



SEASONS

COMPREHENSIVE ANNUAL FINANCIAL REPORT
FOR THE FISCAL YEARS ENDED JUNE 30, 2019 AND JUNE 30, 2018
A COMPONENT UNIT OF THE STATE OF OKLAHOMA

**OKLAHOMA PUBLIC EMPLOYEES
RETIREMENT SYSTEM**

OKLAHOMA PUBLIC EMPLOYEES RETIREMENT SYSTEM



SEASONS

Like the seasons of the year, people and organizations transform to improve and to be ready for the next phase. Changing seasons illustrate the undeniable transition from one stage of life to another. It is a call to alter our perspectives. Whether starting a first job, receiving a promotion, moving into retirement, or enjoying the freedom of retirement years, the changing of the seasons is a cue to reflect and plan for a rewarding financial future.

Seasons bring to mind transformation and demonstrate progress through the year. The weather shifts, the leaves turn, and life's circumstances change from year to year. This constant adjustment is a reminder to reflect on the past and look forward to the future.

Through each changing season over the past 55 years, OPERS always has and will continue to be a partner assisting you with your retirement goals no matter your season in life. The Comprehensive Annual Financial Report (CAFR) is an opportunity to look back on our performance over the last season and demonstrate how we are working toward a financially secure retirement system.



This report was prepared by the staff of the Oklahoma Public Employees Retirement System.

This publication is issued by the Oklahoma Public Employees Retirement System as authorized by its Executive Director. Copies have not been printed but are available through the agency website. An electronic version of this publication has been deposited with the Publications Clearinghouse of the Oklahoma Department of Libraries.

2019 Comprehensive Annual Financial Report

Table of Contents

Introductory Section

1	Letter of Transmittal
5	Chairperson's Letter
6	Board of Trustees
7	Organizational Structure
7	Advisors and Consultants
8	Certificate of Achievement for Excellence in Financial Reporting
9	Public Pension Standards Award For Funding and Administration

Financial Section

11	Independent Auditors' Report
14	Management's Discussion and Analysis
	Financial Statements:
22	Statements of Fiduciary Net Position
24	Statements of Changes in Fiduciary Net Position
26	Notes to Financial Statements
	Required Supplementary Information:
47	Schedule of Changes in the Net Pension Liability - Schedule 1
47	Schedule of the Net Pension Liability - Schedule 1
48	Schedule of Pension Employer Contributions - Schedule 2
49	Schedule of Money-Weighted Rate of Return on Pension Plan Investments - Schedule 3
50	Schedule of Changes in the Net HISP Liability - Schedule 4
50	Schedule of the Net HISP Liability - Schedule 4
51	Schedule of HISP Employer Contributions - Schedule 5
52	Schedule of Money-Weighted Rate of Return on HISP Investments - Schedule 6
	Supplementary Information:
53	Schedule of Investment Expenses - Schedule 7
54	Schedule of Administrative Expenses - Schedule 8
55	Schedule of Professional/Consultant Fees - Schedule 9

Investment Section

56	Investment Consultant's Report
61	Chief Investment Officer's Report
67	Largest Holdings
68	Investment Portfolio by Type and Manager
69	Asset Comparison
70	Schedule of Stock Brokerage Commissions Paid

Actuarial Section

71	2019 Certification of Actuarial Valuation
73	Summary of Results
74	Analysis of Financial Experience
75	Solvency Test
76	Schedule of Active Member Valuation Data
76	Schedule of Retirants, Disabled Retirants and Beneficiaries Added to and Removed from Rolls
77	Summary of System Provisions
79	Summary of Actuarial Assumptions and Methods

Statistical Section

83	Statistical Section Narrative Explanation
84	Schedule of Changes in Fiduciary Net Position
85	Schedule of Revenue by Source
85	Schedule of Expenses by Type
86	Schedule of Benefit Payments and Refunds by Type
86	Funded Ratio Chart
87	Rate of Return by Type of Investment
88	Schedule of Retired Members by Type of Benefit
89	Schedule of Average Benefit Payments
90	Principal Participating Employer
90	Demographics Chart
91	Participating Employers
93	Member Statistics
94	Distribution of Retirees and Beneficiaries
95	Summary of Active Members



INTRODUCTION

INDEPENDENT SEASON

This early season of life starts when you take your first steps out on your own; graduating, starting your first job, and beginning to establish yourself in the working world. Develop plans for the future and save for retirement even though it may seem distant and out of reach.

