Education is the Foundation for Future Progress.

Daily, our public school administrators and educators must battle budget woes, building and maintenance challenges, social fads, community issues and even familial problems as they work to provide their students with a solid educational foundation for the future.

But even facing this hefty set of challenges, Missouri public schools demonstrate the enormous positive impact they can have on students, families and communities, and they do so without much fanfare.

Financial Section

Independent Auditors' Report

WILLIAMS KEEPERS LLC
CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS

2005 West Broadway, Suite 100, Columbia, MO 65203
OFFICE (573) 442-6171 FAX (573) 777-7800
3220 West Edgewood, Suite E, Jefferson City, MO 65109
OFFICE (573) 635-6196 FAX (573) 644-7240
www.williamskeepers.com

The Board of Trustees of the
Public School and Public Education Employee
Retirement Systems of Missouri

We have audited the accompanying financial statements of the Public School and Public Education Employee Retirement Systems of Missouri (the Systems), which comprise the statements of fiduciary net position as of June 30, 2018, the related statements of changes in fiduciary net position for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; 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.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with U.S. generally accepted auditing standards. 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 auditors' 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 opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Public School and Public Education Employee Retirement Systems of Missouri as of June 30, 2018, and the respective changes in fiduciary net position for the year then ended, in conformity with U.S. generally accepted accounting principles.

Independent Auditors' Report, continued

Other Matters

Prior Year Information

The prior year combined total information has been derived from the Systems' 2017 financial statements and, in our report dated November 29, 2017, we expressed unmodified opinions on the respective financial statements of the Systems' fiduciary net position.

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 17-22, schedules related to the defined benefit plans (schedules of changes in the employers' net pension liability, employers' net pension liability, employer contributions, investment returns, and notes to schedules) on pages 48-52, and schedules related to the defined benefit OPEB plan (schedule of changes in the net OPEB liability and related ratios) on page 53 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context.

We have applied certain limited procedures to the required supplementary information in accordance with U.S. generally accepted auditing standards, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Public School and Public Education Employee Retirement Systems of Missouri basic financial statements. The introductory, investment, actuarial and statistical sections and the additional information presented on pages 54 through 56 are presented for purposes of additional analysis and are not a required part of the financial statements.

The additional information presented on pages 54 through 56 is the responsibility of management and was derived from and relate directly to the underlying accounting and other records used to prepare the financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with U.S. generally accepted auditing standards. In our opinion, the additional information presented on pages 54 through 56 is fairly stated in all material respects in relation to the basic financial statements as a whole.

The introductory, investment, actuarial and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Williams Keepers LLC

November 30, 2018

Management's Discussion and Analysis

Introduction

This discussion and analysis of the financial position of the Public School Retirement System of Missouri (PSRS) and the Public Education Employee Retirement System of Missouri (PEERS), collectively referred to as the Systems, provides an overview of the Systems' financial activities for the fiscal year ended June 30, 2018. We encourage you to consider the information presented here in conjunction with the *Transmittal Letter* included in the *Introductory Section* and the financial statements and other information presented in the *Financial Section* of this *Comprehensive Annual Financial Report* (CAFR).

Financial Highlights

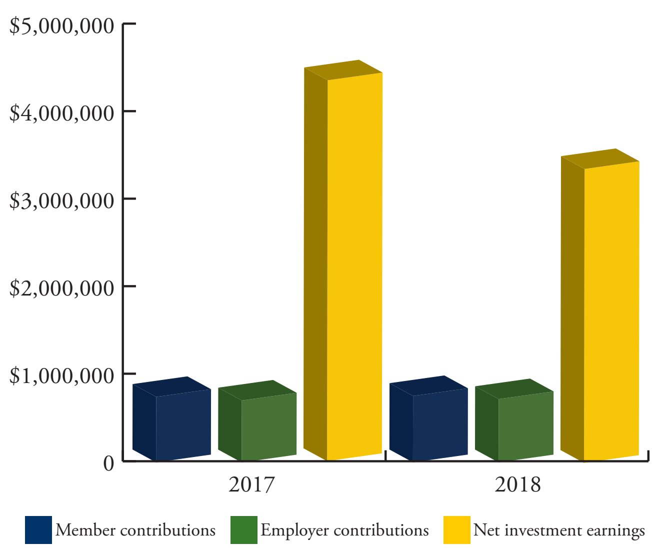
The following highlights are explained in more detail for each System later in this discussion.

- The Board of Trustees adopts actuarial assumptions, each of which individually represents a reasonable long-term estimate of anticipated experience for the Systems, derived from experience studies conducted every fifth year. The most recent comprehensive experience study was completed in June 2016. All economic and demographic assumptions were reviewed and updated, where appropriate, based on the results of the study and effective with the June 30, 2016 valuations. For the June 30, 2017 valuations, the investment rate of return was reduced from 7.75% to 7.6% and the assumption for annual cost-of-living adjustments was updated in accordance with the funding policies amended by the Board of Trustees at their November 3, 2017 meeting. The Board of Trustees further reduced the investment rate of return to 7.5% at their October 29, 2018 meeting. The actuarial assumed rate of return of 7.5% is effective with the June 30, 2018 valuations and fiscal year 2019 investment performance. All other assumptions remained consistent with the prior year. The significant actuarial assumptions are detailed in the notes to the financial statements and the notes to the schedules of required supplementary information.
- As of June 30, 2018, PSRS' fiduciary net position as a percentage of the total pension liability increased to 84.1% from 83.8% for the prior year. PSRS' net pension liability approximated $7.4 billion as of June 30, 2018. As of June 30, 2018, PEERS' fiduciary net position as a percentage of the total pension liability increased to 86.1% from 85.4% for the prior year. PEERS' net pension liability approximated $772.7 million as of June 30, 2018. The net pension liability is calculated utilizing the market value of assets in accordance with Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans*, for accounting presentation purposes.
- The pre-funded status of the Systems is measured as the ratio of assets available for benefits to a benefit liability measure for the Systems. While there are several such measures that could be appropriately used, the benefit liability measure that ties most closely to the Systems' funding policies is the actuarial accrued liability (AAL) computed in accordance with assumptions and methods approved by the Board of Trustees. Using the actuarial value of assets (AVA), a smoothed asset value that recognizes 20% of the total investment gain or loss on the AVA for each of the preceding five years. This is the significant difference between accounting measurements in accordance with GASB Statement No. 67 and funding calculations. As of June 30, 2018, the pre-funded ratios for funding purposes were 84.0% for PSRS and 86.1% for PEERS.
- The Systems implemented Government Accounting Standards Board (GASB) Statement No. 75, *Financial Reporting for Post-Employment Benefit Plans Other Pension Plans*, during fiscal year 2018. GASB Statement No. 75 required changes in the presentation of the financial statements, notes to the financial statements and required supplementary information. The implementation of GASB Statement No. 75 was immaterial to the Systems in total.
- The Systems' assets increased through investment earnings by $3.6 billion from the previous year with a total fund performance of 8.9% (8.7% net of all investment expenses and fees). The total plan return, net of all investment expenses and fees, exceeded both the policy benchmark return of 7.4% and the long-term investment goal (actuarially assumed return) of 7.6%. Over long periods of time, the Systems continue to produce investment returns that meet or exceed the Systems' objective. The annualized investment return for PSRS and PEERS is 8.5% (8.4% net of all investment expenses and fees) over the last 30 years.
- The Systems' investment returns for the last five years have exceeded 65% of the peer group as defined by the Wilshire TUCS universe of public pension plans with assets in excess of $1 billion. Additionally, the Systems generated the returns (and

longer-term investment returns) while taking less risk than approximately two-thirds of comparable public funds in the United States.

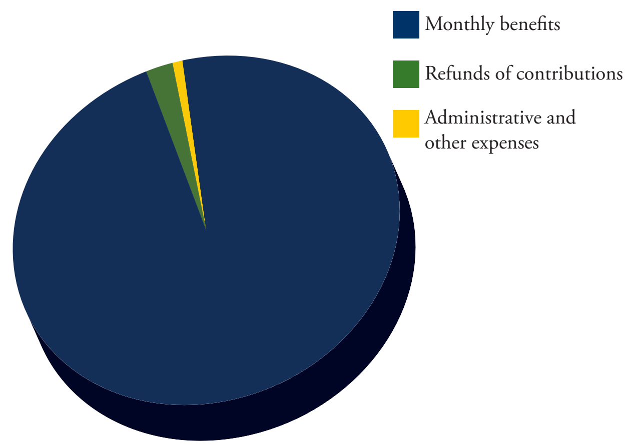
- Cost-sharing, defined-benefit, retirement systems, such as the Systems, have a long-term perspective on financial activities. The Systems' primary responsibility is to assure that sufficient funds will be available to provide retirement, disability and survivor benefits to current and future members. Condensed Statements of Fiduciary Net Position and Statements of Changes in Fiduciary Net Position are provided for each System on the following pages.
- Pension benefits are funded through a combination of member and employer contributions and investment income. The following chart depicts the combined amount of funding received by the Systems from each source for the years ended June 30, 2018 and 2017.

Additions by Funding Source (000's)



- Expenses are incurred for the sole purpose for which the Systems were created: the payment of benefits to the Systems' membership and their beneficiaries. Included in the deductions from fiduciary net position were monthly benefit payments, refunds of contributions due to member terminations or deaths and administrative and other expenses. The following pie chart depicts the combined Systems deductions from Plan Fiduciary Net Position for the year ended June 30, 2018.

Deductions from Plan Fiduciary Net Position Fiscal Year 2018



- The net position of the combined Systems increased by $2.3 billion. The net position of PSRS increased by $2.0 billion while the net position of PEERS increased by $323.3 million.
- Total revenues for fiscal year 2018 were comprised of contribution revenue of $1.7 billion and investment gains of $3.6 billion, compared to contribution revenue of $1.6 billion and investment gains of $4.6 billion for fiscal year 2017.
- Expenses increased 3.7% over the prior year from $2.8 billion to $2.9 billion. Retirement benefits and member refunds increased by $103.5 million from the prior year, while administrative expenses increased by $1.7 million during the same time period. The increase in administrative expenditures is directly related to the implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions*. The implementation of GASB Statement No. 75 resulted in a one-time non-cash expense of $1.7 million in the current year. Additional information on GASB Statement No. 75 is included in Note 7 to the financial statements.

Overview of the Financial Statements

The CAFR reflects the activities of the Systems as reported in Statements of Fiduciary Net Position and the Statements of Changes in Fiduciary Net Position (the Systems' financial statements). The Systems' financial statements, notes to the financial statements, and required supplementary information were prepared in conformity with GASB Statement No. 67, *Financial Reporting for Pension Plans*, as amended. This discussion and analysis is intended to serve as an introduction to the financial section of the CAFR. The financial section of the CAFR consists of: the basic financial statements comprised of the

Statements of Fiduciary Net Position and the Statements of Changes in Fiduciary Net Position, the notes to the basic financial statements, required supplementary information and other supplementary information.

The Statements of Fiduciary Net Position present information on the assets and liabilities of the Systems, with the difference between the two reported as net position. The net position of the Systems reflects the resources available to pay benefits to members when due. Over time, increases and decreases in net position measure whether the Systems' financial position is improving or deteriorating.

The Statements of Changes in Fiduciary Net Position present information detailing the changes in net position that occurred during the current fiscal year. All changes in net position are reported on an accrual basis. This means that the revenue or expense is recognized as soon as the underlying event giving rise to the change occurs, regardless of when the actual cash is received or paid. Thus, revenues and expenses are reported in this statement for some items that will not result in cash flows until future fiscal periods. For example, contributions due from an employer, even though not yet paid by year end, will be reflected as revenue. Earned vacation accruals will be reflected as an expense, even though they have not been paid to employees.

The notes to the financial statements provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes can be found on pages 26 through 47.

The report also contains required supplementary information in addition to the basic financial statements themselves. The required supplementary information consists of the following schedules and related notes:

- The Schedules of Changes in the Employers' Net Pension Liability include historical trend information about the annual changes of the net pension liability, including assumption changes and variances of assumed experience.
- The Schedules of Employers' Net Pension Liability include historical trend information about whether each System's net position is increasing or decreasing over time relative to the total pension liability. The schedules provide a long-term, ongoing perspective of the accumulation of assets to pay benefits when due.
- The Schedules of Employer Contributions present historical trend information about the actuarially determined contributions of employers and the actual contributions made by employers.
- The Schedules of Investment Returns present historical annual money-weighted rate of returns.
- The of Schedules of Changes in the Net OPEB Liability and Related Ratios include historical trend information about the defined benefit other post-employment benefit (OPEB) plan from a long-term, ongoing perspective.
- The Notes to the Schedules of Required Supplementary Information provide additional information that is essential to a full understanding of the data provided in the schedules.

Other supplementary schedules are also included. The Schedules of Administrative Expenses present the overall cost of administering the Systems. The Schedules of Professional Services further detail this category of administrative expense. The Schedules of Investment Expenses show the costs associated with investing the assets of the Systems. These expenses are shown as a reduction of revenue on the Statements of Changes in Fiduciary Net Position.

Financial Analysis of the Public School Retirement System of Missouri (PSRS)

PSRS is a mandatory cost-sharing multiple employer retirement system for full-time certificated employees and certain part-time employees of participating employers. PSRS members were required to contribute 14.5% of their annual covered salary during fiscal year 2018. The employer was required to match that amount. Most PSRS members do not contribute to Social Security, except for employees hired after 1986 who contribute to Medicare only. In some instances, positions may be determined not to be exempt from Social Security contributions. PSRS members required to contribute to Social Security are required to contribute two-thirds of the approved PSRS contribution rate and their employer is required to match the contribution. The members' benefits are further calculated at two-thirds the normal benefit amount.

