

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

Financial Report
For the Year Ended June 30, 2016

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, 2016

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

**Financial Statement Report
June 30, 2016**

System Officials

Executive Director	Richard W. Ingram
Chief Investment Officer	Stan Rupnik, CFA
Chief Financial Officer	Jana Bergschneider, CPA
Chief Legal Counsel	Marcy Dutton, effective as of 3/1/2016 Thomas Gray, retired as of 2/29/2016
Director of Internal Audit	Stacy Smith, CPA, CIDA

Office Locations

Springfield Office
2815 West Washington Street
Springfield, Illinois 62794

Lisle Office
4200 Commerce Court, Suite 100
Lisle, Illinois 60532-3611

Summary

The audit of the accompanying financial statements of the Teachers' Retirement System of the State of Illinois (System) was performed by RSM US LLP.

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

Independent Auditor's Report

Honorable Frank J. Mautino, Auditor General – State of Illinois

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 and for the year ended June 30, 2016, and the Statement of Changes in Fiduciary Net Position for the year then ended, and the related notes to the financial statements, which collectively comprise the 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 entity'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 entity'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, 2016, 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 Statement 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, Section 6 of the financial statements on pages 13 through 15. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information:

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4 through 8 and the required supplementary information on pages 40 and 41 as listed in the table of contents. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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, 2016 was conducted for the purpose of forming an opinion on the System's financial statements. The other supplementary information as listed in the table of contents is presented for purposes of additional analysis and are not a required part of the financial statements.

The other supplementary information for the year ended June 30, 2016 is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The other supplementary information has been subjected to the auditing procedures applied in the audit of the financial statements for the year ended June 30, 2016 and certain additional procedures, including comparing and reconciling such information directly to underlying accounting and other records used to prepare the financial statements, or to the 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 is fairly stated in all material respects, in relation to the financial statements as a whole for the year ended June 30, 2016.

We have also previously audited, in accordance with auditing standards generally accepted in the United States of America, the System's financial statements as of and for the year ended June 30, 2015 (not presented herein), and have issued our report thereon dated December 17, 2015, which contained an unmodified opinion on those financial statements. The accompanying other supplementary information which consists of supporting schedules for the year ended June 30, 2015 is presented for purposes of additional analysis and is not a required part of the 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 2015 financial statements. The other supplementary information has been subjected to the auditing procedures applied in the audit of the 2015 financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare those financial statements or to those 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 is fairly stated, in all material respects, in relation to the financial statements as a whole for the year ended June 30, 2015.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated December 14, 2016 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 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 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 its compliance.

SIGNED ORIGINAL ON FILE

Schaumburg, Illinois
December 14, 2016

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, 2016. 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, 2016 was \$45.3 billion.
- During FY16, the net position of TRS decreased \$1.2 billion.
- Contributions from members, employers, and the State were \$4.8 billion, an increase of \$384 million or 8.6 percent for FY16.
- Total net investment loss was \$44 million, compared to \$1.8 billion in income for FY15, a decrease of \$1.8 billion.
- Benefits and refunds paid to members and annuitants were \$5.9 billion, an increase of \$306 million or 5.4 percent.
- The total actuarial accrued liability was \$118.6 billion at June 30, 2016.
- The unfunded actuarial accrued liability was \$71.4 billion at June 30, 2016. The funded ratio was 39.8 percent at June 30, 2016. 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 \$124.2 billion at June 30, 2016.
- The net pension liability was \$78.9 billion at June 30, 2016. The plan fiduciary net position, as a percentage of total pension liability, was 36.4 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, 2016.

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

	2016	Percentage Change	2015
Cash	\$40,637,848	(11.1%)	\$45,709,535
Receivables and prepaid expenses	5,279,564,166	(8.1)	5,747,410,436
Investments	45,632,926,356	(1.0)	46,099,664,885
Invested securities lending collateral	3,134,036,175	6.5	2,943,517,231
Capital assets	3,605,993	(8.7)	3,947,730
Total assets	54,090,770,538	(1.4)	54,840,249,817
Total liabilities	8,839,813,807	4.8	8,433,334,224
Net position restricted for pensions	<u>\$45,250,956,731</u>	(2.5%)	<u>\$46,406,915,593</u>

Condensed Comparative Statements of Changes in Fiduciary Net Position for the Years Ended June 30

	2016	Percentage Change	2015
Contributions	\$4,842,319,410	8.6%	\$4,458,707,579
Net investment (loss)/income	(44,103,178)	(102.5)	1,770,549,533
Total additions	<u>4,798,216,232</u>	(23.0)	<u>6,229,257,112</u>
Benefits and refunds	5,931,207,177	5.4	5,625,037,173
Administrative expenses	22,967,917	5.9	21,686,860
Total deductions	<u>5,954,175,094</u>	5.4	<u>5,646,724,033</u>
Net (decrease)/increase in net position	(1,155,958,862)		582,533,079
Net position restricted for pensions - beginning of year	<u>46,406,915,593</u>	1.3	<u>45,824,382,514</u>
Net position restricted for pensions - end of year	<u>\$45,250,956,731</u>	(2.5%)	<u>\$46,406,915,593</u>

FINANCIAL ANALYSIS

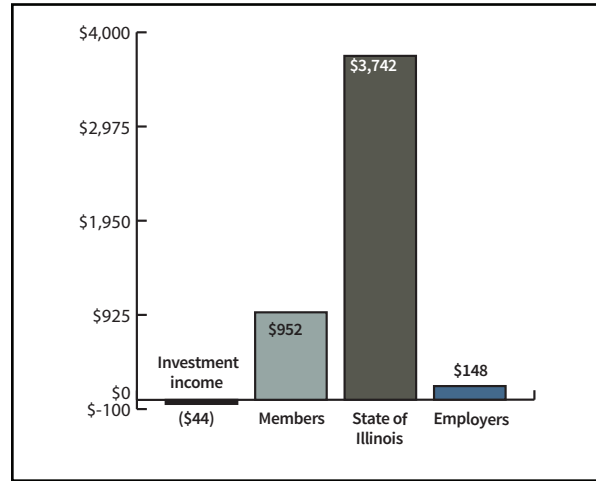
TRS was created to provide retirement, survivor, and disability benefits to qualified members. Increases or decreases in the plan's net position serve as useful indicators of TRS's financial position. The net position available to pay benefits was \$45.3 billion at June 30, 2016.

CONTRIBUTIONS

Contributions increased \$384 million during FY16. During FY16, contributions from the State of Illinois increased \$364 million and employer contributions from school districts increased \$2.4 million. The net increase in employer contributions from school districts in FY16 is attributable to an increase in contributions from federal funds that offset decreases in other employer contributions.

The State of Illinois makes appropriations to TRS. Receipts from the State of Illinois increased \$365 million in FY16. The increase in FY16 was mainly due to the reduction in the assumed rate of return from 8.0 to 7.5 percent that was adopted in the June 30, 2014 actuarial valuation. The assumption change increased the June 30, 2014 unfunded liability by \$6.4 billion and increased funding requirements for FY16. Investment gains based on the actuarial value of assets, salary increases lower than assumed, and other factors offset some of the increase due to the assumption changes. 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, 2016 (\$ millions)

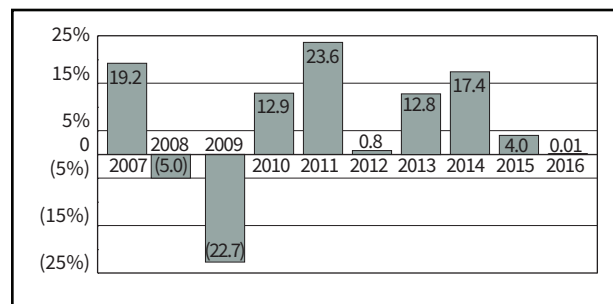


INVESTMENTS

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 0.01 percent, net of fees, for the fiscal year ended June 30, 2016. Total TRS investment assets decreased approximately \$467 million during the year.

Annual Rate of Return (net of investment expenses)

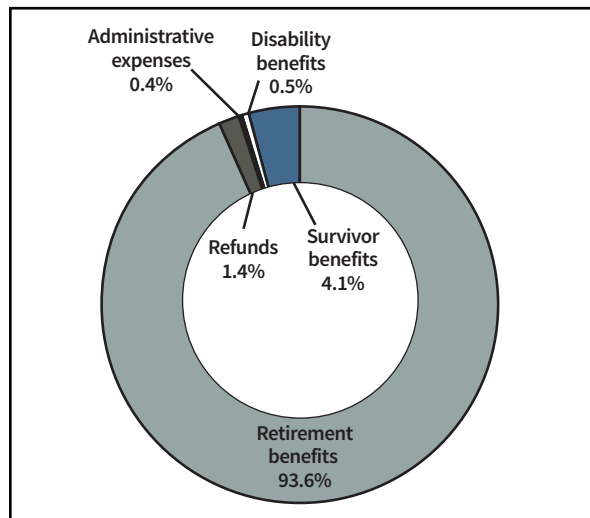


BENEFITS AND REFUNDS

Retirement, survivor, and disability benefit payments increased \$312 million during FY16. Benefit payments increased to \$5.8 billion with 117,650 recipients in FY16. The overall increase in benefit payments for FY16 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 103,501 as of June 30, 2015 to 105,937 as of June 30, 2016.

