, to varying degrees, credit risk and market risk. Credit risk is the possibility that a loss may occur because a party to a transaction fails to perform according to terms. Market risk is the possibility that a change in interest rate risk or foreign currency risk will cause the value of a financial instrument to decrease or become more costly to settle. The market risk associated with derivatives, the prices of which are constantly fluctuating, is regulated by imposing strict limits as to the types, amounts, and degree of risk that investment managers may undertake. These limits are approved by the Board of Trustees and senior management, and the risk positions of the investment managers are reviewed on a periodic basis to monitor compliance with the limits. The System has not adopted a formal policy specific to master netting arrangements. As of June 30, 2019, SURS derivative investments included foreign currency forward contracts, rights and warrants, futures, options, swaps, and swaptions. At June 30, 2019, SURS investments in derivatives had the following balances:

| | Notional Value 2019 | Fair Value 2019 | Change in Fair Value |
|--------------------------|-------------------------|------------------------|-------------------------|
| Forwards | \$ - | \$ (1,085,424) | \$ (1,604,951) |
| Rights and Warrants | \$ 2,556,114 | \$ 212,853 | \$ (142,314) |
| Futures | | | |
| Equity | | | |
| Long | \$ 17,637,650 | \$ 98,041 | \$ (67,207) |
| Short | (290,537,849) | (552,511) | 738,300 |
| Fixed income | | | |
| Long | 839,963,165 | 434,809 | 1,008,935 |
| Short | (354,205,086) | (147,324) | (17,902) |
| Commodity | | | |
| Long | 28,800,113 | (199,718) | (379,496) |
| Short | - | - | - |
| Foreign exchange | | | |
| Long | 140,720 | 300 | 45,670 |
| Short | (12,717,163) | (9,933) | 184,982 |
| Total futures | \$ 229,081,550 | \$ (376,336) | \$ 1,513,282 |
| Options | | | |
| Equity | | | |
| Call | \$ (166,669) | \$ (1,297,323) | \$ 109,604 |
| Put | (181,992) | (1,681,942) | 732,379 |
| Fixed income | | | |
| Call | (143,400,000) | (29) | 55,644 |
| Put | - | - | 15,401 |
| Cash and cash equivalent | | | |
| Call | - | - | - |
| Put | - | - | 41 |
| Swaptions | | | |
| Call | (19,570,960) | 212,976 | 458,333 |
| Put | (126,300,000) | 96,300 | 2,305,565 |
| Total options | \$ (289,619,621) | \$ (2,670,018) | \$ 3,676,967 |
| Swaps | | | |
| Credit default | | | |
| Buying protection | \$ 14,351,700 | \$ (485,434) | \$ 104,521 |
| Selling protection | 47,894,864 | 272,110 | 752,869 |
| Inflation-linked | | | |
| Pay fixed | - | - | - |
| Receive fixed | 4,072,640 | 48,837 | 48,837 |
| Interest rate | | | |
| Pay fixed | 517,942,268 | (10,801,011) | (10,801,011) |
| Receive fixed | 5,552,764 | (1,248,317) | (16,176,995) |
| Volatility | - | - | - |
| Total swaps | \$ 589,814,236 | \$ (12,213,815) | \$ (26,071,779) |

notes to the financial statements

Foreign currency forward contracts are used to protect against the currency risk in SURS foreign equity and fixed income security portfolios. A foreign currency forward contract is an agreement to buy or sell a specific amount of a foreign currency at a specified delivery or maturity date for an agreed-upon price. Fluctuations in the market value of foreign currency forward contracts are marked to market on a daily basis. The gain or loss arising from the difference between the original contracts and the closing of such contracts is included in the investment income in the Statement of Changes in Plan Net Position. At June 30, 2019, SURS investments in foreign currency forward contracts are as follows:

| Currency | Pending Foreign Exchange Purchases | Pending Foreign Exchange Sales | Fair Value 2019 | Change in Fair Value |
|---|------------------------------------|--------------------------------|-----------------------|-----------------------|
| Argentine peso | \$ 226,791 | \$ (138,583) | \$ 88,208 | \$ 88,208 |
| Australian dollar | 24,211 | (91,897) | (67,686) | (67,663) |
| Brazilian real | 9,742 | (73,617) | (63,875) | 28,111 |
| British pound sterling | 80,237 | (190,631) | (110,394) | (110,394) |
| Canadian dollar | - | (66,557) | (66,557) | (66,557) |
| Colombian peso | 124,340 | - | 124,340 | 124,340 |
| Egyptian pound | - | - | - | (27,247) |
| Euro | 91,877 | (851,375) | (759,498) | (629,980) |
| Indian rupee | 1,699 | - | 1,699 | 1,699 |
| Japanese yen | 298 | (50,648) | (50,350) | (49,520) |
| Mexican peso | 2,339 | (83,211) | (80,872) | (82,384) |
| New Israeli shekel | 11 | (364) | (353) | (353) |
| New Taiwan dollar | - | (52,907) | (52,907) | (52,907) |
| Norwegian krone | - | - | - | 271 |
| Philippine peso | 129 | - | 129 | 129 |
| Polish zloty | 1,157 | - | 1,157 | 1,157 |
| Russian ruble | 259,649 | (252,130) | 7,519 | (106,768) |
| Singapore dollar | - | (46,535) | (46,535) | (46,281) |
| South African rand | - | (3,777) | (3,777) | 8,022 |
| Total securities subject to foreign currency risk | \$ 822,480 | \$ (1,902,232) | \$ (1,079,752) | \$ (988,117) |
| Foreign investments denominated in U.S. dollars | 25,472 | (31,144) | (5,672) | (616,834) |
| Total foreign investment securities | \$ 847,952 | \$ (1,933,376) | \$ (1,085,424) | \$ (1,604,951) |

Rights and warrants provide SURS investment managers the right, but not the obligation, to purchase or sell a company's stock at a fixed price until a specified expiration date. Rights normally are issued with common stock and expire after two to four weeks. Warrants typically are issued together with a bond or preferred stock and may not expire for several years. The fair value of rights and warrants is reported in the investments in the Statement of Plan Net Position. The gain or loss from rights and warrants is included in the investment income in the Statement of Changes in Plan Net Position.

