Teachers’ Retirement System
of the State of Illinois
(A Component Unit of the State of Illinois)

Independent Auditor’s Report and Financial Audit

For the Year Ended June 30, 2019

Performed as Special Assistant Auditors for

the Auditor General, State of Illinois

Teachers' Retirement System
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Financial Audit
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System Officials

Executive Director	Richard W. Ingram
Chief Investment Officer	Stan Rupnik, CFA
Chief Financial Officer	Jana Bergschneider, CPA
Chief Legal Counsel	Marcy Dutton, JD
Director of Internal Audit and Risk	Stacy Smith, CPA, CIDA

Governing Board Members

President	Dr. Carmen I. Ayala (March 2019 – current) Dr. Tony Smith (July 2018 – March 2019)
Vice President	Mr. Mark Bailey
Board of Trustees	Ms. Norma Bellcoff Mr. Devon Bruce Ms. Marsha Byas Mr. Andrew Hirshman Mr. Matthew Hunt Ms. Maureen Mena Mr. David Miller Ms. Laura Pearl Mr. Fred Peronto Mr. Larry Pfeiffer Mr. Doug Strand

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2815 West Washington Street
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4200 Commerce Court, Suite 100
Lisle, Illinois 60532-3611

Teachers' Retirement System
of the State of Illinois
(A Component Unit of the State of Illinois)
Financial Statement Report Summary
For the Year Ended June 30, 2019

Summary

The audit of the accompanying financial statements of the Teachers' Retirement System of the State of Illinois ("System") was performed by **BKD, LLP**.

Based on their audit, the auditors expressed an unmodified opinion on the System's basic financial statements.

Exit Conference

The System waived an exit conference in a correspondence from Jana Bergschneider, Chief Financial Officer, on November 20, 2019.

BKD
CPAs & Advisors

225 N. Water Street, Suite 400 | Decatur, IL 62523-2326
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Independent Auditor's Report

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

Report on the Financial Statements

As Special Assistant Auditors for the Auditor General, we have audited the accompanying Statement of Fiduciary Net Position of the Teachers' Retirement System of the State of Illinois (System), a component unit of the State of Illinois, as of June 30, 2019, and the Statement of Changes in Fiduciary 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 and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. 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 fiduciary net position of the System as of June 30, 2019, and the changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

The actuarially determined net pension liability, calculated as required by GASB Statements No. 67, *Financial Reporting for Pension Plans*, 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 A.6 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 management's discussion and analysis, the schedule of changes in the net pension liability, the schedule of net pension liability, the schedule of contributions from employers and other contributing entities, the schedule of investment returns, and notes to required supplementary information as listed in the table of contents be presented to supplement the basic financial statements. Such information, although not a 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 information, as listed in the table of contents, is presented for purposes of additional analysis and is 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 information, 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. In our opinion, the other supplementary information as listed in the table of contents is fairly stated, in all material respects, in relation to the basic financial statements as a whole for the year ended June 30, 2019.

We have also previously audited, in accordance with accounting principles generally accepted in the United State of America, the System's basic financial statements as of and for the year ended June 30, 2018 (not presented herein), and have issued our report thereon dated December 13, 2018, which contained an unmodified opinion on those financial statements. The other supplementary information, as listed in the table of contents, for the year ended June 30, 2018 is presented for purposes of additional analysis and is 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 June 30, 2018 financial statements. The other supplementary information, as listed in the table of contents, has been subjected to the auditing procedures applied in the audit of the June 30, 2018 basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare those 2018 basic financial statements or to those 2018 basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the 2018 other supplementary information, as listed in the table of contents, is fairly stated in all material respects in relation to the basic financial statements as a whole for the year ended June 30, 2018.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 13, 2019 on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

SIGNED ORIGINAL ON FILE

Decatur, Illinois
December 13, 2019

MANAGEMENT'S DISCUSSION AND ANALYSIS

This discussion and analysis of the Teachers' Retirement System of the State of Illinois provides an overview of financial activities for the fiscal year ended June 30, 2019. Please read it in conjunction with the Financial Statements and related notes that follow this discussion.

FINANCIAL HIGHLIGHTS

- The net position of TRS at June 30, 2019 was $53.3 billion.
- During FY19, the net position of TRS increased $1.3 billion.
- Contributions from members, employers and the State of Illinois were $5.5 billion, an increase of $401 million or 7.8 percent for FY19.
- Total net investment income was $2.6 billion, compared to $4.0 billion in FY18, a decrease of $1.4 billion.
- Benefits and refunds paid to members and annuitants were $6.8 billion, an increase of $267 million or 4.1 percent.
- The actuarial accrued liability was $131.5 billion at June 30, 2019.
- The unfunded actuarial accrued liability was $78.1 billion at June 30, 2019. The funded ratio was 40.6 percent at June 30, 2019. The unfunded liability and funded ratio are calculated using a smoothed value of assets, as required under Public Act 96-0043.
- The total pension liability was $134.4 billion at June 30, 2019.
- The net pension liability was $81.1 billion at June 30, 2019. The plan fiduciary net position, as a percentage of total pension liability, was 39.6 percent.

The Financial Statements consist of:

Statement of Fiduciary Net Position. This statement reports the pension trust fund's net position which represents the difference between the financial statement elements comprised of assets and liabilities. It is the balance sheet for the pension system and reflects the financial position of the Teachers' Retirement System as of June 30, 2019.

Statement of Changes in Fiduciary Net Position. This statement details transactions that occurred during the fiscal year. It is the income statement of TRS and reflects the additions and deductions to net position recorded throughout the fiscal year. This statement supports the change in the value of net position reported on the Statement of Fiduciary Net Position.

Notes to the Financial Statements. The notes are an integral part of the financial statements and include additional information not readily evident in the statements themselves.

Required Supplementary Information and Other Supplementary Information. The required supplementary information and other supplementary information following the notes to the financial statements provide historical and additional detailed information considered useful in evaluating the pension system's financial condition.

The following are condensed comparative financial statements of the TRS pension trust fund.

CONDENSED COMPARATIVE STATEMENTS OF FIDUCIARY NET POSITION AS OF JUNE 30

	2019	Percentage Change	2018
Cash	$27,358,430	(14.6%)	$32,034,294
Receivables and prepaid expenses	7,164,874,414	22.3	5,856,758,011
Investments	52,825,807,531	1.4	52,070,945,762
Invested securities lending collateral	2,540,713,046	9.3	2,323,876,849
Capital assets	2,856,794	0.2	2,851,122
Total assets	**62,561,610,215**	**3.8**	**60,286,466,038**
Total liabilities	**9,298,820,848**	**11.8**	**8,316,919,344**
Net position restricted for pensions	**$53,262,789,367**	**2.5%**	**$51,969,546,694**

CONDENSED COMPARATIVE STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION FOR THE YEARS ENDED JUNE 30

	2019	Percentage Change	2018
Contributions	$5,518,507,593	7.8%	$5,117,795,720
Net investment income	2,617,831,332	(35.4)	4,049,271,728
Total additions	8,136,338,925	(11.2)	9,167,067,448
Benefits and refunds	6,818,760,572	4.1	6,551,634,376
Administrative expenses	24,335,680	12.9	21,550,896
Total deductions	6,843,096,252	4.1	6,573,185,272
Net increase in net position	**1,293,242,673**	**(50.1)**	**2,593,882,176**
Net position restricted for pensions - beginning of year	**51,969,546,694**	**5.3**	**49,375,664,518**
Net position restricted for pensions - end of year	**$53,262,789,367**	**2.5%**	**$51,969,546,694**

FINANCIAL ANALYSIS

TRS was created to provide retirement, survivor and disability benefits to qualified members. Increases or decreases in the plan's net position serve as useful indicators of TRS's financial position. The net position available to pay benefits was $53.3 billion at June 30, 2019.

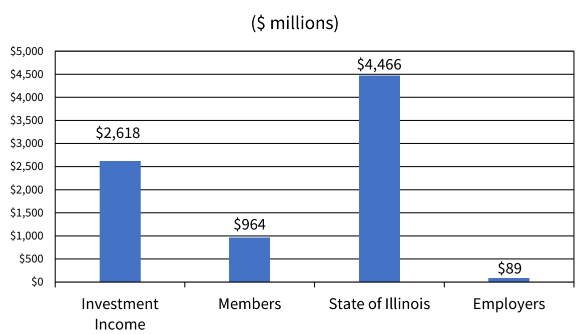
CONTRIBUTIONS

Contributions increased $401 million during FY19. During FY19, contributions from the State of Illinois increased $371 million and employer contributions from school districts increased $3.9 million.

Public Act 100-0023 requires that the impact on state contributions due to changes in actuarial assumptions be phased in over five years on a retroactive basis. Its effect was to lower the increases in both the FY18 and FY19 state contributions that would have otherwise occurred.

State funding law provides for a 50-year funding plan that includes a 15-year phase-in period and a goal of 90 percent funding in the year 2045.

Revenues by Type for the Year Ended June 30, 2019

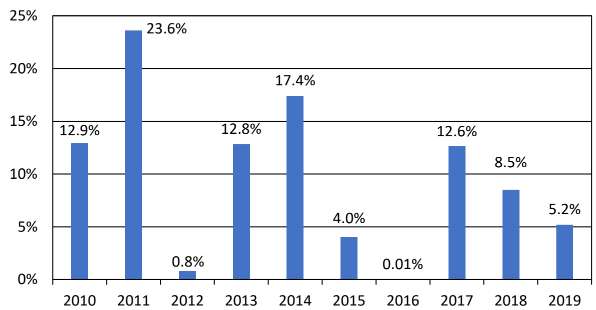


INVESTMENTS

The TRS trust fund is invested according to law under the "prudent person rule" requiring investments to be managed solely in the interest of fund participants and beneficiaries. Principles guiding the investment of funds include preserving the long-term principal of the trust fund and maximizing total return within prudent risk parameters.

The TRS investment portfolio returned 5.2 percent, net of fees, for the fiscal year ended June 30, 2019. Total TRS investment assets increased approximately $0.8 billion during the year.

Annual Rate of Return (net of investment expenses)

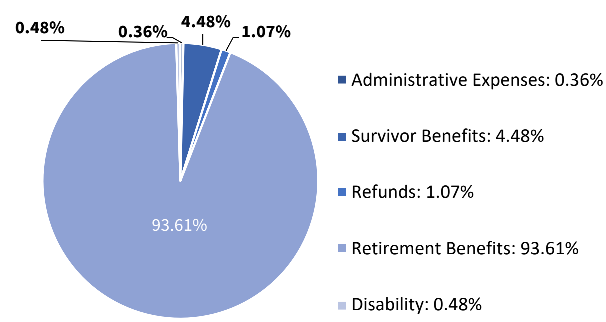


BENEFITS AND REFUNDS

Retirement, survivor and disability benefit payments increased $287 million during FY19. Benefit payments increased to $6.7 billion with 124,299 recipients in FY19. The overall increase in benefit payments is due to an increase in retirement and survivor benefits as well as the number of retirees. Retirement benefits were higher as a result of annual increases in retirement benefits and an increase in the number of retirees from 110,043 as of June 30, 2018 to 111,598 as of June 30, 2019.

Refunds of contributions decreased $20 million in FY19. The decrease during FY19 was due to most eligible members withdrawing Early Retirement Option refunds in FY17 and FY18. FY19 also had fewer contribution withdrawals.

Deductions by Type for the Year Ended June 30, 2019



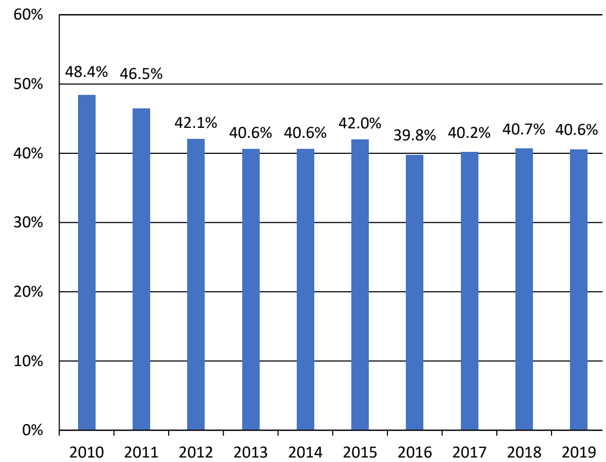
ACTUARIAL

For statutory funding and financial reporting, an actuarial valuation is performed annually and measures the total liability for all benefits earned to date. The actuarial accrued liability is a present value estimate of all benefits earned to date but not yet paid. The actuarial accrued liability based on statutory funding requirements increased $4.5 billion in FY19 to $131.5 billion at June 30, 2019. The actuarial unfunded liability is the present value of accrued benefits payable that are not covered by the actuarial value of assets as of the valuation date. The actuarial unfunded liability based on the actuarial value of assets increased $2.8 billion during FY19 to $78.1 billion at June 30, 2019. The funded ratio reflects the percentage of the actuarial accrued liability covered by the actuarial value of assets. The funded ratio decreased from 40.7 percent on June 30, 2018 to 40.6 percent on June 30, 2019.

The actuarial unfunded liability and funded ratio are based on the actuarial value of assets. Public Act 96-0043 requires the five state retirement systems to smooth actuarial gains and losses on investments over a five-year period.

When the funded ratio was based on the fair value of assets, the reported funded ratio was impacted immediately by changes in market conditions. State funding requirements based on fair value assets also were impacted immediately and therefore were more volatile. Using the actuarial value of assets results in more stable reported funded ratios and state funding requirements over time.

Funded Ratio Based on Actuarial Value of Assets



The funded ratio in this chart is the ratio of actuarial assets to the actuarial liability. An increase in this ratio indicates an improvement in TRS's ability to meet future benefit obligations.

During FY14, TRS implemented GASB Statement No. 67, "Financial Reporting for Pension Plans." As a result of implementing the new statement, TRS is required to disclose the net pension liability and total pension liability in the Financial Statement Notes and Required Supplementary Information in accordance with criteria which differs from criteria used to disclose the actuarial accrued liability and actuarial unfunded liability. The total pension liability is $134.4 billion at June 30, 2019, while the net pension liability is $81.1 billion at June 30, 2019.

LEGISLATIVE

During FY19, **Gov. JB Pritzker** and the General Assembly made a number of changes to the Illinois Pension Code that will impact the continuing operations of Teachers' Retirement System.

ADDITIONAL EMPLOYER CONTRIBUTIONS TRIGGERED BY RAISES FOR MEMBERS CLOSE TO RETIREMENT

For the second year in a row, the General Assembly altered a state law that greatly influences the salary increases that many school districts grant active teachers who are within four years of retirement, as well as the annual contribution employers pay to TRS.

The law in question sets a "threshold" on salary increases for TRS members if the raise would factor into the member's initial pension calculation. Typically, these raises are within a member's last four years of teaching. If a member's salary increase exceeds the threshold, the law requires the school district to pay the lifetime actuarial cost of the portion of that member's pension created by the part of the raise above the threshold. Some of these payments total several thousand dollars.

Between 2005 and 2018, the threshold on salary increases affected by the law was 6 percent. In 2018, the legislature reduced the threshold to 3 percent.