- 1 Letter of Transmittal
- 5 Chairperson's Letter
- 6 Board of Trustees
- 7 Organizational Structure
- 7 Advisors and Consultants
- 8 Certificate of Achievement for Excellence in Financial Reporting
- 9 Public Pension Standards Award For Funding and Administration

Letter of Transmittal

Oklahoma Public Employees Retirement System

P.O. Box 53007
Oklahoma City, Oklahoma 73152-3077

800.733.9008 toll-free
405.848.5946 fax

November 27, 2019

To the Board of Trustees and Members of the Oklahoma Public Employees Retirement System:

State law requires that, after July 1 and before December 1 of each year, the Oklahoma Public Employees Retirement System (the System) publish an annual report that covers the operation of the System during the past fiscal year, including income, disbursements and the financial condition at the end of the fiscal year. This report is published, in part, to fulfill that requirement for the fiscal year ended June 30, 2019.

Management assumes full responsibility for the completeness and reliability of the information contained in this report, based upon a comprehensive framework of internal control that it has established for this purpose. Because the cost of internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

Eide Bailly LLP, Certified Public Accountants, has issued an unmodified opinion on the Oklahoma Public Employees Retirement Plan's statement of fiduciary net position as of June 30, 2019, and the related statement of changes in fiduciary net position for the year then ended. The independent auditor's report is located at the front of the Financial Section of this report.

Management's discussion and analysis (MD&A) immediately follows the independent auditor's report and provides a narrative introduction, overview, and analysis of the basic financial statements. MD&A complements this letter of transmittal and should be read in conjunction with it.

Profile of the System

The System is a multiple-employer, cost-sharing public employee retirement plan, which is a defined benefit pension plan. It covers substantially all employees of the State of Oklahoma (the State) except those covered by seven other plans sponsored by the State and also covers employees of participating counties and local agencies. Nearly all new state employees first employed by a System participating employer on or after November 1, 2015, will participate in the State's new defined contribution plan. Therefore, the System is closed to nearly all new State employees, but remains open to new employees of participating counties and local agencies. The employee and employer contribution rates for each member category are established by the Oklahoma Legislature after recommendation by the System's Board of Trustees based on an actuarial calculation which is performed to determine the adequacy of such contribution rates.

Members qualify for full retirement benefits at their specified normal retirement age or, depending upon when they became members, when the sum of the member's age and years of credited service equals 80 or 90. Generally, benefits for

Letter of Transmittal (continued)

state, county, and local agency employees are determined at 2% of the average salary, as defined, multiplied by the number of years of credited service. Members may elect to pay an additional contribution rate to receive benefits using a 2.5% factor for each full year the additional contributions are made. Separate benefit calculations are in effect for elected officials and hazardous duty members.

The System also administers the Health Insurance Subsidy Plan (HISP), a cost-sharing multiple-employer defined benefit other post-employment benefit (OPEB) plan that provides OPEB covering the same categories of employees covered by the pension plan. HISP provides a health insurance premium subsidy for retirees of the System who elect to maintain health insurance with the Oklahoma Employees Group Insurance Division (EGID) or other qualified insurance plan provided by the employer. This subsidy continues until the retiree terminates health insurance coverage with EGID or other qualified plan, or until death. The subsidy is only for the retiree, not joint annuitants or beneficiaries.

The Board of Trustees of the System consists of fourteen appointed members, some by position and some by association. Those serving through position are a member of the Corporation Commission or the Commission's designee selected by the Commission, the Director of the Office of Management and Enterprise Services or the Director's designee, the State Insurance Commissioner or the Commissioner's designee, the Director of Human Capital Management of the Office of Management and Enterprise Services, a member of the Tax Commission selected by the Tax Commission, and the State Treasurer or the Treasurer's designee. Of the remaining members, three are appointed by the Governor, one is appointed by the Supreme Court, two are appointed by the Speaker of the House of Representatives and two are appointed by the President Pro Tempore of the Senate. Qualifications for certain of these appointees include a balance of individuals having experience in investment management, pension management, public fund management, the banking profession or a licensed attorney or a licensed accountant.

Each year, OPERS, along with other state agencies, is required to file a budget work program with the Office of Management and Enterprise Services. This work program, as approved by the Board of Trustees, must include a description of all funds available for expenditure and show spending by major program category. OPERS receives no state appropriations and is funded through employee and employer contributions and investment earnings.