SURS investment managers use financial futures to replicate an underlying security they wish to hold (sell) in the portfolio. In certain instances, it may be beneficial to own a futures contract rather than the underlying security (arbitrage). Additionally, SURS investment managers use futures contracts to improve the yield or adjust the duration of the fixed income portfolio. A financial futures contract is an agreement to buy or sell a specific amount at a specified delivery or maturity date for an agreed-upon price. Futures contracts are traded on organized exchanges, thereby minimizing the System's credit risk. The net change in the futures contracts value is settled daily in cash with the exchanges. The cash or securities to fulfill these obligations are held in the investment portfolio. As the market value of the futures contract varies from the original contract price, a gain or loss is paid to or received from the clearinghouse and recognized in the Statement of Changes in Plan Net Position.

notes to the financial statements

SURS investment managers use options in an attempt to add value to the portfolio (collect premiums) or protect (hedge) a position in the portfolio. Financial options are an agreement that gives one party the right, but not the obligation, to buy or sell a specific amount of an asset for a specified price, called the strike price, on or before a specified expiration date. As a writer of financial options, the System receives a premium at the outset of the agreement and bears the risk of an unfavorable change in the price of the financial instrument underlying the option. All written financial options are recognized as a liability on the System's financial statements. As a purchaser of financial options, the System pays a premium at the outset of the agreement and the counterparty bears the risk of an unfavorable change in the price of the financial instrument underlying the option.

SURS fixed income managers invest in swaps and swaptions to manage exposure to credit, inflation, interest rate, and volatility risks. Swaptions are options on swaps that give the purchaser the right, but not the obligation, to enter into a swap at a specific date in the future. Swap agreements are privately negotiated agreements with a counterparty to exchange or swap investment cash flows, assets, foreign currencies, or market-linked returns at specified, future intervals. In connection with swap agreements, securities or cash may be identified as collateral in accordance with the terms of the respective swap agreements to provide assets of value and recourse in the event of default, bankruptcy, or insolvency. Swaps are marked to market daily based upon values from third party vendors or quotations from market makers to the extent available and any change in value is recorded as an unrealized gain or loss. SURS investment managers have entered into credit default, inflation-linked, and interest rate swap agreements.

notes to the financial statements

Swaps and Credit Risk Table

| | Counterparty Credit Rating | Notional Value 2019 | Fair Value 2019 | Fair Value 2018 | Change in Fair Value |
|------------------|-------------------------------|-------------------------|------------------------|-----------------------|-------------------------|
| Swaps | | | | | |
| Credit default | AA | \$ 1,550,000 | \$ (5,586) | \$ (56,272) | \$ 50,686 |
| | A | 27,300,584 | 75,351 | (598,656) | 674,007 |
| | BBB | 2,700,000 | (341,555) | - | (341,555) |
| | No Rating | 30,695,980 | 58,466 | (415,786) | 474,252 |
| | | 62,246,564 | (213,324) | (1,070,714) | 857,390 |
| Inflation-linked | No Rating | 4,072,640 | 48,837 | - | 48,837 |
| | | 4,072,640 | 48,837 | - | 48,837 |
| Interest rate | No Rating | 523,495,032 | (12,049,328) | 14,928,678 | (26,978,006) |
| | | 523,495,032 | (12,049,328) | 14,928,678 | (26,978,006) |
| | | \$ 589,814,236 | \$ (12,213,815) | \$ 13,857,964 | \$ (26,071,779) |
| Swaptions | | | | | |
| | A | \$ (131,587,680) | \$ 207,929 | \$ (2,221,119) | \$ 2,429,048 |
| | BBB | (13,600,000) | 101,499 | (233,504) | 335,003 |
| | No Rating | (683,280) | (153) | - | (153) |
| | | \$ (145,870,960) | \$ 309,275 | \$ (2,454,623) | \$ 2,763,898 |
| Forwards | | | | | |
| | No Rating | \$ - | \$ (1,085,424) | \$ 519,527 | \$ (1,604,951) |

Swaps and Maturities Table

| | Maturities in Years | | | | | Fair Value 2019 |
|------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|------------------------|
| | Less than 1 year | 1 to 5 years | 5 to 10 years | 10 to 20 years | More than 20 years | |
| Swaps | | | | | | |
| Credit default | \$ 24,365 | \$ (49,186) | \$ - | \$ - | \$ (188,503) | \$ (213,324) |
| Inflation-linked | - | - | - | 48,837 | - | 48,837 |
| Interest rate | (17,996) | (1,578,347) | (5,899,416) | (732,830) | (3,820,739) | (12,049,328) |
| | \$ 6,369 | \$ (1,627,533) | \$ (5,899,416) | \$ (683,993) | \$ (4,009,242) | \$ (12,213,815) |
| Swaptions | | | | | | |
| | \$ 3,443,951 | \$ (3,134,675) | \$ - | \$ - | \$ - | \$ 309,276 |
| Forwards | | | | | | |
| | \$ (1,043,706) | \$ (41,718) | \$ - | \$ - | \$ - | \$ (1,085,424) |

notes to the financial statements

Credit default swap agreements involve one party making a stream of payments (the buyer of protection) to another party (the seller of protection) in exchange for the right to receive a specified return in the event of a default or other credit event for the referenced entity, obligation, or index. The seller of protection generally receives from the buyer of protection a fixed rate of income throughout the term of the swap, provided there is no credit event. The seller effectively adds leverage to its portfolio as it is subject to investment exposure on the notional amount of the swap.