But in the spring of 2019, after a negative backlash from TRS members, lawmakers increased the threshold back to 6 percent. The 3 percent level was never implemented. TRS spent a considerable amount of time and money in the last year to reconfigure processes to administer the 3 percent threshold.

The salary increase threshold law is designed to discourage large salary increases to TRS members close to retirement that serve to boost or "spike" their initial pensions. Without the law, the long-term cost of these pension boosts would be paid by the state, not by local school districts that approved the salary increase.

SETTING A $40,000 MINIMUM WAGE FOR ILLINOIS TEACHERS

A new minimum salary for teachers across the state is designed to help alleviate the on-going shortage of teachers (Public Act 101-0443). The salary schedule will be phased in over the next four years.

In the 2020-21 school year, the minimum wage for teachers is $32,076. In the 2021-22 year, the minimum will be $34,576. It will increase to $37,076 in the 2022-23 school year and finally top out at $40,000 in the 2023-24 school year.

EXTENDING "RETURN-TO-WORK" RULES TO COMBAT ILLINOIS' TEACHER SHORTAGE

To help alleviate the classroom teacher shortage problem in Illinois, a law (Public Act 101-0049) that allows retired TRS members to teach for a full school year in districts declared to be "Subject Shortage Areas" has been extended until 2021. Under the law, which was set to expire in 2019, retired educators who resume teaching in these designated districts are not subject to "return-to-work" restrictions imposed on other retirees.

EXTENDING THE AVAILABILITY OF MEMBER "ACCELERATED BENEFIT PAYMENT" PROGRAMS

The time period for the two "accelerated benefit payment" programs available to TRS members – one for retiring Tier 1 members and one for all inactive members – will be extended to the end of FY24 (Public Act 101-0010). Originally, the programs were set to automatically expire at the end of FY21.

EXTENDING STATE HEALTH INSURANCE COVERAGE TO MEMBERS WHO TAKE AN ACCELERATED PENSION BENEFIT

A new law (Public Act 101-0242) clarifies that if an inactive TRS member accepts an "accelerated pension benefit" and gives up their eligibility for a future retirement benefit, that member can still participate in state-administered health insurance programs if they meet all eligibility requirements.

FINANCIAL STATEMENTS

TEACHERS' RETIREMENT SYSTEM OF THE STATE OF ILLINOIS
STATEMENT OF FIDUCIARY NET POSITION
JUNE 30, 2019

	June 30, 2019
Assets	
Cash	$27,358,430
Receivables and prepaid expenses:	
Member contributions	55,256,930
Employer contributions	8,215,327
State of Illinois	558,757,463
Investment income	344,551,118
Pending investment sales	6,195,921,852
Prepaid expenses	2,171,724
Total receivables and prepaid expenses	7,164,874,414
Investments, at fair value:	
Fixed income	13,725,761,411
Public equities	17,823,681,423
Alternative investments	19,635,394,819
Derivatives	(55,888,377)
Short-term investments	1,601,845,805
Foreign currency	95,012,450
Total investments	52,825,807,531
Invested securities lending collateral:	
Securities lending collateral	2,485,824,046
Securities lending collateral with the State Treasurer	54,889,000
Total invested securities lending collateral	2,540,713,046
Capital assets, net of accumulated depreciation	2,856,794
Total assets	62,561,610,215
Liabilities	
Benefits and refunds payable	6,844,767
Administrative and investment expenses payable	44,756,293
Pending investment purchases	6,706,535,186
Securities lending collateral	2,540,684,602
Total liabilities	9,298,820,848
Net position restricted for pensions	$53,262,789,367

See accompanying Notes to Financial Statements.

TEACHERS' RETIREMENT SYSTEM OF THE STATE OF ILLINOIS
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2019

	June 30, 2019
Additions	
Contributions:	
Members	$963,972,120
State of Illinois	4,466,020,692
Employers	
Early retirement	32,449
Federal funds	18,472,267
2.2 benefit formula	62,744,266
Excess employer costs	7,265,799
Total contributions	5,518,507,593
Investment income:	
Net increase in fair value of investments	1,491,025,634
Alternatives income	975,251,437
Interest and dividends	924,617,550
Other investment income	35,183,396
Securities lending income	11,541,157
Less investment expenses:	
Alternatives expense	(470,341,524)
Direct investment expense	(348,753,860)
Securities lending management fees	(692,458)
Net investment increase	2,617,831,332
Total additions	8,136,338,925
Deductions	
Retirement benefits	6,405,907,842
Survivor benefits	306,502,713
Disability benefits	33,133,627
Refunds	73,216,390
Administrative expenses	24,335,680
Total deductions	6,843,096,252
Net increase in net position	1,293,242,673
Net position restricted for pensions	
Beginning of year	51,969,546,694
End of year	$53,262,789,367

See accompanying Notes to Financial Statements.

NOTES TO FINANCIAL STATEMENTS

A. PLAN DESCRIPTION

1. REPORTING ENTITY

The Teachers' Retirement System of the State of Illinois (TRS) is the administrator of a cost-sharing, multiple-employer defined benefit public employee retirement system (PERS). Membership is mandatory for all full-time, part-time and substitute public school personnel employed outside of Chicago in positions requiring licensure. Persons employed at certain state agencies and certain non-government entities also are members. Established by the State of Illinois, TRS is governed by the Illinois Pension Code (40 ILCS 5/16). TRS is a component unit of the State of Illinois and is included in the State's financial statements as a pension trust fund.

TRS uses criteria established by the Governmental Accounting Standards Board (GASB) to determine whether other entities should be included within its financial reporting entity. Based on the criteria, TRS includes no other entities in these financial statements.

2. EMPLOYERS

Members of TRS are employed by school districts, special districts, certain state agencies and certain non-governmental entities. Each employer remits member contributions to TRS.

Employers are responsible for employer contributions for:

- Teachers paid from federal funds.
- The 2.2 formula increase.
- Salary increases in excess of 6 percent. When a member retires, the employer is required to pay TRS contributions equal to the actuarial value of a pension benefit that results from any salary increase over 6 percent that is used in a retiring member's final average salary calculation. Several permanent exemptions are in effect for excess salary increases.
- Sick leave days received in excess of the normal annual allotment and applied to service credit for members in their final four years prior to retirement.
- Any portion of a member's salary that is greater than the governor's statutory salary.

In addition, the State of Illinois is a nonemployer contributing entity that provides employer contributions on behalf of the System's employers. For information about employer contributions made by the State of Illinois, see "Schedule of Contributions from Employers and Other Contributing Entities" within the Required Supplementary Information (RSI) section of this report.

Number of Employers (as of June 30)

	2019
Local school districts	851
Special districts	127
State agencies	12
Total	**990**

3. MEMBERS

TRS Membership (as of June 30)

	2019
Retirees and beneficiaries	124,299
Inactive members	136,178
Active members	163,027
Total	**423,504**

4. BOARD OF TRUSTEES

TRS is governed by a 13-member board of trustees. Trustees include the state superintendent of education, six trustees appointed by the governor, four trustees elected by contributing TRS members and two trustees elected by TRS annuitants.

The president of the TRS Board of Trustees, by law, is the Illinois superintendent of education. The board elects its vice president from among its members. The board appoints an executive director who also serves as the secretary of the board. The executive director is responsible for daily operations at TRS.

5. BENEFIT PROVISIONS

Governed by the Illinois Pension Code (40 ILCS 5/16), which is subject to amendment by the Illinois General Assembly and approval by the governor, TRS provides retirement, death and disability benefits. Membership is mandatory for all full-time, part-time and substitute public school personnel who are licensed and employed in Illinois outside the city of Chicago.

Public Act 96-0889, which was signed into law in the spring of 2010, added a new section to the Pension Code that applies different benefits to anyone who first contributes to TRS on or after Jan. 1, 2011 and does not have any previous service credit with one of the reciprocal retirement systems in Illinois. Members who first participate on or after that date are members of Tier 2.

The act does not apply to anyone who made contributions to TRS prior to Jan. 1, 2011. They remain participants of Tier 1.

Tier 3 was created in July 2017. It is a hybrid retirement plan with both defined benefit and defined contribution plan components.

TIER 1 BENEFITS

A member qualifies for an age retirement annuity after meeting one of the following requirements: age 62 with five years of service credit; age 60 with 10 years; or age 55 with 20 years. If a member retires between the ages of 55 and 60 with fewer than 35 years of service, the annuity will be reduced at the rate of 0.50 percent for each month the member is under age 60. A member with fewer than five years of creditable service and service on or after July 1, 1947, is entitled to a single-sum benefit payable at age 65.

A retirement benefit is determined by the average of the four highest consecutive years of creditable earnings within the last 10 years of creditable service and the percentage of average salary to which the member is entitled. Most members retire under a formula that provides 2.2 percent of final average salary up to a maximum of 75 percent with 34 years of service. The 2.2 percent formula became effective July 1, 1998 but service earned before that date can be upgraded to the 2.2 formula with a member contribution. The cost of the upgrade can be reduced if members upgrade and continue teaching after 1998. A graduated formula applies to service earned before 1998 and provides a maximum benefit of 75 percent of average salary with 38 years of service.

Tier 1 members who contributed to TRS before July 1, 2005 receive a money purchase (actuarial) benefit if it provides a higher benefit than the 2.2 or graduated formulas. The 75 percent cap does not apply to the money purchase benefit.

All Tier 1 retirees receive an annual 3 percent increase in the current retirement benefit beginning Jan. 1 following the attainment of age 61 or on Jan. 1 following the member's first anniversary in retirement, whichever is later.

Disability and death benefits are provided.

If a member leaves covered employment, TRS will refund a member's retirement contributions upon request. The refund consists of actual contributions, excluding the 1 percent death benefit contribution.

Effective July 1, 2017, Tier 1 members contribute 9.0 percent of their creditable earnings to TRS and an additional contribution to a retiree health insurance program that is not administered by TRS.

TIER 2 BENEFITS

Differences with Tier 1 include raising the minimum eligibility to draw a retirement benefit to age 67 with 10 years of service. A discounted annuity can be paid at age 62 with 10 years of service. The Tier 2 law caps creditable earnings and contributions used for retirement purposes at a level that is lower than the Social Security wage base. Tier 2 annual increases will be the lesser of 3 percent or ½ percent of the rate of inflation of the original benefit beginning Jan. 1 following attainment of age 67 or on Jan. 1 following the member's first anniversary in retirement, whichever is later.

The 2.2 retirement formula also applies to Tier 2 but the final average salary is based on the highest consecutive eight years of creditable service rather than the highest consecutive four years of salary. The single-sum benefit also is payable at age 65 to Tier 2 members with fewer than five years of service. The money purchase (actuarial) benefit is not available to Tier 2 members.

Disability and refund provisions for Tier 2 are identical to those that apply to Tier 1. Death benefits are payable under a formula that is different from Tier 1.

Effective July 1, 2017, Tier 2 members contribute 9.0 percent of their creditable earnings to TRS and an additional contribution to a retiree health insurance program that is not administered by TRS.

TIER 3 BENEFITS

Enacted in July of 2017, the Tier 3 benefit is designed to be a hybrid retirement plan with two parts – a defined benefit (DB) pension and a defined contribution (DC) savings plan.

Under the law, Tier 3 members would make payroll contributions to their DB pensions that are based on the full cost of this part of the benefit, but no more than 6.2 percent of salary. In addition, Tier 3 members would contribute a minimum of 4 percent of their pay to the DC portion of the plan.

At retirement, TRS members would receive a pension and be able to access funds from their DC savings account as they see fit.

However, an implementation date for Tier 3 has not been set. As written, the current language of the Tier 3 statute inadvertently conflicts with other provisions of the Illinois Pension Code. Until these differences are corrected by the legislative and executive branches, Tier 3 cannot be implemented.

6. ACTUARIAL MEASUREMENTS

The Schedule of Changes in the Net Pension Liability, Schedule of the Net Pension Liability and the Schedule of Contributions from Employers and Other Contributing Entities may be found in the Required Supplementary Information.

Member, employer and state contributions are statutorily defined by the Illinois Pension Code (40 ILCS 5/16), which is subject to amendment by the Illinois General Assembly with approval by the governor. Since July 1, 1995, state appropriations have been made through a continuing appropriation.

Member contributions are allocated as follows: 7.5 percent for retirement; 0.5 percent for post-retirement increases; and 1 percent for death benefits.

Employer contributions are made by or on behalf of employers from several sources. The State of Illinois provides the largest source of contributions through state appropriations from the Common School Fund. Employers also make contributions for the 2.2 benefit formula and for teachers who are paid from federal funds. Additionally, employers contribute their portion of any excess salary increase or sick leave costs due and the total employer normal cost on salaries exceeding the governor's salary.

State funding law provides for a 50-year funding plan that includes a 15-year phase-in period.

Public Act 96-0043, which was effective July 15, 2009, requires TRS to use a five-year smoothing method for asset valuation beginning on June 30, 2009. State contribution requirements were first affected by this change in FY11.

Public Act 100-0023, which was effective July 6, 2017, requires the impact on state contributions due to changes in actuarial assumptions to be phased in over five years. State contribution requirements were first affected by this change in FY18. The FY18 requirement was recertified in January 2018 due to the new law.

Administrative expenses are budgeted and approved by the TRS Board of Trustees. Funding for these expenses is included in the employer contribution, as determined by the annual actuarial valuation.

PENSION LIABILITY

The actuarial assumptions included in the June 30, 2019 actuarial valuation were used to calculate the June 30, 2019 total pension liability. The investment return assumption of 7.0 percent is unchanged in the 2019 actuarial valuation.

The investment return assumption for the 2019 actuarial valuation is based on the 2017 asset allocation conducted by the TRS investment consultant and additional analysis conducted by the actuary in 2018 and 2019.

Assumptions used to calculate the June 30, 2019 total pension liability were nearly identical to those used in the June 30, 2018 calculation, as discussed later in this section.

As of June 30, 2019, the assumption for future investment returns was 7.0 percent, a rate unchanged from June 30, 2018. The TRS actuary used the following assumed rates of returns by asset class, excluding 2.50 percent for the assumed rate of inflation as well as investment expenses.

Expected Arithmetic Real Returns Over 20 Years

Asset Class	Allocation	Return
U.S. equities large cap	15.0%	6.3%
U.S. equities small/mid cap	2.0	7.7
International equities developed	13.6	7.0
Emerging market equities	3.4	9.5
U.S. bonds core	8.0	2.2
U.S. bonds high yield	4.2	4.0
International debt developed	2.2	1.1
Emerging international debt	2.6	4.4
Real estate	16.0	5.2
Real return	4.0	1.8
Absolute return	14.0	4.1
Private equity	15.0	9.7

If the plan’s assets are not sufficient to cover all benefit payments to current plan members, GASB Statement No. 67 requires the discount rate to be different from the assumed rate of return. Instead, the discount rate would be a blended rate, which includes the long-term expected rate of return and a municipal bond rate (the Bond Buyer's 20-Bond GO Index) as of the end of the current fiscal year. Based on the following projections, the System can use the long-term expected rate of return as the discount rate for the year ended June 30, 2019, as it did for the prior year.