Additionally, in each even-numbered year, OPERS, along with other state agencies, must file a strategic plan covering five fiscal years beginning with the next odd-numbered fiscal year. The strategic plan includes a mission statement, the core values and behaviors inherent to operations, and a summary of goals and objectives to be achieved through specific projects outlined for the five-year period. The mission of the OPERS Board and staff is to provide and promote comprehensive, accountable and financially sound retirement services to Oklahoma's public servants in a professional, efficient and courteous manner. The core values and behaviors inherent to the agency's operations are honesty and integrity; excellence in customer experience; quality in service delivery; collaboration and community; and strategic perspective. The summary of goals and objectives outlined in the strategic plan are:

- Create an excellent customer experience for members
- Improve the stability, reliability and security of agency resources and data
- Empower employees and members through knowledge and resources
- Foster a culture of employee development and success

Investments

The standard for OPERS in making investments is to exercise the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and unless under the circumstances it is clearly prudent not to do so. OPERS' funds are invested solely in the best interest of the members and their beneficiaries with a goal of keeping administrative expenses as low as possible. The Board has established an investment policy and guidelines that identify asset allocation as the key determinant of return and diversification, both by and within asset classes, as the primary risk

Letter of Transmittal (continued)

control element. Passive fund portfolios are considered to be suitable investment strategies, especially in highly efficient markets.

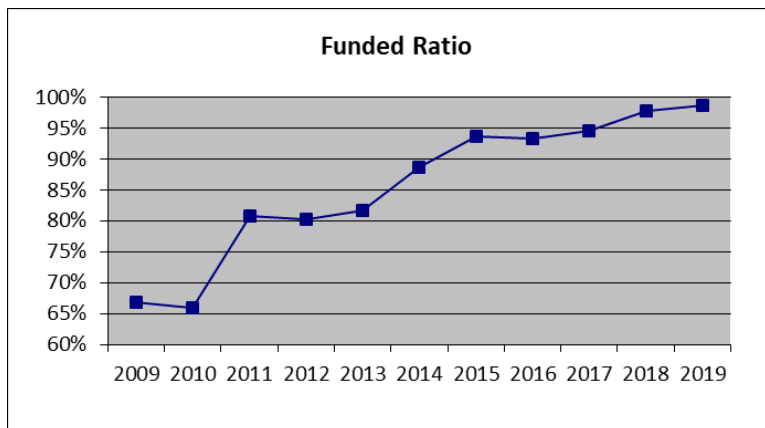
The Board engages outside investment managers to manage the various asset classes where OPERS has exposure. At fiscal year end, the investment portfolio of OPERS was actively managed by three fixed income managers, seven domestic equity managers and two international equity managers. OPERS' investment portfolio also consisted of passively managed index funds, including one fixed income index fund, one domestic equity index fund and two international equity index funds.

Included in the Investment Section of this report are a summary of the Investment Portfolio by Type and Manager and a comparison of the above amounts to the target allocations, as shown in the Asset Comparison chart. For fiscal year 2019 investments provided a 6.1 percent rate of return. The annualized rate of return for OPERS was 9.1 percent over the last three years and 6.1 percent over the last five years.

Funding

A pension fund is well funded when it has enough money in reserve to meet all expected future obligations to participants. It must also have a revenue source sufficient to keep up with future obligations. The funding objective for OPERS is to meet long-term benefit promises through contributions that remain approximately level as a percent of member payroll. The greater the level of funding, the larger the ratio of assets accumulated to the actuarial accrued liability and the greater the level of investment potential. The advantage of a well-funded plan is that the participants can look at assets that are committed to the payment of benefits. The actuarial accrued liability and actuarial value of assets of OPERS as of July 1, 2019 amounted to \$10.0 billion and \$9.9 billion, respectively.

The OPERS funded status increased to 98.6 percent at July 1, 2019. The funded status had declined from 73.0 percent at July 1, 2008 to 66.0 percent at July 1, 2010 before significantly increasing to 80.7 percent at July 1, 2011 due to the removal of the cost-of-living-adjustment (COLA) assumption, and further increased to 93.6 percent at July 1, 2015. The Legislature addressed the need for increased funding by increasing the employer contribution rate by 1.5 percent effective July 1, 2005. The next year the rate was increased 1.0 percent for state agencies with the continuation of the 1.0 percent increase each year until it was 16.5 percent in fiscal year 2012. The state employee contribution rate has been 3.5 percent of salary since July 1, 2006. Non state agency employers also had a rate increase effective July 1, 2006. The combined employee and employer contribution rate was increased 1.0 percent annually until July 1, 2011 when it reached 20.0 percent where it has remained. The Legislature has provided a statutory requirement that retirement bills be analyzed for actuarial fiscal impact and contain adequate funding sources sufficient to pay the cost of the change. A detailed discussion of funding is provided in the Actuarial Section of this report.