Refunds of contributions decreased \$5.6 million in FY16. The decrease during FY16 is the result of lower member and retirement refunds.

Deductions by Type for the Year Ended June 30, 2016



ACTUARIAL

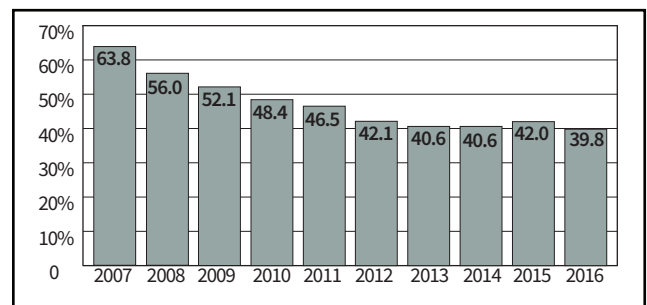
For statutory funding and financial reporting, an actuarial valuation is performed annually and measures the total liability for all benefits earned to date. The actuarial accrued liability is a present value estimate of all the benefits that have been earned to date but not yet paid. The actuarial accrued liability based on statutory funding requirements increased \$10.5 billion in FY16 to \$118.6 billion at June 30, 2016. 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 \$8.7 billion during FY16 to \$71.4 billion at June 30, 2016. The funded ratio reflects the percentage of the actuarial accrued liability covered by the actuarial value of assets. The funded ratio decreased from 42.0 percent on June 30, 2015 to 39.8 percent on June 30, 2016.

In FY16, the actuarial unfunded liability and funded ratio are based on a smoothed value of assets. Public Act 96-0043 required the five state retirement systems to begin smoothing actuarial gains and losses on investments over a five-year period, beginning with the valuation for the year ended June 30, 2009.

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 through 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 differ from criteria used to disclose the actuarial accrued liability and actuarial unfunded liability. The total pension liability is \$124.2 billion at June 30, 2016, while the net pension liability is \$78.9 billion at June 30, 2016.

LEGISLATIVE

During FY16, the few decisions made by the General Assembly regarding public pension systems had a significant impact on the Teachers' Retirement System and its members.

EARLY RETIREMENT OPTION ENDS

The legislature decided not to renew the authorization of the TRS Early Retirement Option (ERO) and the program automatically expired on July 1, 2016. The program enabled members to accelerate their retirement plans without incurring a reduction in pension benefits.

The program was created in 1980 and extended by the General Assembly many times. The last extension in 2013 required legislators to reauthorize the ERO in order for the program to continue beyond FY16.

Because of the ERO sunset, TRS must offer active and inactive members a refund of the 0.4 percent payroll contributions they paid between 2005 and 2016 to help fund the program.

OPTION TO REPAY SURVIVOR BENEFIT REFUND

A new law took effect in 2016 that reverses a situation within the Illinois Pension Code that prevented some TRS members in same-sex marriages and civil union partnerships from receiving survivor benefits.

Retired TRS members who took refunds of their survivor benefit contributions prior to the legalization of same-sex marriages and civil union partnerships in Illinois found themselves with spouses, civil union partners or eligible dependents, but ineligible for a survivor benefit that most retired TRS members can provide.

The new law gives these members a year-long opportunity to repay their survivor benefit refund, with interest, and reclaim eligibility for survivor benefits.

FINANCIAL STATEMENTS

Teachers' Retirement System of the State of Illinois

Statement of Fiduciary Net Position

June 30, 2016

	2016
Assets	
Cash	\$40,637,848
Receivables and prepaid expenses:	
Member contributions	53,246,316
Employer contributions	14,904,808
State of Illinois	473,533,699
Investment income	110,892,567
Pending investment sales	4,622,648,071
Prepaid expenses	4,338,705
Total receivables and prepaid expenses	<u>5,279,564,166</u>
Investments, at fair value:	
Fixed income	9,887,153,436
Equities	16,083,525,866
Real estate	6,943,206,220
Short-term investments	1,127,440,142
Private equity investments	5,465,171,512
Real return	2,889,159,873
Absolute return	3,196,766,195
Foreign currency	103,219,472
Derivatives	(62,716,360)
Total investments	<u>45,632,926,356</u>
Invested securities lending collateral:	
Short-term investments	3,048,892,175
Fixed income	50,000,000
Securities lending collateral with the State Treasurer	35,144,000
Total invested securities lending collateral	<u>3,134,036,175</u>
Capital assets, net of accumulated depreciation	<u>3,605,993</u>
Total assets	<u><u>54,090,770,538</u></u>
Liabilities	
Benefits and refunds payable	5,958,467
Administrative and investment expenses payable	53,025,784
Pending investment purchases	5,646,802,204
Securities lending collateral	3,134,027,352
Total liabilities	<u><u>8,839,813,807</u></u>
Net position restricted for pensions	<u><u>\$45,250,956,731</u></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, 2016

	2016
Additions	
Contributions:	
Members	\$951,809,398
State of Illinois	3,742,469,245
Employers	
Early retirement	13,554,467
Federal funds	74,497,870
2.2 benefit formula	55,785,482
Excess salary/sick leave	4,202,948
Total contributions	<u>4,842,319,410</u>
Investment income:	
Net increase (decrease) in fair value of investments	(843,377,824)
Interest	240,569,604
Alternatives income	808,469,675
Dividends	435,697,251
Other investment income	47,074,975
Securities lending income	17,651,392
Less investment expenses:	
Direct investment expense	(749,609,143)
Securities lending management fees	(1,089,734)
Securities lending borrower rebates	510,626
Net investment loss	<u>(44,103,178)</u>
Total additions	<u>4,798,216,232</u>
Deductions	
Retirement benefits	5,575,129,529
Survivor benefits	242,578,458
Disability benefits	30,472,221
Refunds	83,026,969
Administrative expenses	22,967,917
Total deductions	<u>5,954,175,094</u>
Net decrease in net position	<u>(1,155,958,862)</u>
Net position restricted for pensions	
Beginning of year	<u>46,406,915,593</u>
End of year	<u>\$45,250,956,731</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, employer contributions for the 2.2 formula increase and for the employer's portion of the Early Retirement Option contributions. 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)

	2016
Local school districts	850
Special districts	126
State agencies	16
Total	992

3. MEMBERS

TRS Membership (as of June 30)

	2016
Retirees and beneficiaries	117,650
Inactive members	129,470
Active members	159,735
Total	406,855

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.

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 who is age 55 and has at least 20 but fewer than 35 years of service credit may use the Early Retirement Option (ERO) to avoid a discount for early retirement if retirement occurs within six months of the last day of service requiring contributions and if the member and employer both make a one-time contribution to TRS. The ERO program expired on July 1, 2016, eliminating the enhanced benefit and decreasing the member benefit by 0.4 percent. 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 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.

Essentially 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.

As of July 1, 2016, 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. Tier II members could not retire under ERO, and the money purchase (actuarial) benefit is not available to them.

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.

As of July 1, 2016, 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.

6. ACTUARIAL MEASUREMENTS

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

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

Effective July 1, 2005, member contributions increased from 9 percent to 9.4 percent of salary. These contributions are allocated as follows: 7.5 percent for retirement; 0.5 percent for post-retirement increases; 1 percent for death benefits; and 0.4 percent to help cover the cost of Early Retirement Option (ERO), which is refundable if the

member does not retire using ERO or if the ERO program is terminated. Effective July 1, 2016, the member contribution decreased to 9.0 percent.

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 the cost of ERO and 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. It first affected State contribution requirements 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 adopted in the June 30, 2016 actuarial valuation were used to calculate the June 30, 2016 total pension liability. Different assumptions were used to calculate the June 30, 2015 total pension liability. The investment return assumption for both years are based on a 2014 asset allocation study conducted by the TRS investment consultant and additional analyses in 2015 and 2016 conducted by the TRS actuary.

As of June 30, 2016, the assumption for future investment returns was 7.0 percent. As of June 30, 2015, it was 7.5 percent. 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. To calculate the June 30, 2016 total pension liability,

the discount rate was 6.83 percent. To calculate the June 30, 2015 total pension liability, it was 7.47 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
Commodities (real return)	11.0	4.28
Hedge funds (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 projections discussed below, the System is using a blended rate as the discount rate for the year ended June 30, 2016. The expected rate of return on investments is 7.0 percent after June 30, 2016 but the discount rate on benefit payments after June 30, 2016 is 6.83 percent.

TRS, with the assistance of the actuary, projected that the Plan's fiduciary net position will not be sufficient to provide for all benefit payments to current plan members. From FY2080 through FY2128, projected plan assets do not cover benefit payments, requiring the utilization of the June 30, 2016 S&P Municipal Bond 20-Year High Grade Rate Index of 2.85 percent for discounting benefit payments due during that 49-year period.

The calculation of the discount rate assumes that all statutorily required contributions are made for all years in the future which includes projected contributions from members, employers, and the State of Illinois (nonemployer contributing entity).