TRS, with the assistance of the System's actuary, projected that the plan’s fiduciary net position will provide for all benefit payments to current plan members. Projected contributions assume that all statutorily required contributions are made through FY21 including projected contributions from members, employers and the State of Illinois (nonemployer contributing entity). Projected state contributions reflect the changes enacted in Public Acts 100-0023, 100-0340, 100-0587 and 101-0010. However, the projections do not include any assumptions about the utilization of Tier 3 under PA 100-0023.

Estimated contributions from employers and the State of Illinois, of which the majority of the contributions (approximately 98 percent) are provided by the State of Illinois, are projected to be $4.8 billion in FY20, $5.1 billion in FY21 and grow to $10.9 billion by FY45 based on present statutory requirements for current members. Tier 1’s liability is partially funded by Tier 2 because the Tier 2 contributions are higher than the cost of Tier 2 benefits. Due to this subsidy, contributions from future members in excess of the service cost are also included in the determination of the discount rate.

The actuarial cost method required for financial reporting purposes is the entry age normal method. For TRS, total pension liability (TPL) is developed and rolled forward to the valuation date based on member census data one year prior. TPL is projected to the June 30, 2019 measurement date based on census data as of June 30, 2018. Assets, referred to as plan fiduciary net position, are measured at fair value.

Net Pension Liability

	June 30, 2019
Total pension liability	$134,370,954,628
Plan fiduciary net position	53,262,789,367
Net pension liability	$81,108,165,261
Plan fiduciary net position as a percentage of the total pension liability	39.6%

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

	1% Decrease	Current	1% Increase
Discount rate	6.0%	7.0%	8.0%
Net pension liability	$99,066,519,428	$81,108,165,261	$63,228,760,783

Most of the actuarial assumptions used in the June 30, 2019 actuarial valuation are based on the actuarial experience analysis dated September 2018 that covered the period July 1, 2014 through June 30, 2017. The 2019 actuarial valuation slightly reduced the utilization assumption for the automatic annual increase buyout provision and extended the assumed buyout period to June 30, 2022 in connection with the expectation that the funds available for the buyouts are limited to $650 million. The investment return assumption of 7.0 percent did not change from the June 30, 2018 actuarial valuation.

Actuarial Assumptions Used for Financial Reporting Disclosure

Actuarial Valuation Date	June 30, 2019
Census Date:	June 30, 2018 with total pension liability projected to June 30, 2019
Actuarial Cost Method:	
For financial reporting purposes	Entry age normal
Asset Valuation Method:	
For financial reporting purposes	Fair value as of valuation date
Actuarial Assumptions:	
Investment rate of return	7.0% adopted effective June 30, 2016
Real rate of investment return	4.5%
Projected salary increases	9.50% with 1 year of service to 4.0% with 20 or more years of service. Includes inflation and real wage growth (productivity) assumptions.
Group size growth rate	0%
Assumed inflation rate	2.5%
Post-retirement increase	Tier 1: 3%, compounded; Tier 2: 1.25%, not compounded
Mortality table:	RP - 2014 with future mortality improvements on a fully generational basis using projection table MP-2017.

B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

1. BASIS OF ACCOUNTING

The financial transactions of TRS are recorded using the economic resources measurement focus and the accrual basis of accounting. Member and employer contributions are recognized as revenues when due pursuant to statutory or contractual requirements. Benefits and refunds are recognized as expenses when they are due and payable in accordance with the terms of the plan.

2. USE OF ESTIMATES

The preparation of 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 disclosure of contingent assets and liabilities at the date of the financial statements as well as the reported amounts of additions to and deductions from net position during the reporting period. Actual results could differ from these estimates. TRS uses an actuary to determine the total pension liability for the defined benefit plan and to determine the actuarially-required contribution.

3. RISKS AND UNCERTAINTIES

TRS investments are diversified and include various investment securities. Investment securities are exposed to a variety of risk including credit, market and interest rate risk. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that value changes will occur in the near-term and such changes could materially affect the amounts reported in the Statement of Fiduciary Net Position.

4. NEW ACCOUNTING PRONOUNCEMENTS

TRS was not required to implement any new accounting pronouncements in FY19.

5. METHOD USED TO VALUE INVESTMENTS

TRS reports investments at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value for publicly traded real return funds, equities, foreign currency and exchange traded derivatives is determined by using the closing price listed on national securities exchanges as of June 30. Fair value for most of fixed income securities and over-the-counter derivatives is determined primarily by using quoted market prices provided by independent pricing services. Short-term investments are generally reported at amortized cost, which approximates fair value. Appraisals are used to determine fair value on directly-owned real estate investments. Fair value for private equity investments, absolute return funds, non-publicly traded real return funds and partnership interests in real estate funds is determined by TRS staff and the general partners or investment managers in accordance with the provisions in the individual agreements. These agreements also require that an independent audit be performed on an annual basis.

6. CAPITAL ASSETS

Equipment is stated on the basis of historical cost. Depreciation is computed using the straight-line method based upon the estimated useful lives of the assets. Capital assets activity for the year ended June 30, 2019 was as follows:

	Beginning Balance	Additions/ Transfers In	Disposals/ Transfers Out	Ending Balance
Capital Assets, not depreciated:				
Land	$235,534	$ -	$ -	$235,534
Mineral Lease Rights	2,643	-	-	2,643
	238,177	-	-	238,177
Capital Assets, depreciated:				
Office building	8,462,484	221,973	-	8,684,457
Site improvements	1,127,708	-	-	1,127,708
Equipment and furniture	2,849,869	304,947	106,593	3,048,223
Purchased Software	310,045	-	-	310,045
Internally Generated Software (IGS)	2,125,522	356,885	-	2,482,407
	14,875,628	883,805	106,593	15,652,840
Less accumulated depreciation:				
Office building	7,144,767	352,691	-	7,497,458
Site improvements	818,706	70,988	-	889,694
Equipment and furniture	2,469,872	203,502	106,178	2,567,196
Purchased Software	310,045	-	-	310,045
Internally Generated Software (IGS)	1,521,293	248,537	-	1,769,830
	12,264,683	875,718	106,178	13,034,223
Total Net Capital Assets	**$2,849,122**	**$8,087**	**$415**	**$2,856,794**

Office building and site improvements ($25,000 or greater capitalized)	10-40 years
Equipment and furniture ($5,000 or greater capitalized)	3-10 years
Software ($25,000 or greater capitalized)	3-5 years

7. COMPENSATED ABSENCES

When employment is terminated, TRS employees are entitled to receive compensation for all accrued unused vacation time and one-half of all unused sick leave earned through Dec. 31, 1997. (Lump-sum payments for sick leave earned prior to Jan. 1, 1984, are subject to a maximum of 60 days or 420 hours.) Sick time earned after Dec. 31, 1997 is not compensable at termination.

At June 30, 2019, the System had a liability of $1,977,395 for compensated absences. The liability is included in administrative and investment expenses payable on the Statement of Fiduciary Net Position. For non-investment staff, the increase or decrease in liability is reflected in the financial statements as administrative expense. For investment staff, the increase or decrease is reflected as investment expense. Compensated absences payable for the year ended June 30, 2019 was as follows:

	Beginning Balance	Additions	Reductions	Ending Balance
Compensated absences payable	$2,050,178	$1,026,164	$1,098,947	$1,977,395

The estimated amount due within one year is: $116,700

8. RECEIVABLES

Receivables consist primarily of 1) member and employer contributions owed and yet to be remitted by the employing districts, 2) interest, dividends, real estate and private equity income owed to TRS, 3) appropriations not yet received from the State of Illinois as of June 30 and 4) pending investment sales.

TRS assesses penalties for late payment of contributions and may collect any unpaid amounts from the employing districts by filing a claim with the appropriate regional superintendent of education or the Office of the Comptroller against future state aid payments to the employer. TRS considers these amounts to be fully collectible.

9. RISK MANAGEMENT

TRS, as a component unit of the State of Illinois, provides for risks of loss associated with workers' compensation and general liability through the State's self-insurance program. TRS obtains commercial insurance for fidelity, surety and property. No material commercial insurance claims have been filed in the last three fiscal years.

C. CASH

Custodial credit risk for deposits is the risk that, in the event of a bank failure, TRS's deposits may not be returned. TRS has a formal policy to address custodial credit risk. The policy is designed to minimize custodial credit risk through proper due diligence of custody financial institutions and investment advisors; segregate safekeeping of TRS assets; establish investment guidelines and work to have all investments held in custodial accounts through an agent, in the name of custodian's nominee, in a corporate depository or federal book entry account system. For those investment assets held outside of the custodian, TRS will follow the applicable regulatory rules.

The non-investment bank balance and carrying amount of TRS's deposits was $27,984,061 and $27,358,430, respectively, at June 30, 2019. All of the bank balance was on deposit with the State Treasurer at June 30, 2019. State Treasurer deposits are in an internal investment pool collateralized at a third-party custodial bank and are not subject to custodial credit risk.

Certain investments of TRS with maturities of 90 days or less would be considered cash equivalents; these consist of bank-sponsored, short-term investment funds, commercial paper and certificates of deposit. For financial statement presentation and investment purposes, TRS reports its cash equivalents as short-term investments in the Statement of Fiduciary Net Position. Included in the reported balances is the State Street Global Advisors Short-Term Investment Fund (STIF) with a value of $1,414,878,655 at June 30, 2019. The STIF fund has an average credit quality rating of A1P1 and a weighted average maturity of 42.0 days.

For purposes of this disclosure, foreign currency held by investment managers is considered a deposit. However, for financial statement presentation and investment purposes, TRS considers foreign currency an investment asset. Uncollateralized foreign currency subject to custodial credit risk was $95,012,450 at June 30, 2019.

D. INVESTMENTS

1. INVESTMENT POLICIES

Through the TRS Board of Trustees, as authorized in the Illinois Pension Code, TRS serves as fiduciary for the members' trust funds and is responsible for investment of those funds by authority of the "prudent person rule." This rule establishes a standard for all fiduciaries by specifying fiduciary responsibility with regard to the members' trust funds.

LONG-TERM ASSET ALLOCATION

The TRS Board of Trustees has the responsibility of establishing and maintaining broad policies and objectives for all aspects of the System's operations, including the allocation of invested assets. 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 pension plan. The following table summarizes the board-adopted, long-term allocation targets in effect as of June 30, 2019.

Long-term Asset Allocation Policy Mix	
Equity investments	54%
Real assets	15
Diversifying strategies	14
Income investments	17
Total	**100%**

2. INVESTMENT RISK

CUSTODIAL CREDIT RISK

Custodial credit risk for investments is the risk that, in the event of a financial institution failure, TRS would not be able to recover the value of the investments in the possession of an outside party. The TRS investment policy adopted by the TRS Board of Trustees includes a formal process to address custodial credit risk. This policy requires the custodian to provide safekeeping of the System's assets in segregated accounts and to have the assets registered in TRS's name, custodian's nominee name or in a corporate depository or federal book entry system.

CONCENTRATION OF CREDIT RISK

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of an investment in any one issuer. Investment parameters established in the Investment Management Agreements with external managers restrict holdings to no more than 5 percent of a single issuer within an account. The TRS portfolio has no investments in any one issuer that comprise 5 percent or more of the System's total investments or fiduciary net position.

CREDIT RISK

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to TRS. Credit risk exposure is dictated by each investment manager's agreement. Each portfolio is managed in accordance with investment guidelines that are specific as to permissible credit quality ranges, exposure levels within individual security quality rating tiers and/or the average credit quality of the overall portfolio. Most guidelines allow managers to hold bonds rated Caa2 or better. However, in circumstances where position downgrades occur, investment managers have been given permission to hold securities below this rating due to circumstances such as a higher peer group rating from another nationally-recognized statistical rating organization, the investment manager's internal ratings or other mitigating factors.

As of June 30, 2019, TRS held the following fixed income investments with respective Moody's quality ratings or equivalent rating. Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk.

Quality Rating	Corporate Debt Securities	Asset-Backed Securities	Foreign Debt Securities	U.S. Agency Obligations	U.S. Government Backed Mortgages	Municipals	Commingled Funds	Total
Aaa	$539,800,416	$294,081,167	$88,226,736	$119,472,014	$599,118,460	$2,941,824	$ -	$1,643,640,617
Aa1	22,813,781	4,112,317	17,393,145	-	-	24,933,843	-	69,253,086
Aa2	120,884,130	3,521,358	261,605,569	-	-	10,904,233	69,076,528	465,991,818
Aa3	60,497,650	-	83,339,501	-	-	13,993,504	-	157,830,655
A1	192,406,120	421,728	164,317,350	-	-	5,440,695	434,714,090	797,299,983
A2	474,718,027	3,911,353	74,825,832	-	-	16,950,142	-	570,405,354
A3	518,032,458	3,970,446	259,517,654	-	-	1,231,746	19,007,511	801,759,815
Baa1	245,867,666	-	145,989,311	-	-	11,122,501	-	402,979,478
Baa2	451,067,906	691,863	557,047,523	-	-	851,252	304,692,744	1,314,351,288
Baa3	454,797,438	1,305,353	461,905,620	-	-	1,452,787	87,853,977	1,007,315,175
Ba1	104,130,478	894,119	88,021,594	-	-	3,199,187	-	196,245,378
Ba2	48,974,536	-	313,478,558	-	-	-	-	362,453,094
Ba3	157,294,722	883,761	145,229,187	-	-	-	414,998,639	718,406,309
B1	103,494,079	200,305	154,470,413	-	-	-	446,040,310	704,205,107
B2	90,184,667	-	392,645,713	-	-	-	106,207,901	589,038,281
B3	52,556,642	-	191,186,835	-	-	-	573,580,088	817,323,565
Caa1	27,541,202	-	54,356,765	-	-	-	-	81,897,967
Caa2	6,291,872	405,372	242,650	-	-	-	-	6,939,894
Caa3	4,611,908	-	627,369	-	-	-	-	5,239,277
Ca	1,016,072	2,177,829	2,399,589	-	-	-	2,467,611	8,061,101
C	4,616,669	67,269	3,407,287	-	-	-	-	8,091,225
Not available	-	-	-	-	-	-	1,506,324,273	1,506,324,273
Not rated	19,066,451	9,046,104	21,332,742	-	-	-	-	49,445,297
Withdrawn	3,521,784	-	1,708,946	-	-	-	-	5,230,730
Total credit risk, bonds, corporate notes and government obligations	**3,704,186,674**	**325,690,344**	**3,483,275,889**	**119,472,014**	**599,118,460**	**93,021,714**	**3,964,963,672**	**12,289,728,767**
U.S. Treasuries								1,436,032,644
Total bonds, corporate notes & government obligations	**$3,704,186,674**	**$325,690,344**	**$3,483,275,889**	**$119,472,014**	**$599,118,460**	**$93,021,714**	**$3,964,963,672**	**$13,725,761,411**

INTEREST RATE RISK

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. TRS's fixed income investments are managed in accordance with operational guidelines that are specific as to the degree of interest rate risk that can be taken. TRS manages the interest rate risk within the portfolio using various methods including effective duration, option adjusted duration, average maturity and segmented time distribution, which reflect the total fair value of investments maturing during a given time period.

