

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

Auditor's Report and Financial Audit
For the Year Ended June 30, 2017
Performed as Special Assistant Auditors for
the Auditor General, State of Illinois

**Teachers' Retirement System
of the State of Illinois**

Financial Audit

For the Year Ended June 30, 2017

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**Teachers' Retirement System
of the State of Illinois**

Financial Audit

For the Year Ended June 30, 2017

System Officials

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

Office Locations

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Springfield, Illinois 62794

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**Teachers' Retirement System
of the State of Illinois
Financial Statement Report Summary
For the Year Ended June 30, 2017**

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 financial statements.

Independent Auditor's Report

The Honorable Frank J. Mautino
Auditor General
State of Illinois
and
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, 2017, and the Statement of Changes in Fiduciary Net Position for the year then ended, and the related notes to the basic 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, 2017, and the changes in 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 pension liability, calculated as required by GASB Statements No. 67, is dependent on several assumptions including the assumption that future required contributions from all sources are made based on statutory requirements in existence as of the date of this report. These assumptions are discussed in Note 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 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, 2017 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, 2017.

The System's basic financial statements for the year ended June 30, 2016 (not presented herein) were audited by other auditors whose report thereon dated December 14, 2016, expressed an unmodified opinion on the System's basic financial statements. The report of the other auditors dated December 14, 2016, stated that the other supplementary information, as listed in the table contents, for the year ended June 30, 2016 was subjected to the auditing procedures applied in the audit of the June 30, 2016 basic financial statements and certain additional auditing procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare those basic financial statements or to those basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America and, in their opinion, was fairly stated in all material respects in relation to the basic financial statements as a whole for the year ended June 30, 2016.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 12, 2017 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 12, 2017

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, 2017. 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, 2017 was \$49.4 billion.
- During FY17, the net position of TRS increased \$4.1 billion.
- Contributions from members, employers, and the State of Illinois were \$5.1 billion, an increase of \$222 million or 4.6 percent for FY17.
- Total net investment income was \$5.5 billion, compared to a \$44 million loss for FY16, an increase of \$5.6 billion.
- Benefits and refunds paid to members and annuitants were \$6.4 billion, an increase of \$507 million or 8.5 percent.
- The actuarial accrued liability was \$122.9 billion at June 30, 2017.
- The unfunded actuarial accrued liability was \$73.4 billion at June 30, 2017. The funded ratio was 40.2 percent at June 30, 2017. 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 \$125.8 billion at June 30, 2017.
- The net pension liability was \$76.4 billion at June 30, 2017. The plan fiduciary net position, as a percentage of total pension liability, was 39.3 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 other 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, 2017.

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 financial 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

	2017	Percentage Change	2016
Cash	\$38,331,642	(5.7%)	\$40,637,848
Receivables and prepaid expenses	10,059,591,696	90.5	5,279,564,166
Investments	49,180,275,900	7.8	45,632,926,356
Invested securities lending collateral	3,268,211,165	4.3	3,134,036,175
Capital assets	<u>2,913,530</u>	(19.2)	<u>3,605,993</u>
Total assets	62,549,323,933	15.6	54,090,770,538
Total liabilities	<u>13,173,659,415</u>	49.0	<u>8,839,813,807</u>
Net position restricted for pensions	<u>\$49,375,664,518</u>	9.1%	<u>\$45,250,956,731</u>

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

	2017	Percentage Change	2016
Contributions	\$5,064,989,441	4.6%	\$4,842,319,410
Net investment income /(loss)	<u>5,520,453,001</u>	12,617.1	<u>(44,103,178)</u>
Total additions	<u>10,585,442,442</u>	120.6	<u>4,798,216,232</u>
Benefits and refunds	6,438,005,920	8.5	5,931,207,177
Administrative expenses	<u>22,728,735</u>	(1.0)	<u>22,967,917</u>
Total deductions	<u>6,460,734,655</u>	8.5	<u>5,954,175,094</u>
Net increase /(decrease) in net position	4,124,707,787		(1,155,958,862)
Net position restricted for pensions - beginning of year	<u>45,250,956,731</u>	(2.5)	<u>46,406,915,593</u>
Net position restricted for pensions - end of year	<u>\$49,375,664,518</u>	9.1%	<u>\$45,250,956,731</u>

FINANCIAL ANALYSIS

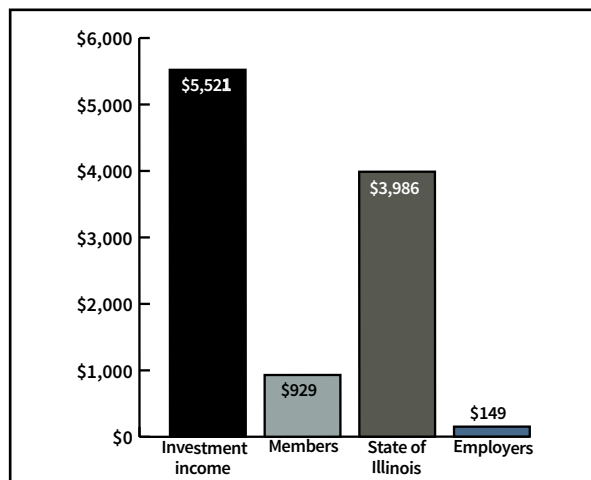
TRS was created to provide retirement, survivor, and disability benefits to qualified members. Increases or decreases in the plan's net position serve as useful indicators of TRS's financial position. The net position available to pay benefits was \$49.4 billion at June 30, 2017.

CONTRIBUTIONS

Contributions increased \$222 million during FY17. During FY17, contributions from the State of Illinois increased \$244 million and employer contributions from school districts increased \$1.5 million. Member contributions decreased by \$23 million due to a reduction in the member contribution rate from 9.4 percent to 9.0 percent. This reduction was due to the expiration of the Early Retirement Option.

The State of Illinois makes appropriations to TRS. Receipts from the State of Illinois increased \$244 million in FY17. The increase in FY17 was primarily due to changes in actuarial assumptions that were based on the 2015 experience analysis and adopted in the June 30, 2015 actuarial valuation. The 2015 assumption changes did not include a change in the assumed rate of return. 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, 2017 (\$ millions)

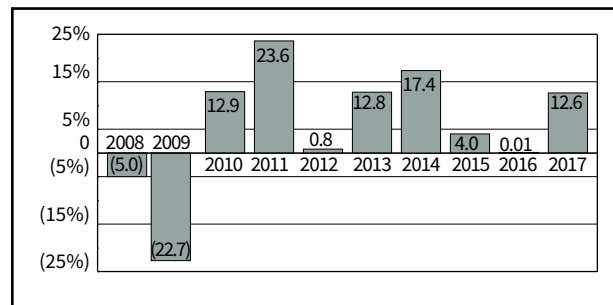


INVESTMENTS

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 12.6 percent, net of fees, for the fiscal year ended June 30, 2017. Total TRS investment assets increased approximately \$3.5 billion during the year.

Annual Rate of Return (net of investment expenses)

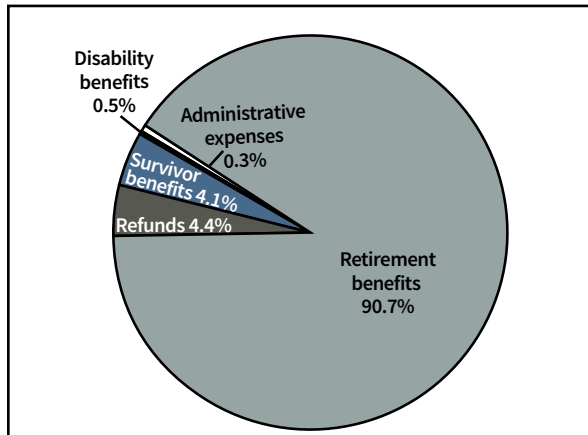


BENEFITS AND REFUNDS

Retirement, survivor, and disability benefit payments increased \$305 million during FY17. Benefit payments increased to \$6.2 billion with 120,151 recipients in FY17. 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 105,937 as of June 30, 2016 to 108,120 as of June 30, 2017.

Refunds of contributions increased \$202 million in FY17. The increase during FY17 was the result of members withdrawing refunds they were due following the expiration of the Early Retirement Option.

Deductions by Type for the Year Ended June 30, 2017



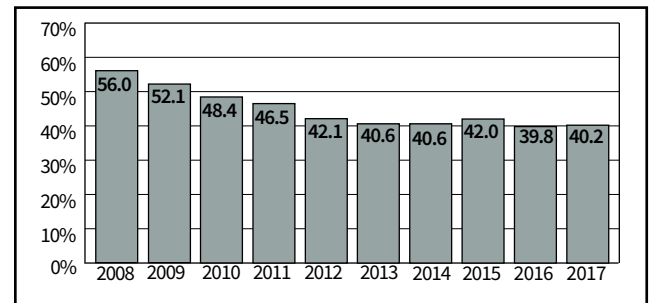
ACTUARIAL

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 \$4.3 billion in FY17 to \$122.9 billion at June 30, 2017. The actuarial unfunded liability is the present value of future benefits payable that are not covered by the actuarial value of assets as of the valuation date. The actuarial unfunded liability increased \$2.0 billion during FY17 to \$73.4 billion at June 30, 2017. The funded ratio reflects the percentage of the actuarial accrued liability covered by the actuarial value of assets. The funded ratio increased from 39.8 percent on June 30, 2016 to 40.2 percent on June 30, 2017.

The actuarial unfunded liability and funded ratio are based on a smoothed 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 smoothed 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. The actuarial value of assets was based on fair value in 2008 with five-year smoothing beginning in 2009.