Inflation-linked swap agreements involve a stream of fixed payments in exchange for variable payments linked to an inflation index. These swaps can protect against unfavorable changes in inflation expectations and are utilized to transfer inflation risk from one counterparty to another.

Interest rate swap agreements involve the exchange of a set of variable and fixed-rate interest payments linked to a referenced interest rate without an exchange of the underlying principal amount. These agreements are used to limit or manage exposure to fluctuations in interest rates or to obtain a marginally lower interest rate than would be available without the swap. Gains and losses on swaps are determined based on market values and are recorded in the Statement of Changes in Plan Net Position.

Volatility swap agreements involve two parties taking opposite sides of the future volatility of an underlying instrument (e.g., an index, individual security or exchange rate) without the influence of its price. Payoff is determined by the future realized volatility. At expiry the holder of the long position in a volatility swap receives (or owes) the difference between the realized volatility and the volatility strike that was agreed upon at contract initiation. Volatility swaps are often utilized to trade the spread between realized and implied volatility or to hedge the volatility exposure of other positions in a portfolio.

| SURS Rate | Counterparty Rate | Notional Value 2019 | Fair Value 2019 | Pay Fixed / Receive Fixed |
|---|--|-----------------------|------------------------|---------------------------|
| 1.45% to 3.00% | 3 month U.S. dollar LIBOR ¹ | \$ 405,600,000 | \$ (7,837,500) | Pay Fixed |
| 1.25% to 1.50% | 6 month British pound LIBOR ¹ | 79,671,022 | (1,501,542) | Pay Fixed |
| 0.30% to 0.75% | 6 month Japanese yen LIBOR ¹ | 32,671,246 | (1,461,969) | Pay Fixed |
| | | \$ 517,942,268 | \$ (10,801,011) | |
| UK Retail Price Index | 3.58% | \$ 4,072,640 | \$ 48,837 | Receive Fixed |
| 3 month U.S. dollar LIBOR ¹ | 2.00% to 2.80% | 24,260,000 | (620,596) | Receive Fixed |
| 6 month British pound LIBOR ¹ | 1.65% to 2.00% | 5,727,150 | (126,022) | Receive Fixed |
| 6 month Japanese yen LIBOR ¹ | 0.30% | 10,766,660 | (282,860) | Receive Fixed |
| 3 month Canadian dollar CDOR ² | 2.30% | 5,586,378 | (193,312) | Receive Fixed |
| 28 day Mexican peso TIIE ³ | 7.35% | 3,372,953 | (25,527) | Receive Fixed |
| | | \$ 53,785,781 | \$ (1,199,480) | |

¹ London Interbank Offered Rate (LIBOR)

² Canadian Dollar Offered Rate (CDOR)

³ Mexico Interbank Equilibrium Interest Rate (TIIE)

Derivatives which are exchange-traded are not subject to credit risk. No derivatives held are subject to custodial credit risk. SURS maximum loss that would be recognized at June 30, 2019 if all of its derivatives counterparties failed to perform as contracted is \$12.5 million. This maximum exposure is reduced by \$2.2 million in collateral SURS holds from its counterparties, leaving net derivatives credit exposure of \$10.3 million.

notes to the financial statements

Securities Lending

SURS Board of Trustees policies permit the System to lend its securities to broker-dealers and other entities with a simultaneous agreement to return the collateral for the same securities in the future. Deutsche Bank AG New York, the System's third-party agent lender in fiscal year 2019, lent securities in exchange for cash collateral at 102% for U.S. securities and 105% for foreign securities. Cash collateral received for lent securities is shown on the Statement of Plan Net Position as both an asset (fair value of collateral) and liability (collateral owed to borrower after lent securities are returned). Lent securities are included in total investments on the Statement of Plan Net Position. Types of lent securities include corporate bonds, government and agency bonds, domestic equities and international equities. At year end, the System had no credit risk as a result of its securities lending program as the collateral received exceeded the fair value of the lent securities. The contract with the System's third-party agent lender requires it to indemnify the System if the borrowers fail to return the securities (and if the collateral is inadequate to replace the securities lent) or fail to pay the System for income distributions by the securities' issuers while the securities are out on loan. All securities loans can be terminated on demand by either the System or the borrower, although the average term of the loans was 7.85 days. Cash collateral is invested in the indemnified repurchase agreements, which at year end had a weighted average final maturity of 47.79 days, a weighted average reset of 9.88 days, and a fair value of \$878.2 million.

Collateral as of June 30, 2019 (\$ in millions)

| | |
|--|----------|
| Securities on loan as of June 30, 2019 | \$ 857.6 |
| Fair value of cash collateral invested | \$ 878.2 |
| Fair value of collateral received | \$ 876.6 |
| Change in fair value* | \$ 1.6 |

*Included in net appreciation in fair value of investments in Statement of Changes in Plan Net Position.

Self-Managed Plan

The SMP members have the ability to invest their account balances in 30 mutual funds, variable annuities and commingled pools. These investment options are offered by two providers: Fidelity Investments and Teachers Insurance and Annuity Association (TIAA). As of June 30, 2019, the SMP had investments of \$2,592,580,384. A detailed schedule of the funds and balances at June 30, 2019 is located in the Investment Section of The Comprehensive Annual Financial Report.

Reverse Repurchase Agreements

SURS held approximately \$85.5 million in reverse repurchase agreements at June 30, 2019. Investment guidelines permit certain portfolios to enter into reverse repurchase agreements, which are a sale of securities with a simultaneous agreement to repurchase the securities in the future at the same price plus a stated rate of interest. The market value of the securities underlying reverse repurchase agreements exceeds the cash received, providing the counterparty a margin against a decline in market value of the securities. If the counterparty defaults on their obligations to sell these securities back to SURS or provide cash of equal value, SURS could suffer an economic loss equal to the difference between the market value of the underlying securities plus accrued interest and the agreement obligation including accrued interest. This credit exposure at June 30, 2019 was \$0.1 million.