Public School Retirement System of Missouri
Fiduciary Net Position (000's)

	2018	2017	Change
Cash & investments	$ 39,880,821	$ 37,858,027	$ 2,022,794
Receivables	2,343,682	1,937,380	406,302
Other	23,175	24,115	(940)
Total assets	42,247,678	39,819,522	2,428,156
Deferred outflows of resources	67	-	67
Total liabilities	2,988,142	2,539,276	448,866
Deferred inflows of resources	58	-	58
Fiduciary net position	$ 39,259,545	$ 37,280,246	$ 1,979,299

Assets

Total assets of PSRS as of June 30, 2018 were $42.2 billion and were mostly comprised of cash, investments, investment sales receivables and contributions due from employers. Total assets increased by $2.4 billion or 6.1% from the prior year due to investment earnings.

Liabilities

Total liabilities as of June 30, 2018, were $3.0 billion and were mostly comprised of payables from the purchase of investments and obligations under security lending arrangements. Total liabilities increased by $448.9 million from the prior year. This was due to an increase in investment purchase liabilities, accounts payable and obligations under security lending arrangements.

Net Position

PSRS assets exceeded liabilities at June 30, 2018, by $39.3 billion. This was an increase of $2.0 billion from the 2017 net position. This increase was a result of investment earnings that totaled $3.2 billion for the year offset by benefit payments and other expenses which exceeded contribution revenue by $1.2 billion.

Deferred inflows and outflows are presented in accordance with GASB Statement No.75.

Public School Retirement System of Missouri
Changes in Fiduciary Net Position (000's)

	2018	2017	Change
Additions			
Member contributions	$ 726,996	$ 719,625	$ 7,371
Employer contributions	696,970	684,858	12,112
Investment income	3,173,732	4,104,110	(930,378)
Other	4	13	(9)
Total additions	4,597,702	5,508,606	(910,904)
Deductions			
Monthly benefits	2,555,656	2,471,215	84,441
Refunds of contributions	51,329	50,618	711
Administrative expenses	11,019	10,496	523
Other	399	1	398
Total deductions	2,618,403	2,532,330	86,073
Change in fiduciary net position	$1,979,299	$2,976,276	$ (996,977)

Revenues – Additions to Fiduciary Net Position

The reserves needed to finance retirement benefits are accumulated through the collection of employer and employee contributions and through investment earnings. Total contribution revenue for the year increased by $19.5 million to $1.42 billion. This was a 1.4% increase over the prior year. Retirement contributions were calculated at 14.5% of retirement salary for each member during fiscal year 2018. The employer matched this amount. Contribution rates were unchanged from the prior year. In addition to contributions on salary, members may also pay contributions to reinstate previously refunded service or to purchase various types of elective service. Such contributions were approximately $6.4 million less than with the prior year. An increased retirement salary base and the addition of new members resulted in the overall increase in contributions.

The net investment gain was $3.2 billion as compared to a net investment gain of $4.1 billion in 2017. The current year gains are reflective of an 8.7% net return on the Systems' diversified investment portfolio, compared to 12.3% in the prior year. All investment related expenses, such as fees paid to investment managers, are reflected as a reduction in revenue and are accounted for in this net figure. The *Investment Section* of this report contains additional information regarding investments and securities lending activity.

Expenses – Deductions from Fiduciary Net Position

The primary expenses of PSRS include the payment of pension benefits to members and beneficiaries, refunds of contributions to former members, and the cost of administering the System. Total expenses for fiscal year 2018 were $2.6 billion, an increase of 3.4% over fiscal year 2017.

Benefit expenses increased by $84.4 million to $2.56 billion. This was a result of an overall increase of 1,523 monthly benefit recipients from the prior year end. There were no changes to the benefit formula during 2018. Refunds of contributions increased by $0.7 million during the current year to a total of $51.3 million.

Administrative expenses increased by $0.5 million to $11.0 million. As previously discussed, the increase in administrative expenditures is directly related to the implementation of GASB Statement No. 75. The implementation of GASB No. 75 resulted in a one-time non-cash expense. The cost of administrative items was charged 62% to PSRS and 38% to PEERS, unless the expense was determined to be of direct benefit to only one System. In such instance, the allocation of expense was 100% to the benefited System. As always, we will continue to look for ways to streamline costs when prudent.

Financial Analysis of the Public Education Employee Retirement System of Missouri (PEERS)

PEERS is a mandatory cost-sharing multiple employer retirement system for non-certificated employees and certain part-time certificated employees of participating employers. PEERS members were required to contribute 6.86% of their annual covered salary during 2018. The employer was required to match that amount. PEERS members also contribute to Social Security.

Public Education Employee Retirement System of Missouri
Fiduciary Net Position (000's)

	2018	2017	Change
Cash & investments	$ 4,848,898	$ 4,519,700	$ 329,198
Receivables	285,811	231,308	54,503
Total assets	5,134,709	4,751,008	383,701
Deferred outflows of resources	32	-	32
Total liabilities	364,939	304,590	60,349
Deferred inflows of resources	36	-	36
Fiduciary net position	$ 4,769,766	$ 4,446,418	$ 323,348

Assets

Total assets of PEERS as of June 30, 2018 were $5.1 billion and were mostly comprised of cash, investments, investment sales receivables and contributions due from employers. Total assets increased by $383.7 million or 8.1% from the prior year due to investment earnings during the year.

Liabilities

Total liabilities as of June 30, 2018 were $364.9 million and were mostly comprised of payables from the purchase of investments and obligations under security lending arrangements. Total liabilities increased by $60.3 million. This was due to an increase in investment purchase liabilities, accounts payable and obligations under security lending arrangements.

Net Position

PEERS assets exceeded liabilities at June 30, 2018 by $4.8 billion. This was up from the 2017 net position of $4.4 billion by $323.3 million. This increase was a result of investment earnings that totaled $381.5 million for the year offset by benefit payments and other expenses which exceeded contribution revenue by $58.2 million.

Deferred inflows and outflows are presented in accordance with GASB Statement No. 75.

Public Education Employee Retirement System of Missouri
Changes in Fiduciary Net Position (000's)

	2018	2017	Change
Additions			
Member contributions	$ 121,468	$ 118,447	$ 3,021
Employer contributions	115,103	111,240	3,863
Investment income	381,524	485,047	(103,523)
Total additions	618,095	714,734	(96,639)
Deductions			
Monthly benefits	269,364	251,078	18,286
Refunds of contributions	18,270	18,191	79
Administrative expenses	7,106	6,364	742
Other	7	13	(6)
Total deductions	294,747	275,646	19,101
Change in fiduciary net position	$ 323,348	$ 439,088	$ (115,740)

Revenues – Additions to Fiduciary Net Position

The reserves needed to finance retirement benefits are accumulated through the collection of employer and employee contributions and through investment earnings. Total contribution revenue for the year increased by $6.9 million to $236.6 million. Retirement contributions were calculated at 6.86% of retirement salary for each member during fiscal year 2018. The employer matched this amount. Contribution rates were unchanged from the prior year. Overall contribution revenue increased by 3.0%. In addition to contributions on salary, members may also pay contributions to reinstate previously refunded service or to purchase various types of elective service. Such contributions were $0.6 million less than the prior year. The increase in total contributions is attributable to a higher retirement salary base and the addition of new members.

The net investment gain was $381.5 million as compared to a net investment gain of $485.0 million in 2017. The current year gains are reflective of a 8.7% net return on the Systems' diversified investment portfolio, as compared to 12.3% in the prior year. All investment related expenses, such as fees paid to investment managers, are reflected as a reduction in revenue and are accounted for in this net figure. The *Investment Section* of this report contains additional information regarding investments and securities lending activity.

Expenses – Deductions from Fiduciary Net Position

The primary expenses of PEERS include the payment of pension benefits to members and beneficiaries, refunds of contributions to former members, and the cost of administering the System. Total expenses for fiscal year

2018 were $294.7 million, an increase of 6.9% over fiscal year 2017.

Benefit expenses increased by $18.3 million to $269.4 million. This was a result of an overall increase of 1,358 monthly benefit recipients from the prior year end. There were no changes to the benefit formula during 2018. Refunds of contributions remained consistent with the prior year.

Administrative expenses increased by $0.7 million As previously discussed, the increase in administrative expenditures is directly related to the implementation of GASB Statement No. 75. The implementation of GASB No. 75 resulted in a one-time non-cash expense. The cost of administrative items was charged 62% to PSRS and 38% to PEERS, unless the expense was determined to be of direct benefit to only one System. In such instance, the allocation of expense was 100% to the benefited System. As always, we will continue to look for ways to streamline costs when prudent.

Summary

The total net returns of 8.7% for PSRS and PEERS exceeded both the long-term investment goal of earning 7.6% and the total plan policy benchmark return of 7.4%. Due to the long-term nature of defined benefit pension plans, it is important to look at the financial performance of the Systems over a period of years and not just at this single point in time. Over long periods of time, the Systems continue to produce investment returns that meet or exceed the Systems' objectives. The annualized investment return for the Systems over the last 30 years is 8.4%, net of all fees and expenses.

The actuarial assumed rate of return was 8.0% from 1980 through fiscal year 2016. The Board of Trustees set the actuarial assumed rate of return at 7.75%, effective with the June 30, 2016 actuarial valuations and fiscal year 2017 investment performance measurement. The Board of Trustees considered the current funded status of the Systems, expectations of capital markets and other factors during fiscal year 2017 and 2018. Based on these considerations the Board of Trustees approved reducing the risk profile of the plans by approving a further reduction of the actuarial assumed rate of return to 7.6% as of June 30, 2017 and 7.5% as of June 30, 2018. The actuarial assumed rate of return of 7.5% is effective with the June 30, 2018 valuations and fiscal year 2019 investment performance. Detailed information regarding the Systems' investment portfolio is included in the *Investment Section* of this report.

The Systems' funding objective is to achieve a funded ratio of 100% over a closed 30-year period. For this purpose, funded ratio is defined as the actuarial value of assets divided by the actuarial accrued liability determined under the entry age normal cost method and the actuarial assumptions adopted by the Board. Detailed information regarding the Systems' actuarial assumptions is included in the *Actuarial Section* of this report.

The economic factor that is of primary significance to the Systems is the investment rate of return earned in global capital markets. Legislative, demographic, and actuarial assumption changes can also have a significant impact on the funded status of the Systems. All of these factors are incorporated into the annual actuarial valuations, which determine the contribution rates at which participating employers must contribute in order to appropriately fund benefits.

The fiscal year 2020 contribution rates remain unchanged from the fiscal year 2019 rates. The fiscal year 2020 contribution rate for PSRS remains 29.0%. The fiscal year 2020 contribution rate for PEERS remains 13.72%. The fiscal year 2020 contribution rates are in compliance with the PSRS/PEERS Board of Trustees' Funding Policy and represent the continued stability of contribution rates for employers and members.

The Board of Trustees, management and staff continually strive to improve the financial position of the Systems through a prudent investment program and long-term strategic planning.

Requests for Information

This financial report is designed to provide the Board of Trustees, our members, and other users of our financial report with a general overview of the Systems' finances and to demonstrate the Systems' accountability for the money it receives. If you have any questions about this report or need additional financial information, contact the Public School and Education Employee Retirement Systems of Missouri (PSRS/PEERS), P.O. Box 268, Jefferson City, MO 65102.

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Public School Retirement System of Missouri
Public Education Employee Retirement System of Missouri
Statements of Fiduciary Net Position

as of June 30, 2018
with comparative totals for June 30, 2017

			Combined Totals	
	PSRS	**PEERS**	**June 30, 2018**	**June 30, 2017**
ASSETS				
Cash	$ 551,373,788	$ 70,537,724	$ 621,911,512	$ 139,136,493
Receivables				
Contributions	186,831,294	23,899,130	210,730,424	217,053,033
Accrued interest and dividends	77,022,290	9,354,526	86,376,816	83,223,859
Investment sales	2,079,449,696	252,557,497	2,332,007,193	1,867,718,251
Receivable from PEERS for allocated expenses	346,094	-	346,094	669,925
Other	32,498	-	32,498	22,672
Total receivables	2,343,681,872	285,811,153	2,629,493,025	2,168,687,740
Investments, at fair value				
U.S. Treasuries and TIPS	6,697,373,362	813,422,825	7,510,796,187	7,005,104,466
U.S. public equities	11,894,830,441	1,444,674,809	13,339,505,250	12,782,756,946
Non-U.S. public equities	6,023,148,738	731,535,542	6,754,684,280	7,008,600,083
Short term investments	738,806,114	91,577,656	830,383,770	664,250,864
Public debt	2,055,992,809	249,574,894	2,305,567,703	2,810,908,890
Private equity	3,772,083,364	458,134,636	4,230,218,000	3,489,556,443
Private credit	324,624,653	39,426,965	364,051,618	279,906,568
Private real estate	2,920,263,157	354,677,659	3,274,940,816	3,157,690,297
Hedged assets	4,568,016,938	554,731,578	5,122,748,516	4,758,787,820
Total investments	38,995,139,576	4,737,756,564	43,732,896,140	41,957,562,377
Invested securities lending collateral	334,307,687	40,603,008	374,910,695	281,029,026
Prepaid expenses	43,982	168	44,150	110,800
Capital assets, net of accumulated depreciation	23,131,284	-	23,131,284	24,004,180
Total assets	42,247,678,189	5,134,708,617	47,382,386,806	44,570,530,616
DEFERRED OUTFLOW OF RESOURCES				
Outflows related to other post employment benefit obligations	67,183	31,615	98,798	-
LIABILITIES				
Accounts payable	20,078,355	2,263,302	22,341,657	15,767,551
Interest payable	1,060,518	128,804	1,189,322	570,135
Securities lending collateral	334,293,835	40,601,326	374,895,161	281,009,269
Investment purchases	2,628,749,004	319,272,098	2,948,021,102	2,541,434,371
Payable to PSRS for allocated expenses	-	346,094	346,094	669,925
Accrued medical claims	49,600	30,400	80,000	80,000
Net other post employment benefit obligation	2,349,095	1,439,768	3,788,863	2,050,100
Compensated absences	1,561,531	857,584	2,419,115	2,285,194
Total liabilities	2,988,141,938	364,939,376	3,353,081,314	2,843,866,545
DEFERRED INFLOW OF RESOURCES				
Inflows related to other post employment benefit obligations	58,026	35,564	93,590	-
NET POSITION - RESTRICTED FOR PENSIONS	$ 39,259,545,408	$ 4,769,765,292	$ 44,029,310,700	$ 41,726,664,071

See accompanying Notes to the Financial Statements.