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 \$4.6 billion in 2018 and grow to \$10.6 billion in 2045 based on current statutory requirements for current members. Tier I's liability is partially funded by Tier II members, as the Tier II member 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 June 30, 2016, based on a valuation date of June 30, 2015. Assets, referred to as plan fiduciary net position, are measured at fair value.

Net Pension Liability

	June 30, 2016
Total pension liability	\$124,187,003,384
Plan fiduciary net position	45,250,956,731
Net pension liability	<u>\$78,936,046,653</u>
Plan fiduciary net position as a percentage of the total pension liability	36.4%

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

	1% Decrease	Current	1% Increase
Discount rate	5.83%	6.83%	7.83%
Net pension liability	\$96,541,989,944	\$78,936,046,653	\$64,556,661,223

For 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.

Additional Information Regarding Assumptions used for Financial Reporting Disclosure and the Actuarial Valuation follow:

Actuarial Valuation Date	June 30, 2016
Census Date:	June 30, 2015 with total pension liability projected to June 30, 2016
Actuarial Cost Method:	
For financial reporting purposes	Entry age normal
Amortization Method:	
For financial reporting purposes	Level percent of payroll
Remaining Amortization Period:	
For financial reporting purposes	30 years, open
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. 72, "Fair Value Measurement and Application," was established to provide guidance for determining a fair value measurement for financial reporting purposes. This statement also provides guidance for applying fair value to certain investments and disclosures related to all fair value

measurements. TRS implemented this statement for the year ended June 30, 2016.

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.

GASB Statement No. 76, "The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments," was established to identify the hierarchy of generally accepted accounting principles (GAAP). This hierarchy consists of the sources of accounting principles used to prepare financial statements of state and local governmental entities in conformity with GAAP and the framework for selecting these principles. This statement reduces the GAAP hierarchy to two categories of authoritative GAAP and addresses the use of authoritative and nonauthoritative literature in the event that the accounting treatment for a transaction or other event is not specified within the scope of authoritative GAAP. TRS implemented this statement for the year ended June 30, 2016.

GASB Statement No. 82, "Pension Issues," was established to improve consistency in the application of pension accounting and financial reporting requirements by addressing certain issues that were raised with respect to Statement No. 67, "Financial Reporting for Pension Plans," Statement No. 68, "Accounting and Financial Reporting for Pensions," and Statement No. 73, "Accounting and Financial Reporting for Pension

and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68." This statement established accounting and financial reporting requirements for pensions provided to employees of state or local governmental employers. This statement also establishes financial reporting requirements for pension plans administered through trusts that meet the criteria in paragraph three of Statement No. 67. TRS early implemented this statement for the year ended June 30, 2016.

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, 2016 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	7,665,431	338,530	-	8,003,961
Site improvement	1,088,635	-	-	1,088,635
Equipment and furniture	2,658,599	158,353	129,052	2,687,900
Software	1,722,016	269,980	-	1,991,996
	<u>13,372,858</u>	<u>766,863</u>	<u>129,052</u>	<u>14,010,669</u>
Less accumulated depreciation:				
Office building	5,852,668	428,568	-	6,281,236
Site improvement	609,776	72,812	-	682,588
Equipment and furniture	2,013,939	517,886	120,928	2,410,897
Software	948,745	81,210	-	1,029,955
	<u>9,425,128</u>	<u>1,100,476</u>	<u>120,928</u>	<u>10,404,676</u>
	<u>\$3,947,730</u>	<u>(\$333,613)</u>	<u>(\$8,124)</u>	<u>\$3,605,993</u>
The estimated useful lives for depreciable capital assets are as follows:				
Office building and site improvements (\$25,000 or greater capitalized)				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, 2016, the System had a liability of \$1,958,269 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, 2016 was as follows:

	Beginning Balance	Additions	Reductions	Ending Balance
Compensated absences payable	\$2,030,085	\$1,048,454	\$1,120,270	\$1,958,269
The estimated amount due within one year is:			\$108,732	

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 \$40,637,848 at June 30, 2016. Of the bank balance, \$40,637,723 was on deposit with the State treasurer at June 30, 2016. 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 repurchase agreements. 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 \$935,274,279 at June 30, 2016. The STIF fund has an average credit quality rating of A1P1 and a weighted average maturity of 24.0 days.

For purposes of this disclosure, foreign currency held by investment managers is considered a deposit. However, for financial statement presentation and investment purposes, TRS considers foreign currency an investment asset. Uncollateralized foreign currency subject to custodial credit risk was \$103,219,472 at June 30, 2016.

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 investment of those funds by authority of the "prudent person rule." This rule establishes a standard for all fiduciaries by specifying fiduciary responsibility with regard to the members' trust funds.

LONG-TERM ASSET ALLOCATION

The 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, 2016.

Long-term Asset Allocation Policy Mix	
Global equity	36%
Global fixed income	16
Real estate	15
Private equity	14
Real return	11
Absolute return	8
Short-term	0
Total	100%

2. INVESTMENT RISK CUSTODIAL CREDIT RISK

Custodial credit risk for investments is the risk that, in the event of a financial institution failure, TRS would not be able to recover the value of the investments in the possession of an outside party. The TRS investment policy adopted by the 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, 2016, 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	Securities Lending Collateral	Total
				Mortgages	Municipals			
Aaa	\$315,980,214	\$201,324,902	\$331,249,309	\$811,200,590	\$15,275,590	\$ -	\$ -	\$1,675,030,605
Aa1	30,688,727	278,574,179	16,499,769	-	12,200,016	-	-	337,962,691
Aa2	23,911,795	219,287,177	-	-	3,098,738	-	-	246,297,710
Aa3	37,415,581	20,700,551	-	-	14,315,148	-	-	72,431,280
A1	142,105,421	53,983,135	-	-	4,877,560	61,172,356	-	262,138,472
A2	115,131,076	43,149,697	-	-	4,508,390	16,667,002	50,000,000	229,456,165
A3	291,110,317	314,575,324	-	-	2,039,765	112,538,846	-	720,264,252
Baa1	254,095,745	30,351,939	-	-	211,042	-	-	284,658,726
Baa2	274,502,442	299,753,157	-	-	-	60,136,763	-	634,392,362
Baa3	310,040,767	311,665,051	-	-	-	-	-	621,705,818
Ba1	122,498,961	130,013,511	-	-	-	-	-	252,512,472
Ba2	106,474,636	285,889,599	-	-	-	38,469,800	-	430,834,035
Ba3	133,258,641	36,192,818	-	-	-	-	-	169,451,459
B1	109,737,919	104,684,571	-	-	-	952,026,570	-	1,166,449,060
B2	30,796,602	20,296,632	-	-	-	79,024,559	-	130,117,793
B3	60,016,387	134,828,414	-	-	-	35,857,026	-	230,701,827
Caa1	27,738,213	-	-	-	-	-	-	27,738,213
Caa2	9,362,102	5,094,831	-	-	-	-	-	14,456,933
Caa3	13,292,192	58,966,000	-	-	-	-	-	72,258,192
Ca	6,754,465	2,963,956	-	-	-	-	-	9,718,421
C	5,590,013	-	-	-	-	-	-	5,590,013
Not available	-	-	-	-	-	905,591,730	-	905,591,730
Not rated	14,767,186	23,579,723	-	-	-	-	-	38,346,909
Withdrawn	852,708	66	-	-	-	-	-	852,774
Total credit risk, bonds, corporate notes and government obligations	2,436,122,110	2,575,875,233	347,749,078	811,200,590	56,526,249	2,261,484,652	50,000,000	8,538,957,912
U.S. Treasuries								1,398,195,524
Total bonds, corporate notes & government obligations	2,436,122,110	2,575,875,233	347,749,078	811,200,590	56,526,249	2,261,484,652	50,000,000	9,937,153,436

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, 2016 is as follows:

Type	Maturity in Years						Other*
	2016 Fair Value	Less Than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	More Than 20 years	
U.S. treasuries	\$711,095,711	\$27,474,336	\$250,645,027	\$174,395,253	\$13,021,863	\$245,559,232	\$ -
U.S. federal agencies	347,749,078	55,039,445	288,790,419	2,753,790	1,048,936	116,488	-
U.S. government index-linked bonds	687,099,813	42,441,433	308,739,391	203,314,172	58,137,762	74,467,055	-
U.S. government-backed mortgages	811,200,590	505,718,421	11,076,383	60,276,242	66,277,935	167,851,609	-
Municipals	56,526,249	-	3,721,822	16,727,702	11,217,726	24,858,999	-
Asset-backed securities	223,987,181	200,575	109,994,615	32,735,082	52,697,503	28,359,406	-
Commercial mortgage-backed securities	77,541,311	-	-	-	24,559,079	52,982,232	-
Collateralized mortgage obligations	155,081,390	-	4,387,316	22,174,013	73,403,262	55,116,799	-
Commingled funds (U.S. & international)**	2,261,484,652	61,172,356	398,743,173	704,436,814	-	-	1,097,132,309
Corporate convertible bonds	14,417,747	-	8,328,984	885,504	1,451,712	3,751,547	-
Domestic credit obligations	1,965,094,481	251,909,507	794,225,255	719,703,129	52,769,914	146,486,676	-
Foreign debt/corporate obligations	2,575,875,233	489,223,897	752,623,644	813,654,637	235,292,827	285,080,228	-
Total bonds, corporate notes and government obligations	9,887,153,436	1,433,179,970	2,931,276,029	2,751,056,338	589,878,519	1,084,630,271	1,097,132,309
Derivatives	(62,716,360)	667,771	(3,274,050)	(32,325,158)	(248,899)	(27,536,024)	-
Securities-lending collateral	50,000,000	50,000,000	-	-	-	-	-
Total bonds, corporate notes, government obligations, securities lending collateral and derivatives	<u>\$9,874,437,076</u>	<u>\$1,483,847,741</u>	<u>\$2,928,001,979</u>	<u>\$2,718,731,180</u>	<u>\$589,629,620</u>	<u>\$1,057,094,247</u>	<u>\$1,097,132,309</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, 2016 is as follows:

Currency	Foreign Currency	Equities	Fixed Income	Derivatives	Total
Argentine Peso	\$ -	\$ -	\$2,791,914	\$ -	\$2,791,914
Australian Dollar	4,132,773	319,461,831	45,739,168	214,518	369,548,290
Brazilian Real	1,346,206	100,639,195	237,664,412	(235,306)	339,414,507
British Pound	11,542,003	1,100,280,718	262,372,367	(56,592)	1,374,138,496
Canadian Dollar	3,599,362	378,891,676	36,861,914	(279,220)	419,073,732
Chilean Peso	261,336	5,797,039	-	-	6,058,375
Chinese Yuan Renminbi	-	-	-	-	-
Columbia Peso	707,919	219,653	30,209,661	-	31,137,233
Czech Koruna	1,816	1,658,243	-	-	1,660,059
Danish Krone	1,612,466	104,481,903	21,946,232	-	128,040,601
Egyptian Pound	330,126	1,653,954	-	-	1,984,080
Emirati Dirham	4,208	8,065,456	-	-	8,069,664
Euro	25,035,699	1,544,505,636	220,020,234	(240,706)	1,789,320,863
Ghana Cedi	12,880	-	22,265,935	-	22,278,815
Hong Kong Dollar	1,101,305	523,867,811	-	2,146,144	527,115,260
Hungarian Forint	116,355	6,705,227	-	-	6,821,582
Indian Rupee	1,355,970	139,594,610	1,661,178	-	142,611,758
Indonesian Rupiah	234,519	68,148,330	104,415,722	-	172,798,571
Israeli Shekel	376,405	36,835,295	-	(182,931)	37,028,769
Japanese Yen	20,028,327	1,217,553,763	23,846,323	(1,072,851)	1,260,355,562
Malaysian Ringgit	725,997	32,680,024	67,959,382	-	101,365,403
Mexican Peso	1,316,241	83,229,762	227,596,909	67,954	312,210,866
Moroccan Dirham	506	-	-	-	506
New Taiwan Dollar	4,738,550	198,625,544	-	(26,060)	203,338,034
New Zealand Dollar	266,715	30,111,454	55,608,782	-	85,986,951
Norwegian Krone	1,903,949	41,689,017	16,655,351	-	60,248,317
Philippine Peso	90,432	28,969,809	45,610,062	-	74,670,303
Polish Zloty	107,158	16,144,866	18,930,391	3,377	35,185,792
Qatari Rial	2,759	3,371,081	-	-	3,373,840
Russian Ruble	-	5,413,887	1,243,913	-	6,657,800
Serbian Dinar	449,995	-	31,752,793	-	32,202,788
Singapore Dollar	1,025,398	141,368,659	17,692,496	-	160,086,553
South African Rand	3,014,466	110,267,434	-	(51,216)	113,230,684
South Korean Won	2,589,647	268,914,548	116,547,160	(239,271)	387,812,084
Sri Lanka Rupee	1,716	-	4,934,099	-	4,935,815
Swedish Krona	823,957	157,520,512	12,899,237	-	171,243,706
Swiss Franc	4,396,219	544,160,388	-	-	548,556,607
Thailand Baht	8,323,119	95,340,882	-	-	103,664,001
Turkish Lira	1,736,964	29,069,805	3,233,947	141	34,040,857
Ukraine Hryvnia	(93,991)	-	-	-	(93,991)
Uruguayo Peso	-	-	42,768,701	-	42,768,701
Total subject to foreign currency risk	103,219,472	7,345,238,012	1,673,228,283	47,981	9,121,733,748
Investments in international securities payable in U.S. dollars	-	1,269,488,195	919,447,568	(4,972,917)	2,183,962,846
Total international investment securities (including domestic securities payable in foreign currency)	103,219,472	8,614,726,207	2,592,675,851	(4,924,936)	11,305,696,594
Domestic investments (excluding securities payable in foreign currency)	-	7,468,799,659	7,294,477,585	(57,791,424)	14,705,485,820
Total fair value	\$103,219,472	\$16,083,525,866	\$9,887,153,436	(\$62,716,360)	\$26,011,182,414

In addition to the previous table, the fair value of TRS's investments in foreign currency denominated real estate and private equity funds was \$39,702,787 and \$451,892,722 at June 30, 2016, 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.

As of June 30, 2016, 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 35 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, 2016, there was one 95-day term loan with a loan market value of \$282,262,005.

The cash collateral received is invested in a separate account managed by the lending agent, with a weighted average maturity of 54 days at June 30, 2016. 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, 2016, TRS had outstanding loaned investment securities with a fair value of \$3,295,327,441 against which it had received cash and non-cash collateral with a fair value of \$3,410,965,856. The securities on loan remain on TRS's Statement of Fiduciary Net Position in their respective investment categories. As of June 30, 2016, TRS cash collateral received and reported as securities lending obligation on the Statement of Fiduciary Net Position totaled \$3,134,027,352. The fair value of reinvested cash collateral reported as securities lending collateral was \$3,134,036,175. The change in fair value of the reinvested cash collateral is included as net appreciation/depreciation within investment income in the Statement of Changes in Fiduciary Net Position. The cash collateral received and reinvested includes securities lending collateral with the Office of the Illinois State Treasurer. Further detail on the State Treasurer amounts 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 statements of changes in net position. For FY16, the system earned net income of \$17,072,284 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, 2016, 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, 2016, the TRS investment portfolio held the following derivatives.

Investment Derivatives	Fair Value at June 30, 2016	Change in Fair Value	Shares/Par	Notional
Rights	\$392,678	(\$548,205)	6,271,805	\$6,271,805
Warrants	20,512,077	(539,585)	3,734,745	3,734,745
Currency forwards	(35,206,878)	(50,805,587)	-	-
Equity futures long	-	(28,532,298)	132,395,465	99,039,595
Equity futures short	-	3,354,230	(14,362)	(46,827,564)
Fixed income futures long	-	28,392,935	336,178,747	414,352,916
Fixed income futures short	-	(32,165,439)	(1,219,512,674)	(1,302,219,212)
Commodity futures long	-	(11,400,809)	4,974,010	18,661,788
Commodity futures short	-	12,157,066	(2,412,125)	(29,438,309)
Equity options purchased	-	(808,050)	-	-
Equity options written	-	57,346	-	-
Currency forward options purchased	3,338,634	123,057	216,788,872	72,839,153
Currency forward options written	(496,724)	2,947,739	(69,264,472)	20,657,507
Options on futures purchased	-	(378,801)	285,597,888	23,079,518
Options on futures written	-	1,070,160	(69,920,893)	8,579,734
Swaptions purchased	4,527,513	(6,319,239)	1,279,756,589	25,714,572
Swaptions written	(4,474,073)	5,268,712	(622,407,723)	44,165,539
Inflation options	(116,309)	703,714	(146,643,507)	3,498,280
Credit default swaps buying protection	(401,413)	(175,607)	12,500,000	12,920,510
Credit default swaps selling protection	(1,919,914)	1,394,852	234,133,763	232,284,335
Index and variance swaps	1,487,863	(4,027,738)	19,932,967	22,755,967
Pay fixed interest rate swaps	(67,563,460)	(108,317,228)	1,257,704,472	1,258,000,241
Receive fixed interest rate swaps	3,914,693	2,173,658	139,241,429	143,226,336
Pay fixed inflation swaps	(5,797,484)	(3,016,521)	219,034,663	213,237,552
Receive fixed inflation swaps	4,784,314	6,347,179	77,835,525	82,725,959
Grand total	<u>(\$77,018,483)</u>	<u>(\$183,044,459)</u>		<u>\$1,327,260,967</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, 2016, TRS had currency forward purchase or sale contracts for 32 different currencies with various settlement dates.

Fair Value: As of June 30, 2016, TRS's open currency forward contracts had a net fair value (unrealized loss) of \$35,206,878.

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, 2016, TRS had outstanding futures contracts with a notional value, or exposure, of (\$846,430,786). Notional values do not represent the actual values in the Statement of Fiduciary Net Position. The contracts have various expiration dates through June 2018.

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 loss on futures contracts was \$28,194,315 during FY16.