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 \$125.8 billion at June 30, 2017, while the net pension liability is \$76.4 billion at June 30, 2017.

LEGISLATIVE

During FY17, Gov. Bruce Rauner and the General Assembly made a number of significant changes in the Illinois Pension Code that will have a significant effect on the on-going operations of Teachers' Retirement System.

CREATION OF THE TIER III BENEFIT STRUCTURE

A new law creates an optional Tier III hybrid retirement plan with two parts – a defined benefit (DB) pension and a defined contribution (DC) plan.

Members who choose the Tier III plan will make payroll contributions to the pension portion based on the cost of their benefit. This contribution will be reviewed and changed, if necessary, every year by the TRS Board. Tier III members will contribute a minimum of 4 percent to the DC portion of the plan. Local school districts, rather than the state, will be required to make employer contributions to both the DB and DC plans.

Based on preliminary planning, TRS anticipates the earliest date that Tier III may be implemented for members is July 1, 2019. The TRS Board will establish the final implementation date of the Tier III plan.

The process of creating Tier III is complicated because TRS has never administered a hybrid retirement plan. Successfully administering a hybrid plan will require substantial modifications within TRS that include enhanced information technology systems, conversion to employee monthly data reporting and enhanced member communications efforts. Planning, building, testing and implementing all of these changes will be an extensive process.

The new benefit structure does not affect active Tier I members or retired members in any way. There are no changes to Tier I benefits, active member contributions or health insurance coverage.

CHANGES TO THE STATE'S PUBLIC PENSION SYSTEM FUNDING FORMULA

Beginning in FY18, new laws enacted with the state budget will affect the amount of money TRS will receive in the future from state government's annual contribution to the System:

- TRS must retroactively smooth the fiscal effect of any changes made in actuarial assumptions (such as the assumed rate of investment return) over a period of five years. The smoothing applies to any TRS assumption changes from 2012 on. Up until now, the fiscal impact of such changes were absorbed at one time.
- Local school districts will pay a portion of the cost of a member's pension if that member's salary is greater than the governor's statutory salary. The district, not the state, will be responsible for paying the total employer's normal cost on the portion of the member's salary that exceeds the governor's statutory salary, which in FY17 was \$177,412.
- Beginning on July 1, 2017, employer contributions to TRS from special trust and federal funds will be paid at a rate equal to the total employer's normal cost, expressed as a percentage of payroll.

FINANCIAL STATEMENTS
TEACHERS' RETIREMENT SYSTEM OF THE STATE OF ILLINOIS
STATEMENT OF FIDUCIARY NET POSITION
JUNE 30, 2017

	June 30, 2017
Assets	
Cash	\$38,331,642
Receivables and prepaid expenses:	
Member contributions	54,778,150
Employer contributions	13,508,665
State of Illinois	492,161,607
Investment income	114,926,644
Pending investment sales	9,381,897,730
Prepaid expenses	2,318,900
Total receivables and prepaid expenses	<u>10,059,591,696</u>
Investments, at fair value:	
Fixed income	10,552,182,948
Public equities	17,480,643,235
Alternative investments	19,838,883,828
Derivatives	3,427,917
Short-term investments	1,223,393,259
Foreign currency	81,744,713
Total investments	<u>49,180,275,900</u>
Invested securities lending collateral:	
Securities lending collateral	3,222,479,165
Securities lending collateral with the State Treasurer	45,732,000
Total invested securities lending collateral	<u>3,268,211,165</u>
Capital assets, net of accumulated depreciation	<u>2,913,530</u>
Total assets	<u>62,549,323,933</u>
Liabilities	
Benefits and refunds payable	8,523,543
Administrative and investment expenses payable	42,699,505
Pending investment purchases	9,854,244,522
Securities lending collateral	3,268,191,845
Total liabilities	<u>13,173,659,415</u>
Net position restricted for pensions	<u>\$49,375,664,518</u>

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, 2017**

	June 30, 2017
Additions	
Contributions:	
Members	\$929,130,165
State of Illinois	3,986,363,699
Employers	
Early retirement	10,776,747
Federal funds	75,694,656
2.2 benefit formula	57,964,519
Excess salary/sick leave	5,059,655
Total contributions	<u>5,064,989,441</u>
Investment income:	
Net increase (decrease) in fair value of investments	4,676,047,504
Alternatives income	897,514,621
Interest and dividends	685,696,063
Other investment income	23,479,101
Securities lending income	17,308,948
Less investment expenses:	
Alternatives expense	(428,905,050)
Direct investment expense	(349,649,601)
Securities lending management fees	(1,038,585)
Net investment increase	<u>5,520,453,001</u>
Total additions	<u>10,585,442,442</u>
Deductions	
Retirement benefits	5,857,968,199
Survivor benefits	263,429,481
Disability benefits	31,470,071
Refunds	285,138,169
Administrative expenses	22,728,735
Total deductions	<u>6,460,734,655</u>
Net increase in net position	4,124,707,787
Net position restricted for pensions	
Beginning of year	<u>45,250,956,731</u>
End of year	<u><u>\$49,375,664,518</u></u>

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-government entities. Each employer remits member contributions to TRS. Employers are responsible for employer contributions for teachers paid from federal funds and employer contributions for the 2.2 formula increase. As a result of Public Act 94-0004, which became law on June 1, 2005, employers are also required to pay the cost of pension benefits resulting from salary increases of more than 6 percent. Public Act 94-1057, which became law on July 31, 2006, provides additional exemptions from employer contributions for excess salary increases. Some of these exemptions are permanent while others were available for a limited time period. Employers also pay a contribution for sick leave days granted in excess of the member's normal annual allotment and used for service credit at retirement. The contributions do not apply to salary increases awarded or sick leave granted under contracts or collective bargaining agreements entered into, amended, or renewed prior to June 1, 2005. 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)

	2017
Local school districts	850
Special districts	125
State agencies	14
Total	989

3. MEMBERS

TRS Membership (as of June 30)

	2017
Retirees and beneficiaries	120,151
Inactive members	131,812
Active members	160,488
Total	412,451

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 Board of Trustees, by law, is the Illinois superintendent of education. The Board of Trustees elects its vice president from among its members. The Board of Trustees appoints an executive director who also serves as the secretary of the Board of Trustees. 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 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 January 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 II.

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

Another tier was created in July 2017, Tier III. It is a hybrid retirement plan with both a defined benefit and defined contribution plan. The earliest implementation date will be July 2019.

TIER I 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 I 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 I retirees receive an annual 3 percent increase in the current retirement benefit beginning January 1 following the attainment of age 61 or on January 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 I 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 II BENEFITS

Changes from Tier I 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 II law caps creditable earnings and contributions used for retirement purposes at a level that is lower than the Social Security Wage Base. Tier II annual increases will be the lesser of 3 percent of the original benefit or ½ percent of the rate of inflation beginning January 1 following attainment of age 67 or on January 1 following the member's first anniversary in retirement, whichever is later.

The 2.2 retirement formula also applies to Tier II 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 is also payable at age 65 to Tier II members with fewer than five years of service. The money purchase (actuarial) benefit is not available to Tier II members.

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

Effective July 1, 2017, Tier II 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 III BENEFITS

Created in July of 2017, the Tier III benefit is a hybrid retirement plan with two parts – a defined benefit (DB) pension and a defined contribution (DC) plan. TRS anticipates the earliest date that Tier III may be implemented for members is July 1, 2019. The TRS Board will establish the final Tier III plan implementation date.

All new TRS members on or after the date Tier III is implemented will be enrolled in Tier III and have the option to switch to Tier II. In addition, after the implementation date all existing Tier II members will have the choice to join Tier III permanently.

Tier III members will 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. The DB contribution rate for Tier III members will be re-evaluated annually. Tier III members will contribute a minimum of 4 percent of their pay to the DC portion of the plan.

The normal retirement age for Tier III is determined by Social Security rules, but it will be no earlier than age 67.

The Tier III calculation for an initial pension is service credit multiplied by final average salary multiplied by 1.25 percent. The final average salary used in the initial pension calculation is the member's average salary during the last 10 years of service.

The automatic annual increase for Tier III is similar to the Tier II automatic increase – one-half of the previous year's consumer price index, not compounded. However, unlike the Tier II automatic increase, the Tier III increase does not have a 3 percent cap.

Local school districts, rather than the state, will contribute the employer contributions to both the DB and DC plans in Tier III. Under the

current law, beginning in FY 2021, school districts will pay 2.58 percent annually of their TRS member salaries to the System for the DB portion and between 2 percent and 6 percent of each individual member's pay to the System for the DC portion.

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. Other schedules pertaining to the System's funded status are in the Actuarial section.

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.

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.

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, 2017 actuarial valuation were used to calculate the June 30, 2017 total pension liability. The same assumptions were used to calculate the June 30, 2016 total pension liability. The investment return assumption for both years is based on a 2014 asset allocation study conducted by the TRS investment consultant and additional analyses conducted by the TRS actuary in 2015, 2016 and 2017. The results of the investment consultant's 2017 asset allocation study will be reflected in the June 30, 2018 valuation.

As of June 30, 2017, the assumption for future investment returns was 7.0 percent, a rate unchanged from June 30, 2016. GASB Statement No. 67 requires a different rate to be used to discount future benefit streams if assets are insufficient to cover payments to current participants. Since assets were sufficient for this purpose, the June 30, 2017 total pension liability discount rate was 7.0 percent. The June 30, 2016 total pension liability discount rate was 6.83 percent.