Public School Retirement System of Missouri
Public Education Employee Retirement System of Missouri
Statements of Changes in Fiduciary Net Position

for the year ended June 30, 2018
with comparative totals for the year ended June 30, 2017

			Combined Totals Year Ended	
	PSRS	**PEERS**	**June 30, 2018**	**June 30, 2017**
ADDITIONS				
Contributions				
Employer	$ 696,970,398	$ 115,103,143	$ 812,073,541	$ 796,097,303
Member	726,996,161	121,467,850	848,464,011	838,072,163
Total contributions	1,423,966,559	236,570,993	1,660,537,552	1,634,169,466
Investment income				
From investing activities:				
Net appreciation in fair value of investments	3,208,445,166	381,454,359	3,589,899,525	4,646,918,237
Interest from investments	205,612,120	24,751,592	230,363,712	203,957,656
Interest from bank deposits	223,345	27,726	251,071	102,945
Dividends	213,546,895	25,721,214	239,268,109	220,717,264
Total investment income	3,627,827,526	431,954,891	4,059,782,417	5,071,696,102
Less investment expenses	456,932,588	50,772,656	507,705,244	488,020,784
Net income from investing activities	3,170,894,938	381,182,235	3,552,077,173	4,583,675,318
From security lending activities:				
Security lending gross income	4,809,465	560,854	5,370,319	3,998,495
Net (depreciation) appreciation in fair value of security lending collateral	(3,787)	(436)	(4,223)	20,726
Less security lending activity expenses:				
Agent fees	630,007	70,001	700,008	1,155,313
Broker rebates (received)	1,339,107	148,790	1,487,897	(2,617,366)
Total security lending expenses	1,969,114	218,791	2,187,905	(1,462,053)
Net income from security lending activities	2,836,564	341,627	3,178,191	5,481,274
Total net investment income	3,173,731,502	381,523,862	3,555,255,364	4,589,156,592
Other income				
Miscellaneous income	4,416	103	4,519	13,526
Total other income	4,416	103	4,519	13,526
Total additions	4,597,702,477	618,094,958	5,215,797,435	6,223,339,584
DEDUCTIONS				
Monthly benefits	2,555,655,919	269,363,965	2,825,019,884	2,722,291,994
Refunds of contributions	51,329,094	18,270,143	69,599,237	68,808,506
Administrative expenses	11,019,274	7,106,135	18,125,409	16,861,562
Other expenses	398,845	7,431	406,276	13,958
Total deductions	2,618,403,132	294,747,674	2,913,150,806	2,807,976,020
Net increase in net position	1,979,299,345	323,347,284	2,302,646,629	3,415,363,564
NET POSITION - RESTRICTED FOR PENSIONS				
Beginning of year	37,280,246,063	4,446,418,008	41,726,664,071	38,311,300,507
End of year	$ 39,259,545,408	$ 4,769,765,292	$ 44,029,310,700	$ 41,726,664,071

See accompanying Notes to the Financial Statements.

Notes to the Financial Statements

Note 1 - Plan Descriptions

The Board of Trustees of the Public School Retirement System of Missouri administers two separate retirement systems, the Public School Retirement System of Missouri (PSRS) and the Public Education Employee Retirement System of Missouri (PEERS). The Board of Trustees consists of seven members, three of whom are elected PSRS active members, one an elected active member of PEERS and three persons appointed by the governor, one of whom must be a retired member of either PSRS or PEERS.

The funds of the two Systems are managed simultaneously. Investments of the Systems are combined in a commingled investment pool as allowed by state statute. Each System owns an equity position in the pool and receives proportionate investment income from the pool in accordance with their respective ownership percentage. Each System's allocated share of each type of investment in the pool is shown on the Statements of Fiduciary Net Position. Investment gains and losses are reported in the Statements of Changes in Fiduciary Net Position. Each System's assets may be used only for the payment of benefits to the members of the separate System in accordance with the statutes governing that System as well as expenses required to administer the System.

The Public School Retirement System of Missouri (PSRS)

PSRS is a mandatory cost-sharing multiple employer retirement system for all full-time certificated employees and certain part-time certificated employees of all public school districts in Missouri (except the school districts of St. Louis and Kansas City) and all public community colleges. The System also includes certificated employees of PSRS, Missouri State Teachers' Association, Missouri State High School Activities Association, and certain employees of the state of Missouri who elected to remain covered by PSRS under legislation enacted in 1986, 1987 and 1989. The majority of PSRS members are exempt from Social Security contributions. In some instances, positions may be determined not to be exempt from Social Security contributions. Any PSRS member who is required to contribute to Social Security comes under the requirements of Section 169.070 (9) RSMo, known as the "2/3's statute." PSRS members required to contribute to Social Security are required to contribute two-thirds of the approved PSRS contribution rate and their employer is required to match the contribution. The members' benefits are further calculated at two-thirds the normal benefit amount.

PSRS was established as an independent trust fund by the Missouri General Assembly effective August 1, 1945. Statutes governing the System are found in Sections 169.010-169.141 and Sections 169.560-169.595 RSMo. It is a defined benefit plan providing service retirement, death and disability benefits to its members. Members are vested for service retirement benefits after accruing five years of service. Individuals who (a) are at least age 60 and have a minimum of five years of service, (b) have 30 years of service, or (c) qualify for benefits under the "Rule of 80" (service and age total at least 80) are entitled to a monthly benefit for life, which is calculated using a 2.5% benefit factor. Actuarially age-reduced benefits are available for members with five to 24.9 years of service at age 55 or with 25 years of service (if not yet age 55). Members who are younger than age 55 and who do not qualify under the "Rule of 80" but have between 25 and 29.9 years of service may retire with a lesser benefit factor. Members that are three years beyond normal retirement can elect to have their lifetime monthly benefits actuarially reduced in exchange for the right to also receive a one-time partial lump sum (PLSO) payment at retirement equal to 12, 24, or 36 times the Single Life benefit amount. Annual cost-of-living adjustments (COLAs) are provided for eligible service and disability retirees and for surviving beneficiaries receiving payments under optional benefit plans, up to a lifetime maximum of 80% of the original benefit amount.

For a more detailed summary of benefits for the members of PSRS, refer to the *Summary Plan Description* in the *Actuarial Section* of this report.

Contributions – PSRS members were required to contribute 14.5% of their annual covered salary during fiscal year 2018. Employers were required to match the contributions made by employees. The contribution rate is set each year by the PSRS/PEERS Board of Trustees upon the recommendation of the independent actuary within the contribution restrictions set in Section 169.030 RSMo. The annual statutory increase in the total contribution rate may not exceed 1% of pay. Administrative costs are financed through investment earnings. Contributions for employees of the State of Missouri were made by the state in accordance with the actuarially determined contribution rate needed to fund current costs and prior service costs of state employees as authorized in Section 104.342.8 RSMo.

Members – The number of PSRS members and benefit recipients served by the System at June 30, 2018:

Retirees and beneficiaries receiving benefits			61,295
Inactive members entitled to, but not yet receiving benefits			8,697
Active members:	Vested	59,798	
	Non-vested	18,902	
Total active members			78,700
Other inactive members and terminated accounts			8,827
Total			157,519

Employers – PSRS had 533 contributing employers during fiscal year 2018.

The Public Education Employee Retirement System of Missouri (PEERS)

PEERS is a mandatory cost-sharing multiple employer retirement system for all public school district employees (except the school districts of St. Louis and Kansas City), employees of the Missouri Association of School Administrators, and public community college employees (except the Community College of St. Louis). Employees of covered districts who work 20 or more hours per week on a regular basis and who are not contributing members of the Public School Retirement System of Missouri (PSRS) must contribute to PEERS. Employees of PSRS who do not hold Missouri educator certificates also contribute to PEERS.

PEERS was established as a trust fund by the Missouri General Assembly effective October 13, 1965. Statutes governing the System are found in Sections 169.600 - 169.715 and Sections 169.560-169.595 RSMo. The statutes place responsibility for the operation of PEERS on the Board of Trustees of the Public School Retirement System of Missouri.

PEERS is a defined benefit plan providing service retirement and disability benefits to its members. Members are vested for service retirement benefits after accruing five years of service. Individuals who (a) are at least age 60 and have a minimum of five years of service, (b) have 30 years of service, or (c) qualify for benefits under the "Rule of 80" (service and age total at least 80) are entitled to a monthly benefit for life, which is calculated using a 1.61% benefit factor. Members qualifying for "Rule of 80" or "30-and-out" are entitled to an additional temporary .8% benefit multiplier until reaching minimum Social Security age (currently age 62). Actuarially age-reduced retirement benefits are available with five years of service at age 55. Members who are younger than age 55 and who do not qualify under the "Rule of 80" but have between 25 and 29.9 years of service may retire with a lesser benefit factor. Members that are three years beyond normal retirement can elect to have their lifetime monthly benefits actuarially reduced in exchange for the right to also receive a one-time partial lump sum (PLSO) payment at retirement equal to 12, 24, or 36 times the Single Life benefit amount. Annual cost-of-living adjustments (COLAs) up to a lifetime maximum of 80% of the original benefit amount are provided for eligible service and disability retirees and for surviving beneficiaries receiving payments under optional benefit plans.

For a more detailed summary of benefits for the members of PEERS, refer to the *Summary Plan Description* in the *Actuarial Section* of this report.

Contributions – PEERS members were required to contribute 6.86% of their annual covered salary during fiscal year 2018. Employers were required to match the contributions made by their employees. The contribution rate is set each year by the PSRS/PEERS Board of Trustees upon the recommendation of the independent actuary within the contribution restrictions in Section 169.620 RSMo. The annual statutory increase in the total contribution rate may not exceed 0.5% of pay. Administrative costs proportional to its membership size are reimbursed by PEERS to the Public School Retirement System of Missouri (PSRS) and are financed through investment earnings.

Members - The number of PEERS members and benefit recipients served by the System at June 30, 2018:

Retirees and beneficiaries receiving benefits			30,360
Inactive members entitled to, but not yet receiving benefits			6,480
Active members:	Vested	26,971	
	Non-vested	21,578	
Total active members			48,549
Other inactive members and terminated accounts			28,929
Total			114,318

Employers – PEERS had 530 contributing employers during fiscal year 2018.

Note 2 – Summary of Significant Accounting Policies

Basis of Accounting

For financial reporting purposes, the Systems adhere to accounting principles generally accepted in the United States of America. The Systems apply all applicable pronouncements of the Governmental Accounting Standards Board (GASB).

The Systems' financial statements, notes to the financial statements, and required supplementary information were prepared in conformity with GASB Statement No. 67, *Financial Reporting for Pension Plans*, as amended. GASB Statement No. 67 addresses accounting and financial reporting requirements for pension plans. Significant requirements include an actuarial calculation of total and net pension liability. It also includes comprehensive footnote disclosures regarding the pension liability, the sensitivity of the net pension liability to the discount rate and extensive investment activity disclosures. The total pension liability, determined in accordance with GASB Statement No. 67, is presented in Note 5 - Net *Pension Liability of Employers.*

The financial statements of both Systems were prepared using the accrual basis of accounting. For both Systems, member and employer contributions are recognized when due, pursuant to formal commitments and statutory requirements. Benefits and refunds are recognized when due and payable in accordance with the statutes governing the Systems. Expenses are recognized when the liability is incurred, regardless of when payment is made. Administrative expenses are funded through investment earnings.

Cash

Cash includes cash on hand, demand deposits, and short-term investments with original maturities of three months or less from the date of acquisition.

Receivables

Receivables consist primarily of contributions owed and yet to be remitted by employers, pending investment trades and interest and dividends payable to the Systems as of the end of each fiscal year.

Method Used to Value Investments

Investments are reported at fair value. The fair value of investments is based on published market prices and quotations from major investment brokers at current exchange rates, as available. Many factors are considered in arriving at fair value. Fixed income securities not traded on a national or international exchange are based on equivalent values of comparable securities with similar yield and risk. The value of private equity, private credit and real estate investments that do not have an established market is determined based upon the most current net asset values and activities through year end. When values are not readily available, alternative investments are valued based on a good faith determination by the General Partner.

GASB Statement No. 72 addresses accounting and reporting issues related to fair value measurements. The Statement requires disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques. Comprehensive footnote disclosure regarding this Statement is presented in Note 4 - *Deposits, Investments and Securities Lending Program*.

Capital Assets

The building and other capital assets are owned by PSRS and are stated at cost less depreciation accumulated since acquisition. The stated value does not purport to represent replacement or realized value. Costs of major additions and improvements are capitalized. Expenditures for maintenance and repairs are charged to operations as incurred. Depreciation is calculated using the straight-line method, with estimated lives ranging from three to 40 years in the following major classes: computers and software, three years; vehicles, five years; equipment, five years; building and land improvements, 15 years; pension administration system, 20 years; building, 40 years.

PSRS allocates depreciation expense to PEERS for the use of capital assets.

Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of net position restricted for pension benefits at June 30, 2018. Actual results could differ from those estimates.

Total Columns

The financial statements include total column information for the prior year. Such information does not include sufficient detail to constitute a presentation in conformity with U.S. generally accepted accounting principles. Accordingly, such information should be read in conjunction with both Systems' financial statements for the year ended June 30, 2017, from which the information was derived. Certain reclassifications have been made to the 2017 totals to conform with the classifications for 2018.