Type	Number of Contracts	Notional Principal
Commodity Futures		
Commodity futures - long	371	\$18,661,788
Commodity futures - short	(446)	(29,438,309)
Equity Futures		
U.S. stock index futures - long	16	667,760
International equity index futures - long	3,056	98,371,835
International equity index futures - short	(1,994)	(46,827,564)
Fixed Income/Cash Equivalent Futures		
Fixed income index futures - long	1,984	275,439,867
Fixed income index futures - short	(1,820)	(313,936,313)
International fixed income index futures - long	155	24,937,611
International fixed income index futures - short	(376)	(68,360,737)
Cash equivalent (eurodollar) futures - long	459	113,975,438
Cash equivalent (eurodollar) futures - short	(3,707)	(919,922,162)
Total futures (net)	(2,302)	(\$846,430,786)

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, 2016, the TRS investment portfolio held currency forward options with notional value of \$93,496,660, inflation options with notional value of \$3,498,280, and options on futures with underlying notional value of \$31,659,252. 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, 2016, the fair value of all option contracts, gross of premiums received, was \$2,725,601. 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, 2016. 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	5	\$9,349,794
Currency forward call options - written	9	9,478,566
Currency forward put options - purchased	21	63,489,359
Currency forward put options - written	10	11,178,941
Inflation Options		
Inflation call options - purchased	2	1,476,191
Inflation call options - written	6	1,952,490
Inflation put options - written	10	69,599
Options on Futures		
Fixed income call options on futures (non-dollar)- purchased	52	4,082,157
Fixed income call options on futures (non-dollar)- written	(214)	5,377,166
Fixed income put options on futures (non-dollar)- purchased	1,692	18,997,361
Fixed income put options on futures (non-dollar)- written	(311)	3,079,598
Commodity call options on futures USD - written	(3,000)	122,970

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, 2016, TRS had outstanding written call swaption exposure of \$35,079,882, written put swaption exposure of \$9,085,657, purchased call swaption exposure of \$22,001,460, and purchased put swaption exposure of \$3,713,112. The contracts have various maturity dates through March 2019. Exposure amounts for swaptions do not represent the actual values in the Statement of Fiduciary Net Position.

Fair Value: Fluctuations in the fair value of swaptions are recognized in TRS's financial statements as incurred rather than at the time the swaptions are exercised or when they expire. As of June 30, 2016, the fair value of swaption contracts was \$53,440.

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, 2016, TRS had credit default/index swaps in its portfolio with various maturity dates through May 2063. The notional values as of June 30, 2016 included purchased credit default swaps (buying protection) of \$12,920,510, written credit default swaps (selling protection) of \$232,284,335 and index swaps of \$22,755,967.

Fair Value: The fair value of credit default swaps, including index swaps, held by TRS was (\$833,464) as of June 30, 2016. 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, 2016, TRS held interest rate swaps in various currencies with various expiration/maturity dates ranging from 2016 to 2047. 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, 2016.

	As of June 30, 2016
Receive floating/pay fixed	(\$67,563,460)
Receive fixed/pay floating	3,914,693

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, 2016, TRS was a party to inflation-linked swaps denominated in various currencies with expiration dates through December 2044. 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 (\$1,013,170) as of June 30, 2016.

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, 2016.

Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/16
Pay Fixed Interest rate swaps:						
Interest Rate Swap USD	41,860,000	\$41,914,454	3 month LIBOR	0.93%	10/17/2017	(\$126,802)
Interest Rate Swap USD	26,400,000	26,400,000	3 month LIBOR	1.00	4/5/2018	(60,449)
Interest Rate Swap GBP	21,920,000	29,302,658	6 month LIBOR	1.00	9/21/2018	(294,210)
Interest Rate Swap USD	173,100,000	173,147,228	3 month LIBOR	1.75	12/16/2018	(4,119,447)
Interest Rate Swap USD	143,000,000	143,000,000	3 month LIBOR	1.50	6/15/2019	(967,817)
Interest Rate Swap GBP	10,500,000	14,065,098	6 month LIBOR	2.05	9/23/2019	(685,473)
Interest Rate Swap EUR	2,000,000	2,174,619	6 month EURIBOR	0.43	12/11/2019	(46,921)
Interest Rate Swap USD	9,700,000	9,702,646	3 month LIBOR	2.00	12/16/2019	(379,540)
Interest Rate Swap USD	23,500,000	23,506,412	3 month LIBOR	2.00	12/16/2020	(1,084,262)
Interest Rate Swap USD	12,900,000	12,900,000	3 month LIBOR	1.45	6/28/2021	(42,792)
Interest Rate Swap GBP	3,100,000	4,144,080	6 month LIBOR	1.25	9/21/2021	(125,898)
Interest Rate Swap GBP	5,900,000	7,904,109	6 month LIBOR	2.00	3/18/2022	(591,266)
Interest Rate Swap USD	55,000,000	55,015,006	3 month LIBOR	2.25	12/16/2022	(3,930,427)
Interest Rate Swap USD	25,100,000	25,107,121	3 month LIBOR	2.00	6/15/2023	(1,432,013)
Interest Rate Swap USD	71,200,000	71,200,000	3 month LIBOR	1.75	12/21/2023	(2,439,247)
Interest Rate Swap USD	39,970,000	39,970,700	3 month LIBOR	2.79	3/31/2024	(4,728,243)
Interest Rate Swap USD	32,860,000	32,908,616	3 month LIBOR	2.73	7/7/2024	(3,820,708)
Interest Rate Swap EUR	2,000,000	2,221,593	6 month EURIBOR	1.00	12/15/2024	(149,091)
Interest Rate Swap USD	13,890,000	13,907,153	3 month LIBOR	1.91	1/22/2025	(732,536)
Interest Rate Swap USD	17,360,000	17,380,616	3 month LIBOR	1.97	1/23/2025	(994,931)
Interest Rate Swap USD	10,240,000	10,251,719	3 month LIBOR	1.97	1/27/2025	(589,859)
Interest Rate Swap USD	2,560,000	2,562,860	3 month LIBOR	1.94	1/29/2025	(139,854)
Interest Rate Swap USD	2,170,000	2,172,340	3 month LIBOR	1.94	1/30/2025	(119,308)
Interest Rate Swap USD	3,420,000	3,423,508	3 month LIBOR	1.82	2/3/2025	(152,282)
Interest Rate Swap EUR	1,400,000	1,554,872	6 month EURIBOR	0.95	3/25/2025	(97,226)
Interest Rate Swap USD	7,050,000	7,050,501	3 month LIBOR	1.98	3/27/2025	(410,835)
Interest Rate Swap USD	7,050,000	7,050,501	3 month LIBOR	1.99	3/27/2025	(415,188)
Interest Rate Swap USD	7,760,000	7,771,924	3 month LIBOR	2.45	7/2/2025	(770,620)
Interest Rate Swap USD	6,800,000	6,805,077	3 month LIBOR	2.33	8/19/2025	(586,877)
Interest Rate Swap USD	69,100,000	69,100,000	3 month LIBOR	2.80	10/28/2025	(3,424,305)
Interest Rate Swap USD	4,700,000	4,702,491	3 month LIBOR	2.15	12/3/2025	(332,146)
Interest Rate Swap USD	7,000,000	7,003,709	3 month LIBOR	2.30	12/3/2025	(589,855)
Interest Rate Swap CAD	6,600,000	5,083,992	3 month CDOR	2.30	12/15/2025	(491,095)
Interest Rate Swap GBP	14,660,000	19,597,489	6 month LIBOR	2.34	1/13/2026	(958,831)
Interest Rate Swap USD	58,850,000	58,850,000	3 month LIBOR	2.40	3/16/2026	(1,659,758)
Interest Rate Swap JPY	1,490,000,000	14,524,805	6 month JPY LIBOR	0.30	3/18/2026	(510,353)
Interest Rate Swap USD	17,600,000	17,600,000	3 month LIBOR	2.30	4/21/2026	(403,186)
Interest Rate Swap USD	20,100,000	20,100,000	3 month LIBOR	2.30	4/27/2026	(458,445)
Interest Rate Swap GBP	5,700,000	7,619,760	6 month LIBOR	1.90	5/18/2026	(191,923)
Interest Rate Swap EUR	430,000	477,708	6 month EURIBOR	1.10	5/20/2026	(7,211)
Interest Rate Swap JPY	190,000,000	1,852,032	6 month JPY LIBOR	0.30	5/25/2026	(23,380)
Interest Rate Swap USD	8,000,000	8,002,275	3 month LIBOR	2.25	6/15/2026	(652,836)
Interest Rate Swap GBP	5,200,000	6,951,360	6 month LIBOR	1.50	9/21/2026	(323,235)
Interest Rate Swap USD	99,640,000	99,640,000	3 month LIBOR	1.75	12/21/2026	(2,678,404)
Interest Rate Swap USD	19,030,000	19,030,334	3 month LIBOR	3.49	3/31/2044	(7,324,171)

(continued)

(continued)

Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/16
Interest Rate Swap USD	25,600,000	\$25,606,985	3 month LIBOR	2.75%	12/16/2045	(\$5,382,701)
Interest Rate Swap JPY	140,000,000	1,364,656	6 month JPY LIBOR	1.50	12/21/2045	(547,506)
Interest Rate Swap USD	73,950,000	73,970,994	3 month LIBOR	2.50	6/15/2046	(11,239,910)
Interest Rate Swap GBP	1,800,000	2,406,240	6 month LIBOR	1.75	3/15/2047	(330,087)
Total pay fixed interest rate swaps:		\$1,258,000,241				(\$67,563,460)
Receive Fixed Interest rate swaps:						
Interest Rate Swap BRL	25,300,000	\$7,763,584	12.36%	3 month Brazilian CDI	1/2/2018	(\$133,412)
Interest Rate Swap CAD	34,400,000	26,502,457	0.90	3 month CDOR	4/17/2018	14,431
Interest Rate Swap MXN	70,000,000	3,858,717	5.70	28 day Mexican TIE	1/18/2019	51,909
Interest Rate Swap USD	63,000,000	65,955,723	2.00	3 month LIBOR	12/16/2020	2,903,223
Interest Rate Swap BRL	8,500,000	2,535,800	11.16	3 month Brazilian CDI	1/4/2021	(117,341)
Interest Rate Swap BRL	36,400,000	11,426,133	12.23	3 month Brazilian CDI	1/4/2021	64,448
Interest Rate Swap BRL	11,400,000	3,622,086	12.56	3 month Brazilian CDI	1/4/2021	63,756
Interest Rate Swap MXN	73,400,000	3,994,565	5.66	28 day Mexican TIE	11/9/2021	14,207
Interest Rate Swap MXN	8,600,000	469,105	5.78	28 day Mexican TIE	9/29/2022	1,839
Interest Rate Swap USD	300,000	303,926	2.10	3 month LIBOR	5/20/2026	3,926
Interest Rate Swap USD	2,100,000	2,271,622	2.25	3 month LIBOR	6/15/2026	169,522
Interest Rate Swap CAD	9,340,000	7,389,251	2.25	3 month CDOR	6/16/2026	197,444
Interest Rate Swap AUD	4,200,000	3,177,674	2.75	6 month Australian Bank Bill	6/17/2026	50,354
Interest Rate Swap EUR	250,000	287,814	0.75	6 month EURIBOR	9/21/2026	10,076
Interest Rate Swap GBP	260,000	363,730	1.50	6 month LIBOR	9/21/2026	16,162
Interest Rate Swap USD	2,700,000	3,304,149	2.81	3 month LIBOR	9/14/2046	604,149
Total receive fixed interest rate swaps:		\$143,226,336				\$3,914,693
Pay Fixed Inflation-Linked Swaps:						
Inflation Swap EUR	15,700,000	\$17,367,051	EMU HICP	0.27%	8/15/2016	(\$74,854)
Inflation Swap EUR	13,100,000	14,513,868	EMU HICP	0.31	9/15/2016	(39,569)
Inflation Swap USD	10,300,000	10,133,348	U.S. CPI URNSA	1.56	11/5/2016	(166,652)
Inflation Swap USD	500,000	474,217	U.S. CPI URNSA	2.42	2/12/2017	(25,783)
Inflation Swap USD	10,000	10,036	U.S. CPI URNSA	1.70	4/15/2017	36
Inflation Swap USD	190,000	190,654	U.S. CPI URNSA	1.72	4/15/2017	654
Inflation Swap USD	25,400,000	23,977,601	U.S. CPI URNSA	2.25	7/15/2017	(1,422,773)
Inflation Swap EUR	11,300,000	12,546,310	EMU HICP	0.29	8/15/2017	(7,418)
Inflation Swap USD	3,800,000	3,655,689	U.S. CPI URNSA	2.09	10/11/2017	(144,311)
Inflation Swap EUR	1,100,000	1,216,270	EMU HICP	0.53	10/15/2017	(5,774)
Inflation Swap EUR	600,000	663,218	EMU HICP	0.54	10/15/2017	(3,352)
Inflation Swap EUR	400,000	442,055	EMU HICP	0.55	10/15/2017	(2,324)
Inflation Swap EUR	100,000	110,469	EMU HICP	0.57	10/15/2017	(626)
Inflation Swap EUR	1,400,000	1,546,250	EMU HICP	0.58	10/15/2017	(9,079)
Inflation Swap USD	1,900,000	1,898,638	U.S. CPI URNSA	1.58	5/23/2018	(1,362)
Inflation Swap USD	1,000,000	999,530	U.S. CPI URNSA	1.57	6/7/2018	(470)
Inflation Swap EUR	6,900,000	7,659,474	EMU HICP	0.42	8/15/2018	(6,077)
Inflation Swap EUR	2,600,000	2,884,413	EMU HICP	0.44	8/15/2018	(4,056)
Inflation Swap EUR	12,600,000	13,965,467	EMU HICP	0.47	8/15/2018	(32,495)
Inflation Swap EUR	400,000	440,829	EMU HICP	0.66	8/15/2018	(3,551)

(continued)

(continued)

Asset Description	Par	Gross Notional	TRS Receives	TRS Pays	Maturity Date	Fair Value 6/30/16
Inflation Swap EUR	1,300,000	\$1,434,907	EMU HICP	0.61%	9/15/2018	(\$9,327)
Inflation Swap EUR	500,000	551,615	EMU HICP	0.62	9/15/2018	(3,859)
Inflation Swap EUR	500,000	551,573	EMU HICP	0.63	9/15/2018	(3,902)
Inflation Swap EUR	300,000	330,790	EMU HICP	0.64	9/15/2018	(2,495)
Inflation Swap EUR	600,000	661,376	EMU HICP	0.65	9/15/2018	(5,194)
Inflation Swap USD	3,000,000	2,845,076	U.S. CPI URNSA	2.21	10/11/2018	(154,924)
Inflation Swap EUR	2,200,000	2,426,593	EMU HICP	0.65	10/15/2018	(17,496)
Inflation Swap EUR	500,000	550,986	EMU HICP	0.68	10/15/2018	(4,488)
Inflation Swap EUR	5,000,000	5,470,260	EMU HICP	0.74	1/26/2020	(84,487)
Inflation Swap EUR	4,900,000	5,369,402	EMU HICP	0.71	1/29/2020	(74,250)
Inflation Swap EUR	11,000,000	12,085,693	EMU HICP	0.66	1/30/2020	(134,750)
Inflation Swap EUR	4,500,000	4,933,698	EMU HICP	0.70	1/30/2020	(65,575)
Inflation Swap EUR	20,200,000	21,899,137	EMU HICP	0.99	3/30/2020	(542,041)
Inflation Swap EUR	2,000,000	2,168,525	EMU HICP	0.99	3/31/2020	(53,374)
Inflation Swap EUR	3,200,000	3,546,273	EMU HICP	0.81	4/15/2021	(8,765)
Inflation Swap EUR	5,200,000	5,751,568	EMU HICP	0.88	5/15/2021	(25,369)
Inflation Swap USD	7,000,000	7,032,961	U.S. CPI URNSA	1.49	6/30/2021	32,961
Inflation Swap USD	18,200,000	15,838,461	U.S. CPI URNSA	2.50	7/15/2022	(2,361,539)
Inflation Swap USD	2,100,000	1,813,071	U.S. CPI URNSA	2.56	5/8/2023	(286,929)
Inflation Swap USD	2,100,000	2,066,031	U.S. CPI URNSA	1.73	8/26/2025	(33,970)
Inflation Swap EUR	1,100,000	1,214,169	EMU HICP	1.09	6/15/2026	(7,875)
Total Pay Fixed Inflation-Linked Swaps:		\$213,237,552				(\$5,797,484)
Receive Fixed Inflation-Linked Swaps:						
Inflation Swap EUR	6,900,000	\$7,659,610	0.83%	EMU HICP	5/15/2018	(\$5,941)
Inflation Swap BRL	6,200,000	1,977,186	12.60	Brazil Cetip Interbank	1/4/2021	41,954
Inflation Swap USD	15,700,000	16,466,467	2.06	U.S. CPI URNSA	5/12/2025	766,467
Inflation Swap EUR	11,900,000	14,310,661	1.68	France CPI ex-Tobacco Index	6/15/2025	1,090,363
Inflation Swap EUR	1,300,000	1,464,810	1.18	EMU HICP	5/15/2026	20,576
Inflation Swap GBP	4,050,000	5,703,018	3.14	UK Retail Price Index	1/14/2030	288,977
Inflation Swap GBP	800,000	1,151,579	3.32	UK Retail Price Index	5/15/2030	82,139
Inflation Swap GBP	2,100,000	3,146,692	3.35	UK Retail Price Index	5/15/2030	233,291
Inflation Swap GBP	6,710,000	9,766,877	3.40	UK Retail Price Index	6/15/2030	796,949
Inflation Swap GBP	3,400,000	4,861,595	3.33	UK Retail Price Index	8/15/2030	316,475
Inflation Swap GBP	1,800,000	2,592,676	3.36	UK Retail Price Index	8/15/2030	186,436
Inflation Swap GBP	2,169,000	3,064,229	3.30	UK Retail Price Index	11/15/2030	164,709
Inflation Swap GBP	1,900,000	2,679,641	3.30	UK Retail Price Index	12/15/2030	139,721
Inflation Swap GBP	4,600,000	6,643,652	3.31	UK Retail Price Index	4/8/2035	494,372
Inflation Swap GBP	500,000	728,087	3.34	UK Retail Price Index	4/15/2035	59,687
Inflation Swap GBP	100,000	165,410	3.45	UK Retail Price Index	12/15/2044	31,730
Inflation Swap GBP	200,000	343,769	3.53	UK Retail Price Index	12/15/2044	76,409
Total Received Fixed Inflation-Linked Swaps:		\$82,725,959				\$4,784,314

CDI - Cetip Interbank Deposit (interbank lending rate)

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, 2016, the aggregate fair value of non-exchange traded derivative instruments in asset positions was \$63,314,359. All applicable futures, options and swaps are in compliance with Dodd-Frank requirements and cleared through the appropriate futures and swaps exchanges. The counterparty risk exposure below is primarily unsettled currency forward contracts. This represents the maximum loss that would be recognized at the reporting date if all counterparties failed to perform as contracted.