SURS may enter into reverse repurchase agreements with various counterparties and such transactions are governed by Master Repurchase Agreements (MRA). MRAs are negotiated contracts and contain terms in which SURS seeks to minimize counterparty credit risk. SURS also controls credit exposures by limiting trades with any one counterparty to stipulated amounts. The counterparty credit exposure is monitored daily and managed through the transfer of margin, in the form of cash or securities, between SURS and the counterparty.

The cash proceeds from reverse repurchase agreements are reinvested. The maturities of the purchases made with the proceeds of reverse repurchase agreements are not necessarily matched to the maturities of the agreements. The agreed-upon yields earned by the counterparty were between 2.25% and 2.70%. The reverse repurchase agreements had open maturities, whereby a maturity date is not established upon entering into the agreement; however, interest rates on the agreements are negotiated daily. The agreements can be terminated at the will of either SURS or the counterparty.

notes to the financial statements

V. Net Pension Liability

The net pension liability for the SURS defined benefit plan as of June 30, 2019 is as follows:

Employer Net Pension Liability (\$ in millions)

| | Total Pension Liability | Plan Net Position | Net Pension Liability | Plan Net Position as a % of Total Pension Liability |
|------|-------------------------|-------------------|-----------------------|---|
| 2019 | \$ 48,437.4 | \$ 19,717.3 | \$ 28,720.1 | 40.71% |

The net pension liability represents the defined benefit plan's total pension liability determined in accordance with GASB Statement No. 67, less the plan net position. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The last experience study was performed in February 2018. An economic assumption study was performed June 2017. The total pension liability as of June 30, 2019 is based on the results of an actuarial valuation date of June 30, 2018 and rolled forward using generally accepted actuarial procedures. A summary of the actuarial methods and assumptions used in the latest actuarial valuation are presented below.

Summary of Actuarial Assumptions

| | |
|--|---|
| Valuation date | June 30, 2018 |
| Actuarial cost method | Individual entry age |
| Actuarial Assumptions | |
| Single discount rate | 6.59% |
| Expected rate of return | 6.75% |
| Municipal bond rate | 3.13% (based on fixed-income municipal bonds reported in Fidelity "20-Year Municipal GO AA Index" as of June 30, 2019) |
| Inflation | 2.25% |
| Projected salary increases | 3.25% to 12.25% including inflation |
| Post-retirement cost of living adjustments | 3.0% |
| Mortality table | RP2014 White Collar, gender distinct. Projected using MP-2014 two dimensional mortality improvement scale, set forward one year for male and female annuitants. |

Single Discount Rate

A single discount rate of 6.59% was used to measure the total pension liability as of June 30, 2019. This single discount rate was based on an expected return on pension plan investments of 6.75% and a municipal bond rate of 3.13%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between the statutory contribution rates and the member rate. Estimated contributions of which the majority of the contributions (approximately 97% in 2020) is provided by the State of Illinois are projected to be \$1.9 billion in 2020 and growing to \$3.7 billion in 2045 based on current statutory requirements for current members. Based on these assumptions, the pension plan's net position and future contributions were sufficient to finance the benefit payments through the year 2075. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2075, and the municipal bond rate was applied to all benefit payments after that date.

notes to the financial statements

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the net pension liability calculated using a single discount rate of 6.59%, as well as impact on the net pension liability of increasing the single discount rate by 1% and decreasing the single discount rate by 1%.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption as of June 30, 2019 (\$ in millions)

| | 1% Decrease 5.59% | Current Discount Rate 6.59% | 1% Increase 7.59% |
|-----------------------|-------------------------|-----------------------------------|-------------------------|
| Net Pension Liability | \$ 34,786.9 | \$ 28,720.1 | \$ 23,712.6 |

Long-Term Expected Rate of Return

The asset allocation of investments within the defined benefit portfolio is approved by the Board of Trustees in accordance with SURS Investment Policy. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a fully-funded status for the benefits provided through the defined benefit pension plan. The table displayed below is the Board-approved asset allocation policy for fiscal year 2019 and the long-term expected real rates of return. The long-term expected rate of return on defined benefit investment assets was determined using a building-block method in accordance with the Actuarial Standards of Practices (ASOP) 27 Section 3.6.2(a) in which best estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adjusted for inflation.

| Asset Class | Strategic Policy Allocation | Weighted Average Long-Term Expected Real Rate of Return (Arithmetic) |
|--|-----------------------------|--|
| U.S. equity | 23.0% | 5.25% |
| Private equity | 6.0 | 8.65 |
| Non-U.S. equity | 19.0 | 6.75 |
| Global equity | 8.0 | 6.25 |
| Fixed income | 19.0 | 1.85 |
| Treasury Inflation-Protected Securities (TIPS) | 4.0 | 1.20 |
| Emerging market debt | 3.0 | 4.00 |
| Real estate | | |
| REITs | 4.0 | 5.70 |
| Direct real estate | 6.0 | 4.85 |
| Hedged strategies | 5.0 | 2.85 |
| Commodities | 2.0 | 2.00 |
| Opportunity Fund | 1.0 | 7.00 |
| Total | 100.0% | 4.80% |
| Inflation | | 2.75 |
| Expected arithmetic return* | | 7.55% |

*The geometric expected rate of return includes volatility and correlation estimates, while the expected arithmetic return does not.