Note 3 – Designations of Net Position – Restricted for Pensions

The Systems designate the net position – restricted for pensions for the following specific purposes:

Public School Retirement System of Missouri

	2018
Designated for Members' Contributions (Member Reserves) – Accumulation of active and terminated member contributions plus interest.	$ 8,003,690,876
Designated for the Payment of Benefits to Present Retirees – Transfers from Member Reserves at retirement and an actuarially determined transfer from Operating Reserves to fund the System's obligation for benefit payments and cost-of-living adjustments to current retirees and beneficiary recipients.	28,811,151,317
Designated for Operating Expenses/Benefits to Future Retirees (Operating Reserves) – Accumulation of employer contributions and investment income used to fund future benefit payments, interest on member accounts and, administration and maintenance expenses of the System.	2,444,703,215
Net Position – Restricted For Pensions	$ 39,259,545,408

Public Education Employee Retirement System of Missouri

	2018
Designated for Members' Contributions (Member Reserves) – Accumulation of active and terminated member contributions plus interest.	$ 1,048,403,163
Designated for the Payment of Benefits to Present Retirees – Transfers from Member Reserves at retirement and an actuarially determined transfer from Operating Reserves to fund the System's obligation for benefit payments and cost-of-living adjustments to current retirees and beneficiary recipients.	2,678,123,569
Designated for Operating Expenses/Benefits to Future Retirees (Operating Reserves) – Accumulation of employer contributions and investment income used to fund future benefit payments, interest on member accounts and, administration and maintenance expenses of the System.	1,043,238,560
Net Position – Restricted For Pensions	$ 4,769,765,292

Note 4 – Deposits, Investments and Securities Lending Program

Custodial Credit Risk

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the Systems will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the Systems would not be able to recover the value of investment or collateral securities that are in the possession of an outside party. To mitigate custodial credit risk, the Systems require that all deposits be 100% collateralized with securities held in the Systems' name and held by a third party agent.

Deposits

Cash balances include short-term securities held by the custodial bank in a pooled short-term investment fund and operating balances held by the depository banks.

At June 30, 2018, the PSRS carrying amount of deposits at the depository bank was $13,610,803 and the bank balance was $8,799,828. Of the bank balance, $250,000 was covered by federal depository insurance. In addition, the deposits were collateralized with U.S. agency securities held by a third-party institution in the System's name, totaling $10,069,016. An additional $9,031,677 was held in overnight repurchase agreements with a book value of $9,031,677. The overnight repurchase agreements were collateralized with U.S. agency securities held by a third-party institution in the System's name totaling $9,031,677.

At June 30, 2018, the PEERS carrying amount of deposits at the depository bank was $1,543,450 and the bank balance was $673,564. Of the bank balance, $250,000 was covered by federal depository insurance. In addition, the deposits were collateralized with U.S. agency securities held by a third-party institution in the System's name, totaling $2,283,810. An additional $724,487 was held in overnight repurchase agreements with a book value of $724,487. The overnight repurchase agreements were collateralized with U.S. agency securities held by a third-party institution in the System's name totaling $724,487.

Investment Policy and Asset Allocation

Funds for both Systems that are in excess of a safe operating balance are invested under policies and procedures established by the Board of Trustees. Chapter 169.040 RSMo as amended effective August 13, 1984, authorizes any investment which a prudent person acting in a like capacity and familiar with similar matters would use in the conduct of an enterprise of a like character and with like aims. Any person with fiduciary responsibility with respect to the Systems is covered by this "prudent person" rule.

The Board of Trustees of PSRS and PEERS approved the commingling of assets for purposes of investment as allowed by state statute. In order to implement this change, PSRS and PEERS adopted the Missouri Education Pension Trust Agreement. The Missouri Education Pension Trust (MEPT) is managed by the PSRS and PEERS Board of Trustees and Investment Staff. Effective July 1, 2013, the invested assets of the Systems were pooled and invested in MEPT. All assets held by MEPT are for the exclusive benefit of PSRS and PEERS. Each of the Systems has equity in MEPT based on funds contributed and earnings allocated. Earnings of MEPT are allocated based on the average daily balances of each of the respective Systems. Individual investments in MEPT are not specifically identified to the respective Systems. For financial statement presentation, MEPT assets, liabilities, revenues, and expenses have been allocated to and presented in each respective system in the basic financial statements as required by investment pools. Due to the fact all invested assets are invested in MEPT, the rate of return for each of the Systems is approximately the same.

The Systems' policy in regard to the allocation of invested assets is established and may be amended by the Board of Trustees. System 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 by the Systems. The Board of Trustees amended the long term asset allocation at their June 2016 Trustees' meeting. The long-term target for Public Credit was decreased from 12.0% to 7.0%, which resulted in Public Risk Assets decreasing from 60.0% to 55.0%. Private Equity increased from 10.5% to 12.0%, Private Real Estate increased from 7.5% to 9.0% and Private Credit increased from 2.0% to 4.0%, resulting in Private Risk Assets increasing from 20.0% to 25.0%. Implementation of the amended long-term targets will be achieved over a number of years through a disciplined investment approach. The policy benchmarks will change over time as the Systems make meaningful progress towards the new long-term targets. The table on the following page illustrates the Systems' Board of Trustees approved asset allocation as of June 30, 2018.

Investment Type	Long-term Target	Policy Ranges
Public Risk Asset Programs		
U.S. Public Equity	27.0%	16% - 48%
Public Credit	7.0%	0% - 20%
Hedged Assets	6.0%	0% - 25%
Non-U.S. Public Equity	15.0%	8% - 28%
Total Public Risk Assets	**55.0%**	**35% - 75%**
Safe Assets		
U.S. Treasuries	16.0%	0% - 40%
U.S. TIPS	4.0%	0% - 40%
Cash Equivalents	0.0%	0% - 10%
Total Safe Assets	**20.0%**	**10% - 40%**
Private Risk Asset Programs		
Private Equity	12.00%	4% - 15%
Private Real Estate	9.00%	4% - 12%
Private Credit	4.00%	0% - 8%
Total Private Risk Assets	**25.00%**	**10% - 30%**
Total Fund	**100.0%**	

The Systems categorize their fair value measurements within the fair value hierarchy established by U.S. generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements). The Systems have classified the fair value measurements on the following page in accordance with the Board approved asset allocation discussed above. The classifications will not directly reconcile to total investments per the Statements of Fiduciary Net Position due to the considerations of cash holdings, other liabilities and accruals.

Level 1 - Unadjusted quoted prices for identical instruments in active markets.

Level 2 - Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.

Level 3 - Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value (NAV) per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

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

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

Equities within all assets classes that are classified in Level 1 are valued using prices quoted in active markets for those securities. Equity and equity derivative securities classified in Level 2 are securities whose values are derived daily from associated traded securities. Equity securities classified in Level 3 are valued with last trade data having limited trading volume.

Fixed income securities and derivatives within all assets classes that are classified in Level 2 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features and ratings. Matrix pricing is used to value securities based on the securities relationship to benchmark quoted prices. Such securities include U.S. Treasuries, corporate and agency bonds, bank loans, and mortgage backed securities. Level 2 fixed income securities have non-proprietary information that was readily available to market participants, from multiple independent sources, which are known to be actively involved in the market.

Investments and Derivatives Measured at Fair Value

Investments by fair value level	Total at 6/30/2018	Fair Value Measurements Level 1	Level 2	Level 3
U.S. Treasuries and TIPS				
U.S. Treasuries	$ 7,510,796,187	$ -	$ 7,510,796,187	$ -
Total U.S. Treasuries and TIPS	7,510,796,187	-	7,510,796,187	-
U.S. public equities				
Equities	6,914,489,364	6,914,489,364	-	-
U.S. Treasuries	601,747,163	-	601,747,163	-
Sovereign Debt	49,042,070	-	49,042,070	-
Total U.S. public equities	7,565,278,597	6,914,489,364	650,789,233	-
Non-U.S. public equities				
Equities	4,848,636,502	4,847,865,070	-	771,432
Total Non-U.S. public equities	4,848,636,502	4,847,865,070	-	771,432
Short term investments				
Short term investment fund	901,562,258	-	901,562,258	-
Total Short term investments	901,562,258	-	901,562,258	-
Public debt				
Corporate Bonds	1,817,805,464	-	1,817,805,464	-
Bank Loans	375,857,286	-	375,857,286	-
U.S. Treasuries	99,214,165	-	99,214,165	-
Equities	909,770	306,495	603,269	6
Municipal Bonds	14,528,997	-	14,528,997	-
Total Public Debt	2,308,315,682	306,495	2,308,009,181	6
Hedged assets				
U.S. Treasuries	505,394,046	-	505,394,046	-
Equities	272,617,558	272,617,558	-	-
Corporate Bonds	40,527,761	-	40,527,761	-
Agency Bonds	7,766,453	-	7,766,453	-
Total Hedged assets	826,305,818	272,617,558	553,688,260	-
Private equity				
Equities	6,600,598	6,600,598	-	-
Total Private equity	6,600,598	6,600,598	-	-
Total investments by fair value level	$ 23,967,495,642	$ 12,041,879,085	$11,924,845,119	$ 771,438
Total investments measured at the NAV ***(See detailed schedule on the following page)***	**$ 19,721,290,730**			
Total Investments measured at fair value	**$ 43,688,786,372**			

Investment derivative instruments:	6/30/2018	Level 1	Level 2	Level 3
Equity total return swaps	$ (9,399,561)	$ -	$ (9,399,561)	$ -
Interest rate swaps	591,232	-	591,232	-
Foreign currency forwards	(42,134,694)	-	(42,134,694)	-
Total investment derivative instruments	**$ (50,943,023)**	**$ -**	**$ (50,943,023)**	**$ -**

	6/30/2018	Level 1	Level 2	Level 3
Total invested securities lending collateral	**$ $374,910,695**	**$ -**	**$ 374,910,695**	**$ -**

Investments Measured at the NAV	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Public Equity Investments				
Passive U.S Equity Funds	$ 3,160,416,421	$ -	Daily	1 day
Passive Non-U.S. Equity Fund	465,803,927	-	Daily	2 days
Active Non-U.S. Equity Funds	1,967,240,220	-	Monthly	15 - 30 days
Total Public Equity Investments	5,593,460,568	-		
Hedge Fund Investments				
Asset Allocation/Global Macro	942,090,935	-	Monthly	5 days
Distressed Debt/Credit	766,902,443	-	Quarterly, semi-annual	65 - 90 days
Diversified Beta	124,829,027	-	Quarterly	30 days
Equity Focused	1,600,540,098	-	Monthly, quarterly	5 - 60 days
Multi-Strategy	2,830,857,824	-	Monthly, quarterly	15 - 120 days
Total Hedge Fund Investments	6,265,220,327	-		
Private Risk Investments				
Private Equity	4,223,617,401	3,232,781,546	Not eligible	N/A
Private Credit	364,051,618	621,594,140	Not eligible	N/A
Private Real Estate - closed end funds	1,013,039,916	1,046,559,897	Not eligible	N/A
Private Real Estate - open end funds	2,261,900,900	100,000,000	Quarterly	15 - 180 days
Total Private Risk Investments	7,862,609,835	5,000,935,583		
Total investments measured at the NAV	$ 19,721,290,730	$ 5,000,935,583		

The fair values of investments in certain public equity, hedged assets, and private risk assets are based on the investments' net asset value (NAV) per share (or its equivalent) and are presented in the above table. Investments that are measured at fair value using the net asset value (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

Public Equity Investments

The public equity investments include three passive U.S. equity funds, one passive non-U.S. equity fund and four active non-U.S. equity funds. The passive equity funds provide for basic market exposure with daily liquidity while the four active funds provide active investment strategies in the global equity and emerging markets.

Hedged Assets

The hedged assets investment strategy provides diversification and reduced volatility to the total portfolio. The purpose of this program is to enhance the overall risk/return profile through the inclusion of specialized investment strategies that typically generate returns in a different fashion (i.e., absent a high correlation to equities or bonds).

Asset Allocation/Global Macro includes investments in two funds with the strategy of taking long and short positions based on top-down macroeconomic analysis (i.e., interest rates, foreign exchange rates, and commodity prices). Global strategies involve long and short positions in securities of diverse geographical regions such as developed and emerging markets.

Distressed Debt/Credit includes investments in two funds which seek returns by capitalizing on opportunities in financially distressed companies' debt and credit securities.

Diversified Beta includes investments in three funds with a risk parity approach which focuses on the allocation of risk across the portfolio.

Equity Focused includes investments in seven funds with the strategy of taking long positions in attractive equity securities and short positions in unattractive equity securities.

Multi-Strategy includes investments in eleven funds which represent a broad style of investing that seeks diverse sources of alpha generation and positive absolute returns by employing a variety of investment strategies. Strategies utilized may include, but are not limited to, convertible bond arbitrage, equity long/short, statistical arbitrage, and merger arbitrage.

Private Risk Assets

Private risk investments are typically very long term in nature, not publicly traded and relatively illiquid. Investments are made in limited partnerships where redemptions are restricted over the life of the partnership. During the life of the partnerships, distributions are received as underlying portfolio investments are realized.

Private Equity investments provide financing for start-up companies, private middle market companies, firms in financial distress and public and non-public firms seeking buyout financing. Private equity investments can be classified into three basic sub-asset class categories: Venture Capital, Buyouts, and Debt-Related.

Private Credit investments are comprised primarily of debt-related investments that provide a current yield along with equity participation (usually warrants). Primary strategies are distressed debt, bankruptcy restructurings, mezzanine debt, bank loans, and other credit-drive or debt-related strategies.

Real Estate investments are intended to provide exposure to a diversified portfolio of institutional quality private real estate investments that will provide meaningful, consistent returns, and act as a hedge against inflation and a diversifier to the overall investment portfolio. The real estate portfolio includes closed-end funds where distributions from each investment will be received as the underlying investments are liquidated and open-end funds which offer redemption options.