Awards and Acknowledgements

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Oklahoma Public Employees Retirement System for its comprehensive annual financial report (CAFR) for the fiscal year ended June 30, 2018. This was the twenty-second year OPERS has received this prestigious award. In order to be awarded a Certificate of Achievement, a government unit must

Letter of Transmittal (continued)

publish an easily readable and efficiently organized comprehensive annual financial report that satisfies both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe our current comprehensive annual financial report continues to conform to the Certificate of Achievement Program's requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

In addition, the Oklahoma Public Employees Retirement System was awarded the Public Pension Standards Award by the Public Pension Coordinating Council, a confederation of the National Association of State Retirement Administrators, the National Conference on Public Employee Retirement Systems, and the National Council on Teacher Retirement. This award is in recognition of meeting professional standards for plan funding and administration as set forth in the Public Pension Standards.

The preparation of this report would not have been possible without the efficient and dedicated service of the entire staff of OPERS. We wish to express our appreciation to all staff members who assisted and contributed to the preparation of this report. Credit also must be given to the Board of Trustees for their unfailing support for maintaining the highest standards of professionalism in the financial management of the Oklahoma Public Employees Retirement System.

Respectfully submitted,

Joseph A. Fox
Executive Director

Brian Wolf
Chief Financial Officer and Director of Finance

Chairperson's Letter

Oklahoma Public Employees Retirement System

P.O. Box 53007
Oklahoma City, Oklahoma 73152-3007

800.733.7008 toll-free
405.848.5946 fax

November 27, 2019

Dear OPERS Members:

On behalf of the Board of Trustees of the Oklahoma Public Employees Retirement System (OPERS), I am pleased to present the Comprehensive Annual Financial Report for the fiscal year ending June 30, 2019.

This report is designed to provide a detailed look at the financial, investment and actuarial aspects of OPERS, which continues to be a strong retirement system.

You are encouraged to carefully review this report, as it contains a wealth of information about your retirement system. If you have questions or comments, please feel free to contact us. We can be reached at P.O. Box 53007, Oklahoma City, Oklahoma 73152-3007. Our telephone number is 405-858-6737 (or toll-free 1-800-733-9008).

I also want to thank the OPERS staff for their diligent work in preparing this report and their commitment to continually improve the administrative operations of OPERS.

Sincerely,

Dana Webb
Chairperson

Board of Trustees



Dana Webb, Chair
Administrator,
Human Capital Management,
Office of Management and
Enterprise Services



Clark Jolley, Vice Chair
Member of Tax Commission
selected by Commission



Bob Anthony
Corporation Commissioner



Jari Askins
Appointee, Supreme Court



Quyen Do
Appointee, Speaker of the
House of Representatives



John Hastings
Appointee, Governor



Don Kilpatrick
Appointee, President Pro
Tempore of the Senate



Brandy Manek
Designee, Director of the
Office of Management and
Enterprise Services