For the year ended June 30, 2019 the annual money-weighted rate of return on defined benefit plan investments, net of fees was 6.0%. The money weighted rate of return expresses investment performance, net of fees, adjusted for the changing amounts actually invested.

notes to the financial statements

VI. Capital Assets

Capital assets activity for the year ended June 30, 2019 was as follows:

| | Beginning Balance | Additions/ Transfers in | Disposals/ Transfers out | Ending Balance |
|---|---------------------|-------------------------|--------------------------|---------------------|
| Land and improvements | \$ 533,609 | \$ - | \$ - | \$ 533,609 |
| Office building | 7,992,431 | 371,086 | - | 8,363,517 |
| Information system equipment and software | 16,360,455 | 228,537 | 179,911 | 16,409,081 |
| Furniture and fixtures | 911,759 | 3,078 | 6,900 | 907,937 |
| Constuction in progress | - | 3,725,866 | - | 3,725,866 |
| Total capital assets | 25,798,254 | 4,328,567 | 186,811 | 29,940,010 |
| Less accumulated depreciation: | | | | |
| Land and improvements | 2,933 | 237 | - | 3,170 |
| Office building | 3,827,023 | 345,845 | - | 4,172,868 |
| Information system equipment and software | 15,061,249 | 273,215 | 179,911 | 15,154,553 |
| Furniture and fixtures | 797,640 | 22,469 | 6,900 | 813,209 |
| Total accumulated depreciation | 19,688,845 | 641,766 | 186,811 | 20,143,800 |
| Capital assets, net | \$ 6,109,409 | \$ 3,686,801 | \$ - | \$ 9,796,210 |

The average estimated useful lives for depreciable capital assets are as follows:

| | | | |
|------------------------------|----------|-------------------------------|---------|
| Office building | 40 years | Information systems equipment | 5 years |
| Information systems software | 10 years | Furniture and fixtures | 7 years |

At the end of the fiscal year, the System had Construction in Progress of \$3.7 million. The majority of that amount was related to the purchase and renovation of the new building at 1801 Fox Drive, Champaign, IL. The building was placed into service in August 2019.

VII. Compensated Absences

The System is obligated to pay employees at termination for unused vacation and sick time. The maximum time for which any individual may be paid is 448 hours of vacation and one-half of unused sick time earned between January 1, 1984 and December 31, 1997. No sick time earned after December 31, 1997 will be compensable at termination.

At June 30, 2019, the System had a liability of \$1,107,076 for compensated absences, based upon the vesting method used for calculation of sick leave payable. The liability is included in the administrative expenses payable on the Statement of Plan Net Position and the annual increase or decrease in liability is reflected in the financial statements as an increase or decrease in salary expense.

Compensated absences payable for the year ended June 30, 2019 was as follows:

| | Beginning Balance | Additions | Reductions | Ending Balance | Estimate Amount Due Within One Year |
|------------------------------|-------------------|------------|------------|----------------|-------------------------------------|
| Compensated absences payable | \$ 1,078,654 | \$ 841,491 | \$ 813,069 | \$ 1,107,076 | \$ 96,574 |

notes to the financial statements

VIII. Insurance Coverage

The System is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The employee health claims are administered through the State of Illinois. The System has minimized the risk of loss through private insurance carriers for commercial, business owners, and automobile policies. The deductible for this insurance coverage ranges from \$100 to \$50,000 per occurrence. There has been no significant reduction of insurance coverage from the prior year. The System has not had any insurance claims filed or paid in the past five fiscal years.

IX. Post-Employment Benefits

The State provides health, dental, vision, and life insurance benefits for retirees and their dependents in a program administered by the Department of Central Management Services (CMS). Substantially all State employees become eligible for post-employment benefits if they eventually become annuitants of one of the State-sponsored pension plans. Health, dental, and vision benefits include basic benefits for annuitants and dependents under the State's self-insurance plan and insurance contracts currently in force. Annuitants may be required to contribute toward health, dental, and vision benefits with the amount based on factors such as date of retirement, years of credited service with the State, whether the annuitant is covered by Medicare, and whether the annuitant has chosen a managed health care plan. Annuitants who retired prior to January 1, 1998, and who are vested in the State Universities Retirement System do not contribute toward health, dental, and vision benefits. For annuitants who retired on or after January 1, 1998, the annuitant's contribution amount is reduced five percent for each year of credited service with the State; therefore, those annuitants with 20 or more years of credited service do not have to contribute toward health, dental, and vision benefits. Annuitants also receive life insurance coverage equal to the annual salary of the last day of employment until age 60, at which time the benefit becomes \$5,000.

The State pays the State Universities Retirement System's portion of employer costs for the benefits provided. The total cost of the State's portion of health, dental, vision, and life insurance benefits of all members, including post-employment health, dental, vision, and life insurance benefits, is recognized as an expenditure by the State in the Illinois Comprehensive Annual Financial Report. The State finances the costs on a pay-as-you-go basis. The total costs incurred for health, dental, vision, and life insurance benefits are not separated by department or component unit for annuitants and their dependents nor active employees and their dependents.

A summary of post-employment benefit provisions, changes in benefit provisions, employee eligibility requirements including eligibility for vesting, and the authority under which benefit provisions are established are included as an integral part of the financial statements of the Department of Central Management Services. A copy of the financial statements of the Department of Central Management Services may be obtained by writing CMS, Stratton Building, Room 715, 401 E. Spring St, Springfield, IL 62706.

X. Lease Agreements

The System leases office space in Naperville for its Northern Counseling Center. The commitment for this lease is \$12,944 for fiscal year 2019 and will increase to \$13,203 for 2020. In addition, the System leases office space in Springfield for its legislative staff. The fiscal commitment for this lease is \$7,200 for both fiscal years 2019 and 2020. In 2019, The System entered into a lease agreement in which a local company will lease a portion of the building purchased at 1801 Fox Drive, Champaign, IL. The income for 2019 was \$56,832 and will be \$107,200 for 2020.