The TRS actuary used the following assumed rates of returns by asset class, excluding 2.50 percent for the assumed rate of inflation and excluding investment expenses.

Expected Arithmetic Real Returns Over 20 Years

Asset Class	Allocation	Return
U.S. equities large cap	14.4%	6.94%
U.S. equities small/mid cap	3.6	8.09
International equities developed	14.4	7.46
Emerging market equities	3.6	10.15
U.S. bonds core	10.7	2.44
International debt developed	5.3	1.70
Real estate	15.0	5.44
Real return	11.0	4.28
Absolute return	8.0	4.16
Private equity	14.0	10.63

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 a blended rate, which includes the long-term expected rate of return and a municipal bond rate (the S & P Municipal Bond 20-Year High Grade Rate 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, 2017.

TRS, with the assistance of the System's actuary, projected that the Plan's fiduciary net position will be sufficient to provide for all benefit payments to current plan members. Projected contributions assume that all statutorily required contributions are made through FY2119 including projected contributions from members, employers, and the State of Illinois (nonemployer contributing entity). Projected state contributions reflect the funding changes enacted in Public Acts 100-0023 and 100-0340. However, the projections do not include any assumptions about the utilization of Tier III under PA 100-0023.

Estimated contributions from employers and the State of Illinois, of which the majority of the contributions (approximately 95 percent) are provided by the State of Illinois, are projected to be \$4.1 billion in 2018, \$4.5 billion in 2019 and grow to \$10.6 billion by 2045 based on current statutory requirements for current members. Tier I's liability is partially funded by Tier II because the Tier II contributions are higher than the cost of Tier II 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 fiscal year end based on a valuation date and member census one year prior. TPL is projected to the June 30, 2017 measurement date based on census data as of June 30, 2016. Assets, referred to as plan fiduciary net position, are measured at fair value.

Net Pension Liability

	June 30, 2017
Total pension liability	\$125,773,806,438
Plan fiduciary net position	49,375,664,518
Net pension liability	<u>\$76,398,141,920</u>
Plan fiduciary net position as a percentage of the total pension liability	39.3%

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

	1% Decrease	Current	1% Increase
Discount rate	6.00%	7.00%	8.00%
Net pension liability	\$93,865,095,009	\$76,398,141,920	\$62,091,251,142

The actuarial assumptions used in the June 30, 2017 and June 30, 2016 actuarial valuations were the same. In the June 30, 2016 actuarial valuation, the Board of Trustees lowered the assumed rate of return from 7.5 percent to 7.0 percent and reduced the assumed inflation rate from 3.0 percent to 2.5 percent. The reduction in the inflation assumption also reduced assumptions for salary increases and Tier II salary caps and post-retirement cost-of-living increases. Most of the other actuarial assumptions are based on the actuarial experience analysis dated August 2015 that covered the period July 1, 2011 through June 30, 2014. Its recommendations were adopted in the June 30, 2015 actuarial valuation.

Assumptions Used for Financial Reporting Disclosure and the Actuarial Valuation

Actuarial Valuation Date	June 30, 2017
Census Date:	June 30, 2016 with total pension liability projected to June 30, 2017
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% on earnings after June 30, 2016
Real rate of investment return	4.5%
Projected salary increases	9.25% with 1 year of service to 3.25% 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%
Real wage growth (productivity)	0.75%
Post-retirement increase	Tier I: 3%, compounded; Tier II: 1.25%, not compounded
Mortality table:	RP - 2014 with future mortality improvements on a fully generational basis using projection table MP-2014.

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 and 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

GASB Statement No. 75, "Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions," was established to improve accounting and financial reporting by state and local governments for postemployment benefits other than pensions (other postemployment benefits of OPEB) and

improves information provided by state and local governmental employers about financial support for OPEB that is provided by other entities. TRS is currently evaluating the financial statement impact of GASB Statement No. 75. If applicable, this statement will be implemented for the year ended June 30, 2018.

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 the majority 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, 2017 was as follows:

	Beginning Balance	Additions/ Transfers In	Disposals/ Transfers Out	Ending Balance
Land	\$235,534	\$ -	\$ -	\$235,534
Mineral Lease Rights	2,643	-	-	2,643
Office building	8,003,961	87,762	-	8,091,723
Site improvement	1,088,635	-	-	1,088,635
Equipment and furniture	2,687,900	131,018	41,925	2,776,993
Software	1,991,996	154,742	-	2,146,738
	<u>14,010,669</u>	<u>373,522</u>	<u>41,925</u>	<u>14,342,266</u>
Less accumulated depreciation:				
Office building	6,281,236	431,261	-	6,712,497
Site improvement	682,588	67,082	-	749,670
Equipment and furniture	2,410,897	320,670	41,925	2,689,642
Software	1,029,955	246,972	-	1,276,927
	<u>10,404,676</u>	<u>1,065,985</u>	<u>41,925</u>	<u>11,428,736</u>
Total	<u>\$3,605,993</u>	<u>(\$692,463)</u>	<u>\$ -</u>	<u>\$2,913,530</u>
The estimated useful lives for depreciable capital assets are as follows:				
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 December 31, 1997. (Lump-sum payments for sick leave earned prior to January 1, 1984, are subject to a maximum of 60 days or 420 hours.) Sick time earned after December 31, 1997 is not compensable at termination.

At June 30, 2017, the System had a liability of \$1,962,887 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, 2017 was as follows:

	Beginning Balance	Additions	Reductions	Ending Balance
Compensated absences payable	\$1,958,269	\$1,001,732	\$997,114	\$1,962,887
The estimated amount due within one year is:			\$75,556	

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, or 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 \$38,331,642 at June 30, 2017. Of the bank balance, \$38,331,517 was on deposit with the State Treasurer at June 30, 2017. 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 \$1,135,062,464 at June 30, 2017. The STIF fund has an average credit quality rating of A1P1 and a weighted average maturity of 24 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 \$81,744,713 at June 30, 2017.

D. INVESTMENTS

1. INVESTMENT POLICIES

Through the Board of Trustees, as authorized in the Illinois Pension Code, TRS serves as fiduciary for the members' trust funds and is responsible for investing those funds within the principles 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 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, 2017.

Long-term Asset Allocation Policy Mix	
Equity investments	54%
Real assets	14
Diversifying strategies	16
Income investments	16
Total	<u>100%</u>

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 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, 2017, 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	Foreign Debt Securities	U.S. Agency Obligations	U.S. Government Backed		Commingled Funds	Total
				Mortgages	Municipals		
Aaa	\$376,609,399	\$137,085,654	\$184,665,707	\$424,274,294	\$558,826	\$ -	\$1,123,193,880
Aa1	47,777,557	128,816,276	-	-	8,064,384	-	184,658,217
Aa2	70,963,375	169,492,160	-	-	9,656,347	-	250,111,882
Aa3	41,035,174	15,751,718	-	-	6,485,574	64,098,564	127,371,030
A1	279,391,631	128,709,575	-	-	2,859,311	-	410,960,517
A2	222,086,749	1,789,076	-	-	9,333,771	215,527,713	448,737,309
A3	376,045,077	333,197,818	-	-	2,683,496	17,550,089	729,476,480
Baa1	259,664,500	49,311,526	-	-	3,027,515	-	312,003,541
Baa2	262,384,040	214,477,187	-	-	-	647,451,534	1,124,312,761
Baa3	343,102,276	382,021,264	-	-	2,458,504	-	727,582,044
Ba1	165,249,866	92,639,951	-	-	2,248,877	-	260,138,694
Ba2	71,135,652	266,138,448	-	-	-	32,127,132	369,401,232
Ba3	156,415,007	71,489,592	-	-	-	43,278,427	271,183,026
B1	96,367,676	65,826,806	-	-	-	178,584,367	340,778,849
B2	62,845,543	12,197,992	-	-	-	316,815,242	391,858,777
B3	78,688,730	185,342,629	-	-	-	-	264,031,359
Caa1	25,501,781	20,100,776	-	-	-	-	45,602,557
Caa2	7,399,596	4,441,018	-	-	-	-	11,840,614
Caa3	11,652,929	41,617,906	-	-	-	-	53,270,835
Ca	5,005,907	-	-	-	-	-	5,005,907
C	3,088,305	-	-	-	-	-	3,088,305
Not available	-	-	-	-	-	1,366,315,638	1,366,315,638
Not rated	29,984,866	49,113,130	-	-	-	-	79,097,996
Withdrawn	6,850,114	1,524,424	-	-	-	-	8,374,538
Total credit risk, bonds, corporate notes and government obligations	2,999,245,750	2,371,084,926	184,665,707	424,274,294	47,376,605	2,881,748,706	8,908,395,988
U.S. Treasuries							1,643,786,960
Total bonds, corporate notes & government obligations	\$2,999,245,750	\$2,371,084,926	\$184,665,707	\$424,274,294	\$47,376,605	\$2,881,748,706	\$10,552,182,948

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, 2017 is as follows:

Type	2017 Fair Value	Maturity in Years					Other*
		Less Than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	More Than 20 years	
U.S. treasuries	\$903,894,618	\$5,454,449	\$412,932,938	\$230,126,282	\$12,960,780	\$242,420,169	\$ -
U.S. federal agencies	184,665,707	57,720,987	126,320,469	85,333	538,918	-	-
U.S. government index-linked bonds	739,892,342	17,570,585	358,275,829	290,843,390	49,367,751	23,834,787	-
U.S. government-backed mortgages	424,274,294	204,514,014	4,728,147	37,577,153	46,289,180	131,165,800	-
Municipals	47,376,605	668,843	1,430,266	709,790	19,904,250	24,663,456	-
Asset-backed securities	284,798,620	9,153	170,741,149	36,753,517	55,192,440	22,102,361	-
Commercial mortgage-backed securities	62,621,332	-	-	-	14,492,688	48,128,644	-
Collateralized mortgage obligations	179,559,392	734,487	12,601,220	27,711,207	69,025,251	69,487,227	-
Commingled funds (U.S. & international)**	2,881,748,706	-	1,394,904,071	259,282,818	-	-	1,227,561,817
Corporate convertible bonds	11,476,153	1,811,363	4,401,872	872,059	-	4,390,859	-
Domestic credit obligations	2,460,790,253	347,175,262	1,094,586,055	826,725,000	51,257,391	141,046,545	-
Foreign debt/corporate obligations	2,371,084,926	324,429,456	884,199,461	805,615,587	203,682,208	153,158,214	-
Total bonds, corporate notes and government obligations	10,552,182,948	960,088,599	4,465,121,477	2,516,302,136	522,710,857	860,398,062	1,227,561,817
Derivatives	3,427,917	1,537,214	(701,032)	3,659,535	(697,814)	(369,986)	-
Total bonds, corporate notes, government obligations, securities lending collateral and derivatives	<u>\$10,555,610,865</u>	<u>\$961,625,813</u>	<u>\$4,464,420,445</u>	<u>\$2,519,961,671</u>	<u>\$522,013,043</u>	<u>\$860,028,076</u>	<u>\$1,227,561,817</u>

* 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, 2017 is as follows:

Currency	Foreign Currency	Equities	Fixed Income	Derivatives	Total
Argentine Peso	\$1,088	\$ -	\$60,134,255	\$ -	\$60,135,343
Australian Dollar	3,937,555	397,095,816	36,453,616	-	437,486,987
Brazilian Real	573,330	110,365,577	204,574,770	(13,564)	315,500,113
British Pound	17,959,542	1,159,841,262	128,425,715	(1,353,078)	1,304,873,441
Canadian Dollar	6,223,439	479,658,477	19,890,501	687,577	506,459,994
Chilean Peso	49,640	9,257,142	-	-	9,306,782
Chinese Yuan Renminbi	(640)	-	-	-	(640)
Columbia Peso	517,252	245,227	55,686,008	-	56,448,487
Czech Koruna	145,779	1,714,374	-	-	1,860,153
Danish Krone	181,451	136,112,510	12,830,075	-	149,124,036
Egyptian Pound	763,932	2,329,450	2,253,971	-	5,347,353
Emirati Dirham	17,606	9,592,770	-	-	9,610,376
Euro	20,963,187	2,263,051,454	189,969,500	(174,915)	2,473,809,226
Ghana Cedi	4,983,062	-	49,373,342	-	54,356,404
Hong Kong Dollar	5,090,395	634,390,781	-	(415,527)	639,065,649
Hungarian Forint	358,693	10,223,103	-	-	10,581,796
Indian Rupee	1,774,940	142,615,589	51,542,991	-	195,933,520
Indonesian Rupiah	427,792	71,678,360	127,783,701	-	199,889,853
Israeli Shekel	440,265	35,379,612	-	(27)	35,819,850
Icelandic Krona	-	3,082,051	-	-	3,082,051
Japanese Yen	13,790,126	1,538,339,738	31,967,028	(86,864)	1,584,010,028
Malaysian Ringgit	631,460	41,772,852	10,929,636	-	53,333,948
Mexican Peso	(5,637,219)	53,350,386	287,956,777	296,280	335,966,224
Moroccan Dirham	512	-	-	-	512
New Taiwan Dollar	(293,620)	246,750,075	-	57,952	246,514,407
New Zealand Dollar	1,305,323	37,535,209	31,243,531	-	70,084,063
Norwegian Krone	1,043,796	67,989,294	5,317,075	-	74,350,165
Pakistani Rupee	-	62,627	-	-	62,627
Peruvian Sol	-	-	6,325,202	-	6,325,202
Philippine Peso	136,768	17,084,282	18,988,736	-	36,209,786
Polish Zloty	328,143	28,751,199	-	8,854	29,088,196
Qatari Rial	19,222	2,105,721	-	-	2,124,943
Russian Ruble	153,538	5,552,544	10,990,470	-	16,696,552
Serbian Dinar	-	-	25,199,889	-	25,199,889
Singapore Dollar	953,664	123,786,412	10,517,050	-	135,257,126
South African Rand	791,208	114,772,628	35,957,167	279,066	151,800,069
South Korean Won	2,461,267	366,227,968	96,886,980	202,453	465,778,668
Swedish Krona	657,419	192,731,755	1,374,856	-	194,764,030
Swiss Franc	193,936	503,847,347	-	-	504,041,283
Thailand Baht	115,631	69,505,003	-	-	69,620,634
Turkish Lira	774,717	55,596,581	14,552,001	(49,217)	70,874,082
Ukraine Hryvnia	(89,486)	-	-	-	(89,486)
Uruguayo Peso	-	-	1,116,776	-	1,116,776
Total subject to foreign currency risk	81,744,713	8,932,395,176	1,528,241,619	(561,010)	10,541,820,498
Investments in international securities payable in U.S. dollars	-	1,381,314,061	858,098,805	(757,970)	2,238,654,896
Total international investment securities (including domestic securities payable in foreign currency)	81,744,713	10,313,709,237	2,386,340,424	(1,318,980)	12,780,475,394
Domestic investments (excluding securities payable in foreign currency)	-	7,166,933,998	8,165,842,524	4,746,897	15,337,523,419
Total fair value	\$81,744,713	\$17,480,643,235	\$10,552,182,948	\$3,427,917	\$28,117,998,813

In addition to the previous table, the fair value of TRS's investments in foreign currency denominated real estate and private equity funds was \$33,425,746 and \$491,624,456 at June 30, 2017, respectively. Currencies included euro, British pound, Canadian dollar, Japanese yen and South Korean won.

3. SECURITIES LENDING PROGRAM

The 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 for TRS to return the collateral in exchange for the original securities upon demand or when the security is no longer borrowed. 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, 2017, 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 contract with TRS's lending agent requires the agent to indemnify TRS if the borrowers fail to return the securities (and if the collateral is inadequate to replace the securities lent) or fail to pay TRS for income distributions by the securities issuers while the securities are on loan. Securities on loan can be recalled on demand by TRS or the borrower can return the loaned securities at any time, although the weighted average term of the loans is 23 days. 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, which are evaluated on an individual basis. As of June 30, 2017, there were no term loans.

The cash collateral received is invested in a separate account managed by the lending agent, with a weighted average maturity of 64 days at June 30, 2017. 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, 2017, TRS had outstanding loaned investment securities with a fair value of \$3,156,392,785 against which it had received cash and non-cash collateral with a fair value of \$3,246,771,643. The securities on loan remain on TRS's Statement of Fiduciary Net Position in their respective investment categories. As of June 30, 2017, TRS cash collateral received and reported as securities lending obligation on the Statement of Fiduciary Net Position totaled \$3,222,459,845; whereas, the fair value of re-invested cash collateral reported as securities lending collateral was \$3,222,479,165. The change in fair value of the re-invested cash collateral is included as net appreciation/depreciation within investment income in the Statement of Changes in Fiduciary Net Position. 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 fiscal year 2017, the system earned net income of \$16,270,363 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 are approved by the Board of Trustees and senior management, and the derivative positions of the investment managers are reviewed on a regular basis to monitor compliance.

As of June 30, 2017, 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, 2017, the TRS investment portfolio held the following derivatives.

Investment Derivatives	Fair Value at June 30, 2017	Change in Fair Value	Shares/Par	Notional
Rights	\$1,230,410	\$2,285,538	2,365,750	\$2,365,750
Warrants	44,743,438	14,282,402	8,176,308	8,176,308
Currency forwards	(19,781,382)	49,460,768	-	-
Equity futures long	-	22,875,321	127,759,465	104,684,595
Equity futures short	-	(1,537,714)	(21,942)	(49,320,927)
Fixed income futures long	-	(10,520,663)	355,901,237	446,330,039
Fixed income futures short	-	19,179,971	(588,081,922)	(705,123,143)
Commodity futures long	-	(492,185)	1,351,275	8,550,124
Commodity futures short	-	727,171	(5,765,580)	(13,598,260)
Equity options purchased	-	(1,642,384)	-	-
Currency forward options purchased	1,545,311	(8,314,871)	243,252,643	46,517,461
Currency forward options written	(93,942)	3,023,104	(21,600,953)	6,992,314
Options on futures purchased	71,094	(277,911)	2,187,500	43,905,313
Options on futures written	(288,656)	996,897	(2,861,500)	49,531,577
Swaptions purchased	7,108,988	420,163	303,716,560	12,331,473
Swaptions written	(5,868,256)	153,544	(460,100,000)	18,624,637
Inflation options	(125,213)	265,898	(52,615,190)	411,175
Credit default swaps buying protection	(3,602,946)	(1,088,543)	100,763,767	103,984,357
Credit default swaps selling protection	772,347	4,322,081	185,285,331	186,103,883
Index and variance swaps	(10,682)	9,374,299	(38,276,125)	55,094,232
Pay fixed interest rate swaps	6,770,374	58,997,261	1,298,725,896	1,299,712,910
Receive fixed interest rate swaps	(500,697)	(4,838,361)	171,201,572	170,807,874
Pay fixed inflation swaps	(2,200,924)	668,646	134,841,285	132,699,047
Receive fixed inflation swaps	(148,881)	(856,364)	104,611,142	104,462,261
Grand total	<u>\$29,620,383</u>	<u>\$157,464,068</u>		<u>\$2,033,243,000</u>

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, 2017, TRS had currency forward purchase or sale contracts for 35 different currencies with various settlement dates.