Counterparty Ratings for Non-Exchange Traded Derivatives

Quality Rating	Fair Value at June 30, 2016
Aa1	\$1,660,756
Aa2	2,409,814
Aa3	12,433,542
A1	27,255,211
A2	1,980,437
A3	10,512,275
Baa1	1,113,696
Baa2	5,948,628
Total subject to credit risk	<u>\$63,314,359</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 13 counterparties.

5. INVESTMENT COMMITMENTS

Investments in certain limited partnerships commit TRS to possible future capital contributions. As of June 30, 2016, TRS had remaining unfunded commitments of \$6,307,650,888 within the real estate, private equity, global fixed income and real return asset classes.

6. SCHEDULE OF INVESTMENT RETURNS

For the year ended June 30, 2016, the annual money-weighted rate of return on pension plan investments, net of investment expense, was (0.1) percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the timing of cash flows and the changing amounts 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 judgement, 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, 2016.

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

	June 30, 2016	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	223,987	-	201,808	22,179
Commercial and collateralized mortgages	232,623	-	232,556	67
Domestic corporate obligations	1,979,512	-	1,975,940	3,572
Fixed income mutual funds	190,378	190,378	-	-
Foreign debt/corporate obligations	2,575,875	-	2,517,270	58,605
Municipals	56,526	-	56,526	-
U.S. agencies obligations	347,749	-	347,749	-
U.S. government-backed mortgages	811,201	-	811,201	-
U.S. treasuries	1,398,196	-	1,398,196	-
Total debt securities	7,816,047	190,378	7,541,246	84,423
Equity investments				
International common and preferred stock	8,322,672	8,310,636	12,036	-
U.S. common and preferred stock	7,468,800	7,454,510	14,290	-
Total equity investments	15,791,472	15,765,146	26,326	-
Real assets				
Real estate	5,103,476	-	-	5,103,476
Total real assets	5,103,476	-	-	5,103,476
Total investments by fair value level	\$28,710,995	\$15,955,524	\$7,567,572	\$5,187,899
Investments measured at the Net Asset Value (NAV)				
Absolute return	\$3,196,766			
Commingled fixed income funds	2,071,106			
International equity commingled fund	292,054			
Private equity partnerships	5,465,172			
Private real estate partnerships	1,839,730			
Real return strategies	2,889,160			
Total investments measured at the NAV	15,753,988			
Total investments measured at fair value	\$44,464,983			
Investment derivative instruments				
Credit default swaps	(\$2,321)	\$ -	(\$2,321)	\$ -
Index and variance swaps	1,488	-	1,488	-
Inflation swaps	(1,013)	-	(1,013)	-
Interest rate swaps	(63,649)	-	(63,649)	-
Options	2,726	-	2,726	-
Swaptions	53	-	53	-
Total investment derivative instruments	(\$62,716)	\$ -	(\$62,716)	\$ -
Invested securities lending collateral				
Fixed income investments	\$50,000	\$ -	\$50,000	\$ -
Short-term investments	3,048,892	310,412	2,738,480	-
Total invested securities lending collateral*	\$3,098,892	\$310,412	\$2,788,480	\$ -

* 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, 2016	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Convergent strategies ¹	\$1,616,405	\$ -	Monthly, quarterly	20-90 days
Convex strategies ¹	1,422,731	-	Daily, monthly, quarterly	1-60 days
Long-duration fixed income partnership ²	157,630	-	Not eligible	N/A
Total absolute return	3,196,766	-		
Commingled fixed income funds ³	1,495,105	-	Daily, weekly, monthly, quarterly	1-65 days
Fixed income special situation funds ⁴	576,001	505,922	Not eligible	N/A
Total commingled fixed income funds	2,071,106	505,922		
International equity commingled fund ⁵	292,054	-	Daily	1 day
Private equity partnerships ⁶	5,465,172	3,953,889	Not eligible	N/A
Private real estate partnerships ⁶	1,839,730	1,544,436	Not eligible	N/A
Global macro/risk parity funds ⁷	2,558,508	-	Monthly	5-90 days
Real return fund ⁸	248,973	-	Monthly	30 days
Real return partnerships ⁹	81,679	303,404	Not eligible	N/A
Total real return strategies	2,889,160	303,404		
Total investments measured at the NAV	\$15,753,988	\$6,307,651		

- Absolute return (convergent and convex strategies):** The absolute return 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 consists of eight direct investments and two diversified fund of funds, focusing on long/short equity, event driven, volatility selling, risk arbitrage investments. The convex funds include direct investments in four commodity trading advisers (CTAs) investing in trend (long or short) and five managers using global macro, tail risk, market making, 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. Three funds, valued at \$196.6 million, include gates or maximum withdrawals per quarter. TRS has submitted full redemption notices for these three funds and anticipates complete exit by December 31, 2016. One fund valued at \$217.6 million is restricted from full redemption for 11 months as of June 30, 2016.
- Long-duration fixed income partnership:** The absolute return 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 distribute any free cash from the master fund in excess of the amount needed to maintain prudent liquidity. The fund has an approximate life of 10 years and TRS has no plans to liquidate as of June 30, 2016.
- 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 daily to quarterly upon notice of redemption and TRS has no plans to liquidate as of June 30, 2016.

- 4) **Fixed income special situation funds:** Special situation funds consist of 15 funds investing across strategies such as stressed debt/credit, direct loans, real estate debt, bank loans and reinsurance. These funds provide additional exposure to niche and/or specific nontraditional 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 four to eight years and distributions are received throughout the life of the fund. TRS has no plans to liquidate as of June 30, 2016, however; three of the funds, with fair value of \$126.1 million, are approaching the end of the partnership term, winding down and distributing cash as the funds sell underlying investments.
- 5) **International equity commingled fund:** Includes one fund investing in emerging market small cap equities diversified across multiple sectors. The fair value of the investment has been determined using the NAV per share of the investments. Daily liquidity is available.
- 6) **Private equity and real estate partnerships:** TRS has 183 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 44 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 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. Four private equity funds were sold on the secondary market during the fiscal year. As of June 30, 2016, it is probable that all investments in this type will be sold at an amount different from the current NAV of the plan's ownership interest.
- 7) **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. Redemptions are allowed monthly with 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, 2016.
- 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, 2016.
- 9) **Real return partnerships:** Real return strategies include four limited partnerships investing in infrastructure, project development finance, oil and gas properties and farmland. These partnerships are not eligible for redemption, considered illiquid and have an approximate life of 8 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, 2016, 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

2016	
Balances at June 30	\$45,242,810,206

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 \$71.4 billion in FY16, based on the actuarial value of assets.

2. MINIMUM RETIREMENT ANNUITY

2016	
Balances at June 30	\$8,146,525

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.

Public Act 97-0695 was signed into law on June 21, 2012. Effective July 1, 2013, all retirees within state retirement systems began paying a premium for health and vision benefits at a rate determined by CMS. The rate was a percentage of the retiree's annuity and differed depending on whether the retiree was enrolled in Medicare. Due to an Illinois Supreme Court decision in July of 2014, Public Act 97-0695 was suspended and the collection of premiums was stopped. All premiums collected were refunded during FY15.