The segmented time distribution of the various investment types of TRS debt securities as of June 30, 2019 is as follows:

		Maturity in Years					
Type	**2019 Fair Value**	**Less Than 1 year**	**1 to 5 years**	**5 to 10 years**	**10 to 20 years**	**More Than 20 years**	**Other***
U.S. treasuries/agencies	$1,555,504,658	$264,493,946	$504,420,005	$523,237,521	$58,427,498	$204,925,688	$ -
U.S. government-backed mortgages	599,118,460	767,662	8,111,543	10,676,293	46,820,280	532,742,682	-
Municipals	93,021,714	277,005	4,872,344	10,577,853	33,115,944	44,178,568	-
Asset-backed securities	325,690,344	1,217,377	224,372,765	47,140,829	34,705,065	18,254,308	-
Commingled funds (U.S. & international)**	3,964,963,672	-	1,906,753,078	880,169,985	-	-	1,178,040,609
Corporate debt securities	3,704,186,674	286,555,895	1,750,867,097	936,117,957	306,951,870	423,693,855	-
Foreign debt/corporate obligations	3,483,275,889	262,049,505	1,177,698,845	1,265,932,468	351,308,599	426,286,472	-
Total bonds, corporate notes and government obligations	**13,725,761,411**	**815,361,390**	**5,577,095,677**	**3,673,852,906**	**831,329,256**	**1,650,081,573**	**1,178,040,609**
Derivatives	(55,888,377)	980,267	(2,227,657)	(25,564,242)	(1,467,339)	(27,609,406)	-
Total bonds, corporate notes, government obligations, securities lending collateral and derivatives	**$13,669,873,034**	**$816,341,657**	**$5,574,868,020**	**$3,648,288,664**	**$829,861,917**	**$1,622,472,167**	**$1,178,040,609**

** Maturity date is not available or applicable.*

*** Weighted average maturity figures were used if available to plot the commingled funds within the schedule.*

FOREIGN CURRENCY RISK

Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. TRS's currency risk exposure, or exchange rate risk, is primarily derived from its holdings in foreign currency-denominated equity, fixed income and derivative investments as well as foreign currency. According to TRS's Investment Policy and investment manager agreements, international equity and global fixed income managers, at their discretion, may or may not hedge the portfolio's foreign currency exposures with currency forward contracts or options, depending upon their views on a specific country or foreign currency relative to the U.S. dollar.

TRS's exposure to foreign currency risk in U.S. dollars as of June 30, 2019 is as follows:

Currency	Foreign Currency	Equities	Fixed Income	Derivatives	Total
Argentine Peso	$4,270,341	$ -	$65,073,482	$ -	$69,343,823
Australian Dollar	3,612,880	382,233,590	25,582,311	-	411,428,781
Bangladeshi Taka	-	1,420,115	-	-	1,420,115
Brazilian Real	826,462	205,896,311	176,221,354	(502,358)	382,441,769
British Pound	13,786,536	950,982,799	103,716,435	(3,153,529)	1,065,332,241
Canadian Dollar	6,476,947	522,738,007	13,980,101	-	543,195,055
Chilean Peso	445,054	12,708,029	8,306,968	9	21,460,060
Chinese Yuan	7,833,457	-	-	154,169	7,987,626
Chinese Yuan Renminbi	(3,666,114)	106,281,952	-	62,722	102,678,560
Columbia Peso	604,163	1,115,172	57,205,286	132,201	59,056,822
Czech Koruna	6,271	1,855,709	2,980,023	28,836	4,870,839
Danish Krone	38,932	111,528,157	31,400,796	-	142,967,885
Dominican Peso	-	-	5,771,197	-	5,771,197
Egyptian Pound	264,866	5,012,479	28,867,837	-	34,145,182
Emirati Dirham	16,309	12,074,595	-	-	12,090,904
Euro	18,084,221	1,932,799,996	163,390,164	(1,092,400)	2,113,181,981
Ghana Cedi	551,138	-	28,171,612	-	28,722,750
Hong Kong Dollar	5,242,542	738,419,970	-	645,581	744,308,093
Hungarian Forint	349,295	20,075,221	5,396,650	-	25,821,166
Indian Rupee	1,271,990	189,784,370	104,595,757	-	295,652,117
Indonesian Rupiah	715,589	59,200,665	160,797,647	-	220,713,901
Israeli Shekel	550,680	47,968,016	-	196,378	48,715,074
Japanese Yen	20,025,902	1,405,022,864	27,855,269	(3,303,487)	1,449,600,548
Malaysian Ringgit	686,770	27,640,961	20,242,350	-	48,570,081
Mexican Peso	240,605	78,554,463	167,489,654	416,161	246,700,883
Moroccan Dirham	517	-	-	-	517
New Taiwan Dollar	768,420	263,936,795	-	-	264,705,215
New Zealand Dollar	730,024	7,565,181	5,924,024	(101,217)	14,118,012
Nigerian Naira	(1,378)	-	13,249,213	-	13,247,835
Norwegian Krone	493,446	51,931,318	-	-	52,424,764
Pakistani Rupee	11,227	151,906	-	-	163,133
Peruvian Sol	156,209	23,572	41,389,592	-	41,569,373
Philippine Peso	175,793	13,181,649	7,757,961	-	21,115,403
Polish Zloty	118,013	19,208,163	28,489,441	(105,105)	47,710,512
Qatari Riyal	23,028	3,572,010	-	-	3,595,038
Romanian Leu	105,744	-	14,198,756	-	14,304,500
Russian Ruble	136,473	29,942,105	65,682,534	-	95,761,112
Singapore Dollar	826,536	90,547,310	-	(33,091)	91,340,755
South African Rand	693,156	96,434,165	57,740,513	185,045	155,052,879
South Korean Won	2,946,360	333,671,616	77,772,202	980,002	415,370,180
Swedish Krona	1,037,287	159,513,291	6,875,007	-	167,425,585
Swiss Franc	3,047,727	472,049,347	-	-	475,097,074
Thailand Baht	784,904	68,239,653	21,120,549	-	90,145,106
Turkish Lira	613,270	30,917,474	12,246,879	(26,746)	43,750,877
Ukraine Hryvnia	-	-	1,861,923	-	1,861,923
Uruguayan Peso	10,932	-	623,137	-	634,069
Vietnam Dong	99,926	2,183,395	-	-	2,283,321
Total subject to foreign currency risk	**95,012,450**	**8,456,382,391**	**1,551,976,624**	**(5,516,829)**	**10,097,854,636**
Investments in international securities payable in U.S. dollars	-	1,453,214,262	1,945,109,596	(1,715,692)	3,396,608,166
Total international investment securities (including domestic securities payable in foreign currency)	**95,012,450**	**9,909,596,653**	**3,497,086,220**	**(7,232,521)**	**13,494,462,802**
Domestic investments (excluding securities payable in foreign currency)	-	7,914,084,770	10,228,675,191	(48,655,856)	18,094,104,105
Total fair value	**$95,012,450**	**$17,823,681,423**	**$13,725,761,411**	**($55,888,377)**	**$31,588,566,907**

In addition to the previous table, the fair value of TRS's investments in foreign currency denominated real estate and private equity funds was $15,095,549 and $458,506,146 at June 30, 2019, respectively. Currencies included Euro, British pound, Canadian dollar, Japanese yen and South Korean won.

3. SECURITIES LENDING PROGRAM

The TRS Board of Trustees' policies permit TRS to use investments to enter into securities lending transactions, which are loans of securities to broker-dealers or other approved entities. The borrower of a security must post collateral in excess of the fair value of the security. TRS receives both cash and non-cash (i.e., securities) collateral.

Eligible forms of collateral include cash consisting of U.S. dollar, euro, sterling and yen, U.S. treasuries, government agency securities, certificates of deposit, letters of credit issued by approved banks and specific types of corporate debt obligations and common stock. Initial collateral received from the borrower must be at least 102 percent of the fair value of all loaned securities except non-U.S. securities, which require 105 percent. Securities on loan are marked to market daily and collateral for the loan is required not to fall below minimum levels established by TRS and its lending agent. Agreements are in place allowing TRS, upon demand, to return the collateral in exchange for the original securities. TRS does not have the authority to pledge or sell collateral securities without borrower default; as such, the collateral security or non-cash collateral is not reported in TRS's financial statements in accordance with GASB Statement No. 28, "Accounting and Financial Reporting for Securities Lending Transactions."

As of June 30, 2019, Citibank, N.A. served as the third-party securities lending agent for the fixed income, domestic equity and international equity lending programs. In this capacity, TRS reduces credit risk by allowing Citibank to lend securities to a diverse group of dealers on behalf of TRS. At fiscal-year end, TRS has no credit risk exposure to borrowers because the amount TRS owes the borrowers exceeds the amount the borrowers owe TRS.

The weighted average term of the loans is 15 days as securities on loan can be recalled on demand by TRS or the borrower can return the loaned securities at any time. Since loans are terminable at will, the maturity of loans generally does not match the maturity of collateral investments. TRS may enter into term loan agreements, evaluated on an individual basis. As of June 30, 2019, there were no term loans outstanding.

Cash collateral received is invested in a separate account managed by the lending agent, with a weighted average maturity of 59 days at June 30, 2019. There were no significant violations of legal or contractual provisions and there were no borrower or lending agent default losses known to the securities lending agent.

As of June 30, 2019, TRS had outstanding loaned investment securities with a fair value of $2,549,982,718 against which it had received cash and non-cash collateral with a fair value of $2,628,040,181. The securities on loan remain on TRS's Statement of Fiduciary Net Position in their respective investment categories. As of June 30, 2019, TRS cash collateral received and reported as securities lending obligation on the Statement of Fiduciary Net Position totaled $2,485,795,602; whereas, the fair value of reinvested cash collateral reported as securities lending collateral was $2,485,824,046. The net increase (decrease) in fair value of investments within the Statement of Changes in Fiduciary Net Position reflects the change in fair value of the reinvested cash collateral. TRS also reports securities lending collateral with the Office of the Illinois State Treasurer on the Statement of Fiduciary Net Position. Further detail on this amount can be obtained by calling the Office of the Illinois State Treasurer at (217) 558-1250 or by visiting **www.treasurer.il.gov**.

Income earned and costs related to securities lending activities are reported on the Statement of Changes in Fiduciary Net Position. For FY19, the System earned net income of $10,848,699 from securities lending. Additional detail regarding securities lending activity is included within the Investments section.

4. DERIVATIVES

TRS, through its investment managers, invests in derivative securities as a fundamental part of the overall investment process. All TRS derivatives are considered investments and the fair value is reported in the Statement of Fiduciary Net Position. TRS does not directly invest in derivatives but allows certain external managers to utilize these instruments within the investment portfolio for a variety of purposes. TRS managers may hold derivatives to hedge investment transactions accounted for at fair value. The term "hedge" in this context denotes the broad economic activity of entering into contracts intended to offset risks associated with certain transactions, such as the changes in interest rates on investments in debt securities, commodities or instruments denominated in a foreign currency. Assets and liabilities that are measured at fair value, such as investments, do not qualify as hedgeable items and do not meet the requirements for hedge accounting.

A derivative security is an investment whose return depends upon the value of another financial instrument or security such as stocks, bonds, commodities or a market index. The derivative investments in TRS's portfolio are used primarily to enhance performance and reduce volatility. TRS's investments in derivatives are not leveraged through borrowing. In the case of an obligation to purchase (long a financial future or call option), the full value of the obligation is primarily held in cash or cash equivalents. For obligations to sell (short a financial future or put option), the reference security is held in the portfolio.

To varying degrees, derivative transactions involve credit risk, sometimes known as default or counterparty 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 the established contract terms. To eliminate credit risk, derivative securities can be acquired through a clearinghouse that guarantees delivery and accepts the risk of default by either party. The Commodity Futures Trading Commission (CFTC) mandates that any entity that trades or is counterparty to OTC (over-the-counter) derivatives must have a Global Market Entity Identifier (GMEI). TRS is registered and maintains a legal entity identifier.

Market risk is the possibility that a change in interest, currency or other pertinent market rates will cause the value of a financial instrument to decrease or become more costly to settle. Imposing limits on the types, amounts and degree of risk that investment managers may undertake restricts the market risk associated with the constantly fluctuating prices of derivatives. These limits and derivative positions of the investment managers are reviewed on a regular basis to monitor compliance.

As of June 30, 2019, derivative investments in the TRS investment portfolio included currency forward contracts, rights, warrants, futures, options, swaps and swaptions. Within the financial statements, currency forward contracts are reflected as investment payables/receivables, rights and warrants are reflected as equities and all futures, options, swaps and swaptions are classified as derivatives. The change in fair value of derivative investments is included in investment income on the Statement of Changes in Fiduciary Net Position.

The following tables summarize the derivatives held within the TRS investment portfolio and the change in fair value of derivative investments, realized and unrealized, during the fiscal year. The notional amounts shown represent TRS's financial exposure to these instruments in U.S. dollars. Investments in limited partnerships and commingled funds may include derivatives that are not covered in the following disclosure.

As of June 30, 2019, the TRS investment portfolio held the following derivatives.

Investment Derivatives	Fair Value at June 30, 2019	Change in Fair Value	Shares/Par	Notional
Credit default swaps buying protection	$545,840	($879,660)	51,807,000	$51,329,877
Credit default swaps selling protection	(382,139)	1,314,681	154,718,261	154,388,969
Index and variance swaps	1,161,659	(5,805,322)	(39,084,049)	64,892,408
Pay fixed interest rate swaps	(62,276,154)	(105,366,644)	1,443,647,390	1,446,599,853
Receive fixed interest rate swaps	7,068,097	18,848,460	272,687,256	266,163,797
Pay fixed inflation swaps	(2,796,610)	(1,790,404)	76,129,033	74,193,553
Receive fixed inflation swaps	722,370	1,718,330	46,895,519	47,617,890
Commodity futures long	-	(2,817,383)	1,220,955	7,430,587
Commodity futures short	-	(217,900)	(10,087,280)	(11,695,278)
Equity futures long	-	935,360	76,952,475	76,578,052
Equity futures short	-	799,535	(34,832)	(36,913,592)
Fixed income futures long	-	71,701,034	1,030,982,949	1,347,700,867
Fixed income futures short	-	(36,491,791)	(845,996,041)	(865,735,859)
Currency forward options purchased	309,747	(684,701)	89,991,483	83,287,525
Currency forward options written	-	177,383	-	-
Options on futures purchased	-	(32,625)	-	-
Options on futures written	(167,545)	1,340,498	(650,000)	35,405,972
Swaptions purchased	1,015,249	(1,772,690)	197,535,531	14,029,676
Swaptions written	(1,058,994)	5,649,044	(316,941,613)	41,224,924
Inflation options	(29,897)	211,400	(146,005,042)	104,074,008
FX forwards	(14,458,812)	77,359,951	-	-
Rights	840,589	151,824	8,040,058	8,040,058
Warrants	33,180,378	1,823,359	7,827,332	7,827,332
Grand total	**($36,326,222)**	**$26,171,739**		**$ 2,916,440,619**

CURRENCY FORWARD CONTRACTS

Objective: Currency forward contracts are agreements to exchange one currency for another at an agreed upon price and settlement date. TRS's investment managers use these contracts primarily to hedge the currency exposure of its investments.

Terms: Currency forward contracts are two-sided contracts in the form of either forward purchases or forward sales. Forward purchases obligate TRS to purchase specific currency at an agreed upon price. Forward sales obligate TRS to sell specific currency at an agreed upon price. As of June 30, 2019, TRS had currency forward purchase or sale contracts for 37 different currencies with various settlement dates.