required supplementary information

Schedule of Changes in the Employer Net Pension Liability and Related Ratios

| | 2019 | 2018 |
|--|--------------------------|--------------------------|
| TOTAL PENSION LIABILITY | | |
| Service cost | \$ 631,537,687 | \$ 628,356,344 |
| Interest on net pension liability | 3,047,548,381 | 3,050,584,303 |
| Differences between expected and actual experience | 254,283,755 | (281,807,425) |
| Changes in assumptions | 327,945,723 | 1,992,356,758 |
| Benefit payments | (2,558,990,197) | (2,446,291,238) |
| Refunds of member accounts | (80,538,398) | (93,492,132) |
| Net change in pension liability | 1,621,786,951 | 2,849,706,610 |
| Total pension liability - beginning | 46,815,632,183 | 43,965,925,573 |
| Total pension liability - ending | \$ 48,437,419,134 | \$ 46,815,632,183 |
| PLAN FIDUCIARY NET POSITION | | |
| Member contributions | \$ 280,017,618 | \$ 282,726,126 |
| Employer contributions | 49,415,109 | 39,659,344 |
| Non-employer contributing entity contributions | 1,592,639,155 | 1,568,220,976 |
| Net investment income | 1,129,812,762 | 1,499,829,456 |
| Benefit payments | (2,558,990,197) | (2,446,291,238) |
| Refunds of member accounts | (80,538,398) | (93,492,132) |
| Non investment administrative expenses | (16,083,589) | (14,396,609) |
| Net change in plan fiduciary net position | 396,272,460 | 836,255,923 |
| Plan fiduciary net position - beginning | 19,321,075,501 | 18,484,819,578 |
| Plan fiduciary net position - ending | \$ 19,717,347,961 | \$ 19,321,075,501 |
| Net pension liability - ending | \$ 28,720,071,173 | \$ 27,494,556,682 |

Schedule of Net Pension Liability (\$ in millions)

| Fiscal Year | Total Pension Liability | Plan Net Position | Net Pension Liability | Plan Net Position as a % of Total Pension Liability | Covered Payroll | Net Pension Liability as a % of Covered Payroll |
|-------------|-------------------------|-------------------|-----------------------|---|-----------------|---|
| 2014 | \$ 39,182.3 | \$ 17,391.3 | \$ 21,791.0 | 44.39% | \$ 3,522.2 | 618.67% |
| 2015 | 41,219.3 | 17,463.0 | 23,756.3 | 42.37 | 3,606.5 | 658.71 |
| 2016 | 42,970.9 | 17,005.6 | 25,965.3 | 39.57 | 3,513.1 | 739.10 |
| 2017 | 43,965.9 | 18,484.8 | 25,481.1 | 42.04 | 3,458.3 | 736.81 |
| 2018 | 46,815.6 | 19,321.1 | 27,494.5 | 41.27 | 3,470.2 | 792.30 |
| 2019 | 48,437.4 | 19,717.3 | 28,720.1 | 40.71 | 3,506.7 | 819.02 |

Note: The System implemented GASB Statement No. 67 in fiscal year 2014. The information above is presented for as many years as available. The schedule is intended to show information for 10 years.

Schedule of Investment Returns

Annual money-weighted rate of return, net of investment fees.

| | |
|------|--------|
| 2014 | 18.15% |
| 2015 | 2.84 |
| 2016 | 0.12 |
| 2017 | 12.15 |
| 2018 | 8.29 |
| 2019 | 6.07 |

Note: The System implemented GASB Statement No. 67 in fiscal year 2014. The information above is presented for as many years as available. The schedule is intended to show information for 10 years.

required supplementary information

Schedule of Contributions from Employers and Other Contributing Entities (\$ in thousands)

| Fiscal Year | Actual Contribution | | | Contribution Deficiency (Excess) | Covered Payroll | Actual Contribution as a % of Covered Payroll |
|-------------|---|-----------|-----------------------------------|--|-----------------|---|
| | Actuarially Determined Contribution | Employers | Other Contributing Entities | | | |
| 2010 | \$ 1,003,331 | \$ 34,166 | \$ 662,429 | \$ 306,736 | \$ 3,491,071 | 19.95% |
| 2011 | 1,259,048 | 36,547 | 737,048 | 485,453 | 3,460,838 | 22.35 |
| 2012 | 1,443,348 | 45,596 | 940,219 | 457,533 | 3,477,166 | 28.35 |
| 2013 | 1,549,287 | 41,874 | 1,359,607 | 147,806 | 3,533,858 | 39.66 |
| 2014 | 1,560,524 | 43,899 | 1,458,965 | 57,660 | 3,522,246 | 42.67 |
| 2015 | 1,622,656 | 39,934 | 1,488,591 | 94,131 | 3,606,537 | 42.38 |
| 2016 | 1,811,060 | 39,348 | 1,542,946 | 228,766 | 3,513,108 | 45.04 |
| 2017 | 1,864,843 | 38,386 | 1,612,165 | 214,292 | 3,458,320 | 47.73 |
| 2018 | 1,862,033 | 39,659 | 1,568,221 | 254,153 | 3,470,226 | 46.33 |
| 2019 | 2,239,366 | 49,415 | 1,592,639 | 597,312 | 3,506,650 | 46.83 |

notes to the required supplementary information

Schedule of Changes in Net Pension Liability

The covered employee payroll is equal to the defined benefit payroll from June 30, 2017 valuation rolled forward with one year of wage inflation at 3.25%. The beginning of the year total pension liability uses a single discount rate of 6.65% and the end of the year total pension liability uses a single discount rate of 6.59%. The difference between the actual and expected experience includes the impact of this change in the single discount rate based on the long-term municipal bond rate of 3.62% as of June 30, 2018 and 3.13% as of June 30, 2019.