Fair Value: As of June 30, 2017, TRS's open currency forward contracts had a net fair value (unrealized loss) of \$19,781,382.

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, 2017, TRS had outstanding futures contracts with a notional value, or exposure, of (\$208,477,572). Notional values do not represent the actual values in the Statement of Fiduciary Net Position. The contracts have various expiration dates through December 2019.

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 \$20,980,786 during FY17.

Type	Number of Contracts	Notional Principal
Commodity Futures		
Commodity futures - long	542	\$8,550,124
Commodity futures - short	(277)	(13,598,260)
Equity Futures		
U.S. stock index futures - long	14	705,810
International equity index futures - long	1,765	103,978,785
International equity index futures - short	(1,964)	(49,320,927)
Fixed Income/Cash Equivalent Futures		
Fixed income index futures - long	3,199	402,947,095
Fixed income index futures - short	(4,101)	(592,890,924)
International fixed income index futures - long	136	23,497,444
International fixed income index futures - short	(375)	(80,396,844)
Cash equivalent (eurodollar) futures - long	81	19,885,500
Cash equivalent (eurodollar) futures - short	(130)	(31,835,375)
Total futures (net)	<u>(1,110)</u>	<u>(\$208,477,572)</u>

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, 2017, the TRS investment portfolio held currency forward options with notional value of \$53,509,775, inflation options with

notional value of \$411,175, and options on futures with underlying notional value of \$93,436,890. 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, 2017, the fair value of all option contracts, gross of premiums received, was \$1,108,594. 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, 2017. 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	6	\$12,946,638
Currency forward call options - written	2	6,981,546
Currency forward put options - purchased	13	33,570,823
Currency forward put options - written	4	10,768
Inflation Options		
Inflation call options - written	4	85,280
Inflation put options - written	10	325,895
Options on Futures		
Fixed income call options on futures USD - written	(1,212)	39,420,858
Fixed income put options on futures USD - purchased	875	43,905,313
Fixed income put options on futures USD - written	(337)	10,110,719

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, 2017, TRS had outstanding written call swaption exposure of \$10,198,324, written put swaption exposure of \$8,426,313, purchased call swaption exposure of \$3,997,623, and purchased put swaption exposure of \$8,333,850. The contracts have various maturity dates through November 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 swap-tions are recognized in TRS's financial statements as incurred rather than at the time the swap-tions are exercised or when they expire. As of June 30, 2017, the fair value of swaption contracts was \$1,240,732.

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 (long the swap) pays an agreed upon premium to the seller of protection (short the swap) 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, 2017, TRS had credit default/index swaps in its portfolio with various maturity dates through May 2063. The notional values as of June 30, 2017 included purchased credit default swaps (buying protection) of \$103,984,357, written credit default swaps (selling protection) of \$186,103,883 and index swaps of \$55,094,232.

Fair Value: The fair value of credit default swaps, including index swaps, held by TRS was (\$2,841,281) as of June 30, 2017. 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, 2017, TRS held interest rate swaps in various currencies with various expiration/maturity dates ranging from 2017 to 2048. 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, 2017.

As of June 30, 2017	
Receive floating/pay fixed	\$6,770,374
Receive fixed/pay floating	(500,697)

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, 2017, 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 (\$2,349,805) as of June 30, 2017.

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, 2017.

Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/17
Pay Fixed Interest rate swaps:						
Interest Rate Swap USD	18,365,000	\$18,365,000	12 month LIBOR	1.09%	1/7/2018	\$4,440
Interest Rate Swap USD	147,110,000	147,110,000	12 month LIBOR	1.28	1/31/2018	1,330
Interest Rate Swap USD	36,555,000	36,623,040	12 month LIBOR	0.94	2/21/2018	68,040
Interest Rate Swap USD	6,075,000	6,075,000	12 month LIBOR	1.25	10/7/2018	3,401
Interest Rate Swap USD	92,600,000	92,648,242	3 month LIBOR	1.75	12/16/2018	(301,731)
Interest Rate Swap USD	62,560,000	62,560,000	12 month LIBOR	1.43	3/31/2019	(52,263)
Interest Rate Swap USD	48,600,000	48,617,283	3 month LIBOR	1.25	6/21/2019	336,575
Interest Rate Swap GBP	17,220,000	22,367,907	6 month LIBOR	0.75	9/20/2019	(3,014)
Interest Rate Swap GBP	700,000	910,509	6 month LIBOR	2.05	9/23/2019	(26,703)
Interest Rate Swap USD	18,300,000	18,309,534	3 month LIBOR	2.00	12/16/2019	(143,395)
Interest Rate Swap USD	1,700,000	1,700,605	3 month LIBOR	1.25	6/21/2020	24,177
Interest Rate Swap USD	500,000	500,260	3 month LIBOR	2.00	12/16/2020	(3,422)
Interest Rate Swap USD	58,295,000	58,459,595	3 month LIBOR	1.99	5/31/2021	(350,351)
Interest Rate Swap USD	800,000	800,285	3 month LIBOR	1.25	6/21/2021	18,543
Interest Rate Swap USD	14,100,000	14,107,805	3 month LIBOR	2.00	6/15/2023	20,266
Interest Rate Swap USD	14,300,000	14,334,872	3 month LIBOR	2.00	7/12/2023	34,872
Interest Rate Swap USD	12,693,000	12,730,742	3 month LIBOR	2.21	11/15/2023	(115,751)
Interest Rate Swap USD	41,000,000	41,014,580	3 month LIBOR	1.75	12/21/2023	793,109
Interest Rate Swap USD	825,000	825,030	3 month LIBOR	2.11	2/15/2024	(1,895)
Interest Rate Swap USD	2,595,000	2,595,134	3 month LIBOR	2.18	2/15/2024	(16,944)
Interest Rate Swap USD	8,548,000	8,548,552	3 month LIBOR	2.15	2/15/2024	(38,434)
Interest Rate Swap USD	39,970,000	40,087,694	3 month LIBOR	2.79	3/31/2024	(1,780,484)
Interest Rate Swap USD	15,955,000	15,955,000	3 month LIBOR	1.96	5/15/2024	167,377
Interest Rate Swap USD	32,860,000	32,946,478	3 month LIBOR	2.73	7/7/2024	(1,354,239)
Interest Rate Swap USD	13,890,000	13,920,255	3 month LIBOR	1.91	1/22/2025	221,921
Interest Rate Swap USD	17,360,000	17,397,814	3 month LIBOR	1.97	1/23/2025	209,790
Interest Rate Swap USD	10,240,000	10,261,639	3 month LIBOR	1.97	1/27/2025	121,894
Interest Rate Swap USD	2,560,000	2,565,073	3 month LIBOR	1.94	1/29/2025	36,973
Interest Rate Swap USD	2,170,000	2,174,300	3 month LIBOR	1.94	1/30/2025	30,744
Interest Rate Swap USD	3,420,000	3,426,571	3 month LIBOR	1.82	2/3/2025	79,105
Interest Rate Swap USD	7,050,000	7,051,013	3 month LIBOR	1.98	3/27/2025	88,206
Interest Rate Swap USD	7,050,000	7,051,013	3 month LIBOR	1.99	3/27/2025	84,492
Interest Rate Swap USD	7,760,000	7,782,016	3 month LIBOR	2.45	7/2/2025	(175,842)
Interest Rate Swap USD	6,800,000	6,809,452	3 month LIBOR	2.33	8/19/2025	(70,421)
Interest Rate Swap USD	2,200,000	2,201,942	3 month LIBOR	2.30	12/3/2025	(15,345)
Interest Rate Swap CAD	1,600,000	1,232,489	3 month CDOR	2.30	12/15/2025	(31,437)
Interest Rate Swap GBP	20,760,000	26,966,187	6 month LIBOR	2.34	1/13/2026	(1,031,122)
Interest Rate Swap USD	46,880,000	46,880,000	3 month LIBOR	2.40	3/16/2026	318,229
Interest Rate Swap JPY	1,490,000,000	13,261,977	6 month JPY LIBOR	0.30	3/18/2026	(86,864)
Interest Rate Swap USD	17,600,000	17,600,000	3 month LIBOR	2.30	4/21/2026	205,058
Interest Rate Swap USD	20,100,000	20,100,000	3 month LIBOR	2.30	4/27/2026	235,555
Interest Rate Swap USD	2,600,000	2,601,440	3 month LIBOR	2.25	6/15/2026	(6,807)
Interest Rate Swap USD	27,600,000	27,600,000	3 month LIBOR	1.85	7/20/2026	896,422
Interest Rate Swap USD	6,050,000	6,050,000	3 month LIBOR	1.85	7/27/2026	196,900
Interest Rate Swap USD	25,600,000	25,600,000	3 month LIBOR	2.00	7/27/2026	664,119
Interest Rate Swap USD	12,000,000	12,000,000	3 month LIBOR	2.05	8/31/2026	286,532

(continued)

(continued)

Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/17
Interest Rate Swap USD	84,800,000	\$84,830,157	3 month LIBOR	1.75%	12/21/2026	\$3,703,631
Interest Rate Swap USD	3,156,000	3,156,000	12 month LIBOR	1.82	2/15/2027	44,337
Interest Rate Swap EUR	610,000	705,061	6 month EURIBOR	0.49	2/27/2027	9,326
Interest Rate Swap USD	1,790,000	1,793,169	3 month LIBOR	2.31	5/8/2027	(6,512)
Interest Rate Swap USD	32,000,000	32,011,380	3 month LIBOR	1.50	6/21/2027	2,299,997
Interest Rate Swap GBP	15,340,000	19,925,882	6 month LIBOR	1.50	9/20/2027	(247,015)
Interest Rate Swap GBP	1,800,000	2,338,109	6 month LIBOR	2.04	2/1/2037	(19,528)
Interest Rate Swap GBP	3,500,000	4,546,322	6 month LIBOR	2.05	2/1/2037	(41,706)
Interest Rate Swap USD	2,800,000	2,805,380	3 month LIBOR	2.51	5/3/2037	(10,198)
Interest Rate Swap USD	19,030,000	19,086,035	3 month LIBOR	3.49	3/31/2044	(3,696,270)
Interest Rate Swap USD	1,800,000	1,800,938	3 month LIBOR	2.75	12/16/2045	(71,427)
Interest Rate Swap USD	21,550,000	21,561,930	3 month LIBOR	2.50	6/15/2046	289,282
Interest Rate Swap USD	5,400,000	5,403,166	3 month LIBOR	2.25	9/14/2046	363,945
Interest Rate Swap USD	48,300,000	48,369,728	3 month LIBOR	2.38	11/18/2046	1,621,107
Interest Rate Swap CAD	6,200,000	4,775,789	3 month CDOR	1.75	12/16/2046	719,015
Interest Rate Swap USD	23,700,000	23,708,429	3 month LIBOR	2.25	12/21/2046	1,609,416
Interest Rate Swap USD	7,500,000	7,519,011	3 month LIBOR	2.54	4/13/2047	(5,815)
Interest Rate Swap USD	7,200,000	7,202,560	3 month LIBOR	1.75	6/21/2047	1,284,122
Interest Rate Swap EUR	6,300,000	7,185,465	6 month EURIBOR	1.50	3/21/2048	163,611
Interest Rate Swap GBP	15,160,000	19,692,071	6 month LIBOR	1.75	3/21/2048	(601,279)
Interest Rate Swap USD	1,000,000	1,000,000	3 month LIBOR	2.97	10/25/2048	(72,546)
Interest Rate Swap USD	570,000	570,000	3 month LIBOR	2.95	11/19/2048	(38,816)
Interest Rate Swap USD	1,000,000	1,000,000	3 month LIBOR	2.95	12/12/2048	(67,909)
Total Pay Fixed Interest Rate Swaps:		<u>\$1,299,712,910</u>				<u>\$6,770,374</u>
Receive Fixed Interest rate swaps:						
Interest Rate Swap USD	63,000,000	\$63,483,682	2.00%	3 month LIBOR	12/16/2020	\$431,182
Interest Rate Swap MXN	76,400,000	4,268,007	7.03	28 day Mexican TIE	11/10/2021	44,482
Interest Rate Swap MXN	7,200,000	409,456	7.39	28 day Mexican TIE	11/17/2021	9,701
Interest Rate Swap EUR	31,100,000	35,330,042	0.25	6 month EURIBOR	9/20/2022	(141,063)
Interest Rate Swap USD	6,000,000	6,126,475	2.68	3 month LIBOR	10/25/2023	126,475
Interest Rate Swap USD	3,700,000	3,774,556	2.67	3 month LIBOR	11/19/2023	74,556
Interest Rate Swap USD	7,000,000	7,140,950	2.68	3 month LIBOR	12/12/2023	140,950
Interest Rate Swap MXN	62,000,000	3,481,854	7.20	28 day Mexican TIE	6/5/2024	44,745
Interest Rate Swap USD	9,400,000	9,126,299	1.95	3 month LIBOR	11/8/2026	(273,701)
Interest Rate Swap MXN	20,400,000	1,202,676	8.04	28 day Mexican TIE	12/17/2026	71,564
Interest Rate Swap MXN	55,600,000	3,215,624	7.73	28 day Mexican TIE	2/25/2027	127,262
Interest Rate Swap USD	5,200,000	4,828,417	1.50	3 month LIBOR	6/21/2027	(373,750)
Interest Rate Swap GBP	6,700,000	8,776,382	3.53	6 month LIBOR	10/15/2031	73,422
Interest Rate Swap USD	3,540,000	3,565,515	2.43	3 month LIBOR	5/3/2032	11,631
Interest Rate Swap USD	6,415,000	6,252,325	2.34	3 month LIBOR	2/15/2036	(162,675)
Interest Rate Swap EUR	5,900,000	6,701,498	2.05	6 month EURIBOR	2/3/2037	(27,747)
Interest Rate Swap USD	3,800,000	3,124,116	1.75	3 month LIBOR	6/21/2047	(677,731)
Total Receive Fixed Interest Rate Swaps:		<u>\$170,807,874</u>				<u>(\$500,697)</u>
Pay Fixed Inflation-Linked Swaps:						
Inflation Swap EUR	11,300,000	\$12,967,272	EMU HICP	0.29%	8/15/2017	\$79,057
Inflation Swap USD	3,800,000	3,665,286	U.S. CPI URNSA	2.09	10/11/2017	(134,714)

(continued)

(continued)

Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/17
Inflation Swap EUR	1,200,000	\$1,371,781	EMU HICP	0.58%	10/15/2017	\$3,121
Inflation Swap USD	17,400,000	17,400,000	U.S. CPI URNSA	1.71	4/27/2018	(79,319)
Inflation Swap USD	6,600,000	6,600,000	U.S. CPI URNSA	1.68	4/28/2018	(28,245)
Inflation Swap USD	1,900,000	1,900,000	U.S. CPI URNSA	1.58	5/23/2018	(1,594)
Inflation Swap EUR	12,600,000	14,498,438	EMU HICP	0.47	8/15/2018	127,508
Inflation Swap EUR	1,700,000	1,947,402	EMU HICP	0.63	9/15/2018	8,467
Inflation Swap EUR	1,600,000	1,833,579	EMU HICP	0.65	10/15/2018	8,699
Inflation Swap EUR	1,100,000	1,262,919	EMU HICP	0.89	11/15/2018	8,314
Inflation Swap EUR	3,100,000	3,559,671	EMU HICP	0.88	11/15/2018	23,967
Inflation Swap USD	7,200,000	7,200,000	U.S. CPI URNSA	1.79	6/15/2019	(3,198)
Inflation Swap EUR	14,300,000	16,223,244	EMU HICP	0.99	3/30/2020	(86,621)
Inflation Swap USD	4,600,000	4,575,245	U.S. CPI URNSA	2.03	11/23/2020	(24,755)
Inflation Swap USD	4,400,000	4,376,977	U.S. CPI URNSA	2.02	11/25/2020	(23,023)
Inflation Swap EUR	3,400,000	3,954,835	EMU HICP	0.88	5/15/2021	76,965
Inflation Swap USD	1,700,000	1,700,000	U.S. CPI URNSA	1.55	7/26/2021	28,794
Inflation Swap USD	1,240,000	1,240,000	U.S. CPI URNSA	1.60	9/12/2021	15,671
Inflation Swap USD	18,200,000	16,360,468	U.S. CPI URNSA	2.50	7/15/2022	(1,839,532)
Inflation Swap USD	2,100,000	1,881,918	U.S. CPI URNSA	2.56	5/8/2023	(218,082)
Inflation Swap USD	2,000,000	1,954,816	U.S. CPI URNSA	1.80	7/20/2026	(45,184)
Inflation Swap EUR	3,900,000	4,448,145	EMU HICP	1.36	6/15/2027	9,206
Inflation Swap GBP	1,450,000	1,777,051	UK Retail Price Index	3.59	10/15/2046	(106,426)
Total Pay Fixed Inflation-Linked Swaps:		\$132,699,047				(\$2,200,924)
Receive Fixed Inflation-Linked Swaps:						
Inflation Swap EUR	4,500,000	\$5,073,751	0.83%	EMU HICP	5/15/2018	(\$58,724)
Inflation Swap USD	17,400,000	17,523,652	1.94	U.S. CPI URNSA	4/27/2019	123,652
Inflation Swap USD	6,600,000	6,647,495	1.94	U.S. CPI URNSA	4/28/2019	47,495
Inflation Swap USD	15,700,000	15,935,127	2.06	U.S. CPI URNSA	5/12/2025	235,127
Inflation Swap EUR	900,000	1,005,676	1.18	EMU HICP	5/15/2026	(20,819)
Inflation Swap USD	3,600,000	3,513,635	1.79	U.S. CPI URNSA	7/18/2026	(86,364)
Inflation Swap USD	2,900,000	2,837,083	1.81	U.S. CPI URNSA	7/19/2026	(62,917)
Inflation Swap USD	1,700,000	1,651,703	1.73	U.S. CPI URNSA	7/26/2026	(48,297)
Inflation Swap USD	1,240,000	1,214,862	1.80	U.S. CPI URNSA	9/12/2026	(25,138)
Inflation Swap USD	1,500,000	1,466,098	1.78	U.S. CPI URNSA	9/15/2026	(33,902)
Inflation Swap USD	500,000	489,084	1.81	U.S. CPI URNSA	9/20/2026	(10,916)
Inflation Swap EUR	3,900,000	4,441,449	1.44	EMU HICP	6/15/2027	(6,696)
Inflation Swap GBP	4,050,000	5,163,557	3.14	UK Retail Price Index	1/14/2030	(97,188)
Inflation Swap GBP	2,100,000	2,748,827	3.35	UK Retail Price Index	5/15/2030	21,034
Inflation Swap GBP	6,710,000	8,828,502	3.40	UK Retail Price Index	6/15/2030	112,552
Inflation Swap GBP	11,200,000	14,453,281	3.33	UK Retail Price Index	8/15/2030	(94,952)
Inflation Swap GBP	2,169,000	2,763,472	3.30	UK Retail Price Index	11/15/2030	(53,949)
Inflation Swap GBP	1,900,000	2,413,896	3.30	UK Retail Price Index	12/15/2030	(54,107)
Inflation Swap GBP	4,600,000	5,920,578	3.36	UK Retail Price Index	4/15/2035	(54,589)
Inflation Swap GBP	270,000	370,533	3.59	UK Retail Price Index	10/15/2046	19,817
Total Receive Fixed Inflation-Linked Swaps:		\$104,462,261				(\$148,881)