Rate of Return

For the year ended June 30, 2018, the money-weighted rate of return, net of all investment expenses and fees, was 8.7%. The money weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. Time weighted returns (geometric return) for the year ended June 30, 2018 net of all investment expenses and fees, was 8.7%.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the Systems' investment in a single issue. To mitigate this risk, the Systems' investment policy prohibits investing more than 5% of the total investment portfolio into any single financial institution or issuer, excluding U.S. government securities. At June 30, 2018, the Systems did not have more than 5% of total investments in a single issue except for U.S. government securities.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The Systems' investment policy restricts duration as a means of managing its exposure to fair value losses arising from increased interest rates. In addition, each manager must follow guidelines established relative to the duration of its benchmark. The portfolios are continually monitored to ensure compliance with these guidelines. The following table includes collateral pledged for securities lending collateral. The maturities of all debt securities are presented below:

Security Type	Fair Value at June 30, 2018	< 1 year to maturity	1 to 5 years to maturity	6 to 10 years to maturity	Over 10 years to maturity
U.S. treasuries	$ 8,714,159,015	$ 2,084,694,564	$ 3,608,350,002	$ 2,072,466,949	$ 948,647,500
Agencies	20,757,535	16,113,284	4,644,251	-	-
Corporate bonds	2,234,190,511	62,555,878	1,043,576,632	1,062,451,177	65,606,824
Sovereign debt	49,042,070	49,042,070	-	-	-
Repurchase agreements	158,472,890	158,472,890	-	-	-
Commercial paper	46,925,554	46,925,554	-	-	-
Certificate of deposit	129,513,661	129,513,661	-	-	-
Derivatives	(267,999)	(859,231)	-	-	591,232
Municipals	14,528,997	-	13,874,877	654,120	-
Bank deposits	901,562,258	901,562,258	-	-	-
Commingled Funds (see note)					
Bridgewater STIF II	27,108,962	27,108,962	-	-	-
Wells Fargo Government Fund	15,000,000	15,000,000	-	-	-
Invesco Government Fund	15,000,000	15,000,000	-	-	-
Bridgewater US IL Bond Fund	10,140,450	-	-	10,140,450	-
Bridgewater International Bond Fund	12,393,207	-	-	-	12,393,207
Currency	5,450,259	5,450,259	-	-	-
Total	$12,353,977,370	$ 3,510,580,149	$ 4,670,445,762	$ 3,145,712,696	$ 1,027,238,763
Percentage of Total Fixed Income	**100%**	**28%**	**38%**	**26%**	**8%**

Note: Commingled Funds are presented at the weighted average maturity. These funds do not have a single maturity date; however, the underlying securities have maturity dates. To more accurately reflect the interest rate risk of the Systems, these weighted averages are displayed.

The following table includes the debt maturities for the Systems' deposits and repurchase agreements collateral.

Security Type	Fair Value at June 30, 2018	< 1 year to maturity	1 to 5 years to maturity	6 to 10 years to maturity	Over 10 years to maturity
PSRS - Agencies	$ 19,100,694	$ 3,433,899	$ 839,071	$ 5,355,246	$ 9,472,478
PEERS - Agencies	3,008,297	-	852,822	698,002	1,457,473

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The Systems do not have a single investment policy designating the minimum allowable credit rating; however, each manager must follow guidelines established specifically for its managed portfolio. The portfolios are continually monitored to ensure compliance with these guidelines. The following table includes collateral pledged for securities lending collateral. The Systems' debt investments by credit rating category as of June 30, 2018 are presented in the following table.

Security Type	Fair Value at June 30, 2018	%	FDIC Insured	AAA	AA	A	BBB	BB	B	CCC	Not Rated
U.S. treasuries	$ 8,714,159,015	72%	$ -	$ 8,714,159,015	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Agencies	20,757,535	0%	-	20,757,535	-	-	-	-	-	-	-
Corporate bonds	2,234,190,511	19%	-	4,641,866	97,987,128	661,399,229	954,556,106	211,485,565	266,368,970	17,459,452	20,292,195
Sovereign debt	49,042,070	0%	-	49,042,070	-	-	-	-	-	-	-
Repurchase agreements	158,472,890	1%	-	3,472,890	-	155,000,000	-	-	-	-	-
Commercial paper	46,925,554	0%	-	32,936,865	-	13,988,689	-	-	-	-	-
Certificates of deposit	129,513,661	1%	-	30,001,999	-	99,511,662	-	-	-	-	-
Derivatives	(267,999)	0%	-	-	-	-	-	-	-	-	(267,999)
Municipals	14,528,997	0%	-	13,874,877	654,120	-	-	-	-	-	-
Bank Deposits	901,562,258	7%	901,562,258	-	-	-	-	-	-	-	-
Commingled Funds (see note)											
Bridgewater STIF II	27,108,962	0%	-	27,108,962	-	-	-	-	-	-	-
Wells Fargo Government Fund	15,000,000	0%	-	15,000,000	-	-	-	-	-	-	-
Invesco Government Fund	15,000,000	0%	-	15,000,000	-	-	-	-	-	-	-
Bridgewater US IL Bond Fund	10,140,450	0%	-	-	10,140,450	-	-	-	-	-	-
Bridgewater International Bond Fund	12,393,207	0%	-	-	12,393,207	-	-	-	-	-	-
Currency	5,450,259	0%	-	-	-	-	-	-	-	-	5,450,259
Total	$ 12,353,977,370	100%	$ 901,562,258	$ 8,925,996,079	$121,174,905	$ 929,899,580	$ 954,556,106	$ 211,485,565	$ 266,368,970	$ 17,459,452	$25,474,455
Percentage of Total Fixed Income	**100%**		**7%**	**72%**	**1%**	**8%**	**8%**	**2%**	**2%**	**0%**	**0%**

Note: Commingled Funds are presented at the weighted average credit quality. These funds do not carry a rating in and of themselves; however, the underlying securities are all rated. To more accurately reflect the credit risk of the Systems, these weighted averages are displayed. Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government are not required to be disclosed; however, we feel it shows a more true picture of our fixed income holdings.

All collateral pledged in support of the Systems' deposits and repurchase agreements was held in agency securities with a quality rating of AA.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The Systems do not have a single investment policy designating the allowable exposure to foreign currency; however, each manager must follow guidelines established specifically for its managed portfolio. The portfolios are continually monitored to ensure compliance with these guidelines. The Systems' exposure to foreign currency risk as of June 30, 2018 is presented in the following table.

Currency	Debt	Equity	Currency/Short Term	Total
Australian Dollar	$ -	$ 150,707,016	$ 640,115	$ 151,347,131
Brazilian Real	-	67,871,790	(618,595)	67,253,195
British Pound Sterling	13,300,106	351,568,306	1,431,444	366,299,856
Canadian Dollar	-	170,469,058	(1,082,553)	169,386,505
Chilean Peso	-	8,326,570	70,230	8,396,800
Colombian Peso	-	3,767,943	36,078	3,804,021
Czech Koruna	-	11,617,051	11,907	11,628,958
Danish Krone	-	54,233,009	(125,697)	54,107,312
Egyptian Pound	-	12,677,514	378,633	13,056,147
Euro Currency	58,859,993	1,289,273,322	(20,659,492)	1,327,473,823
Hong Kong Dollar	-	424,419,215	(2,812,493)	421,606,722
Hungarian Forint	-	10,616,564	(143,915)	10,472,649
Indian Rupee	-	148,341,799	315,018	148,656,817
Indonesian Rupiah	-	20,535,219	294,691	20,829,910
Israeli Shekel	-	5,299,335	272,614	5,571,949
Japanese Yen	49,042,070	613,359,774	1,725,036	664,126,880
Malaysian Ringgit	-	36,583,139	236,286	36,819,425
Mexican Peso	-	12,994,060	253,723	13,247,783
New Taiwan Dollar	-	91,573,231	618,224	92,191,455
New Turkish Lira	-	18,236,737	582,404	18,819,141
New Zealand Dollar	-	25,478,714	570,640	26,049,354
Norwegian Krone	-	22,817,687	183,032	23,000,719
Peruvian Nuevo Sol	-	678,307	14,211	692,518
Philippine Peso	-	17,152,634	32	17,152,666
Polish Zloty	-	6,074,604	57,071	6,131,675
Qatari Rial	-	15,878,039	8,380	15,886,419
Russian Ruble	-	6,456,982	(87,259)	6,369,723
Singapore Dollar	-	53,621,529	344,318	53,965,847
South African Rand	-	67,689,377	79,752	67,769,129
South Korean Won	-	151,225,001	5,002,821	156,227,822
Swedish Krona	-	43,032,007	515,002	43,547,009
Swiss Franc	-	265,741,475	538,036	266,279,511
Thailand Baht	-	39,772,910	150,537	39,923,447
UAE Dirham	-	5,949,905	143,695	6,093,600
Yuan Renminbi	-	823,774	158,366	982,140
Total	**$ 121,202,169**	**$ 4,224,863,597**	**$(10,897,708)**	**$ 4,335,168,058**

Derivatives

Derivatives are generally defined as investment instruments whose cash flows or fair values are derived from the value of some other asset or index. The Systems are parties to derivatives which have off-balance sheet risk. These derivative instruments are used in the normal course of business to generate earnings and reduce exposure to fluctuations in market conditions. The Systems are exposed to various types of credit, market, and legal risk related to these investments. Investment staff monitors these types of investments with extreme care and is not aware of any undue risks at this time. All derivatives are considered investments. Derivatives are reported at fair value on the Statements of Fiduciary Net Position based on quoted market prices when available. In the instances that quoted market prices are unavailable, pricing is obtained via independent pricing sources.

The fair value balances and notional amounts of derivative instruments outstanding as of June 30, 2018, classified by type are as follows:

	Fair Value at June 30, 2018		
Investment Derivatives	**Classification**	**Amount**	**Notional**
Swaps			
Pay-fixed interest rate swap	Investments, at fair value	$ 591,232	$ 10,000,000
Total return swaps - equity	Investments, at fair value	(9,399,561)	2,126,574,137
Total swaps		**(8,808,329)**	**2,136,574,137**
Futures			
Equity futures long	Investments, at fair value	-	186,754,147
Equity futures short	Investments, at fair value	-	136,930,351
Treasury futures long	Investments, at fair value	-	118,219,203
Treasury futures short	Investments, at fair value	-	104,273,360
Commodity futures long	Investments, at fair value	-	18,864,090
Total futures		**-**	**565,041,151**
Foreign currency forwards net receivable/payable	Investment Sales and Purchases	(42,134,694)	-
Total Investment Derivatives		**$ (50,943,023)**	**$2,701,615,288**

Swaps - The Systems' investment managers may enter into various swaps including interest rate swaps, credit default swaps and equity and total return swaps. Swaps represent an agreement between two parties to exchange sequences of cash flows over a period in the future. 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. A credit default swap is a contract whereby the credit risk associated with an investment is transferred by entering into an agreement with another party, who in exchange for periodic fees, agrees to make payments in the event of a default or other predetermined credit event. A total return swap is a contract in which one party makes payments based on a set rate, either fixed or variable, while the other party makes payments based on the return of the underlying asset. The underlying asset is typically an index, bond, etc. Gains and losses on swaps are determined based on market values and are recorded in net appreciation (depreciation) in fair value of investments on the Systems' Statements of Changes in Fiduciary Net Position. Net gains on swaps of $307.5 million were recognized for the fiscal year ended June 30, 2018.

Futures - Futures represent commitments to purchase (asset) or sell (liability) securities at a future date and at a specified price. Futures contracts are traded on organized exchanges (exchange traded) thereby minimizing the Systems' credit risk. The net change in the value of futures contracts is settled daily in cash with the exchanges. Net gains or losses resulting from the daily settlements are included in net appreciation (depreciation) in fair value of investments on the Systems' Statements of Changes in Fiduciary Net Position. The Systems recognized net gains on futures contracts of $20.5 million during the fiscal year ended June 30, 2018.

Options - Options represent or give buyers the right, but not the obligation, to buy (call) or sell (put) an asset at a preset price over a specified period. The option's price is usually a small percentage of the underlying asset's value. As a writer of financial options, the Systems' investment managers receive a premium at the outset of the agreement and bear the risk of an unfavorable change in the price of the financial instrument underlying the option. As a purchaser of financial options, the Systems' investment managers pay a premium at the outset of the agreement and the counterparty bears the risk of an unfavorable change in the price of the financial instrument underlying the option. Net gains or losses resulting from such obligations are included in net appreciation (depreciation) in fair value of investments on the Systems' Statements of Changes in Fiduciary Net Position. The Systems had no option activity during the fiscal year ended June 30, 2018.

Currency forwards - Currency forwards represent forward foreign exchange contracts that are entered into in order to hedge the exposure to changes in foreign currency rate on the foreign currency dominated portfolio holdings. A forward foreign exchange contract is a commitment to purchase or sell a foreign currency at a future date at a negotiated forward rate. The gain or loss arising from the difference between the original contracts and the closing of such contracts is included in net appreciation (depreciation) in fair value of investments on the Systems' Statements of Changes in Fiduciary Net Position. The Systems recognized net losses on such contracts of $24.0 million during the fiscal year ended June 30, 2018.

Derivative Risk - Derivatives that are exchange traded are not subject to credit risk. No derivatives held are subject to custodial credit risk.

At June 30, 2018 the counterparties' credit ratings for currency forwards, options and swaps are subject to credit risk as shown below:

The Systems are exposed to interest rate risk on their interest rate swaps. As the variable portion of the swaps move in the market, the Systems' exposure increases and decreases. The Systems are exposed to termination risk. The Systems' investment managers or their counterparties may terminate a derivative if the either party fails to perform under the terms of the contract.

The Systems' derivatives are governed by ISDA Master Agreements between the Systems and the Counterparties. These agreements set forth collateral requirements and applicable netting arrangements. Foreign currency risks are reflected on page 37.

The Systems could be exposed to risk if the counterparties to the contracts are unable to meet the terms of the contracts. The Systems' investment managers seek to control this risk through counterparty credit evaluations and approvals, counterparty credit limits, and exposure monitoring procedures. The Systems anticipate that the counterparties will be able to satisfy their obligations under the contracts.