Fair Value: As of June 30, 2019, TRS's open currency forward contracts had a net fair value (unrealized-loss) of $14,458,812.

FINANCIAL FUTURES

Objective: Financial futures are agreements to purchase or sell a specific amount of an asset at a specified delivery or maturity date for an agreed upon price. These derivative securities are used to improve yield, adjust the duration of the fixed income portfolio, protect against changes in interest rates or replicate an index.

Terms: Futures contracts are standardized and traded on organized exchanges, thereby minimizing TRS's credit risk. As the daily market value of the futures contract varies from the original contract price, a gain or loss is recognized and paid to, or received from, the clearinghouse. As of June 30, 2019, TRS had outstanding futures contracts with a notional value, or exposure, of $517,364,777. Notional values do not represent the actual values in the Statement of Fiduciary Net Position. The contracts have various expiration dates through March 2020.

Fair Value: Gains and losses on futures contracts are settled daily based on the change of the index or commodity price for the underlying notional value. Because of daily settlement, the futures contracts have no fair value. TRS's realized gain on futures contracts was $26,775,396 during FY19.

Type	Number of Contracts	Notional Principal
Commodity Futures		
Commodity futures - long	133	$7,430,587
Commodity futures - short	(245)	(11,695,278)
Equity Futures		
U.S. stock index futures - long	21	1,106,070
International equity index futures - long	1,384	75,471,982
International equity index futures - short	(1,234)	(36,913,592)
Fixed Income/Cash Equivalent Futures		
Fixed income index futures – long	8,552	1,152,471,047
Fixed income index futures – short	(2,004)	(330,462,149)
International fixed income index futures – long	712	139,042,295
International fixed income index futures – short	(3,216)	(331,106,198)
Cash equivalent (eurodollar) futures – long	229	56,187,525
Cash equivalent (eurodollar) futures – short	(833)	(204,167,512)
Total futures (net)	**3,499**	**$517,364,777**

FINANCIAL OPTIONS

Objective: Financial options are agreements that give 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. The owner (buyer) of an option has all the rights, while the seller (writer) of an option has the obligations of the agreement. As a writer of financial options, TRS 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. Premiums received are recorded as a liability when the financial option is written. The Options Clearing Corporation (OCC) performs much the same function for options markets as the clearinghouse does for futures markets.

Terms: As of June 30, 2019, the TRS investment portfolio held currency forward options with notional value of $83,287,525, inflation options with notional value of $104,074,008, and options on futures with underlying notional value of $35,405,972. Contractual principal/notional values do not represent the actual values in the Statement of Fiduciary Net Position. The contracts have various expiration dates through June 2035.

Fair Value: Fluctuations in the fair value of financial options are recognized in TRS's financial statements as incurred rather than at the time the options are exercised or expire. As of June 30, 2019, the fair value of all option contracts, gross of premiums received, was $112,305. The fair value represents the amount needed to close all positions as of that date. The following table presents the aggregate contractual principal (notional value) of outstanding contracts as of June 30, 2019. Notional principal amounts are often used to express the volume of these transactions but do not reflect the extent to which positions may offset one another. Options on futures represent the corresponding futures exposure.

Type	Number of Contracts	Notional Principal
Currency Forward Options		
Currency forward call options - purchased	1	$22,091,948
Currency forward put options - purchased	2	61,195,577
Inflation Options		
Inflation call options - written	5	104,005,053
Inflation put options - written	9	68,955
Options on Futures		
Fixed income call options on futures USD - written	(85)	5,959,520
Fixed income put options on futures USD - written	(37)	88,800
Commodity call options on futures USD - written	(60)	809,652
Commodity put options on futures USD - written	(36)	28,548,000

SWAPTIONS

Objective: 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. An interest-rate swaption gives the buyer the right to pay or receive a specified fixed interest rate in a swap in exchange for a floating rate for a stated time period. TRS has both written and purchased interest rate swaptions in its portfolio. In a written call swaption, the seller (writer) is obligated to pay a fixed rate in exchange for a floating rate for a stated period of time and in a written put swaption, the seller is obligated to receive a fixed rate in exchange for a floating rate if the swaption is exercised. A purchased (long) call swaption gives the buyer the right to receive a fixed rate in exchange for a floating rate for a stated period of time while a purchased (long) put swaption gives the buyer the right to pay a fixed rate in exchange for a floating rate if the swaption is exercised.

The TRS investment portfolio also holds credit default swaptions. A credit default swaption gives the holder the right, but not the obligation to buy (call) or sell (put) protection on a specified entity or index for a specified future time period.

As the writer of a swaption, TRS receives a premium at the outset of the agreement. Premiums are recorded as a liability when the swaption is written. As the purchaser of a swaption, TRS pays an upfront premium.

Terms: As of June 30, 2019, TRS had outstanding written put swaption exposure of $41,224,924 and purchased put swaption exposure of $14,029,676. The contracts have various maturity dates through December 2019. Exposure amounts for swaptions do not represent the actual values in the Statement of Fiduciary Net Position.

Fair Value: Fluctuations in the fair value of swaptions are recognized in TRS's financial statements as incurred rather than at the time the swaptions are exercised or when they expire. As of June 30, 2019, the fair value of swaption contracts was ($43,745).

CREDIT DEFAULT SWAPS/INDEX SWAPS

Objective: Credit default swaps are financial instruments used to replicate the effect of investing in debt obligations of corporate bond issuers as a means to manage bond exposure, effectively buying or selling insurance protection in case of default. Credit default swaps may be specific to an individual security or to a specific market sector (index swaps). The risk of the credit default/index swap is comparable to the credit risk of the underlying debt obligations of issuers that comprise the credit default/ index swap, with the primary risk being counterparty risk. The owner/buyer of protection pays an agreed upon premium to the seller of protection for the right to sell the debt at a previously agreed upon value in the event of a default by the bond issuer. The premium is paid periodically over the term of the swap or until a credit event of the bond issuer occurs. In the event of a default, the swap is called and the seller of protection makes a payment to the buyer, which is usually based on a fixed percentage of total par.

Purchased credit default swaps decrease credit exposure (buying protection), providing the right to sell debt to the counterparty in the event of a default. A buyer of credit protection against a basket of securities pays an upfront or periodic payment until either maturity or default. In the event of a default, the buyer receives a lump-sum payment. If no default occurs, the buyer loses only the premium paid.

Written credit default swaps increase credit exposure (selling protection), obligating the portfolio to buy debt from counterparties in the event of a default. A seller of credit protection against a basket of securities receives an upfront or periodic payment to compensate against potential default events. If a default event occurs, the seller must pay the buyer the full notional value of the obligation in exchange for the obligation. If no default occurs, the seller will have earned the premium paid.

Terms: As of June 30, 2019, TRS had credit default/ index swaps in its portfolio with various maturity dates through May 2063. The notional values as of June 30, 2019, included purchased credit default swaps (buying protection) of $51,329,877, written credit default swaps (selling protection) of $154,388,969 and index swaps of $64,892,408.

Fair Value: The fair value of credit default swaps, including index swaps, held by TRS was $1,325,360 as of June 30, 2019. This represents the amount due to or (from) TRS under the terms of the counterparty agreements.

INTEREST RATE SWAPS

Objective: Interest rate swaps are agreements between parties to exchange a set of cash flow streams over a period of time. In the most common type of interest rate swap arrangement, one party agrees to pay fixed interest payments on designated dates to a counterparty who, in turn, agrees to make return interest payments that float with some reference rate. Long positions (receive fixed) increase exposure to long-term interest rates; short positions (pay fixed) decrease interest rate/risk exposure.

Terms: As of June 30, 2019, TRS held interest rate swaps in various currencies with various expiration/ maturity dates ranging from 2019 to 2049. Swap agreements typically are settled on a net basis, with a party receiving or paying only the net amount of the fixed/floating payments. Payments may be made at the conclusion of a swap agreement or periodically during its term.

Fair Value: The table below presents the fair value of TRS's interest rate swap exposure as of June 30, 2019.

	As of June 30, 2019
Receive floating/pay fixed	($62,276,154)
Receive fixed/pay floating	7,068,097

INFLATION-LINKED SWAPS

Objective: Inflation-linked swaps are agreements where a fixed payment is exchanged for a variable payment linked to an inflation index. These swaps can protect against unfavorable changes in inflation expectations and are used to transfer inflation risk from one counterparty to another.

Terms: As of June 30, 2019, TRS was a party to inflation-linked swaps denominated in various currencies with expiration dates through October 2046. Inflation-linked swaps initially have no net value; the value of the swap's outstanding payments will change as interest and inflation rates change. The value may be either positive or negative.

Fair value: The fair value of the inflation-linked swaps held by TRS was ($2,074,240) as of June 30, 2019.

DERIVATIVE INTEREST RATE RISK

Interest rate risk for derivative securities is disclosed in the Financial Note D. 2. Both interest rate and inflation rate swaps have fair values that are sensitive to interest rate changes.

TRS had the following interest rate and inflation swaps at June 30, 2019.

Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/19
Pay Fixed Interest Rate Swaps:						
Interest Rate Swap GBP	700,000	$893,148	6 month LIBOR	2.05%	9/23/2019	($2,314)
Interest Rate Swap ILS	22,450,000	6,296,619	3 month TELBOR	0.29	2/16/2020	(106)
Interest Rate Swap ILS	13,770,000	3,861,654	3 month TELBOR	0.27	3/21/2020	514
Interest Rate Swap EUR	14,300,000	16,297,408	12 month EONIA	0.99	3/30/2020	12,562
Interest Rate Swap ILS	16,530,000	4,632,487	3 month TELBOR	0.37	6/20/2020	(2,595)
Interest Rate Swap ILS	11,400,000	3,193,247	3 month TELBOR	0.42	6/20/2020	(3,361)
Interest Rate Swap USD	50,200,000	50,257,554	3 month LIBOR	2.90	9/14/2020	(560,288)
Interest Rate Swap USD	500,000	500,435	3 month LIBOR	2.00	12/16/2020	(772)
Interest Rate Swap USD	18,300,000	18,314,753	3 month LIBOR	2.75	12/19/2020	(228,037)
Interest Rate Swap USD	800,000	800,530	3 month LIBOR	1.25	6/21/2021	8,644
Interest Rate Swap GBP	17,220,000	21,915,897	6 month LIBOR	1.00	9/18/2021	(71,492)
Interest Rate Swap USD	52,250,000	53,188,367	12 month LIBOR	2.33	9/27/2021	(908,211)
Interest Rate Swap EUR	1,125,000	1,281,150	EONIA	0.25	5/11/2022	(9,762)
Interest Rate Swap USD	9,030,000	9,030,000	12 month LIBOR	2.35	5/31/2022	(220,326)
Interest Rate Swap USD	810,000	810,000	12 month LIBOR	2.36	9/27/2022	(22,292)
Interest Rate Swap USD	14,115,000	14,313,484	12 month LIBOR	2.61	11/30/2022	(547,470)
Interest Rate Swap USD	2,100,000	1,867,168	3 month LIBOR	2.56	5/8/2023	(232,832)
Interest Rate Swap EUR	2,770,000	3,154,477	EONIA	0.10	5/11/2023	(46,510)
Interest Rate Swap USD	825,000	827,712	3 month LIBOR	2.11	2/15/2024	(13,513)
Interest Rate Swap USD	8,548,000	8,576,101	3 month LIBOR	2.15	2/15/2024	(152,620)
Interest Rate Swap USD	2,595,000	2,603,531	3 month LIBOR	2.18	2/15/2024	(50,090)
Interest Rate Swap EUR	3,140,000	3,575,833	EONIA	0.05	5/11/2024	(82,489)
Interest Rate Swap USD	15,955,000	16,007,450	3 month LIBOR	1.96	5/15/2024	(152,847)
Interest Rate Swap ZAR	18,350,000	1,307,602	3 month JIBAR	7.15	6/6/2024	(6,709)
Interest Rate Swap ZAR	29,490,000	2,101,427	3 month JIBAR	7.18	6/6/2024	(13,149)
Interest Rate Swap USD	15,900,000	15,904,083	3 month LIBOR	1.98	6/27/2024	(168,894)
Interest Rate Swap USD	13,144,000	13,224,412	3 month LIBOR	2.73	7/7/2024	(619,605)
Interest Rate Swap USD	25,855,000	25,939,996	3 month LIBOR	2.17	8/15/2024	(517,140)
Interest Rate Swap USD	14,410,000	14,457,371	3 month LIBOR	2.18	8/15/2024	(292,267)
Interest Rate Swap GBP	96,400,000	122,688,299	6 month LIBOR	1.25	9/18/2024	(2,039,308)
Interest Rate Swap USD	53,215,000	53,389,939	3 month LIBOR	2.33	11/15/2024	(1,538,806)
Interest Rate Swap USD	13,890,000	13,957,992	3 month LIBOR	1.91	1/22/2025	(103,622)
Interest Rate Swap USD	10,240,000	10,287,745	3 month LIBOR	1.97	1/27/2025	(108,029)
Interest Rate Swap USD	2,560,000	2,571,385	3 month LIBOR	1.94	1/29/2025	(22,160)
Interest Rate Swap USD	2,170,000	2,179,652	3 month LIBOR	1.94	1/30/2025	(19,207)
Interest Rate Swap USD	3,420,000	3,434,436	3 month LIBOR	1.82	2/3/2025	(7,196)
Interest Rate Swap USD	7,920,000	7,920,000	12 month LIBOR	2.45	2/28/2025	(397,673)
Interest Rate Swap USD	5,525,000	5,538,153	3 month LIBOR	3.02	2/28/2025	(369,381)
Interest Rate Swap USD	7,050,000	7,051,810	3 month LIBOR	1.98	3/27/2025	(78,230)
Interest Rate Swap USD	7,050,000	7,051,810	3 month LIBOR	1.99	3/27/2025	(81,048)
Interest Rate Swap EUR	190,000	216,372	EONIA	0.10	5/11/2025	(5,711)
Interest Rate Swap USD	23,079,000	23,129,116	3 month LIBOR	3.00	5/31/2025	(1,570,583)
Interest Rate Swap USD	7,760,000	7,810,435	3 month LIBOR	2.45	7/2/2025	(260,162)
Interest Rate Swap USD	2,145,000	2,145,000	12 month LIBOR	2.80	7/31/2025	(160,892)

(continued)

(continued)

Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/19
Interest Rate Swap USD	8,200,000	$8,236,474	3 month LIBOR	3.10%	7/31/2025	($621,363)
Interest Rate Swap USD	20,397,000	20,487,727	3 month LIBOR	3.11	7/31/2025	(1,550,821)
Interest Rate Swap GBP	6,560,000	8,348,913	6 month LIBOR	2.34	1/13/2026	(553,446)
Interest Rate Swap USD	60,545,000	60,545,000	12 month LIBOR	2.27	1/31/2026	(2,656,522)
Interest Rate Swap USD	2,700,000	2,700,524	3 month LIBOR	2.24	1/31/2026	(71,295)
Interest Rate Swap USD	5,137,000	5,137,000	3 month LIBOR	2.41	1/31/2026	(190,135)
Interest Rate Swap USD	5,100,000	5,100,000	12 month LIBOR	2.29	3/12/2026	(230,384)
Interest Rate Swap JPY	1,490,000,000	13,829,697	6 month JPY LIBOR	0.30	3/18/2026	(356,248)
Interest Rate Swap USD	10,395,000	10,395,000	3 month LIBOR	1.88	4/30/2026	(49,043)
Interest Rate Swap GBP	310,000	387,402	12 month SONIA	1.00	5/8/2026	(7,135)
Interest Rate Swap USD	2,600,000	2,602,815	3 month LIBOR	2.25	6/15/2026	(71,515)
Interest Rate Swap USD	34,910,000	34,910,000	3 month LIBOR	2.40	12/7/2026	(791,210)
Interest Rate Swap USD	36,400,000	36,424,126	3 month LIBOR	1.75	12/21/2026	263,828
Interest Rate Swap USD	6,171,000	6,226,937	12 month LIBOR	1.82	2/15/2027	(77,877)
Interest Rate Swap USD	4,330,000	4,369,249	12 month LIBOR	1.90	2/15/2027	(79,388)
Interest Rate Swap USD	1,720,000	1,735,592	12 month LIBOR	1.96	2/15/2027	(40,164)
Interest Rate Swap USD	4,335,000	4,374,298	12 month LIBOR	2.07	2/15/2027	(135,210)
Interest Rate Swap USD	1,790,000	1,796,873	3 month LIBOR	2.31	5/8/2027	(58,538)
Interest Rate Swap USD	525,000	526,726	3 month LIBOR	2.29	5/15/2027	(16,475)
Interest Rate Swap USD	6,300,000	6,304,176	3 month LIBOR	1.50	6/21/2027	180,831
Interest Rate Swap USD	6,200,000	6,204,521	3 month LIBOR	2.50	12/20/2027	(290,378)
Interest Rate Swap JPY	380,000,000	3,527,031	6 month JPY LIBOR	0.30	3/20/2028	(100,180)
Interest Rate Swap NZD	1,200,000	806,329	3 month NZD Bank Bill	3.25	3/21/2028	(101,217)
Interest Rate Swap JPY	520,000,000	4,826,464	6 month JPY LIBOR	0.30	3/21/2028	(137,042)
Interest Rate Swap USD	34,000,000	34,000,000	3 month LIBOR	3.10	4/17/2028	(1,572,403)
Interest Rate Swap EUR	4,010,000	4,566,590	12 month EONIA	0.50	5/11/2028	(245,381)
Interest Rate Swap USD	169,680,000	169,803,689	3 month LIBOR	2.25	6/20/2028	(4,730,499)
Interest Rate Swap USD	4,200,000	4,222,454	3 month LIBOR	2.72	7/18/2028	(277,652)
Interest Rate Swap USD	15,200,000	15,281,263	3 month LIBOR	2.77	7/18/2028	(1,062,230)
Interest Rate Swap USD	18,626,600	18,626,600	12 month LIBOR	2.58	8/15/2028	(1,427,633)
Interest Rate Swap USD	7,540,000	7,564,787	3 month LIBOR	2.84	8/15/2028	(585,379)
Interest Rate Swap JPY	5,231,690,000	48,558,775	6 month JPY LIBOR	0.45	3/20/2029	(2,096,429)
Interest Rate Swap USD	20,400,000	20,416,246	3 month LIBOR	3.00	6/19/2029	(1,923,183)
Interest Rate Swap CLP	748,315,000	1,102,174	3 month Chile Interbank Rate	1.00	7/1/2029	9
Interest Rate Swap GBP	6,300,000	8,018,011	6 month LIBOR	1.50	9/18/2029	(339,367)
Interest Rate Swap EUR	320,000	364,416	12 month EONIA	0.75	5/11/2033	(25,210)
Interest Rate Swap GBP	305,000	388,581	12 month SONIA	1.20	5/8/2034	(15,590)
Interest Rate Swap EUR	2,650,000	3,017,821	6 month EURIBOR	2.11	10/25/2037	(291,149)
Interest Rate Swap JPY	720,000,000	6,682,796	6 month JPY LIBOR	0.75	3/20/2038	(613,589)
Interest Rate Swap EUR	935,000	1,064,778	12 month EONIA	1.10	5/11/2039	(128,791)
Interest Rate Swap USD	870,000	872,860	3 month LIBOR	2.66	11/15/2043	(78,529)
Interest Rate Swap USD	19,030,000	19,153,313	3 month LIBOR	3.49	3/31/2044	(4,758,079)
Interest Rate Swap USD	1,800,000	1,801,567	3 month LIBOR	2.75	12/16/2045	(195,351)
Interest Rate Swap USD	19,845,000	19,866,480	3 month LIBOR	2.50	6/15/2046	(1,134,876)
Interest Rate Swap USD	5,400,000	5,406,191	3 month LIBOR	2.25	9/14/2046	(24,070)

(continued)

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Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/19
Interest Rate Swap USD	48,300,000	$48,441,981	3 month LIBOR	2.38%	11/18/2046	($1,755,505)
Interest Rate Swap USD	19,100,000	19,112,660	3 month LIBOR	2.25	12/21/2046	(84,246)
Interest Rate Swap USD	7,500,000	7,541,115	3 month LIBOR	2.54	4/13/2047	(532,210)
Interest Rate Swap USD	4,870,000	4,933,436	12 month LIBOR	2.00	12/15/2047	(43,147)
Interest Rate Swap USD	1,300,000	1,300,000	12 month LIBOR	2.43	12/20/2047	(137,567)
Interest Rate Swap USD	863,000	863,000	12 month LIBOR	2.48	12/20/2047	(101,206)
Interest Rate Swap USD	1,110,000	1,110,000	12 month LIBOR	2.50	12/20/2047	(135,533)
Interest Rate Swap USD	5,700,000	5,704,157	3 month LIBOR	2.75	12/20/2047	(646,470)
Interest Rate Swap USD	15,000,000	15,009,942	3 month LIBOR	2.59	12/21/2047	(1,264,506)
Interest Rate Swap USD	17,234,000	17,283,454	3 month LIBOR	2.98	2/20/2048	(2,920,864)
Interest Rate Swap USD	17,234,000	17,282,320	3 month LIBOR	3.00	2/22/2048	(3,005,624)
Interest Rate Swap USD	17,234,000	17,281,114	3 month LIBOR	3.02	2/23/2048	(3,069,859)
Interest Rate Swap EUR	2,870,000	3,268,357	6 month EURIBOR	1.66	3/19/2048	(206,999)
Interest Rate Swap USD	400,000	400,182	3 month LIBOR	2.54	3/23/2048	(27,161)
Interest Rate Swap USD	25,100,000	25,118,304	3 month LIBOR	2.50	6/20/2048	(1,487,608)
Interest Rate Swap USD	1,900,000	1,905,194	3 month LIBOR	2.91	8/22/2048	(283,956)
Interest Rate Swap USD	600,000	601,640	3 month LIBOR	2.94	8/22/2048	(94,343)
Interest Rate Swap USD	21,900,000	21,907,059	3 month LIBOR	2.97	9/26/2048	(3,601,822)
Interest Rate Swap USD	4,700,000	4,703,789	3 month LIBOR	3.00	12/19/2048	(808,031)
Interest Rate Swap EUR	6,800,000	7,743,843	6 month EURIBOR	1.25	9/18/2049	(1,137,210)
Total Pay Fixed Interest Rate Swaps:		**$1,446,599,853**				**($62,276,154)**
Receive Fixed Interest Rate Swaps:						
Interest Rate Swap USD	27,000,000	$27,006,713	1.75%	3 month LIBOR	12/19/2020	$6,713
Interest Rate Swap EUR	1,125,000	-	0.37	EONIA	5/11/2022	-
Interest Rate Swap EUR	2,770,000	447	0.37	EONIA	5/11/2023	-
Interest Rate Swap USD	11,100,000	11,680,885	2.80	3 month LIBOR	8/22/2023	469,515
Interest Rate Swap USD	49,600,000	51,684,067	2.60	3 month LIBOR	9/26/2023	1,743,756
Interest Rate Swap USD	15,200,000	15,840,268	2.70	3 month LIBOR	12/14/2023	620,888
Interest Rate Swap CNY	27,750,000	4,105,934	3.10	7 day CNRR	4/10/2024	37,417
Interest Rate Swap CNY	7,335,000	1,087,674	3.17	7 day CNRR	4/22/2024	13,213
Interest Rate Swap CNY	7,335,000	1,090,572	3.23	7 day CNRR	4/23/2024	16,084
Interest Rate Swap EUR	3,140,000	-	0.37	EONIA	5/11/2024	-
Interest Rate Swap CNY	13,600,000	1,987,734	3.01	7 day CNRR	5/15/2024	23
Interest Rate Swap CZK	60,850,000	2,758,796	1.91	6 month PRIBOR	5/17/2024	28,836
Interest Rate Swap CNY	33,230,000	4,852,760	2.93	7 day CNRR	6/5/2024	4,592
Interest Rate Swap CNY	12,520,000	1,824,764	2.90	7 day CNRR	6/14/2024	(546)
Interest Rate Swap CNY	37,395,000	5,441,586	2.88	7 day CNRR	6/19/2024	(8,097)
Interest Rate Swap CNY	36,000,000	5,241,508	2.90	7 day CNRR	6/28/2024	36
Interest Rate Swap EUR	37,200,000	43,356,562	0.25	6 month EURIBOR	9/18/2024	993,187
Interest Rate Swap EUR	190,000	-	0.37	EONIA	5/11/2025	-
Interest Rate Swap BRL	4,293,312	1,120,227	7.33	3 month Brazilian CDI	1/4/2027	33
Interest Rate Swap MXN	110,000,000	5,696,839	7.35	28 day Mexican TIIE	9/30/2027	(41,713)

(continued)

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Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/19
Interest Rate Swap ILS	4,730,000	$1,407,015	1.97%	3 month TELBOR	2/16/2028	$71,206
Interest Rate Swap ILS	2,890,000	851,624	1.88	3 month TELBOR	3/21/2028	37,106
Interest Rate Swap EUR	4,010,000	-	0.37	EONIA	5/11/2028	-
Interest Rate Swap ILS	3,530,000	1,043,579	2.00	3 month TELBOR	6/20/2028	53,233
Interest Rate Swap ILS	2,430,000	723,094	2.08	3 month TELBOR	6/20/2028	41,338
Interest Rate Swap USD	41,800,000	43,694,734	3.13	3 month LIBOR	9/13/2028	1,894,734
Interest Rate Swap MXN	25,700,000	1,419,942	8.37	28 day Mexican TIIE	2/13/2029	78,169
Interest Rate Swap MXN	32,000,000	1,741,798	8.09	28 day Mexican TIIE	3/21/2029	63,789
Interest Rate Swap COP	8,577,950,000	2,806,959	5.88	COOVIBR	5/14/2029	132,201
Interest Rate Swap MXN	51,500,000	2,764,235	7.98	28 day Mexican TIIE	5/16/2029	80,599
Interest Rate Swap MXN	124,590,000	6,762,398	8.08	28 day Mexican TIIE	5/22/2029	237,995
Interest Rate Swap GBP	3,660,000	4,601,617	3.47	UK Retail Price Index	9/15/2032	(56,465)
Interest Rate Swap EUR	320,000	-	0.37	EONIA	5/11/2033	-
Interest Rate Swap GBP	3,930,000	4,948,689	3.50	UK Retail Price Index	9/15/2033	(53,022)
Interest Rate Swap EUR	2,650,000	3,309,667	2.09	3 month EURIBOR	10/25/2037	291,846
Interest Rate Swap EUR	935,000	-	0.37	EONIA	5/11/2039	-
Interest Rate Swap EUR	2,870,000	3,477,256	1.65	3 month EURIBOR	3/19/2048	208,899
Interest Rate Swap USD	1,730,000	1,833,854	2.50	3 month LIBOR	6/20/2048	102,532
Total Receive Fixed Interest Rate Swaps:		**$266,163,797**				**$7,068,097**
Pay Fixed Inflation-Linked Swaps:						
Inflation Swap USD	13,600,000	$13,600,000	U.S. CPI URNSA	1.82%	5/13/2021	($16,875)
Inflation Swap EUR	6,280,000	7,151,667	France CPI ex-Tobacco Index	1.35	6/15/2021	(96,500)
Inflation Swap USD	18,200,000	16,264,519	U.S. CPI URNSA	2.50	7/15/2022	(1,935,481)
Inflation Swap USD	2,760,000	2,760,000	U.S. CPI URNSA	2.26	5/9/2023	(71,054)
Inflation Swap USD	4,230,000	4,230,000	U.S. CPI URNSA	2.28	5/10/2023	(112,650)
Inflation Swap EUR	15,200,000	17,309,766	EMU HICP	1.23	12/15/2023	(316,032)
Inflation Swap USD	10,600,000	10,600,000	U.S. CPI URNSA	1.96	7/25/2024	(35,052)
Inflation Swap EUR	2,000,000	2,277,601	EMU HICP	1.71	3/15/2033	(212,966)
Total Pay Fixed Inflation-Linked Swaps:		**$74,193,553**				**($2,796,610)**
Receive Fixed Inflation-Linked Swaps:						
Inflation Swap EUR	2,000,000	$2,340,977	1.54%	EMU HICP	6/15/2023	$63,376
Inflation Swap USD	3,600,000	3,544,491	1.79	U.S. CPI URNSA	7/18/2026	(55,509)
Inflation Swap USD	2,900,000	2,862,387	1.81	U.S. CPI URNSA	7/19/2026	(37,613)
Inflation Swap USD	2,000,000	1,972,143	1.80	U.S. CPI URNSA	7/20/2026	(27,857)
Inflation Swap USD	500,000	493,750	1.81	U.S. CPI URNSA	9/20/2026	(6,250)
Inflation Swap USD	3,000,000	3,050,981	2.09	U.S. CPI URNSA	7/17/2027	50,981
Inflation Swap USD	1,600,000	1,628,536	2.10	U.S. CPI URNSA	7/20/2027	28,536
Inflation Swap USD	2,300,000	2,335,177	2.08	U.S. CPI URNSA	7/25/2027	35,177
Inflation Swap USD	60,000	61,415	2.18	U.S. CPI URNSA	9/20/2027	1,415
Inflation Swap USD	2,300,000	2,346,273	2.15	U.S. CPI URNSA	9/25/2027	46,273
Inflation Swap USD	2,600,000	2,654,964	2.16	U.S. CPI URNSA	10/17/2027	54,964
Inflation Swap USD	3,200,000	3,359,731	2.37	U.S. CPI URNSA	6/6/2028	159,731

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Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/19
Inflation Swap USD	8,200,000	$8,624,633	2.38%	U.S. CPI URNSA	7/9/2028	$424,633
Inflation Swap GBP	5,100,000	6,566,501	3.58	UK Retail Price Index	10/15/2033	75,730
Inflation Swap GBP	4,600,000	5,762,105	3.36	UK Retail Price Index	4/15/2035	(92,316)
Inflation Swap GBP	10,000	13,826	3.59	UK Retail Price Index	10/15/2046	1,099
Total Receive Fixed Inflation-Linked Swaps:		**$47,617,890**				**$722,370**

CDI - Cetip Interbank Deposit (interbank lending rate)
COOVIBR - Columbia Overnight Interbank Rate
CNRR - China Fixing Repo Rates
CPI - Consumer Price Index
EMU HICP - European Monetary Union Harmonized Index of Consumer Prices
EONIA - Euro Over Night Index Average
EURIBOR - Euro Interbank Offered Rate
JIBAR - Johannesburg Interbank Agreed Rate
LIBOR - London Interbank Offered Rate
PRIBOR - Czech Interbank Offered Rate
SONIA - Sterling Over Night Index Average
TELBOR - Tel Aviv Interbank Offered Rate
URNSA - Urban Consumers NSA Index Rate

DERIVATIVE CREDIT RISK

Credit risk is the possibility that a loss may occur because a party to a transaction fails to perform according to the established terms. In order to eliminate credit risk, derivative securities are traded through a clearing house that guarantees delivery and accepts the risk of default by either party. Derivatives that are exchange traded are not subject to credit risk and are evaluated within the investment risk disclosure.