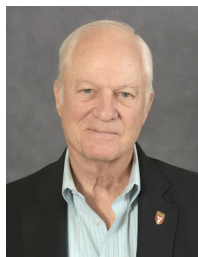
Randy McDaniel
State Treasurer



Grace McMillan
Appointee, Governor



Glen Mulready
State Insurance Commissioner



Edward Peterson
Appointee, President Pro
Tempore of the Senate

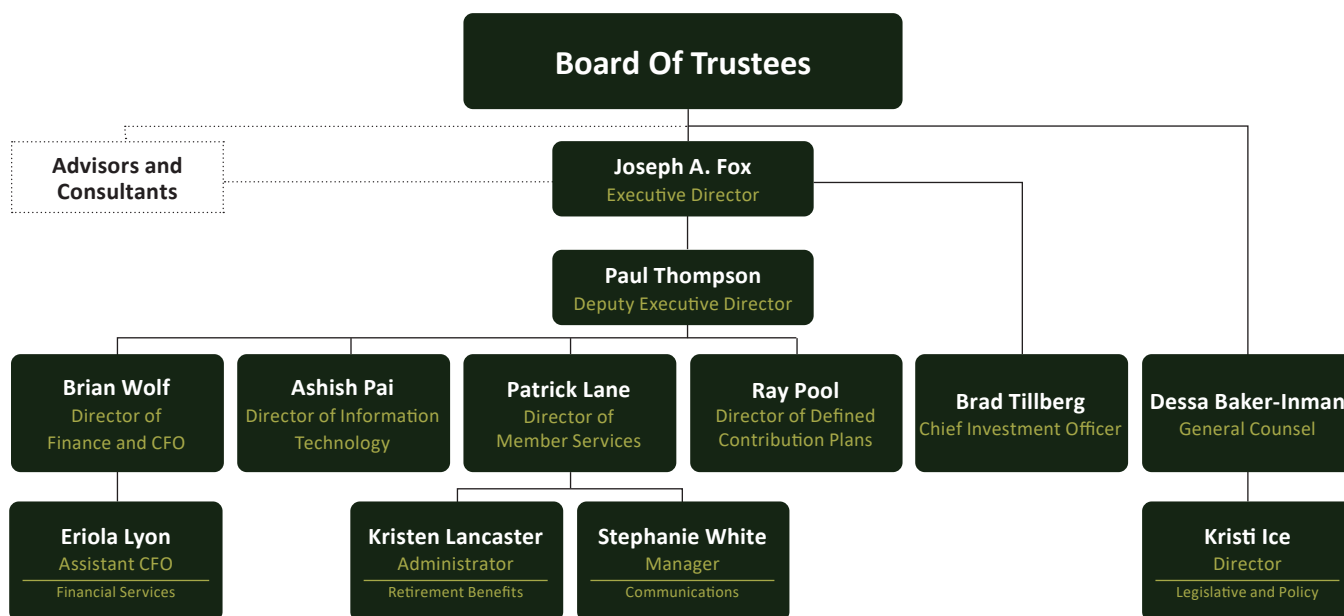


Tracey Ritz
Appointee, Speaker of the
House of Representatives



Grant Soderberg
Appointee, Governor

Organizational Structure



Back Row (from left to right): Ashish Pai, Brad Tillberg, Eriola Lyon, Brian Wolf, Ray Pool, Kristen Lancaster, Stephanie White and Patrick Lane

Front Row (from left to right): Dessa Baker, Joe Fox, Kristi Ice and Paul Thompson

Advisors and Consultants*

Master Custodian
The Northern Trust Company
Chicago, Illinois

Investment Consultant
Verus Advisory, Inc.
Seattle, Washington

Actuarial Consultant
Cavanaugh Macdonald Consulting, LLC
Kennesaw, Georgia

Independent Auditors
Eide Bailly LLP
Oklahoma City, Oklahoma

Internal Auditors
Finley & Cook PLLC
Shawnee, Oklahoma

*The Schedules of Investment Expenses and Professional/Consultant Fees (pages 53 and 55, respectively) in the Financial Section and the Schedule of Stock Brokerage Commissions Paid (page 70) in the Investment Section provide more information regarding advisors and consultants.



Government Finance Officers Association

**Certificate of
Achievement
for Excellence
in Financial
Reporting**

Presented to

**Oklahoma Public Employees
Retirement System**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2018

Christopher P. Morill

Executive Director/CEO



Public Pension Coordinating Council

***Public Pension Standards Award
For Funding and Administration
2019***

Presented to

Oklahoma Public Employees Retirement System

In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

A handwritten signature in black ink, reading 'Alan H. Winkle'. The signature is written in a cursive, flowing style.

Alan H. Winkle
Program Administrator



FINANCIAL

GROWING SEASON

The growing season is full of opportunities and challenges as you forge ahead in your career and begin to understand your financially sound future. Plan and save for the future by taking action during this season of life. The financial investments and decisions you make now will help build life-long goals.

11 Independent Auditor's Report

14 Management's Discussion and Analysis

FINANCIAL STATEMENTS:

22 Statements of Fiduciary Net Position

24 Statements of Changes in Fiduciary Net Position

26 Notes to Financial Statements

REQUIRED SUPPLEMENTARY INFORMATION:

47 Schedule of Changes in the Net Pension Liability – Schedule 1

47 Schedule of the Net Pension Liability – Schedule 1

48 Schedule of Pension Employer Contributions – Schedule 2

49 Schedule of Money-Weighted Rate of Return on Pension Plan Investments – Schedule 3

50 Schedule of Changes in the Net HISP Liability – Schedule 4

50 Schedule of the Net HISP Liability – Schedule 4

51 Schedule of HISP Employer Contributions – Schedule 5

52 Schedule of Money-Weighted Rate of Return on HISP Investments – Schedule 6

SUPPLEMENTARY INFORMATION:

53 Schedule of Investment Expenses – Schedule 7

54 Schedule of Administrative Expenses – Schedule 8

55 Schedule of Professional/Consultant Fees – Schedule 9



To the Board of Trustees
Oklahoma Public Employees Retirement System
Oklahoma City, Oklahoma

Report on the Financial Statements

We have audited the accompanying financial statements of the Oklahoma Public Employees Retirement System (the System), a component unit of the State of Oklahoma, which comprise the statements of fiduciary net position as of June 30, 2019 and 2018, and the related statements of changes in fiduciary net position, for the years 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 accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the 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.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Oklahoma Public Employees Retirement System, as of June 30, 2019 and 2018, and the respective statements of changes in fiduciary net position thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1, the financial statements of the Oklahoma Public Employees Retirement System, are intended to present the fiduciary net position, and the changes in fiduciary net position of only that portion of the System. They do not purport to, and do not, present fairly the fiduciary net position of other Plans governed by the Oklahoma Public Employee Retirement System Board of Trustees, as of June 30, 2019 and 2018, and the changes in its fiduciary net position for the years then ended, in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

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

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The other supplementary information is presented for purposes of additional analysis and is not a required part of the financial statements.

The other supplementary information accompanying financial information listed as other supplementary information, as referenced within the table of contents, is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. 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 auditing standards generally accepted in the United States of America. In our opinion, the accompanying financial information listed as supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

A handwritten signature in black ink that reads "Eide Bailly LLP". The signature is written in a cursive, flowing style.

Oklahoma City, Oklahoma
November 19, 2019

Management's Discussion and Analysis

(Unaudited)

As management of the Oklahoma Public Employees Retirement System (the System), we offer readers of the System's financial statements this narrative overview and analysis of the financial activities of the System for the fiscal years ended June 30, 2019, 2018 and 2017.

Financial Highlights

- The net position restricted for pension and health insurance subsidy plan (HISP) totaled approximately \$10 billion at June 30, 2019, compared to \$9.7 billion at June 30, 2018, improving by approximately \$0.3 billion due to investment income and flows of funds, and \$9.2 billion at June 30, 2017. The net position is available for payment of monthly retirement benefits and other qualified distributions to the System's participants. Equity markets performed well during fiscal year 2019, resulting in an increase in net investment income which lead to an increase in net position restricted for pension/HISP benefits from June 30, 2017 to June 30, 2018 and from June 30, 2018 to June 30, 2019.
- At June 30, 2019, 2018, and 2017, the total number of members participating in the System decreased 1.4%, decreased 2.3% and decreased 2.6%, respectively. Membership was 76,511 at June 30, 2019, 77,613 at June 30, 2018, and 79,403 at June 30, 2017. The number of retirees increased by 1.7% as of June 30, 2019, 2.0% as of June 30, 2018, and increased by 2.5% as of June 30, 2017. The total number of retirees was 35,869 at June 30, 2019, 35,260 at June 30, 2018, and 34,579 at June 30, 2017.

Overview of the Financial Statements

The System is a multiple-employer, cost-sharing public employee retirement plan, which is a defined benefit pension plan. The System covers substantially all employees of the state of Oklahoma (the State) except those covered by seven other plans sponsored by the State. The System also covers employees of participating counties and local agencies.

Nearly all new state employees first employed by a System participating employer on or after November 1, 2015 are participating in the State's new defined contribution plan. Therefore, the System is closed to nearly all new State employees but remains open to new employees of participating counties and local agencies.

For most of the System's members, benefits are determined at 2% of the average highest thirty-six months' annual covered compensation multiplied by the number of years of credited service. Members qualify for full retirement benefits at their specified normal retirement age or as adjusted by the provisions of the Oklahoma Statutes as further explained in the notes to the basic financial statements (refer to the note 3(b)).

The System also includes a multiple-employer, cost-sharing public employee other post-employment benefit plan, which is a defined benefit plan. This plan is called the Health Insurance Subsidy Plan (HISP), and it provides a health insurance premium subsidy for retirees of the System who elect to maintain health insurance with the Oklahoma Employees Group Insurance Division (EGID) or other qualified insurance plan provided by the employer. This subsidy continues until the retiree terminates health insurance coverage with EGID or other qualified plan, or until death. The subsidy is only for the retiree, not joint annuitants or beneficiaries.

The System's financial statements are comprised of Statements of Fiduciary Net Position and Statements of Changes in Fiduciary Net Position for both pensions and HISP, and Notes to Financial Statements. Also included are certain required supplementary information and supplementary information for both pensions and HISP.