CDOR - Canadian Dollar Offered Rate

CPI - Consumer Price Index

EMU HICP - European Monetary Union Harmonized Index of Consumer Prices

EURIBOR - Euro Interbank Offered Rate

LIBOR - London Interbank Offered Rate

TIIE - Mexico Interbank Equilibrium Interest 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 which guarantees delivery and accepts the risk of default by either party. Derivatives which 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, 2017, the aggregate fair value of non-exchange traded derivative instruments in asset positions was \$103,065,515. 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 that follows 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, 2017
Aa2	\$20,766,958
Aa3	4,127,848
A1	53,915,144
A3	7,798,337
Baa1	4,346,636
Baa2	12,109,893
Not rated	699
Total subject to credit risk	<u>\$103,065,515</u>

Although the derivative instruments held within the TRS investment portfolio are executed with various counterparties, approximately 92 percent of the net market value exposure to credit risk is for non-exchange traded derivative contracts held with 10 counterparties.

5. INVESTMENT COMMITMENTS

Investments in certain limited partnerships commit TRS to possible future capital contributions. As of June 30, 2017, TRS had remaining unfunded commitments of \$7,061,851,267 within the real estate, other real assets, private equity and global fixed income asset classes.

6. SCHEDULE OF INVESTMENT RETURNS

For the year ended June 30, 2017, the annual money-weighted rate of return on pension plan investments, net of investment expense, was 12.5 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 actually 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, 2017.

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

	June 30, 2017	Fair Value Measurements Using		
		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	\$284,799	\$ -	\$279,100	\$5,699
Commercial and collateralized mortgages	242,181	-	242,181	-
Domestic corporate obligations	2,472,266	-	2,471,851	415
Fixed income mutual funds	297,176	297,176	-	-
Foreign debt/corporate obligations	2,371,085	-	2,358,532	12,553
Municipals	47,377	-	47,377	-
U.S. agencies obligations	184,666	-	184,666	-
U.S. government-backed mortgages	424,274	-	424,274	-
U.S. treasuries	1,643,787	-	1,643,787	-
Total debt securities	7,967,611	297,176	7,651,768	18,667
Equity investments				
International common and preferred stock	10,024,050	10,019,831	4,219	-
U.S. common and preferred stock	7,166,934	7,161,459	5,475	-
Total equity investments	17,190,984	17,181,290	9,694	-
Real assets				
Real estate	5,098,995	-	-	5,098,995
Total real assets	5,098,995	-	-	5,098,995
Total investments by fair value level	\$30,257,590	\$17,478,466	\$7,661,462	\$5,117,662
Investments measured at the Net Asset Value (NAV)				
Commingled fixed income funds	\$2,584,573			
Diversifying strategies	5,871,043			
International equity commingled fund	289,659			
Private equity partnerships	6,439,749			
Private real estate partnerships	1,991,556			
Other real assets	437,540			
Total investments measured at the NAV	17,614,120			
Total investments measured at fair value	\$47,871,710			
Investment derivative instruments				
Credit default swaps	(\$2,831)	\$ -	(\$2,831)	\$ -
Index and variance swaps	(11)	-	(11)	-
Inflation swaps	(2,350)	-	(2,350)	-
Interest rate swaps	6,270	-	6,270	-
Options	1,109	-	1,109	-
Swaptions	1,241	-	1,241	-
Total investment derivative instruments	\$3,428	\$ -	\$3,428	\$ -
Invested securities lending collateral				
Total invested securities lending collateral*	\$3,222,479	\$462,521	\$2,759,958	\$ -

* 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)
(\$ in thousands)

	Fair Value June 30, 2017	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Convergent strategies ¹	\$1,457,637	\$ -	Monthly, quarterly	20-90 days
Convex strategies ¹	1,463,283	-	Daily, monthly, quarterly	1-60 days
Global macro/risk parity funds ²	2,804,785		Monthly	5-90 Days
Long-duration fixed income partnership ³	145,338	-	Not eligible	N/A
Total diversifying strategies	5,871,043	-		
Commingled fixed income funds ⁴	1,819,879	-	Weekly, monthly, quarterly	7-65 days
Fixed income special situation funds ⁵	764,694	817,992	Not eligible	N/A
Total commingled fixed income funds	2,584,573	817,992		
International equity commingled fund ⁶	289,659	-	Daily	1 day
Private equity partnerships ⁷	6,439,749	4,202,579	Not eligible	N/A
Private real estate partnerships ⁷	1,991,556	1,843,209	Not eligible	N/A
Real return fund ⁸	318,652	-	Monthly	30 days
Targeted real return partnerships ⁹	118,888	198,071	Not eligible	N/A
Total other real assets	437,540	198,071		
Total investments measured at the NAV	\$17,614,120	\$7,061,851		

- Diversifying funds (convergent and convex strategies):** The diversifying strategies asset class applies various convergent and convex strategies that provide diversification to the total investment portfolio. Investments exhibit low correlation to traditional public equity and fixed income investments while striving to reduce overall total fund volatility. Convergent strategies consist of six direct investments and two diversified fund of funds, focusing on long/short equity, event driven, volatility selling and risk arbitrage investments. The convex funds include direct investments in five commodity trading advisers (CTAs) investing in trend (long or short) and five managers using global macro, tail risk, market making and volatility buying strategies. 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 has submitted full redemption for one fund, valued at \$15.4 million, and due to maximum withdrawal gates, anticipates complete exit by March 31, 2018.
- Global macro/risk parity funds:** Investments consist of five funds using strategies such as global macro, concentrating on macroeconomic developments of the world, and risk parity focusing on risk levels across the investment portfolio. Monthly redemptions require advanced notice and the fair value of the investments has been determined using the NAV per share of the investments. TRS has no plans to liquidate as of June 30, 2017.
- Long-duration fixed income partnership:** The diversifying strategies asset class also includes a long-duration fixed income fund 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. The fund does not 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, 2017, as the fund has an approximate life of 10 years with six years remaining.

- 4) **Commingled fixed income funds:** The investment strategies for the seven 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 weekly to quarterly upon notice of redemption and TRS has no plans to liquidate as of June 30, 2017.
- 5) **Fixed income special situation funds:** Special situation funds consist of 22 funds investing across strategies such as stressed debt/credit, direct loans, real estate debt 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 10 years and distributions are received throughout the life of the fund. TRS has no plans to liquidate as of June 30, 2017, however; three of the funds, with fair value of \$4.2 million, are approaching the end of the partnership term, winding down and distributing cash as the funds sell underlying investments.
- 6) **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.
- 7) **Private equity and real estate partnerships:** TRS has 191 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 43 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. Two private equity funds were sold on the secondary market during the fiscal year. As of June 30, 2017, 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.
- 8) **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, 2017.
- 9) **Targeted real return partnerships:** Real return strategies include three 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 10 to 15 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, 2017, 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

2017	
Balances at June 30	\$49,367,029,048

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 \$73.4 billion in FY17, based on the actuarial value of assets.

2. MINIMUM RETIREMENT ANNUITY

2017	
Balances at June 30	\$8,635,470

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 the amount based on factors such as date of retirement, years of credited service with the State, whether the annuitant is covered by Medicare, and whether the annuitant has chosen a managed health care plan. Employees

of the System who retired before January 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 January 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 service 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 the 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 state finances the costs on a pay-as-you-go basis. The total costs incurred for health, dental, vision and life insurance benefits are not separated by department or component unit for annuitants and their dependents, nor for active employees and their dependents.