Non-exchange traded derivative instruments may expose TRS to credit/counterparty risk. TRS investment managers reduce credit risk by evaluating the credit quality and operational capabilities of the counterparties. Because the counterparty risk of a security will fluctuate with market movements, all TRS managers using non-exchange traded derivatives operate a collateral call process ensuring full collateralization of these derivatives. TRS does not have a policy regarding master netting arrangements.

As of June 30, 2019, the aggregate fair value of non-exchange traded derivative instruments in asset positions was $42,226,731. All applicable futures, options and swaps are in compliance with Dodd-Frank requirements and cleared through the appropriate futures and swaps exchanges. The counterparty risk exposure below is primarily unsettled currency forward contracts. This represents the maximum loss that would be recognized at the reporting date if all counterparties failed to perform as contracted.

Counterparty Ratings for Non-Exchange Traded Derivatives

Quality Rating	Fair Value at June 30, 2019
Aa2	$7,118,487
Aa3	16,977,638
A1	4,236,396
A2	7,166,845
A3	6,727,365
Total subject to credit risk	**$42,226,731**

Although the derivative instruments held within the TRS investment portfolio are executed with various counterparties, approximately 90 percent of the net market value exposure to credit risk is for non-exchange traded derivative contracts held with 9 counterparties.

5. INVESTMENT COMMITMENTS

Investments in certain limited partnerships commit TRS to possible future capital contributions. As of June 30, 2019, TRS had remaining unfunded commitments of $8,397,888,687 within the real estate, other real assets, private equity, diversifying strategies and global fixed income asset classes.

6. SCHEDULE OF INVESTMENT RETURNS

For the year ended June 30, 2019, the annual money-weighted rate of return on pension plan investments, net of investment expense, was 5.1 percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the timing of cash flows and the changing amounts invested.

7. FAIR VALUE MEASUREMENT

TRS categorizes investments measured at fair value within the fair value hierarchy established by generally accepted accounting principles. The hierarchy prioritizes valuation inputs used to measure the fair value of the asset or liability into three broad categories. The inputs or methodology used for valuing securities are not necessarily an indication of the risk associated with investing in those securities. Levels 1, 2 and 3 (lowest priority level) of the fair value hierarchy are defined as follows:

Level 1 Inputs using unadjusted quoted prices in active markets or exchanges for identical assets and liabilities.

Level 2 Significant other observable inputs, which may include quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in non-active markets; and inputs other than quoted prices that are observable for the assets or liabilities, either directly or indirectly.

Level 3 Valuations for which one or more significant inputs are unobservable and may include situations where there is minimal, if any, market activity for the investment.

If the fair value is measured using inputs from different levels in the fair value hierarchy, the measurement should be categorized based on the lowest priority level input that is significant to the valuation. The System's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the investment. Investments measured at fair value using net asset value (NAV) per share (or equivalent) as a practical expedient to fair value are not classified in the fair value hierarchy; however, separate disclosures for these investments are required.

Debt and equity investments classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets, to the extent these securities are actively traded.

Short-term investments consisting of money market funds, certificates of deposit and highly liquid cash equivalents are generally reported at amortized cost which approximates fair market value. These investments are not categorized in the fair value hierarchy.

Debt and investment derivatives classified in Level 2 of the fair value hierarchy are normally valued based on price data obtained from observed transactions and market price quotations from broker dealers and/or pricing vendors. Valuation estimates from service providers' internal models use observable inputs such as interest rates, yield curves, credit/risk spreads and default rates. Matrix pricing techniques value securities based on their relationship to benchmark quoted prices. Exchange traded and over-the-counter investment derivatives valued by independent pricing service providers, where the value is derived from underlying asset prices, reference rates, indices or other observable inputs are also included in Level 2.

Debt securities classified as Level 3 include valuations using significant unobservable inputs, valuations using proprietary information, inputs that cannot be corroborated by observable market data and securities valued with last trade date due to limited trading volume. Real assets classified as Level 3 include direct investments in real estate. Valuations for real estate investments are performed quarterly by investment managers. An appraisal by an independent third-party member of the Appraisal Institute is obtained once every three years for each property and is used to establish fair market value.

The following table summarizes the valuation of TRS investments by the fair value hierarchy levels as of June 30, 2019.

Investments and Derivative Instruments Measured at Fair Value ($ thousands)

		Fair Value Measurements Using		
	June 30, 2019	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
Investments by fair value level				
Debt securities				
Asset-backed securities	$325,690	$ -	$324,718	$972
Collateralized loan obligations	220,444	-	220,444	-
Commercial & collateralized mortgages	425,435	-	425,435	-
Domestic corporate obligations	3,058,308	-	3,058,308	-
Fixed income mutual funds	827,491	827,491	-	-
Foreign debt/corporate obligations	3,483,276	-	3,476,941	6,335
Municipals	93,022	-	93,022	-
U.S. agencies obligations	119,472	-	119,472	-
U.S. government-backed mortgages	599,118	-	599,118	-
U.S. treasuries	1,436,033	-	1,436,033	-
Total debt securities	**10,588,289**	**827,491**	**9,753,491**	**7,307**
Equity investments				
International common and preferred stock	9,603,424	9,589,909	13,515	-
U.S. common and preferred stock	7,918,737	7,914,493	4,244	-
Total equity investments	**17,522,161**	**17,504,402**	**17,759**	**-**
Real assets				
Real estate	4,839,257	-	-	4,839,257
Total real assets	**4,839,257**	**-**	**-**	**4,839,257**
Total investments by fair value level	**$32,949,707**	**$18,331,893**	**$9,771,250**	**$4,846,564**
Investments measured at the Net Asset Value (NAV)				
Commingled fixed income funds	$3,137,473			
Diversifying strategies	5,374,252			
International equity commingled fund	301,521			
Private equity partnerships	6,378,902			
Private real estate partnerships	2,515,552			
Other real assets	527,431			
Total investments measured at the NAV	**18,235,131**			
Total investments measured at fair value	**$51,184,838**			
Investment derivative instruments				
Credit default swaps	$164	$ -	$164	$ -
Index and variance swaps	1,162	-	1,162	-
Inflation swaps	(1,714)	-	(1,714)	-
Interest rate swaps	(55,568)	-	(55,568)	-
Options	3,691	-	3,691	-
Swaptions	(3,623)	-	(3,623)	-
Total investment derivative instruments	**($55,888)**	**$ -**	**($55,888)**	**$ -**
Invested securities lending collateral				
Total invested securities lending collateral*	**$2,485,824**	**$325,881**	**$2,159,943**	**$ -**

** Does not include lending collateral with the State Treasurer.*

Investments measured at NAV for fair value are not subject to level classification. The valuation method for investments measured at the NAV per share (or its equivalent) is presented on the following table.

Investments Measured at the Net Asset Value (NAV) ($ thousands)

	Fair Value June 30, 2019	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Diversifying funds - liquid[1]	$4,799,439	$ -	Daily, weekly, monthly, quarterly	1 - 90 days
Diversifying funds - illiquid[2]	574,813	139,855	Not eligible	N/A
Total diversifying strategies	**5,374,252**	**139,855**		
Commingled fixed income funds[3]	1,625,529	-	Monthly, quarterly	30-90 days
Fixed income private debt funds[4]	1,511,944	1,281,329	Not eligible	N/A
Total commingled fixed income funds	**3,137,473**	**1,281,329**		
International equity commingled fund[5]	**301,521**	-	Daily	1 day
Private equity partnerships[6]	**6,378,902**	**3,314,719**	Not eligible	N/A
Private real estate partnerships[6]	**2,515,552**	**2,879,948**	Not eligible	N/A
Real return fund[7]	275,078	-	Monthly	30 days
Real assets partnerships[8]	252,353	782,038	Not eligible	N/A
Total other real assets	**527,431**	**782,038**		
Total investments measured at the NAV	**$18,235,131**	**$8,397,889**		

1) **Diversifying funds (liquid strategies):** The diversifying strategies asset class applies various strategies that provide diversification to the total investment portfolio. Investments focus on reducing equity-like risk characteristics encompassed in the overall TRS portfolio by enhancing exposures to strategies that show little to no correlation to growth factors while adding positive skew and active risk management characteristics. Risk parity and alternative risk premia strategies consists of four direct investments focusing on market neutral and long only expressions of cross-asset risk. The systematic and discretionary macro strategies include direct investments in 10 funds diversifying through regional and product expertise, speed of algorithms and style of trading. Opportunistic alpha funds, including six direct investments and one diversified fund of funds, use idiosyncratic alpha capture through liquidity and security selection. The fair value of these investments has been determined using the NAV per share of the investments. The strategies maintain a liquidity profile of less than one year, ranging from daily to quarterly and require advance notice prior to redemption. TRS submitted redemption requests for two direct investments, valued at $122.7 million, with exit dates of July 31 and September 30, 2019.

2) **Diversifying funds (illiquid strategies):** The diversifying strategies asset class also includes three opportunistic alpha funds in which redemptions are restricted over the life of the partnership. The partnership's interest is valued using the NAV per share (or its equivalent). The most significant element of NAV is the fair value of the underlying investment holdings which are valued on a monthly basis by the general partner and are audited annually. The average life of these funds spans five to 10 years and the funds will distribute any free cash from the master fund in excess of the amount needed to maintain prudent liquidity. TRS has no plans to liquidate as of June 30, 2019.

3) **Commingled fixed income funds:** The investment strategies for the 11 fixed income funds include high yield, defensive bond arbitrage, emerging market debt, relative value and TRS customized accounts investing in

opportunistic investments. The fair value of the investments has been determined using the NAV per share (or its equivalent) of the investments. Liquidity ranges from monthly to quarterly upon notice of redemption and TRS has no plans to liquidate as of June 30, 2019.

4) **Fixed income private debt funds:** Private debt funds consist of 36 funds investing across strategies such as stressed debt/credit, direct and specialty lending, real estate credit and bank loans. These funds provide additional exposure to niche and/or specific non-traditional point-in-time opportunities that are not normally targeted by traditional fixed income managers. Funds are valued using the NAV per share (or its equivalent) and are audited annually. Redemption restrictions are in place over the life of the partnership. The average life of these funds span three to 12 years and distributions are received throughout the life of the fund. TRS has no plans to liquidate as of June 30, 2019; however, three of the funds, with fair value of $45.9 million, are approaching the end of the partnership term, winding down and distributing cash as the funds sell underlying investments.

5) **International equity commingled fund:** Includes one fund investing in emerging market small cap equities diversified across multiple sectors. The fair value of the investment has been determined using the NAV per share of the investments. Daily liquidity is available.

6) **Private equity and real estate partnerships:** TRS has 170 private equity partnerships which include investments in privately held equity, such as buyouts, co-investments, venture capital and growth equity, as well privately held debt. The 51 real estate limited partnerships invest in various property types across multiple geographic regions. Investments in limited partnerships are normally long-term with an approximate life of 10 to 12 years and considered illiquid. Investors are subject to redemption restrictions which limit and restrict the ability of limited partners to exit prior to dissolution. Partnership interests are valued using their respective NAV calculated by the general partner's fair valuation policy and are generally audited annually. The most significant element of NAV is the fair value of the investment holdings which are typically valued on a quarterly basis by the general partners. Distributions are received as the funds sell underlying portfolio company investments. TRS has no plans on liquidating the portfolio, however will opportunistically sell funds in the secondary market to reposition the portfolio and optimize returns. During the fiscal year, TRS sold 33 private equity funds on the secondary market. As of June 30, 2019, it is probable that all investments in this type will be sold at an amount different from the current NAV of the plan's ownership interest.

7) **Real return fund:** TRS holds one multi-strategy real return fund that targets assets that hedge inflation while mitigating extraneous risks (such as equities and real rates). The fund allows monthly redemptions with notice and the partnership's interest is valued using the NAV per share (or its equivalent). The most significant element of NAV is the fair value of the underlying securities which are valued on a monthly basis by the general partner. TRS has no plans to liquidate this fund as of June 30, 2019.

8) **Real assets partnerships:** Real assets strategies include seven limited partnerships investing in global infrastructure, direct energy and non-U.S. agriculture. These partnerships are not eligible for redemption, considered illiquid and have an approximate life of six to 20 years. Distributions are received during the life of the fund as underlying investments are liquidated. Partnership interests are valued by the general partner using their respective NAV per share (or equivalent), with the most significant element of NAV being the fair value of the investment holdings. TRS has no plans to liquidate these funds. As of June 30, 2019, it is probable that all investments in this type will be sold at an amount different from the current NAV of the plan's ownership interest.

E. RESERVES

TRS maintains statutory reserve accounts in accordance with the provisions of 40 ILCS 5/16-101 et seq. In 1997, the Illinois General Assembly passed legislation that allowed the crediting of income at fair value, as opposed to book value, to the Benefit Trust Reserve.

1. BENEFIT TRUST

	2019
Balances at June 30	$53,253,086,048

This reserve serves as a clearing account for TRS income and expenses. The reserve is credited with contributions from the State of Illinois that are not specifically allocated to the Minimum Retirement Annuity Reserve, member and employer contributions, income from TRS invested assets and contributions from annuitants who qualify for automatic annual increases in annuity.

The reserve accumulates, with 6 percent interest, the contributions by members prior to retirement. Contributions have been 7.5 percent of salary since July 1, 1998. Contributions are fully refundable upon withdrawal from TRS, excluding interest credited thereon. The interest accrued is refundable only in the event of death. Interest is credited as of the date of retirement or death of those retiring or dying during the year and as of the end of the fiscal year for all other members. Interest is computed annually based upon the individual member's balance in the reserve at the beginning of the fiscal year.

This reserve is charged for transfers to the Minimum Retirement Annuity Reserve and all

- refunds to withdrawing members,
- retirement annuity payments (except as provided by the Minimum Retirement Annuity Reserve),
- benefits that are paid to disabled members,
- death benefits paid and
- refunds to annuitants for survivor benefit contributions.

The expected benefit payments do not equal the present value of the reserve. The additional amount needed (the unfunded actuarial accrued liability) as calculated by the actuary was $78.1 billion in FY19, based on the actuarial value of assets.