Actuarial Assumptions and Methods Used in Determining Fiscal Year 2019 Contributions

| | |
|-------------------------------|--|
| Valuation Date | June 30, 2017 |
| Valuation Method | Projected unit credit |
| Amortization Method | The statutory contribution is equal to the level percentage of pay contributions determined so that the Plan attains a 90% funded ratio by the end of 2045. |
| Remaining Amortization Period | Not applicable. While an amortization payment is not directly calculated, it represents the difference between the total statutory contribution and the employer normal cost contribution. |
| Asset Valuation Method | 5 year smoothed market |
| Inflation | 2.25% |
| Salary Increases | 3.25% to 12.25% including inflation |
| Investment Rate of Return | 6.75% beginning with the actuarial valuation as of June 30, 2018. |
| Real Rate of Return | 4.5% |
| Retirement Age | Experience-based table of rates. Last updated for the 2018 valuation pursuant to an experience study of the period 2015 - 2017. |
| Mortality | RP2014 mortality White Collar table with gender distinct, projected using MP-2014 two dimensional mortality improvement scale, set forward one year for male and female annuitants. |
| Other Notes | None |

other supplementary information

Summary Schedule of Administrative Expenses For the Years Ended June 30, 2019 and 2018

| | 2019 | 2018 |
|---|----------------------|----------------------|
| DEFINED BENEFIT PLAN | | |
| Personnel services | | |
| Salary and wages | \$ 8,258,578 | \$ 7,689,068 |
| Retirement contributions | 953,693 | 943,565 |
| Insurance and payroll taxes | 2,522,758 | 2,239,601 |
| | 11,735,029 | 10,872,234 |
| Professional services | | |
| Computer services | 976,790 | 614,116 |
| Medical consultation | 4,422 | 5,455 |
| Technical and actuarial | 977,335 | 697,200 |
| Legal services | 220,495 | 279,609 |
| | 2,179,042 | 1,596,380 |
| Communications | | |
| Postage | 151,547 | 167,790 |
| Printing and copying | 45,765 | 42,101 |
| Telephone | 131,253 | 94,146 |
| | 328,565 | 304,037 |
| Other services | | |
| Equipment repairs, rental and maintenance | 56,144 | 48,030 |
| Building operations, maintenance, office rental | 341,138 | 283,272 |
| Surety bonds and insurance | 401,732 | 333,357 |
| Memberships and subscriptions | 78,160 | 90,632 |
| Transportation, travel and conferences | 150,733 | 131,564 |
| Education | 38,402 | 55,319 |
| EDP supplies and equipment | 83,452 | 97,655 |
| Office supplies | 49,426 | 48,740 |
| | 1,199,187 | 1,088,569 |
| Depreciation and amortization | 641,766 | 535,389 |
| Total administrative expenses - defined benefit plan | \$ 16,083,589 | \$ 14,396,609 |
| SELF-MANAGED PLAN | | |
| Salary and wages | \$ 288,693 | \$ 252,421 |
| Retirement contributions | 35,971 | 31,452 |
| Insurance and payroll taxes | 91,465 | 82,720 |
| Technical and actuarial | 152,839 | 78,117 |
| Postage | 7,168 | 4,780 |
| Memberships and subscriptions | 600 | 600 |
| Transportation, travel and conferences | 1,287 | 184 |
| Printing and copying | 1,262 | 1,255 |
| Total administrative expenses - Self-Managed Plan | \$ 579,285 | \$ 451,529 |
| TOTAL ADMINISTRATIVE EXPENSES | \$ 16,662,874 | \$ 14,848,138 |

other supplementary information

Summary Schedule of Consultant Payments For the Years Ended June 30, 2019 and 2018

| | 2019 | 2018 |
|---|---------------------|---------------------|
| DEFINED BENEFIT PLAN | | |
| Technical and actuarial services | | |
| Accenture, LLP | \$ 298,000 | \$ - |
| Advanced Digital Media, Inc | - | 1,140 |
| Altec Products, Inc | 3,967 | 13,475 |
| Aurico | - | 619 |
| The Berwyn Group | 5,040 | 5,040 |
| CareerBuilder, LLC | 6,294 | 5,260 |
| CoventBridge Group, Inc | 257 | 3,150 |
| Economic Research Institute | 6,989 | - |
| Election-America | - | 36,789 |
| Gabriel, Roeder, Smith & Company | 218,431 | 241,405 |
| GHR Engineers and Associates | - | 5,164 |
| Glass Lewis & Co, LLC | 113,400 | 113,400 |
| Illinois State Board of Investment | 9,250 | 15,416 |
| Klausner, Kaufman, Jensen & Levinson | 12,876 | - |
| LexisNexis | 656 | 835 |
| LinkedIn Corporation | 10,500 | 10,500 |
| Miscellaneous | 1,312 | - |
| Monica-Kaye Gamble, ESQ. | 8,901 | - |
| Open position advertising/ Recruitment | 6,869 | 3,564 |
| PayScale, Inc. | 6,199 | 6,199 |
| Propio Language Services, LLC | 855 | 799 |
| Quality Training Solutions, LLC | 8,000 | - |
| Reed Group | 1,360 | 1,360 |
| Segal | 50,000 | - |
| Segal Waters Consulting | 8,750 | - |
| Sikich LLP | 46,324 | 44,600 |
| Spherion Staffing, LLC | - | 33,750 |
| SurveyMonkey Inc. | 360 | 360 |
| The Northern Trust Company | 68,553 | 70,031 |
| Vimeo | 240 | 204 |
| Whitsitt & Associates, Inc | - | 1,500 |
| Woolard Marketing Consultants, Inc. | 23,952 | 22,640 |
| Zahn Governmental Solutions, LLC | 60,000 | 60,000 |
| | 977,335 | 697,200 |
| Legal services | | |
| Area Wide Reporting Service | 2,159 | 1,115 |
| Burke Burns & Pinelli, Ltd. | 63,139 | 166,406 |
| Circuit Court of Cook County | - | 413 |
| Featherstun, Gaumer, et al. | 19,119 | 12,392 |
| Ice Miller, LLP | 129,011 | 29,214 |
| Klausner, Kaufman, Jensen & Levinson | 3,150 | - |
| Mayer Brown LLP | - | 39,510 |
| Meyer Capel | 3,906 | 24,153 |
| Miscellaneous | 11 | 296 |
| Tummelson Bryan & Knox, LLP | - | 6,110 |
| | 220,495 | 279,609 |
| SELF-MANAGED PLAN | | |
| Technical and actuarial services | | |
| Cammack LaRhette Advisors | 95,000 | 16,250 |
| Crain Communications Inc. | 1,543 | - |
| Fidelity | 2,333 | - |
| Gabriel, Roeder, Smith & Company | 7,672 | 19,492 |
| Ice Miller, LLP | 11,424 | - |
| Mayer Brown | 34,867 | - |
| NEPC | - | 42,375 |
| | 152,839 | 78,117 |
| TOTAL CONSULTANT PAYMENTS | \$ 1,350,670 | \$ 1,054,926 |