A summary of post-employment benefit provisions, changes in benefit provisions, employee eligibility requirements, including eligibility for vesting and the authority under which benefit provisions are established, are included as an integral part of the financial statements for CMS. A copy of the financial statements may be obtained by writing to 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:

	2017	2016	2015	2014
Total pension liability				
Service cost	\$1,877,570,053	\$1,681,242,232	\$1,948,079,771	\$1,894,351,211
Interest	8,390,352,464	8,264,257,311	7,864,916,421	7,561,104,814
Changes of benefit terms	-	-	-	-
Difference between expected and actual experience	482,486,212	701,827,169	(90,079,446)	39,950,212
Change of assumptions	(2,725,599,755)	7,553,894,504	1,136,454,886	-
Benefit payments, including refund of member contributions	(6,438,005,920)	(5,931,207,177)	(5,625,037,173)	(5,320,662,979)
Net change in total pension liability	<u>1,586,803,054</u>	<u>12,270,014,039</u>	<u>5,234,334,459</u>	<u>4,174,743,258</u>
Total pension liability - beginning	<u>124,187,003,384</u>	<u>111,916,989,345</u>	<u>106,682,654,886</u>	<u>102,507,911,628</u>
Total pension liability - ending (a)	<u>125,773,806,438</u>	<u>124,187,003,384</u>	<u>111,916,989,345</u>	<u>106,682,654,886</u>
Plan fiduciary net position				
Contributions - employer	149,495,577	148,040,767	145,591,585	158,334,598
Contributions - nonemployer contributing entity	3,986,363,699	3,742,469,245	3,377,664,945	3,438,382,892
Contributions - member	929,130,165	951,809,398	935,451,049	928,745,853
Net investment income (loss)	5,520,453,001	(44,103,178)	1,770,549,533	6,782,031,720
Benefit payments, including refund of member contributions	(6,438,005,920)	(5,931,207,177)	(5,625,037,173)	(5,320,662,979)
Administrative expense	(22,728,735)	(22,967,917)	(21,686,860)	(21,218,069)
Net change in plan fiduciary net position	<u>4,124,707,787</u>	<u>(1,155,958,862)</u>	<u>582,533,079</u>	<u>5,965,614,015</u>
Plan fiduciary net position - beginning	<u>45,250,956,731</u>	<u>46,406,915,593</u>	<u>45,824,382,514</u>	<u>39,858,768,499</u>
Plan fiduciary net position - ending (b)	<u>49,375,664,518</u>	<u>45,250,956,731</u>	<u>46,406,915,593</u>	<u>45,824,382,514</u>
Employers' net pension liability - ending (a) - (b)	<u><u>\$76,398,141,920</u></u>	<u><u>\$78,936,046,653</u></u>	<u><u>\$65,510,073,752</u></u>	<u><u>\$60,858,272,372</u></u>

Schedule of the Net Pension Liability for Fiscal Years:

	2017	2016	2015	2014
Total pension liability	\$125,773,806,438	\$124,187,003,384	\$111,916,989,345	\$106,682,654,886
Plan fiduciary net position	<u>49,375,664,518</u>	<u>45,250,956,731</u>	<u>46,406,915,593</u>	<u>45,824,382,514</u>
Net pension liability	<u><u>\$76,398,141,920</u></u>	<u><u>\$78,936,046,653</u></u>	<u><u>\$65,510,073,752</u></u>	<u><u>\$60,858,272,372</u></u>
Plan fiduciary net position as a percentage of the total pension liability	39.3%	36.4%	41.5%	43.0%
Covered payroll	\$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	766.6%	804.5%	679.5%	639.8%

Schedule of Investment Returns for Fiscal Years:

	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	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)**

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially-determined contribution (ADC)	\$6,248,879	\$4,582,530	\$4,119,526	\$4,091,978	\$3,582,033	\$3,429,945	\$2,743,221	\$2,481,914	\$2,109,480	\$1,949,463
Contributions in relation to the actuarially-determined contribution:*										
State	3,985,783	3,741,802	3,376,878	3,437,478	2,702,278	2,405,172	2,169,518	2,079,129	1,449,889	1,039,195
Federal & Employer Contributions	148,749	147,408	144,780	157,228	155,787	153,409	154,150	170,653	151,716	130,578
Total contributions	4,134,532	3,889,210	3,521,658	3,594,706	2,858,065	2,558,581	2,323,668	2,249,782	1,601,605	1,169,773
Contribution deficiency	\$2,114,347	\$693,320	\$597,868	\$497,272	\$723,968	\$871,364	\$419,553	\$232,132	\$507,875	\$779,690
Covered payroll	\$9,965,570	\$9,811,614	\$9,641,171	\$9,512,810	\$9,394,741	\$9,321,098	\$9,205,603	\$9,251,139	\$8,945,021	\$8,521,717
Contributions as a percentage of covered payroll	41.5%	39.6%	36.5%	37.8%	30.4%	27.4%	25.2%	24.3%	17.9%	13.7%

* Contributions for minimum benefits from the state and for excess sick from employers do not count towards actuarial funding requirements. Beginning in FY08, employer ERO contributions are included because the costs of the ERO program were included in the actuarial accrued liability. 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 table below.

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 FY17, they increased the total pension liability by \$1.6 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 FY17:

	For Funding per State Statute	For Determining the Actuarially-determined Contribution
Valuation Used to Determine Funding Amount:	June 30, 2015	June 30, 2015
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:	28 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	Actuarial value of assets

OTHER SUPPLEMENTARY INFORMATION
SCHEDULE OF ADMINISTRATIVE EXPENSES
FOR THE YEARS ENDED JUNE 30

	2017	2016
Personnel services		
Salaries	\$10,404,585	\$11,044,974
Retirement contributions	2,252,254	2,521,446
Insurance and payroll taxes	3,895,930	4,018,866
	<u>16,552,769</u>	<u>17,585,286</u>
Professional services		
Actuarial services	335,184	205,441
External auditors	271,721	248,171
Legal services	92,046	184,641
Legislative consulting	84,000	84,000
Information systems consulting	581,348	114,125
Operations consulting	327,378	215,063
Other	6,408	9,653
	<u>1,698,085</u>	<u>1,061,094</u>
Communications		
Postage	224,811	187,630
Printing and copying	202,691	211,940
Telephone	153,501	163,318
	<u>581,003</u>	<u>562,888</u>
Other services		
Administrative services	559,658	244,403
Building operations and maintenance	522,454	558,848
EDP supplies and equipment	174,547	144,869
Equipment repairs, rental and maintenance	260,714	271,196
Insurance	301,037	370,635
Memberships and subscriptions	69,845	40,287
Office equipment and furniture	29,797	43,679
Office supplies	22,270	24,947
Software licenses and maintenance	682,065	770,930
Travel, conferences, education	208,506	188,379
	<u>2,830,893</u>	<u>2,658,173</u>
Depreciation expense	<u>1,065,985</u>	<u>1,100,476</u>
Total administrative expenses	<u>\$22,728,735</u>	<u>\$22,967,917</u>

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

	2017	2016
Investment manager fees	\$317,305,576	\$300,230,315
Master custodian fees		
State Street Bank and Trust Company	2,100,000	1,900,000
Consulting services		
Albourne America, L.L.C.	400,000	452,000
Courtland Partners, Ltd.	271,817	263,900
LP Capital Advisors, L.L.C.	-	135,000
RVK, Inc.	444,316	431,375
Stout Risius Ross, Inc.	90,000	396,781
Tave and Associates, L.L.C.	15,000	15,000
TorreyCove Capital Partners, L.L.C.	1,025,792	911,583
	<u>2,246,925</u>	<u>2,605,639</u>
Legal services		
Jackson Walker, L.L.P.	439,222	518,027
Tax advisory services		
Ernst & Young Private, Ltd.	72,859	52,081
Other investment expense		
Auditing costs	103,850	96,750
Communication Services	42,997	44,465
Dividend expense	2,438,405	3,401,745
Education, meetings and travel	79,239	73,631
Foreign tax expense	15,504,509	13,250,094
Investment activity expenses	3,135,585	3,753,797
Investment analytical systems	1,153,856	991,122
Personnel costs	4,850,992	4,223,203
Research, subscriptions and memberships	81,744	83,729
Other costs	93,842	76,360
	<u>27,485,019</u>	<u>25,994,896</u>
Total investment expenses	<u>\$349,649,601</u>	<u>\$331,300,958</u>

SCHEDULE OF PROFESSIONAL SERVICES FOR THE YEARS ENDED JUNE 30

	2017	2016
Actuarial services		
Buck Consultants, L.L.C.	\$ -	\$139,197
Segal Consulting	335,184	66,244
	335,184	205,441
External auditors		
Office of the Auditor General	271,721	248,171
Legal services		
Cavanagh & O'Hara	21,466	18,996
Holland & Knight, L.L.P.	26,586	134,025
Howard & Howard Attorneys, P.L.L.C.	13,645	10,574
Kopec White & Spooner	17,597	10,883
Loewenstein Hagen & Smith, P.C.	12,752	7,678
McDonald Hopkins, L.L.C.	-	2,485
	92,046	184,641
Legislative consulting		
Leinenweber Baroni & Daffada Consulting, L.L.C.	84,000	84,000
Information systems consulting		
Agile Progress, L.L.C.	346,996	-
AT&T Corp.	3,360	-
AT&T Mobility II L.L.C.	1,500	-
Brent Ozar PLF, L.L.C.	-	11,000
Capitol Strategies Consulting, Inc.	4,156	-
Cloud2Spec, Inc.	-	9,200
Corporate Software Svcs., Inc.	8,400	-
DLT Mergerco, L.L.C.	22,469	-
Guidepoint Security, L.L.C.	-	16,626
Heat Software USA, Inc.	-	30,000
Icon Integration & Design, Inc.	2,500	37,500
LRWL, Inc.	15,000	-
NetSight, Inc.	2,417	-
Promet Source	94,288	-
Real Magnet, L.L.C.	5,535	-
Sentinel Technologies, Inc.	9,500	9,574
Swartz Consulting, L.L.C.	-	225
Towerwall, Inc.	65,227	-
	581,348	114,125
Operations consulting		
CEM Benchmarking, Inc.	45,000	45,000
Darlington Partners, Ltd.	35,700	78,313
Foley & Lardner, L.L.P.	19,950	-
Jasculca Terman Strategic Communications	130,000	65,000
Levi Ray & Shoup, Inc.	28,823	5,250
Management Association	26,155	1,500
Segal Waters Public Sector	20,000	20,000
Sikich Gardner & Co., L.L.P.	21,750	-
	327,378	215,063
Other	6,408	9,653
Total professional services	\$1,698,085	\$1,061,094

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

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

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), as of and for the year ended June 30, 2017, 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 12, 2017.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the System's internal control over financial reporting (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.

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*.

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 12, 2017