2. MINIMUM RETIREMENT ANNUITY

	2019
Balances at June 30	$9,703,319

The minimum annuity is set by law at $25 per month for each year of creditable service to a maximum of $750 per month after 30 or more years of creditable service. To qualify, annuitants are required to make a one-time contribution that is credited to the reserve. Interest at 6 percent is credited to the reserve annually based upon the average reserve balance. The State of Illinois also appropriated funds necessary to pay the minimum benefits. All benefits paid under this program are charged to the reserve. This reserve is fully funded.

F. OTHER POST-EMPLOYMENT BENEFITS FOR TRS EMPLOYEES

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 towards health, dental and vision benefits with an amount based on factors such as date of retirement, years of credited service with the State of Illinois, whether the annuitant is covered by Medicare and whether the annuitant has chosen a managed health care plan. Employees of the System who retired before Jan. 1, 1998 and are vested in either SERS or TRS do not contribute towards health and vision benefits. A premium is required for dental. For annuitants who retired on or after Jan. 1, 1998, the annuitant's contribution amount is reduced 5 percent for each year of credited service with the state allowing those annuitants with 20 or more years of credited ser-vice to not have to contribute towards health and vision benefits. A premium is required for dental. Annuitants also receive life insurance coverage equal to the annual salary of their last day of employment until age 60, at which time the benefit becomes $5,000.

The State of Illinois pays the TRS 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 System adopted GASB 75 during the previous year, but has chosen not to record the other post-retirement liability because it is deemed insignificant to the financial statements. The footnote and required supplementary information also required by GASB 75 have been excluded, as well, due to the insignificance of the liability.

A summary of post-employment benefit provisions, changes in benefit provisions and 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 for CMS. A copy of the financial statements may be obtained by contacting their office, Department of Central Management Services, 704 Stratton Office Building, Springfield, IL 62706.

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in the Net Pension Liability for Fiscal Years:

	2019	2018	2017	2016	2015	2014
Total pension liability						
Service cost	$1,947,627,286	$1,838,002,948	$1,877,570,053	$1,681,242,232	$1,948,079,771	$1,894,351,211
Interest	8,991,684,121	8,703,519,454	8,390,352,464	8,264,257,311	7,864,916,421	7,561,104,814
Changes of benefit terms	-	(374,603,419)	-	-	-	-
Difference between expected and actual experience	258,778,925	1,191,346,970	482,486,212	701,827,169	(90,079,446)	39,950,212
Change of assumptions	77,241,572	(666,054,719)	(2,725,599,755)	7,553,894,504	1,136,454,886	-
Benefit payments, including refund of member contributions	(6,818,760,572)	(6,551,634,376)	(6,438,005,920)	(5,931,207,177)	(5,625,037,173)	(5,320,662,979)
Net change in total pension liability	4,456,571,332	4,140,576,858	1,586,803,054	12,270,014,039	5,234,334,459	4,174,743,258
Total pension liability - beginning	129,914,383,296	125,773,806,438	124,187,003,384	111,916,989,345	106,682,654,886	102,507,911,628
Total pension liability - ending (a)	134,370,954,628	129,914,383,296	125,773,806,438	124,187,003,384	111,916,989,345	106,682,654,886
Plan fiduciary net position						
Contributions - employer	88,514,781	84,633,117	149,495,577	148,040,767	145,591,585	158,334,598
Contributions - nonemployer contributing entity	4,466,020,692	4,095,125,358	3,986,363,699	3,742,469,245	3,377,664,945	3,438,382,892
Contributions - member	963,972,120	938,037,245	929,130,165	951,809,398	935,451,049	928,745,853
Net investment income (loss)	2,617,831,332	4,049,271,728	5,520,453,001	(44,103,178)	1,770,549,533	6,782,031,720
Benefit payments, including refund of member contributions	(6,818,760,572)	(6,551,634,376)	(6,438,005,920)	(5,931,207,177)	(5,625,037,173)	(5,320,662,979)
Administrative expense	(24,335,680)	(21,550,896)	(22,728,735)	(22,967,917)	(21,686,860)	(21,218,069)
Net change in plan fiduciary net position	1,293,242,673	2,593,882,176	4,124,707,787	(1,155,958,862)	582,533,079	5,965,614,015
Plan fiduciary net position - beginning	51,969,546,694	49,375,664,518	45,250,956,731	46,406,915,593	45,824,382,514	39,858,768,499
Plan fiduciary net position - ending (b)	53,262,789,367	51,969,546,694	49,375,664,518	45,250,956,731	46,406,915,593	45,824,382,514
Employers' net pension liability - ending (a) - (b)	**$81,108,165,261**	**$77,944,836,602**	**$76,398,141,920**	**$78,936,046,653**	**$65,510,073,752**	**$60,858,272,372**

Note: Information is not available prior to 2014. Additional years will be added to future reports as schedules are intended to show 10 years of historical data.

Schedule of the Net Pension Liability for Fiscal Years:

	2019	2018	2017	2016	2015	2014
Total pension liability	$134,370,954,628	$129,914,383,296	$125,773,806,438	$124,187,003,384	$111,916,989,345	$106,682,654,886
Plan fiduciary net position	53,262,789,367	51,969,546,694	49,375,664,518	45,250,956,731	46,406,915,593	45,824,382,514
Net pension liability	**$81,108,165,261**	**$77,944,836,602**	**$76,398,141,920**	**$78,936,046,653**	**$ 65,510,073,752**	**$60,858,272,372**
Plan fiduciary net position as a percentage of the total pension liability	39.6%	40.0%	39.3%	36.4%	41.5%	43.0%
Covered payroll	$10,450,452,444	$10,163,980,000	$9,965,569,893	$9,811,614,284	$9,641,170,627	$9,512,809,680
Net pension liability as a percentage of covered payroll	776.1%	766.9%	766.6%	804.5%	679.5%	639.8%

Schedule of Investment Returns for Fiscal Years:

	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	5.1%	8.5%	12.5%	(0.1%)	4.0%	17.4%

Note: Information is not available prior to 2014. Additional years will be added to future reports as schedules are intended to show 10 years of historical data.

Schedule of Contributions from Employers and Other Contributing Entities, Last 10 Fiscal Years ($ thousands)

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially-determined contribution (ADC)	$7,429,037	$7,080,756	$6,248,879	$4,582,530	$4,119,526	$4,091,978	$3,582,033	$3,429,945	$2,743,221	$2,481,914
Contributions in relation to the actuarially-determined contribution:*										
State	4,465,578	4,094,616	3,985,783	3,741,802	3,376,878	3,437,478	2,702,278	2,405,172	2,169,518	2,079,129
Federal & Employer Contributions	87,707	84,034	148,749	147,408	144,780	157,228	155,787	153,409	154,150	170,653
Total contributions	4,553,285	4,178,650	4,134,532	3,889,210	3,521,658	3,594,706	2,858,065	2,558,581	2,323,668	2,249,782
Contribution deficiency	**$2,875,752**	**$2,902,106**	**$2,114,347**	**$693,320**	**$597,868**	**$497,272**	**$723,968**	**$871,364**	**$419,553**	**$232,132**
Covered payroll	$10,450,452	$10,163,980	$9,965,570	$9,811,614	$9,641,171	$9,512,810	$9,394,741	$9,321,098	$9,205,603	$9,251,139
Contributions as a percentage of covered payroll	43.6%	41.1%	41.5%	39.6%	36.5%	37.8%	30.4%	27.4%	25.2%	24.3%

** Contributions for minimum benefits from the state and for excess sick from employers do not count towards actuarial funding requirements. Beginning in FY18, employer contributions on salaries exceeding the statutory salary of the governor are included and the projected excess salary contribution is included in the ADC. In all years, employer contributions for excess salary increases are included. However, employer contributions for excess sick leave are not included because there is no assumption for excess sick leave and it is not included in the funding requirements. Before FY17, the actuarially determined contribution was based on GASB Statement No. 25. Beginning in FY17, a different basis for determining the actuarially-determined contribution is used, as described in the following table.*

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

The Schedule of Changes in Net Pension Liability and the Schedule of Net Pension Liability are affected by various factors. In FY19, they increased the total pension liability by $4.5 billion.

The Schedule of Contributions from Employers and Other Contributing Entities compares actual and actuarially-determined contributions. There is a difference between these amounts because actual contributions are based on state statute under a methodology that does not conform to that used to determine the actuarially-determined contribution.

The following assumptions were used to determine the statutory and actuarially-determined contributions for FY19.

	For Funding per State Statute	**For Determining the Actuarially-determined Contribution**
Valuation Used to Determine Funding Amount:	June 30, 2017	June 30, 2017
Actuarial Cost Method:	Projected unit credit	Entry age normal
Amortization Method:	15-year phase-in to a level percent of payroll reached in FY10; then level percent of payroll until a 90 percent funding level is achieved in FY45	Level percent of payroll
Remaining Amortization:	26 years, closed	20 years, closed beginning with 2015 actuarial valuation; subsequent increases in the UL amortized over subsequent 20-year periods.
Asset Valuation Method:	Actuarial value of assets with five-year smoothing of investment gains and losses	Actuarial value of assets with five-year smoothing of investment gains and losses

OTHER SUPPLEMENTARY INFORMATION

SCHEDULE OF ADMINISTRATIVE EXPENSES
FOR THE YEARS ENDED JUNE 30

	2019	2018
Personnel services		
Salaries	$11,031,954	$10,346,412
Retirement contributions	2,259,264	2,030,511
Insurance and payroll taxes	3,724,737	3,408,592
	17,015,955	15,785,515
Professional services		
Actuarial services	259,272	267,156
External auditors	261,014	269,125
Legal services	213,249	174,288
Legislative consulting	84,000	84,000
Information systems consulting	1,734,617	844,845
Operations consulting	318,242	233,466
Other	4,565	6,748
	2,874,959	1,879,628
Communications		
Postage	191,128	165,325
Printing and copying	205,490	202,744
Telephone	161,340	163,494
	557,958	531,563
Other services		
Administrative services	549,072	270,677
Building operations and maintenance	441,844	500,749
EDP supplies and equipment	242,881	95,747
Equipment repairs, rental and maintenance	196,268	219,130
Insurance	181,883	304,757
Memberships and subscriptions	144,838	96,130
Office equipment and furniture	68,861	29,458
Office supplies	16,625	19,398
Software licenses and maintenance	965,505	659,828
Travel, conferences, education	203,312	209,816
	3,011,089	2,405,690
Depreciation expense	875,719	948,500
Total administrative expenses	**$24,335,680**	**$21,550,896**

Note: Above amounts do not include investment administrative expenses, which are deducted from investment income and shown in a separate schedule on the following page.

SCHEDULE OF INVESTMENT EXPENSES
FOR THE YEARS ENDED JUNE 30

	2019	2018
Investment manager fees	$316,622,153	$350,149,552
Master custodian fees		
State Street Bank and Trust Company		
	2,604,167	2,531,250
Consulting services		
Albourne America, L.L.C.	166,667	416,000
Aksia, L.L.C.	525,153	-
Courtland Partners, Ltd.	-	208,944
RVK, Inc.	525,000	457,646
Stepstone Group Real Estate, L.P.	288,370	71,027
Stout Risius Ross, Inc.	85,000	-
TorreyCove Capital Partners, L.L.C.	1,101,250	997,500
	2,691,440	2,151,117
Legal services		
DLA Piper, L.L.P.	737,886	123,767
Jackson Walker, L.L.P.	-	253,292
	737,886	377,059
Tax advisory services		
Ernst & Young Private, Ltd.	84,681	75,482
Other investment expense		
Auditing costs	70,200	63,430
Communication services	24,367	30,311
Dividend expense	974,876	3,190,912
Education, meetings and travel	155,261	153,678
Foreign tax expense	17,457,561	18,064,442
Investment activity expenses	1,124,017	2,298,273
Investment analytical systems	1,103,484	1,116,671
Personnel costs	4,896,596	4,974,888
Research, subscriptions and memberships	84,205	81,407
Other costs	122,966	98,141
	26,013,533	30,072,153
Total investment expenses	**$348,753,860**	**$385,356,613**

SCHEDULE OF PROFESSIONAL SERVICES FOR THE YEARS ENDED JUNE 30

	2019	2018
Actuarial services		
The Segal Company Midwest, Inc.	$259,272	$267,156
External auditors		
Office of the Auditor General (BKD)	261,014	269,125
Legal services		
Cavanagh & O'Hara	-	8,414
DLA Piper, L.L.C.	4,915	-
Holland & Knight, L.L.P.	142,120	33,080
Howard & Howard Attorneys, P.L.L.C.	3,093	5,406
Kopec White & Spooner	2,784	28,640
Loewenstein & Smith, P.C.	832	12,189
Reinhart Boerner Van Deuren	51,562	85,822
Whitt Law, L.L.C.	7,943	737
	213,249	174,288
Legislative consulting		
Leinenweber Baroni & Daffada Consulting, L.L.C.	84,000	84,000
Information systems consulting		
Advanced Design Management Group, L.L.C.	21,420	37,864
Agile Progress, L.L.C.	206,554	528,769
Apex Systems	97,533	-
AT&T Corporation	-	1,440
Blu Age Corporation	562	-
Capitol Strategies Consulting, Inc.	-	16,813
Catapult Systems, L.L.C.	15,530	-
Converge One, Inc.	2,695	-
Decker Innovations, Inc.	272,547	-
HSO North America, L.L.C.	265,764	208,995
Illuminative Strategies, Inc.	53,331	-
Levi Ray & Shoup, Inc.	343,779	-
Linea Solutions, Inc.	13,750	-
ProCircular, Inc.	24,100	8,000
Promet Solutions Corporation	30,229	28,343
Provaliant Retirement, L.L.C.	351,063	-
Sentinel Technologies, Inc.	35,760	14,621
	1,734,617	844,845
Operations consulting		
CDW L.L.C.	6,299	-
CEM Benchmarking, Inc.	45,000	45,000
Darlington & Company, Inc.	76,428	-
Darlington Partners Ltd.	31,544	43,347
Graham & Hyde	-	3,042
Higher Logic, L.L.C. (formerly known as Real Magnet, L.L.C.)	10,396	15,971
Holland, William G.	-	500
Jasculca Terman Strategic Communications	86,000	70,000
Levi Ray & Shoup, Inc.	11,914	16,814
Management Association	15,596	10,313
SABA Software	2,900	8,479
Segal Waters Public Sector	32,165	20,000
	318,242	233,466
Other	4,565	6,748
Total professional services	**$2,874,959**	**$1,879,628**

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Independent Auditor's Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With *Government Auditing Standards*

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

Report on the Financial Statements

As Special Assistant Auditors for the Auditor General, we have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Teachers' Retirement System of the State of Illinois (System), a component unit of the State of Illinois, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the System's basic financial statements, and have issued our report thereon dated December 13, 2019, which contained an emphasis of matter paragraph regarding actuarial assumptions used in the actuary's calculation of the net pension liability.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards.*

Internal Control Over Financial Reporting

Management of the System is responsible for establishing and maintaining effective internal control over financial reporting (internal control).

In planning and performing our audit of the financial statements, we considered the System's internal control to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatement on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the System's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's internal control or on compliance. This report is an integral part of the audit performed in accordance with *Government Auditing Standards* in considering the System's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

SIGNED ORIGINAL ON FILE

Decatur, Illinois
December 13, 2019