other supplementary information

Defined Benefit Plan Summary Schedule of Investment Fees and Administrative Expenses For the Years Ended June 30, 2019 and 2018

| | 2019 | 2018 |
|--|-------------------|-------------------|
| INVESTMENT MANAGER | | |
| Adams Street Partners | \$ 5,726,967 | \$ 5,867,842 |
| Alinda Capital Partners | 202,057 | 419,186 |
| AQR Capital Management | 389,838 | - |
| Ativo Capital Management | 778,271 | 794,540 |
| Basis Investment Group | 696,788 | - |
| BlackRock Institutional Trust Company | 1,622,806 | 4,867,022 |
| BlueBay Asset Management | - | 1,157,675 |
| Blue Vista Capital Management | 415,772 | 525,000 |
| Brookfield Asset Management | 1,078,021 | 502,736 |
| Carlyle Property Partners | 236,484 | - |
| CastleArk Management | 746,868 | 960,895 |
| Channing Capital Management | 495,672 | 587,128 |
| Colchester Global Investors | 702,562 | 652,211 |
| Crow Holdings | 715,198 | 416,645 |
| Denali Advisors | 240,563 | 132,083 |
| Dune Capital Management | 1,369,813 | 1,550,167 |
| EARNEST Partners | 708,461 | 1,167,413 |
| Fairview Capital Partners | 373,481 | 337,033 |
| Fidelity Institutional Asset Management | 978,875 | 1,361,544 |
| Franklin Templeton Real Estate Advisors | 475,830 | 490,226 |
| Garcia Hamilton & Associates | 444,677 | 443,332 |
| Gladius Capital Management | 2,172,763 | 2,549,271 |
| GlobeFlex Capital | 916,192 | 3,117,327 |
| Heitman Capital Management | 1,616,806 | 1,521,027 |
| Invesco | 1,467,812 | 1,529,541 |
| J.P. Morgan Asset Management | 1,918,478 | 1,782,433 |
| KKR Prisma | 1,269,503 | 2,726,215 |
| LM Capital Group | 286,519 | 283,002 |
| Macquarie Capital | 1,487,387 | 1,376,849 |
| Matarin Capital Management | 659,792 | 301,847 |
| Mesirow Financial Investment Management | 1,221,185 | 1,008,981 |
| Mondrian Investment Partners | 1,324,814 | 1,174,525 |
| Muller and Monroe Asset Management | 1,055,299 | 1,092,799 |
| Neuberger Berman | 1,398,098 | 800,983 |
| Northern Trust Asset Management | 514,842 | 469,309 |
| Oaktree Capital Management | 157,404 | 38,576 |
| Pacific Alternative Asset Management Company | 1,811,710 | 3,610,525 |
| Pacific Investment Management Company | 4,741,627 | 4,534,303 |
| Pantheon Ventures | 3,166,384 | 3,217,333 |
| Parametric Clifton | 422,896 | 320,236 |
| Piedmont Investment Advisors | 1,043,783 | 981,769 |
| Progress Investment Management Company | 2,377,489 | 2,178,606 |
| Prudential Fixed Income | 1,227,509 | 971,547 |
| Pugh Capital Management | 251,173 | 248,152 |
| RhumbLine Advisers | 155,054 | 143,341 |
| RREEF | - | 2,700 |
| Smith Graham & Company | 176,642 | 174,133 |
| State Street Global Advisors | 77,992 | 81,064 |
| StepStone Real Estate | 288,751 | 288,749 |
| Strategic Global Advisors | 1,088,569 | 1,135,284 |
| T. Rowe Price | 3,377,875 | 3,556,803 |
| TCW Metropolitan West Asset Management | 889,327 | 858,725 |
| UBS Realty Investors | 1,048,099 | 2,838,307 |
| Wellington Management Company | 2,575,935 | 2,670,156 |
| Total management fees | 60,586,713 | 69,817,096 |

other supplementary information

Defined Benefit Plan Summary Schedule of Investment Fees and Administrative Expenses (continued) For the Years Ended June 30, 2019 and 2018

| | 2019 | 2018 |
|---|----------------------|----------------------|
| MASTER TRUSTEE & CUSTODIAN | | |
| The Northern Trust Company | 1,075,000 | 1,075,000 |
| INVESTMENT CONSULTANT, MEASUREMENT & COUNSEL | | |
| Callan LLC | 225,000 | - |
| Financial Recovery Technologies | - | 18,750 |
| Ice Miller LLP | 35,111 | 45,427 |
| Jackson Walker LLP | - | 69,162 |
| Mayer Brown LLP | 2,102 | 89,436 |
| Meketa Investment Group | 526,583 | 120,750 |
| NEPC | 15,000 | 406,375 |
| Squire Patton Boggs | 59,211 | 211,567 |
| Total consultant, measurement & counsel fees | 863,007 | 961,467 |
| INVESTMENT ADMINISTRATIVE EXPENSES | | |
| Personnel | 1,432,724 | 1,214,542 |
| Resources and travel | 77,205 | 146,020 |
| Performance measurement and database | 75,087 | 67,862 |
| Total administrative expenses | 1,585,016 | 1,428,424 |
| TOTAL INVESTMENT EXPENSES | \$ 64,109,736 | \$ 73,281,987 |