The derivative financial instruments discussed involve, to varying degrees, elements of market risk to the extent of future market movements in excess of the amounts recognized in the Statements of Fiduciary Net Position. Market risk arises from the potential unfavorable change in the value of the underlying instruments. The contract or notional amounts of these instruments reflect the extent of the Systems' involvement in each class of financial instrument; however, these amounts do not represent the exposure to market loss. Additional derivatives may be held in limited partnerships and commingled funds that are not reflected below.

Derivative Counterparty Credit Ratings

Quality Rating	Swaps	Forwards	Total
AA	$ -	$ 621,361	$ 621,361
A	(10,846,786)	(42,606,335)	(53,453,121)
BBB	-	(149,720)	(149,720)
Total subject to credit risk	**$(10,846,786)**	**$(42,134,694)**	**$(52,981,480)**

Security Lending Activity

Under the "prudent person" authority of the governing statutes and in accordance with the policies set by the Board of Trustees, the Systems lend securities to broker-dealers and banks pursuant to a form of loan agreement. The Systems' custodial bank is authorized to act as the Systems' agent to lend available securities to approved broker-dealers and banks subject to the receipt of acceptable collateral.

During the fiscal year, the Systems' custodial bank lent, on behalf of the Systems, securities to participating broker-dealers. The broker-dealers must provide collateral in the form of cash. The Systems did not impose restrictions during the fiscal year on the amount of loans that the custodial bank made on their behalf. Borrowers were required to deliver collateral for each loan equal to: (1) in the case of loaned securities denominated in U.S. dollars or whose primary trading market was located in the United States, or sovereign debt issued by foreign governments, 102% of the fair value of the loaned securities and (2) in the case of loaned securities not denominated in U.S. dollars or whose primary trading market was not located in the United States, 105% of the fair value of the loaned securities.

Pursuant to the lending agreement, the custodial bank has an obligation to provide a form of indemnification to the Systems in the event of default by a borrower. There were no violations of the contractual provisions nor were there any borrower or lending agent default losses during the fiscal year.

The fair value of securities on loan as of June 30, 2018 was $366,376,192. On June 30, 2018 the Systems had no credit risk exposure to borrowers as the cash and securities collateral amounts received exceeded amounts on loan. Loans are generally terminable on demand. However, with the prior approval of the Systems, loans may be made on the basis of a specified termination date, with or without providing for the right of the Systems to terminate or substitute equivalent securities. As of June 30, 2018, there were no term loans.

Cash collateral is invested in separately managed accounts in accordance with the investment guidelines approved by the Systems. The primary investment objective is the preservation of principal. As of June 30, 2018, the cost basis of the invested cash collateral totaled $374,895,161 and the estimated fair value totaled $374,910,695.

The Systems' recognized net depreciation of $4,223 for the year ended June 30, 2018 on the invested collateral account. Such is reported as net (depreciation) appreciation in fair value of security lending collateral on the Statements of Changes in Fiduciary Net Position.

The weighted average duration of invested collateral as of June 30, 2018 was 12 days and an average final maturity of approximately 34 days. Because the loans were terminable at will, their duration did not match the duration of the investments made with cash collateral.

Note 5 – Net Pension Liability of Employers

The components of the net pension liability of the Systems' employers at June 30, 2018 are as follows:

	Total Pension Liability (TPL) (a)	Plan Fiduciary Net Position-Restricted for Pensions (b)	Net Pension Liability (NPL) (a - b)	Plan Fiduciary Net Position as a % of TPL (b/a)	Covered Payroll (c)	Employers' NPL as a % of Covered Payroll ((b-a)/c)
PSRS	$ 46,702,001,873	$ 39,259,545,408	$ 7,442,456,465	84.1%	$ 4,759,665,456	156.4%
PEERS	$ 5,542,477,610	$ 4,769,765,292	$ 772,712,318	86.1%	$ 1,636,007,948	47.2%

Actuarial Assumptions - Actuarial valuations of the Systems involve estimates of the reported amount and assumptions about probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and future salary increases. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The Board of Trustees adopts actuarial assumptions, each of which individually represents a reasonable long-term estimate of anticipated experience for the Systems, derived from experience studies conducted every fifth year. The most recent comprehensive experience studies were completed in June 2016. All economic and demographic assumptions were reviewed and updated, where appropriate, based on the results of the study and effective with the June 30, 2016 valuation. The next experience studies are scheduled for 2021. For the June 30, 2018 valuations, the investment rate of return was reduced from 7.6% to 7.5% and was updated in accordance with the funding policies amended by the Board of Trustees at their October 2018 meeting. All other assumptions remained consistent with the prior year.

The Schedules of Employers' Net Pension Liability presents multi-year trend information about whether the plan net positions are increasing or decreasing over time relative to the total pension liability. These schedules are presented in the required supplementary information following the notes to the financial statements. The total pension liability was determined by an actuarial valuation as of June 30, 2018. A summary of the significant actuarial assumptions as of June 30, 2018 are shown on the following page.

Measurement Date	**June 30, 2018**
Valuation Date	**June 30, 2018**
Actuarial Cost Method	Entry Age Normal
Investment Rate of Return	7.50%
Inflation	2.25%
Total Payroll Growth	
PSRS	2.75% per annum, consisting of 2.25% inflation, 0.25% additional inflation due to the inclusion of health care costs in pension earnings, and 0.25% of real wage growth.
PEERS	3.25% per annum, consisting of 2.25% inflation, 0.50% additional inflation due to the inclusion of health care costs in pension earnings, and 0.50% of real wage growth.
Individual Salary Growth	
PSRS	3.00% - 9.50%, depending on service and including 2.25% inflation, 0.25% additional inflation due to the inclusion of health care costs in pension earnings, 0.25% of real wage growth for productivity, and real wage growth for merit, promotion and seniority of 0.25% to 6.75%.
PEERS	4.00% - 11.00%, depending on service and including 2.25% inflation, 0.50% additional inflation due to the inclusion of health care costs in pension earnings, 0.50% of real wage growth for productivity, and real wage growth for merit, promotion and seniority of 0.75% to 7.75%.
Cost-of-Living Increases	
PSRS	1.65% compounded annually, beginning on the second January after retirement and capped at 80% lifetime increase. The assumption increases from 1.25% to 1.65% over eight years.
PEERS	1.65% compounded annually, beginning on the fourth January after retirement and capped at 80% lifetime increase. The assumption increases from 1.25% to 1.65% over eight years.
Mortality Assumption	
Actives	
PSRS	RP 2006 White Collar Employee Mortality Table, multiplied by an adjustment factor of 0.75 at all ages for both males and females, with static projection using the 2014 SSA Improvement Scale to 2028.
PEERS	RP 2006 Total Dataset Employee Mortality Table, multiplied by an adjustment factor of 0.75 at all ages for both males and females, with static projection using the 2014 SSA Improvement Scale to 2028.
Non-Disabled Retirees, Beneficiaries and Survivors: PSRS	RP 2006 White Collar Mortality Table multiplied by the adjustment factors shown in the table below, with static projections using the 2014 SSA Improvement Scale to 2028.

Age	Males	Females
<60	1.00	1.00
60-74	0.89	0.67
75-89	1.05	0.91
>=90	1.05	1.16

PEERS: RP 2006 Total Dataset Mortality Table multiplied by the adjustment factors shown in the table below, with static projections using the 2014 SSA Improvement Scale to 2028.

Age	Males	Females
<60	1.00	1.00
60-74	1.49	0.77
75-89	1.27	1.03
>=90	1.16	1.04

Disabled Retirees: RP 2006 Disabled Retiree Mortality Table, with static projections using the 2014 SSA Improvement Scale to 2028.

Sensitivity of Net Pension Liability

The sensitivity of the net pension liability of employers to changes in the discount rate is presented below. The net pension liability of employers calculated using the discount rate of 7.5% is presented as well as what the employers' net pension liability would be using a discount rate that is 1.0% lower (6.5%) or 1.0% higher (8.5%) than the current rate.

		1% Decrease (6.5%)	Current Rate (7.5%)	1% Increase (8.5%)
PSRS	Net Pension Liability (Asset)	$ 13,341,159,520	$ 7,442,456,465	$ 2,540,018,945
PEERS	Net Pension Liability (Asset)	$ 1,455,105,055	$ 772,712,318	$ 200,392,249

Long-Term Expected Rate of Return

The long-term expected rate of return on investments was determined in accordance with Actuarial Standard of Practice (ASOP) No. 27, Selection of Economic Assumptions for Measuring Pension Obligations. ASOP No. 27 provides guidance on the selection of an appropriate assumed rate of return. The long-term expected rate of return on the Systems' investments was determined using a building-block method in which best-estimate ranges of expected future real rates of returns (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Systems' target allocation as of June 30, 2018 are summarized below along with the long term geometric return. Geometric return (also referred to as the time weighted return) is considered standard practice within the investment management industry. Geometric returns represent the compounded rate of growth of a portfolio. The method eliminates the effects created by cashflows.

Asset Class	Target Asset Allocation	Long-term Expected Real Return Arithmetic Basis	Weighted Long-term Expected Real Return Arithmetic Basis
U.S. Public Equity	27.0 %	5.16 %	1.39 %
Public Credit	7.0 %	2.17 %	0.15 %
Hedged Assets	6.0 %	4.42 %	0.27 %
Non-U.S. Public Equity	15.0 %	6.01 %	0.90 %
U.S. Treasuries	16.0 %	0.96 %	0.15 %
U.S. TIPS	4.0 %	0.80 %	0.03 %
Private Credit	4.0 %	5.60 %	0.22 %
Private Equity	12.0 %	9.86 %	1.18 %
Private Real Estate	9.0 %	3.56 %	0.32 %
Total	100.0 %		4.61 %
		Inflation	2.25 %
		Long term arithmetical nominal return	6.86 %
		Effect of covariance matrix	0.64 %
		Long term expected geometric return	7.50 %

The long-term expected rate of return used to measure the total pension liability was 7.5% as of June 30, 2018 and is consistent with the long-term expected geometric return on plan investments. The actuarial assumed rate of return was 8.0% from 1980 through fiscal year 2016. The Board of Trustees adopted a new actuarial assumed rate of return of 7.75% effective with the June 30, 2016 valuation based on the actuarial experience studies and asset-liability study conducted during the 2016 fiscal year. The Board of Trustees further reduced the assumed rate of return to 7.6% effective with the June 30, 2017 valuation and then again with the June 30, 2018 valuation to 7.5%. The projection of cash flows used to determine the discount rate assumed that employer contributions would be made at the actuarially calculated rate computed in accordance with assumptions and methods stated in the funding policy adopted by the Board of Trustees, which requires payment of the normal cost and amortization of the unfunded actuarially accrued liability in level percent of employee payroll installments over 30 years utilizing a closed period, layered approach. Based on this assumption, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members.

Note 6 – Retirement Plans

Section 401(a) Defined Benefit Plan

All full-time System employees holding valid Missouri educator certificates are covered by PSRS. All other eligible employees are members of PEERS. Both Systems provide retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and beneficiaries. Chapter 169 RSMo contains the statutory provisions of both Systems.

PSRS members were required to contribute 14.5% of their annual covered salary during fiscal years 2018, 2017 and 2016. PSRS, as the employer, was required to match that amount. The contribution rate is set each year by the Board of Trustees upon the recommendation of the independent actuary within the contribution restrictions set in Section 169.030 RSMo. Employer contributions to PSRS totaled $67,424 for the 2018 fiscal year, $47,196 for the 2017 fiscal year and $34,685 for the 2016 fiscal year. The amounts for these years are equal to the required contributions. PEERS members were required to contribute 6.86% of their annual covered salary during fiscal years 2018, 2017 and 2016. PSRS, as the employer, was required to match that amount. The contribution rate is set each year by the Board of Trustees upon the recommendation of the independent actuary within the contribution restrictions in Section 169.620 RSMo. Employer contributions to PEERS totaled $756,101 for the 2018 fiscal year, $734,395 for the 2017 fiscal year and $707,492 for the 2016 fiscal year. The amounts for these years are equal to the required contributions.

PSRS and PEERS, as the administrators for the defined pension plans, are also participating employers of the Systems. The administrative expenses of the Systems are included in the deductions to the Systems' fiduciary net position. While the employer contributions of the other participating employers are funded from outside revenue sources, the employer contributions of PSRS and PEERS are funded from sources already recognized as revenues, such as earnings on plan investments or contributions paid by the other participating employers. Attempting to allocate a portion of the net pension liability to PSRS and PEERS would result in an allocation of the net pension liability to the other participating employers.

Accordingly, PSRS and PEERS will exclude its contributions from the employer proportionate share calculation for the reporting of a net pension liability, by assigning itself a proportionate share of 0%.

Section 457 Deferred Compensation Plan

A voluntary Section 457 deferred compensation plan is administered to provide additional retirement benefits for employees. The plan provides for employer-matching contributions up to a set maximum. The total contributions are subject to the limitations established in IRC Section 457. The Board of Trustees has authority to establish the employer contribution levels. For most employees, the System will match $50 plus 0.52% of salary per month. For certain employees, the System will make employer-paid contributions of $18,000 per year plus $6,000 in catch up contributions, if eligible. This is governed by individual employment contracts as approved by the Board of Trustees.

All employees immediately vest in the employer-matching and employer-paid contributions. Employer-matching contributions totaled $114,922 and employer-paid contributions totaled $66,000 for the 2018 fiscal year. Employee contributions totaled $407,521 for the 2018 fiscal year.

Maintenance of individual member accounts and custody of assets have been contracted to a third-party administrator and investment custodian. Total contributions are sent directly to the third-party administrator by the employer. Employees can self-direct investments of their contributions and their respective share of matching contributions in a number of investment options. Because the System does not hold the plan's assets and does not have significant administrative responsibilities, the plan's assets and changes in net assets are not reported in the Systems' financial statements.