The System is administered by the Oklahoma Public Employees Retirement System, a component unit of the State, which together with other similar funds comprise the fiduciary-pension and HISP trust funds of the State.

The *Statements of Fiduciary Net Position* present information on the System's assets, liabilities and the resulting *net position restricted for pensions and net position restricted for HISP*. These statements reflect the System's investments, at fair value, along with cash and cash equivalents, receivables, and other assets and liabilities.

The *statements of changes in fiduciary net position* presents information showing how the System's net position restricted for pensions and HISP changed during the years ended June 30, 2019 and 2018. It reflects contributions by members and participating employers along with deductions for retirement benefits, refunds and withdrawals, and administrative expenses. Investment income during the period is also presented showing income from investing and securities lending activities.

The *notes to financial statements* provide additional information that is essential to a full understanding of the data provided in the financial statements.

The *required supplementary information* presents a schedule of changes in the net pension liability, schedule of pension employer contributions, schedules of money-weighted rate of return on pension plan investments, schedule of changes in the net HISP asset, schedule of HISP employer contributions, and schedules of money-weighted rate of return on HISP investments. Schedules of certain expenses and fees paid are presented as *supplementary information*.

Financial Analysis

The following are the condensed Schedules of Fiduciary Net Position and Changes in Fiduciary Net Position for the Oklahoma Public Employees Retirement System for the fiscal years ended June 30, 2019, 2018 and 2017.

OKLAHOMA PUBLIC EMPLOYEES RETIREMENT PLAN

Administered by the Oklahoma Public Employees Retirement System

Condensed Schedules of Fiduciary Net Position

(\$ millions)

	2019			2018			2017		
	Pension	HISP	Combined	Pension	HISP	Combined	Pension	HISP	Combined
Assets:									
Cash and cash equivalents	\$ 127.3	\$ 6.9	\$ 134.2	\$ 216.4	\$ 6.6	\$ 223.0	\$ 113.3	\$ 5.9	\$ 119.2
Receivables	322.1	11.9	334.0	223.6	8.1	231.7	340.9	11.8	352.7
Investments	9,489.1	354.0	9,843.1	9,403.9	344.1	9,748.0	9,042.9	318.3	9,361.2
Securities lending collateral	462.9	17.3	480.2	459.7	16.8	476.5	618.2	21.8	640.0
Other assets	1.0	-	1.0	0.8	-	0.8	0.7	-	0.7
Total assets	10,402.4	390.1	10,792.5	10,304.4	375.6	10,680.0	10,116.0	357.8	10,473.8
Liabilities:									
Other liabilities	346.4	12.9	359.3	483.7	17.7	501.4	583.8	20.5	604.3
Securities lending collateral	462.9	17.3	480.2	459.7	16.8	476.5	618.2	21.8	640.0
Total liabilities	809.3	30.2	839.5	943.4	34.5	977.9	1,202.0	42.3	1,244.3
Ending fiduciary net position	\$ 9,593.1	\$ 359.9	\$ 9,953.0	\$ 9,361.0	\$ 341.1	\$ 9,702.1	\$ 8,914.0	\$ 315.5	\$ 9,229.5

Condensed Schedules of Changes in Fiduciary Net Position

(\$ millions)

	2019			2018			2017		
	Pension	HISP	Combined	Pension	HISP	Combined	Pension	HISP	Combined
Member contributions	\$ 66.6	\$ -	\$ 66.6	\$ 66.9	\$ -	\$ 66.9	\$ 70.3	\$ -	\$ 70.3
State and local agency contributions	263.7	18.8	282.5	258.9	19.1	278.0	269.5	18.9	288.4
Net investment income	544.2	18.9	563.1	735.0	25.5	760.5	1,013.9	35.7	1,049.6
Total additions	874.5	37.7	912.2	1,060.8	44.6	1,105.4	1,353.7	54.6	1,408.3
Retirement, death and survivor benefits	621.4	18.6	640.0	592.7	18.8	611.5	573.9	19.0	592.9
Refunds and withdrawals	15.4	-	15.4	16.0	-	16.0	16.0	-	16.0
Administrative expenses	5.6	0.2	5.8	5.1	0.2	5.3	5.2	0.2	5.4
Total deductions	642.4	18.8	661.2	613.8	19.0	632.8	595.1	19.2	614.3
Net increase in fiduciary net position	232.1	18.9	251.0	447.0	25.6	472.6	758.6	35.4	794.0
Beginning of year	9,361.0	341.1	9,702.1	8,914.0	315.5	9,229.5	8,155.4	280.1	8,435.5
End of year	\$ 9,593.1	\$ 360.0	\$ 9,953.1	\$ 9,361.0	\$ 341.1	\$ 9,702.1	\$ 8,914.0	\$ 315.5	\$ 9,229.5