The State 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:

	2016	2015	2014
Total pension liability			
Service cost	\$1,681,242,232	\$1,948,079,771	\$1,894,351,211
Interest	8,264,257,311	7,864,916,421	7,561,104,814
Changes of benefit terms	-	-	-
Difference between expected and actual experience	701,827,169	(90,079,446)	39,950,212
Change of assumptions	7,553,894,504	1,136,454,886	-
Benefit payments, including refund of member contributions	(5,931,207,177)	(5,625,037,173)	(5,320,662,979)
Net change in total pension liability	<u>12,270,014,039</u>	<u>5,234,334,459</u>	<u>4,174,743,258</u>
Total pension liability - beginning	<u>111,916,989,345</u>	<u>106,682,654,886</u>	<u>102,507,911,628</u>
Total pension liability - ending (a)	<u>\$124,187,003,384</u>	<u>\$111,916,989,345</u>	<u>\$106,682,654,886</u>
Plan fiduciary net position			
Contributions - employer	\$148,040,767	\$145,591,585	\$158,334,598
Contributions - nonemployer contributing entity	3,742,469,245	3,377,664,945	3,438,382,892
Contributions - member	951,809,398	935,451,049	928,745,853
Net investment income (loss)	(44,103,178)	1,770,549,533	6,782,031,720
Benefit payments, including refund of member contributions	(5,931,207,177)	(5,625,037,173)	(5,320,662,979)
Administrative expense	(22,967,917)	(21,686,860)	(21,218,069)
Net change in plan fiduciary net position	<u>(1,155,958,862)</u>	<u>582,533,079</u>	<u>5,965,614,015</u>
Plan fiduciary net position - beginning	<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>\$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>\$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:

	2016	2015	2014
Total pension liability	\$124,187,003,384	\$111,916,989,345	\$106,682,654,886
Plan fiduciary net position	<u>45,250,956,731</u>	<u>46,406,915,593</u>	<u>45,824,382,514</u>
Net pension liability	<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	36.4%	41.5%	43.0%
Covered payroll	\$9,811,614,284	\$9,641,170,627	\$9,512,809,680
Net pension liability as a percentage of covered payroll	804.5%	679.5%	639.8%

Schedule of Investment Returns for Fiscal Years:

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

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Actuarially-determined contribution (ADC)	\$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	\$2,052,396
Contributions in relation to the actuarially-determined contribution:*										
State	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	735,515
Federal & Employer Contributions	147,408	144,780	157,228	155,787	153,409	154,150	170,653	151,716	130,578	81,155
Total contributions	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	816,670
Contribution deficiency	\$693,320	\$597,868	\$497,272	\$723,968	\$871,364	\$419,553	\$232,132	\$507,875	\$779,690	\$1,235,726
Covered payroll	\$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	\$8,149,849
Contributions as a percentage of covered payroll	39.6%	36.5%	37.8%	30.4%	27.4%	25.2%	24.3%	17.9%	13.7%	10.0%

* 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 are now included in the actuarial accrued liability. In all years, employer contributions for excess salary increases are included. However, employer contributions for excess sick leave, which also began in FY06, are not included because there is no assumption for excess sick leave and it is not included in the funding requirements. Beginning in FY17, a different basis for determining the actuarially-determined contribution will be used.

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 FY16, changes in actuarial assumptions increased the total pension liability by \$7.6 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 FY16:

	For Funding per State Statute	For Determining the Actuarially-determined Contribution
Valuation Used to Determine Funding Amount:	June 30, 2014	June 30, 2014
Actuarial Cost Method:	Projected unit credit	Projected unit credit
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:	29 years, closed	30 years, open
Asset Valuation Method:	Actuarial value of assets	Actuarial value of assets

OTHER SUPPLEMENTARY INFORMATION

Schedule of Administrative Expenses for the Years Ended June 30

	2016	2015
Personnel services		
Salaries	\$11,044,974	\$10,585,536
Retirement contributions	2,521,446	2,361,769
Insurance and payroll taxes	4,018,866	3,519,449
	<u>17,585,286</u>	<u>16,466,754</u>
Professional services		
Actuarial services	205,441	272,755
External auditors	248,171	256,961
Legal services	184,641	283,973
Legislative consulting	84,000	84,000
Information systems consulting	114,125	52,883
Operations consulting	215,063	240,070
Other	9,653	6,705
	<u>1,061,094</u>	<u>1,197,347</u>
Communications		
Postage	187,630	144,639
Printing and copying	211,940	199,298
Telephone	163,318	215,442
	<u>562,888</u>	<u>559,379</u>
Other services		
Administrative services	244,403	176,684
Building operations and maintenance	558,848	509,740
EDP supplies and equipment	144,869	103,562
Equipment repairs, rental and maintenance	271,196	294,509
Insurance	370,635	385,240
Memberships and subscriptions	40,287	67,672
Office equipment and furniture	43,679	15,628
Office supplies	24,947	26,775
Software licenses and maintenance	770,930	554,341
Travel, conferences, education	188,379	167,951
	<u>2,658,173</u>	<u>2,302,102</u>
Depreciation expense	<u>1,100,476</u>	<u>1,161,278</u>
Total administrative expenses	<u>\$22,967,917</u>	<u>\$21,686,860</u>

**Schedule of Investment Expenses
for the Years Ended June 30**

	2016	2015
Investment manager fees	\$300,230,315	\$267,476,920
Master custodian fees		
State Street Bank and Trust Company	1,900,000	1,900,000
Consulting services		
Albourne America, L.L.C.	452,000	420,000
Callan Associates, Inc.	-	130,500
Courtland Partners, Ltd.	263,900	130,000
LP Capital Advisors, L.L.C.	135,000	-
ORG Portfolio Management, L.L.C.	-	28,500
RVK, Inc.	431,375	425,000
Real Asset Portfolio Management, L.L.C.	-	57,500
Risk Resources	-	55,055
Stout Risius Ross, Inc.	396,781	165,000
Tave and Associates, L.L.C.	15,000	-
TorreyCove Capital Partners, L.L.C.	911,583	1,022,500
	<u>2,605,639</u>	<u>2,434,055</u>
Legal services		
Jackson Walker, L.L.P.	518,027	330,377
Tax advisory services		
Ernst & Young Private, Ltd.	52,081	90,153
KPMG Limited	-	7,263
	<u>52,081</u>	<u>97,416</u>
Other investment expense		
Alternatives expenses	418,308,185	387,875,075
Foreign tax expenses	13,250,094	21,400,903
Investment activity expenses	3,753,797	5,765,606
Dividend expenses	3,401,745	4,167,917
Personnel costs	4,223,203	4,105,654
Investment analytical systems	991,122	677,194
Auditing costs	96,750	107,728
Education, meetings and travel	73,631	98,486
Research, subscriptions and memberships	83,729	16,837
Other costs	120,825	134,960
	<u>444,303,081</u>	<u>424,350,360</u>
Total investment expense	<u>\$749,609,143</u>	<u>\$696,589,128</u>

**Schedule of Professional Services
for the Years Ended June 30**

	2016	2015
Actuarial services		
Buck Consultants, L.L.C.	\$139,197	\$257,812
The Segal Company Midwest, Inc.	66,244	14,943
	<u>205,441</u>	<u>272,755</u>
External auditors		
Office of the Auditor General	248,171	256,961
Legal services		
Cavanagh & O'Hara	18,996	18,537
Holland & Knight, L.L.P.	134,025	222,765
Howard & Howard Attorneys P.C.	10,574	7,877
Kopec White & Spooner	10,883	19,213
Loewenstein Hagen & Smith	7,678	15,581
McDonald Hopkins, L.L.C.	2,485	-
	<u>184,641</u>	<u>283,973</u>
Legislative consulting		
Leinenweber Baroni Daffada, L.L.C.	84,000	84,000
Information systems consulting		
AT&T Global Services, Inc.	-	320
Brent Ozar PLF, L.L.C.	11,000	-
Cloud2Spec, Inc.	9,200	-
Guidepoint Security, L.L.C.	16,626	-
Heat Software USA, Inc.	30,000	-
Icon Integration & Design, Inc.	37,500	-
InMage Systems, Inc.	-	18,688
ISI Telemanagement Solutions	-	400
Novanis	-	28,675
Sentinel Technologies, Inc.	9,574	-
Swartz Consulting, L.L.C.	225	-
The Mirazon Group, L.L.C.	-	4,800
	<u>114,125</u>	<u>52,883</u>
Operations consulting		
CEM Benchmarking, Inc.	45,000	45,000
Darlington Partners, Ltd.	78,313	77,711
Graham & Hyde	-	284
Jasculca Terman Strategic Communications	65,000	-
Levi Ray & Shoup, Inc.	5,250	-
LRWL, Inc.	-	55,414
Management Association	1,500	41,661
Segal Waters Public Sector	20,000	20,000
	<u>215,063</u>	<u>240,070</u>
Other	<u>9,653</u>	<u>6,705</u>
Total professional services	<u>\$1,061,094</u>	<u>\$1,197,347</u>

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

Honorable Frank J. Mautino
Auditor General
Springfield, Illinois

Board of Trustees
Teachers' Retirement System of the State of Illinois
Springfield, Illinois

As Special Assistant Auditors for the Auditor General, we have audited, 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, the financial statements of the Teachers' Retirement System of the State of Illinois (System), as of and for the year ended June 30, 2016, and the related notes to the financial statements as listed in the table of contents, and have issued our report thereon dated December 14, 2016.

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, misstatements 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 entity'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 an 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

Schaumburg, Illinois
December 14, 2016

Teachers' Retirement System of the State of Illinois

Prior Finding Not Repeated

Year Ended June 30, 2016

Government Auditing Standards

A. Finding - Controls over Census Data

In the prior fiscal year, the Teachers' Retirement System of the State of Illinois (System) had weaknesses in controls over member census data reporting by its participating employers (Finding Code No. 2015-001, 2014-001).

During the current fiscal year, the System continued their implementation of the action plan developed during previous fiscal years by fully implementing new processes and controls over census data.