The Systems established an unfunded Section 457(f) non-qualified deferred compensation plan for certain employees. The plan is subject to Internal Revenue Code section 457(f), and to the extent applicable, Internal Revenue Code section 409A. Employees approved for participation in the plan by the Systems' Board of Trustees may acquire a vested interest in a deferred compensation award which is credited to the account of the member under terms approved by the Board of Trustees. The value of the member's account shall be subject to a risk of forfeiture based on the applicable vesting schedule determined for the member. As of June 30, 2018, employees had a vested interest under the plan of $33,050 and disbursements of $25,968 were made from the plan for the year then ended.

Section 401(a) Defined Contribution Plan

The Systems established a 401(a) defined contribution plan for certain employees. The employees are approved for participation in the plan by the Systems' Board of Trustees. The plan is a tax qualified plan under Section 401(a) of the Internal Revenue Code and all contributions by or on behalf of employees are tax deferred until time of withdrawal. All employees immediately vest in employer-paid contributions. Employer-paid contributions totaled $53,000 for the 2018 fiscal year.

Maintenance of individual member accounts and custody of assets have been contracted to a third-party administrator and investment custodian. Total contributions are sent directly to the third-party administrator by the employer. Employees can self-direct investments of their contributions in a number of investment options. Because the System does not hold the plan's assets and does not have significant administrative responsibilities, the plan's assets and changes in net assets are not reported in the Systems' financial statements.

Note 7 – Other Post-Employment Benefit Plans

Post-Employment Staff Retiree Healthcare Plan

Plan Description, Funding Policy and Benefits Provided – The Public School Retirement System of Missouri Staff Retiree Healthcare Program (SRHP) is a single-employer defined benefit other post-employment benefit (OPEB) plan administered by PSRS. SRHP is administered as required by RSMo 169.590. SRHP provides a healthcare premium implicit rate subsidy to eligible staff retirees and their dependents provided they pay 100% of the blended healthcare premium. The blended healthcare premium is based on all active and retired employees. Retiree healthcare benefits are funded on a pay-as-you-go basis, with premiums determined annually. Therefore, no formal trust has been established for the SRHP. The PSRS/PEERS Board of Trustees determines the funding of benefits and any benefit amendments. There is no continuing obligation to provide benefits beyond each calendar year. SRHP does not issue a stand-alone public financial report.

Employees covered by benefit terms:

Retirees and spouses of retirees receiving benefits	26
Active employees	131
Total	157

As previously discussed in the Management's Discussion and Analysis, the Systems implemented GASB Statement No. 75 during fiscal year 2018. A remeasurement of the beginning of the fiscal year OPEB liability is required under GASB Statement No. 75. The impacts of this remeasurement can be made as a prior period adjustment. However, due to the overall impact to the Systems being immaterial, the remeasurement is reflected in current year activity and noted below.

OPEB Liability – The components of the net OPEB Liability of the SRHP as of June 30, 2018 are as follows:

Total OPEB liability - Beginning of the year	$ 2,050,100
Remeasurement of June 30, 2017 OPEB liability	1,479,740
Service cost	152,625
Interest cost	116,484
Experience (gains) losses	110,476
Assumption changes	(104,653)
Plan amendments	-
Benefit payments	(15,909)
Total OPEB Liability - End of year	$ 3,788,863
OPEB Plan Fiduciary Net Position	$ -
Net OPEB Liability	$ 3,788,863

OPEB Expense – The components of the OPEB expense for the year ended June 30, 2018 are as follows:

Remeasurement of June 30, 2017 OPEB liability	$ 1,479,740
Service Cost	152,625
Plan Amendments	-
Interest Costs	116,484
Recognition of deferred (inflows) outflows of resources related to:	
Liability experiences (gains) losses	11,678
Assumption changes (gains) losses	(11,063)
Total Recognition of deferred (inflows) outflows of resources	615
Current year OPEB expense	$ 269,724
Total collective OPEB expense recognized	$ 1,749,464

Actuarial Method and Assumptions - The total OPEB liability was determined by an actuarial valuation as of June 30, 2018. Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial assumptions and methods used in the valuation are based on prior plan experience and industry trends. The nature of the plan design and overall plan size does not allow for full scale periodic experience studies; therefore such a study has not been conducted. Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and healthcare cost trends. Amounts determined regarding the total OPEB liability and expense are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

In the June 30, 2018 actuarial valuation, the following actuarial assumptions and methods were used:

Measurement date	June 30, 2018
Valuation date	June 30, 2018
Actuarial cost method	Entry Age Normal
Actuarial value of assets	No Assets (pay-as-you-go)
Amortization method	Level Percent Open
Discount rate	3.3% per year for June 30, 2015 and prior years 7.75% per year effective June 30, 2016 3.36% per year effective June 30, 2018
Wage inflation	3.5% per year per year for June 30, 2015 and prior years 3.25% per year effective June 30, 2016
Healthcare trend rate	7.5% in fiscal year 2018, decreasing by one-half percentage point per year to an ultimate of 4.5% in fiscal year 2024 and after
Mortality	
Active members	Based on 75% of the RP-2006 Mortality Tables with static projecting to 2028 using the 2014 Improvement Scale.
Non-disabled retirees and beneficiaries	Based on the RP-2006 Mortality Tables with plan-specific experience adjustments and static projection to 2028 using the 2014 SSA Improvement Scale
Disabled retirees	Based on the RP-2014 Disabled Retiree Mortality Table, adjusted to 2006, with static projection to 2018 using the 2014 SSA Improvement Scale

Discount Rate - GASB Statement No. 75 requires plans not administered through a trust to utilize the yield or index rate for 20-year, tax-exempt general obligation municipal bonds with and average rating of AA/Aa or higher. The Systems utilized the US. General Obligation AA Municipal Bond Yield Curve for 20 years for the June 30, 2018 valuation. The June 30, 2018 rate was 3.36% and the June 30, 2017 rate utilized for remeasurement was 3.17%.

Deferred Inflows and Outflows of Resources - As of June 30, 2018, the Systems reported deferred outflows of resources and deferred inflows of resources from the following sources related to the SRHP:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Balance of Deferred Outflows and Inflows Due to:		
Differences between expected and actual experience	$ 98,798	$ -
Changes of assumptions	-	93,590
Total	$ 98,798	$ 93,590

Due to the implementation of GASB Statement No. 75, the discount rate assumption was changed to the U.S. General Obligation AA Municipal Bond Yield Curve as discussed above. No other assumption changes occurred.

Amounts reported as collective deferred (inflows)/outflows of resources are to be recognized in pension expense as follows:

Year Ending June 30:	
2019	$ (615)
2020	(615)
2021	(615)
2022	(615)
2023	(615)
Thereafter	(2,133)
	$ (5,208)

Sensitivity of the net OPEB liability to changes in the discount rate and health care cost trend rate. – The following table presents the sensitivity of the net OPEB liability to changes in the discount rate. The net OPEB liability calculated using the discount rate of 3.36% is presented as well as what the net OPEB liability would be using a discount rate that is 1.0% lower (2.36%) or 1.0% higher (4.36%) than the current rate.

Discount Rate Sensitivity			
	1% Decrease (2.36%)	Current Rate (3.36%)	1% Increase (4.36%)
Net OPEB Liability	$ 4,368,192	$ 3,788,863	$ 3,304,025

The following table presents the sensitivity of the net OPEB liability to changes in the healthcare trend rate. The net OPEB liability calculated using the healthcare trend rate of 7.5% is presented as well as what the net OPEB liability would be using a healthcare trend rate that is 1.0% lower (6.5%) or 1.0% higher (8.5%) than the current rate.

Trend Rate Sensitivity			
	1% Decrease (6.5%)	Current Rate (7.5%)	1% Increase (8.5%)
Net OPEB Liability	$ 3,204,053	$ 3,788,863	$ 4,525,739

Post-Employment Health Plan

PSRS maintains a Post-Employment Health Plan ("PEHP") for employees. Upon termination, an employee will receive payment at the rate of one day of pay for each two days of accrued sick leave up to 100 days of accrued sick leave (50 days paid). Any days above 100 will be forfeited. All payments under the PEHP in excess of $1,000 will be transferred into a PEHP account which can be used to pay health insurance premiums for the employee or dependent at any time in the future. If an employee is retiring, the payments can be transferred back to PSRS on a monthly basis to cover the cost of health insurance for the retiree. The amount paid into the PEHP was $64,528 for five employees during 2018.

Note 8 – Risk Management

The Systems are exposed to various risks of loss related to natural disasters, errors and omissions, loss of assets, torts, etc. The Systems have chosen to cover such losses through the purchase of commercial insurance. There have been no material insurance claims filed or paid during the past three years.

The Systems have a disaster recovery plan that provides for continued computer operations at a remote location should the retirement office be unavailable for normal operations.

Note 9 – Commitments and Contingencies

Commitments to the future purchase of investments at June 30, 2018 totaled $2,948,021,102.

Total unfunded capital commitments to private real estate, private equity and other alternative investments totaled approximately $5.0 billion as of June 30, 2018. The unfunded commitments are not recorded in the Statements of Fiduciary Net Position.

Certain legal proceedings are pending with PSRS and PEERS arising from normal activities. Although unable to predict the outcome of these matters, the Systems believe the final outcome of these actions will not have a material adverse effect on the Systems' financial statements.

Public School Retirement System of Missouri and Public Education Employee Retirement System of Missouri

Required Supplementary Information

Schedules of Changes in the Employers' Net Pension Liability

Public School Retirement System of Missouri

Year Ended:	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015	June 30, 2014
Total pension liability					
Service cost	$ 792,276,388	$ 740,176,751	$ 842,548,463	$ 836,085,151	$ 849,712,130
Interest cost	3,346,220,624	3,198,060,384	3,263,288,365	3,019,050,250	2,885,182,982
Difference between actual and expected experience	137,516,335	60,942,067	(641,098,601)	598,417,056	226,591,816
Assumption changes	531,202,248	1,279,805,826	100,247,551	-	-
Plan amendments	-	-	-	-	-
Benefit payments	(2,606,985,013	(2,521,832,399)	(2,430,906,732)	(2,326,196,773)	(2,236,468,407)
Net change in total pension liability	2,200,230,582	2,757,152,629	1,134,079,046	2,127,355,684	1,725,018,521
Total pension liability - beginning of year	$ 44,501,771,291	$ 41,744,618,662	$ 40,610,539,616	$ 38,483,183,932	$ 36,758,165,411
Total pension liability - end of year (a)	$ 46,702,001,873	$ 44,501,771,291	$ 41,744,618,662	$ 40,610,539,616	$ 38,483,183,932
Plan Fiduciary Net Position					
Employer contributions	$ 696,970,398	$ 684,857,718	$ 670,794,045	$ 656,924,899	$ 643,989,869
Member contributions	726,996,161	719,625,373	704,785,734	689,187,215	679,390,918
Net investment return	3,173,735,918	4,104,123,251	533,180,245	1,447,169,205	4,927,198,588
Benefit payments, including refunds of member contributions	(2,606,985,013)	(2,521,832,399)	(2,430,906,732)	(2,326,196,773)	(2,236,468,407)
Administrative and other expenses	(11,418,119)	(10,497,712)	(11,562,965)	(10,013,601)	(8,919,201)
Net change in plan fiduciary net position	1,979,299,345	2,976,276,231	(533,709,673)	457,070,945	4,005,191,767
Plan fiduciary net position - beginning of year	$ 37,280,246,063	$ 34,303,969,832	$ 34,837,679,505	$ 34,380,608,560	$ 30,375,416,793
Plan fiduciary net position - end of year (b)	$ 39,259,545,408	$ 37,280,246,063	$ 34,303,969,832	$ 34,837,679,505	$ 34,380,608,560
Net pension liability - end of year (a-b)	$ 7,442,456,465	$ 7,221,525,228	$ 7,440,648,830	$ 5,772,860,111	$ 4,102,575,372

Public Education Employee Retirement System of Missouri

Year Ended:	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015	June 30, 2014
Total pension liability					
Service cost	$ 161,028,014	$ 150,975,958	$ 161,391,660	$ 156,599,641	$ 159,672,364
Interest cost	397,675,858	374,497,203	372,184,628	333,780,285	315,131,402
Difference between actual and expected experience	117,686	3,076,923	(51,257,557)	45,518,402	(14,308,876)
Assumption changes	61,921,295	140,420,925	65,420,724	-	-
Plan amendments	-	-	-	-	-
Benefit payments	(287,634,108)	(269,268,101)	(250,390,477)	(235,070,181)	(216,624,810)
Net change in total pension liability	333,108,745	399,702,908	297,348,978	300,828,147	243,870,080
Total pension liability - beginning of year	$ 5,209,368,865	$ 4,809,665,957	$ 4,512,316,979	$ 4,211,488,832	$ 3,967,618,752
Total pension liability - end of year (a)	$ 5,542,477,610	$ 5,209,368,865	$ 4,809,665,957	$ 4,512,316,979	$ 4,211,488,832
Plan Fiduciary Net Position					
Employer contributions	$ 115,103,143	$ 111,239,585	$ 106,717,021	$ 103,624,310	$ 100,699,735
Member contributions	121,467,850	118,446,790	114,257,497	110,443,660	106,420,656
Net investment return	381,523,965	485,046,867	60,317,387	163,719,526	544,154,941
Benefit payments, including refunds of member contributions	(287,634,108)	(269,268,101)	(250,390,478)	(235,070,010)	(216,624,810)
Administrative and other expenses	(7,113,566)	(6,377,808)	(6,981,573)	(5,629,551)	(4,840,432)
Net change in plan fiduciary net position	323,347,284	439,087,333	23,919,854	137,087,935	529,810,090
Plan fiduciary net position - beginning of year	$ 4,446,418,008	$ 4,007,330,675	$ 3,983,410,821	$ 3,846,322,886	$ 3,316,512,796
Plan fiduciary net position - end of year (b)	$ 4,769,765,292	$ 4,446,418,008	$ 4,007,330,675	$ 3,983,410,821	$ 3,846,322,886
Net pension liability - end of year (a-b)	$ 772,712,318	$ 762,950,857	$ 802,335,282	$ 528,906,158	$ 365,165,946

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

Public School Retirement System of Missouri and Public Education Employee Retirement System of Missouri

Required Supplementary Information

Schedules of Employers' Net Pension Liability

Public School Retirement System of Missouri

Year Ended	Total Pension Liability (TPL) (a)	Plan Fiduciary Net Position - Restricted for Pensions (b)	Net Pension Liability (NPL) (a - b)	Plan Fiduciary Net Position as a % of TPL (b/a)	Covered Payroll (c)	Employers' NPL as a % of Covered Payroll ((b-a)/c)
6/30/14	$ 38,483,183,932	$ 34,380,608,560	$ 4,102,575,372	89.3%	$ 4,425,567,630	92.7%
6/30/15	40,610,539,616	34,837,679,505	5,772,860,111	85.8%	4,508,241,581	128.1%
6/30/16	41,744,618,662	34,303,969,832	7,440,648,830	82.2%	4,556,137,282	163.3%
6/30/17	44,501,771,291	37,280,246,063	7,221,525,228	83.8%	4,655,169,121	155.1%
6/30/18	46,702,001,873	39,259,545,408	7,442,456,465	84.1%	4,759,665,456	156.4%

Public Education Employee Retirement System of Missouri

Year Ended	Total Pension Liability (TPL) (a)	Plan Fiduciary Net Position - Restricted for Pensions (b)	Net Pension Liability (NPL) (a - b)	Plan Fiduciary Net Position as a % of TPL (b/a)	Covered Payroll (c)	Employers' NPL as a % of Covered Payroll ((b-a)/c)
6/30/14	$ 4,211,488,832	$ 3,846,322,886	$ 365,165,946	91.3%	$ 1,442,700,979	25.3%
6/30/15	4,512,316,979	3,983,410,821	528,906,158	88.3%	1,469,771,528	36.0%
6/30/16	4,809,665,957	4,007,330,675	802,335,282	83.3%	1,519,081,146	52.8%
6/30/17	5,209,368,865	4,446,418,008	762,950,857	85.4%	1,558,183,433	49.0%
6/30/18	5,542,477,610	4,769,765,292	772,712,318	86.1%	1,636,007,948	47.2%

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

Public School Retirement System of Missouri and Public Education Employee Retirement System of Missouri

Required Supplementary Information

Schedules of Employer Contributions

Public School Retirement System of Missouri

Year Ended June 30	Actuarially Determined Contribution	Actual Employer Contributions	Contribution Excess/ (Deficiency) [1]	Covered Payroll	Contributions as a Percentage of Covered Payroll
2009	$ 669,643,988	$ 563,454,487	$(106,189,501)	$ 4,334,265,285	13.00%
2010	658,161,150	594,326,122	(63,835,028)	4,402,415,719	13.50%
2011	684,366,766	594,732,137	(89,634,629)	4,248,086,693	14.00%
2012	720,303,976	620,214,231	(100,089,745)	4,277,339,524	14.50%
2013	507,232,268	634,040,335	126,808,067	4,372,691,966	14.50%
2014	608,459,393	643,989,869	35,530,476	4,441,309,441	14.50%
2015	666,438,984	656,924,899	(9,514,085)	4,530,516,545	14.50%
2016	643,155,536	669,953,683	26,798,147	4,620,370,228	14.50%
2017	642,821,624	684,857,718	42,036,094	4,723,156,676	14.50%
2018	533,062,186	696,970,397	163,908,211	4,806,692,393	14.50%

Public Education Employee Retirement System of Missouri

Year Ended June 30	Actuarially Determined Contribution	Actual Employer Contributions	Contribution Excess/ (Deficiency) [1]	Covered Payroll	Contributions as a Percentage of Covered Payroll
2009	$ 96,775,289	$ 85,915,562	$ (10,859,727)	$ 1,374,648,992	6.25%
2010	95,560,084	91,478,725	(4,081,359)	1,407,365,000	6.50%
2011	90,816,155	90,816,155	-	1,369,776,094	6.63%
2012	95,094,785	95,094,785	-	1,386,221,356	6.86%
2013	87,013,816	97,059,313	10,045,497	1,414,858,790	6.86%
2014	98,497,846	100,699,735	2,201,889	1,467,926,166	6.86%
2015	105,739,092	103,624,310	(2,114,782)	1,510,558,455	6.86%
2016	104,011,593	106,654,638	2,643,045	1,554,732,332	6.86%
2017	108,807,233	111,239,585	2,432,352	1,621,568,294	6.86%
2018	97,653,104	115,103,143	17,450,039	1,677,888,382	6.86%

[1] The annual statutory increase in the total contribution rate may not exceed 1% of pay for PSRS and 0.5% of pay for PEERS. The limitation on contribution increases resulted in a deficiency for some of the years presented. Contributions were funded to the maximum statutory limit each year.

Public School Retirement System of Missouri and Public Education Employee Retirement System of Missouri

Required Supplementary Information

Schedules of Investment Returns

Year ended June 30:	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of all investment expenses	8.7%	12.3%	1.6%	4.3%	16.7%
Time-weighted rate of return, net of all investment expenses	8.7%	12.3%	1.6%	4.3%	16.7%

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

Public School Retirement System of Missouri and Public Education Employee Retirement System of Missouri

Notes to the Schedules of Required Supplementary Information

The information presented in the required supplementary schedule was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Changes in benefit terms:

PSRS:	The 25-and-Out and 2.55% provisions were extended in 2007 through 2013. In 2013 the state legislature provided a permanent extension of the 25-and-Out provision and extended the 2.55% provision to 2014.
PEERS:	The 25-and-Out and 2.55% provisions were extended in 2007 through 2013. In 2013 the state legislature provided a permanent extension of the 25-and-Out provision.
Changes of assumptions:	In 2006, 2011 and 2016 payroll growth, salary increases, assumed life expectancies and mortality were adjusted to more closely reflect actual experience. In 2011, the inflation rate was adjusted to 2.5% from 3.25% and annual cost- of-living adjustments were calculated in accordance with the then adopted funding policy. In 2016, the inflation rate was adjusted to 2.25% from 2.5%, the investment rate of return from 8.00% to 7.75% and annual cost-of-living adjustments were calculated in accordance with the funding policy as amended in June 2016. During 2016, minor revisions were made to other actuarially assumptions including but not limited to, retirement rates, withdraw rates, etc. The 2016 assumption changes were a result of an actuarial experience study conducted during the 2016 fiscal year. For fiscal year 2017, the investment rate of return was further reduced from 7.75% to 7.6% and the assumption for annual cost-of-living adjustments. For fiscal year 2018, the investment rate of return was further reduced to 7.5%.
Actuarially Methods and Assumptions:	The actuarially determined contribution rates in the schedule of employers' contributions are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine contribution rates reported in the schedule.
Actuarial Cost Method	Entry Age Normal Level Percent of Payroll
Amortization Method	Closed, level percent for 30 years
Remaining amortization period	
PSRS	23.4 years
PEERS	23.6 years
Asset valuation method	5-year smoothing of actual returns above or below expected returns
Measurement Date	**June 30, 2018**
Valuation Date	**June 30, 2018**
Investment Rate of Return	7.50%
Inflation	2.25%
Total Payroll Growth	
PSRS	2.75% per annum, consisting of 2.25% inflation, 0.25% additional inflation due to the inclusion of health care costs in pension earnings, and 0.25% of real wage growth.
PEERS	3.25% per annum, consisting of 2.25% inflation, 0.50% additional inflation due to the inclusion of health care costs in pension earnings, and 0.50% of real wage growth.
Individual Salary Growth	
PSRS	3.00% - 9.50%, depending on service and including 2.25% inflation, 0.25% additional inflation due to the inclusion of health care costs in pension earnings, 0.25% of real wage growth for productivity, and real wage growth for merit, promotion and seniority of 0.25% to 6.75%.
PEERS	4.00% - 11.00%, depending on service and including 2.25% inflation, 0.50% additional inflation due to the inclusion of health care costs in pension earnings, 0.50% of real wage growth for productivity, and real wage growth for merit, promotion and seniority of 0.75% to 7.75%.
Cost-of-Living Increases	
PSRS	1.65% compounded annually, beginning on the second January after retirement and capped at 80% lifetime increase. The assumption increases from 1.25% to 1.65% over eight years.
PEERS	1.65% compounded annually, beginning on the fourth January after retirement and capped at 80% lifetime increase. The assumption increases from 1.25% to 1.65% over eight years.

Public School Retirement System of Missouri and
Public Education Employee Retirement System of Missouri

Notes to the Schedules of Required Supplementary Information - Continued

Measurement Date **June 30, 2018**

Valuation Date **June 30, 2018**

Mortality Assumption

Actives:

PSRS
RP 2006 White Collar Employee Mortality Table, multiplied by an adjustment factor of 0.75 at all ages for both males and females, with static projection using the 2014 SSA Improvement Scale to 2028.

PEERS
RP 2006 Total Dataset Employee Mortality Table, multiplied by an adjustment factor of 0.75 at all ages for both males and females, with static projection using the 2014 SSA Improvement Scale to 2028.

Non-Disabled Retirees, Beneficiaries and Survivors:

PSRS
RP 2006 White Collar Mortality Table multiplied by the adjustment factors shown in the table below, with static projections using the 2014 SSA Improvement Scale to 2028.

Age	Males	Females
<60	1.00	1.00
60-74	0.89	0.67
75-89	1.05	0.91
>=90	1.05	1.16

PEERS
RP 2006 Total Dataset Mortality Table multiplied by the adjustment factors shown in the table below, with static projections using the 2014 SSA Improvement Scale to 2028.

Age	Males	Females
<60	1.00	1.00
60-74	1.49	0.77
75-89	1.27	1.03
>=90	1.16	1.04

Disabled Retirees:
RP 2006 Disabled Retiree Mortality Table, with static projections using the 2014 SSA Improvement Scale to 2028.

Public School Retirement System of Missouri and
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Required Supplementary Information

Staff Retiree Health Plan – Defined Benefit OPEB Plan

Schedule of Changes in the Net OPEB Liability and Related Ratios

Year ended:	June 30, 2018
Total OPEB Liability - beginning year	$ 2,050,100
Remeasurement of June 30, 2017 OPEB liability	1,479,740
Service cost	152,625
Interest cost	116,484
Experience (gains) losses	110,476
Assumption changes	(104,653)
Plan amendments	-
Benefit payments	(15,909)
Net change in total OPEB liability	$ 3,788,863
OPEB Plan Fiduciary Net Position	$ -
Net OPEB Liability	$ 3,788,863
Covered Payroll	$ 10,742,062
Employer's Net OPEB Liability as a Percentage of Coverage Payroll	35.3%

Note: This schedule is intended to show information for ten years. Additional years will be displayed as they become available.

Public School Retirement System of Missouri and
Public Education Employee Retirement System of Missouri

Schedules of Administrative Expenses

for the year ended June 30, 2018

	PSRS	PEERS	Combined Totals
Personnel services	$ 7,328,193	$ 4,704,593	$ 12,032,786
Professional services			
Actuarial services	254,683	179,941	434,624
Legal services	90,205	163,037	253,242
Financial audit services	57,149	35,027	92,176
Other consultants	55,661	34,115	89,776
Technology consulting	247,524	151,708	399,232
Legislative consulting	27,900	17,100	45,000
Insurance consulting	3,410	2,090	5,500
Total professional services	736,532	583,018	1,319,550
Communications			
Information and publicity	210,170	145,192	355,362
Postage	387,475	252,564	640,039
Member education	12,848	7,237	20,085
Telephone	35,298	21,626	56,924
Total communications	645,791	426,619	1,072,410
Miscellaneous			
Building and utilities	148,055	90,722	238,777
Insurance	86,238	52,855	139,093
Office	761,321	466,616	1,227,937
Staff development	149,912	91,881	241,793
Miscellaneous	174,572	86,178	260,750
Total miscellaneous	1,320,098	788,252	2,108,350
Depreciation expense	988,660	603,653	1,592,313
Total administrative expenses	$ 11,019,274	$ 7,106,135	$ 18,125,409

Public School Retirement System of Missouri and Public Education Employee Retirement System of Missouri

Schedules of Investment Expenses

for the year ended June 30, 2018

	PSRS	PEERS	Combined Totals
Investment management expenses			
U.S. Treasuries and TIPS	$ 4,037,789	$ 448,643	$ 4,486,432
U.S. public equities	55,904,565	6,211,618	62,116,183
Non-U.S. public equities	27,400,942	3,044,551	30,445,493
Public debt	3,627,165	403,018	4,030,183
Private equity	205,351,015	22,816,779	228,167,794
Private credit	14,820,660	1,646,740	16,467,400
Private real estate	48,191,516	5,354,613	53,546,129
Hedged assets	86,660,695	9,628,966	96,289,661
Total investment management expenses	445,994,347	49,554,928	495,549,275
Investment consultant fees	4,816,273	535,142	5,351,415
Custodial bank fees	1,419,716	157,746	1,577,462
Investment staff expenses	4,834,624	540,785	5,375,409
Commission recapture income	(132,372)	(15,945)	(148,317)
Total investment expenses	$ 456,932,588	$ 50,772,656	$ 507,705,244
Security lending expenses			
Agent fees	$ 630,007	$ 70,001	$ 700,008
Broker rebates	1,339,107	148,790	1,487,897
Total security lending expenses	$ 1,969,114	$ 218,791	$ 2,187,905

Public School Retirement System of Missouri and
Public Education Employee Retirement System of Missouri

Schedules of Professional Services

for the year ended June 30, 2018

	PSRS	PEERS	Combined Totals
Actuarial services	$ 254,683	$ 179,941	$ 434,624
Legal expenses	90,205	163,037	253,242
Financial audit services	57,149	35,027	92,176
Other consulting	55,661	34,115	89,776
Technology consulting	247,524	151,708	399,232
Legislative consulting	27,900	17,100	45,000
Insurance consulting	3,410	2,090	5,500
Total fees	$ 736,532	$ 583,018	$ 1,319,550