For the year ended June 30, 2019, fiduciary net position increased by \$251.0 million, or 2.6%, from June 30, 2018. Total assets increased \$112.5 million, or 1.1 %, due to a 1.0% increase in investments change in fair value and 0.8% increase in securities lending collateral. The System achieved a money-weighted rate of return of 6% compared to the prior year of 8.4% resulting in the majority of the increase in fiduciary net position. Total liabilities decreased \$138.4 million, or 14.2%, due to a 28.3% decrease in pending purchases of securities.

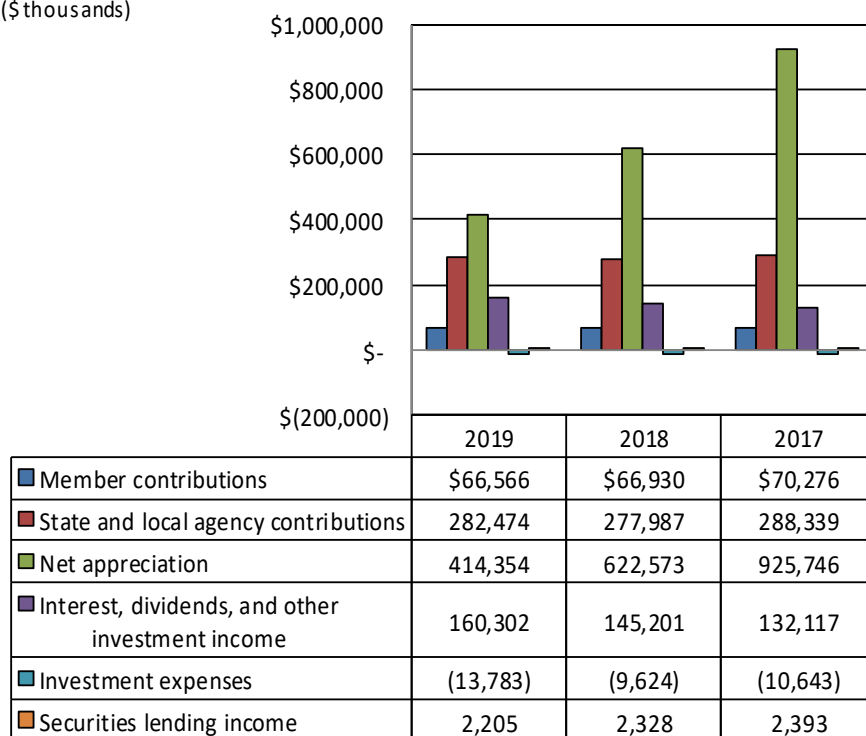
Fiscal year 2019 resulted in a \$193.2 million decrease in total additions and a \$28.4 million increase in total deductions. Compared to the prior year, the decrease in additions was primarily due to a decrease of \$208.2 million in the fair value of investments. Deductions increased 4.5% due to an \$28.5 million increase in retirement, death, and survivor benefits.

Additions to Fiduciary Net Position

For the year ended June 30, 2019, total additions to fiduciary net position decreased \$193.2 million from the prior year. The net decrease in net appreciation of the fair value of investments of \$208.2 million was the result of a weaker market in 2019. Interest income increased \$10.9 million, or 14.1%, and dividend income increased \$3.9 million, or 5.8%. Securities lending net income decreased \$0.1 million or 5.3%. Contributions were \$4.1 million, or 1.2% higher than the prior year due to the pathfinder excess contribution for define contribution plan.

Additions to Fiduciary Net Position

Comparative Data for Fiscal Years Ended June 30, 2019, 2018 and 2017
(\$ thousands)



For the year ended June 30, 2018, total additions to fiduciary net position decreased \$302.9 million from the prior year. The net decrease in net appreciation of the fair value of investments of \$303.2 million was the result of a strong market that wasn't quite as strong as fiscal year 2017. Interest income increased \$8.7 million, or 12.7%, and dividend income increased \$4.5 million, or 7.1%. Securities lending net income decreased \$0.1 million, or 2.7%.

Contributions were \$13.7 million, or 3.8%, lower than the prior year due to the closure of the defined benefit pension plan to new state employees. HISP remains open to new retirees.

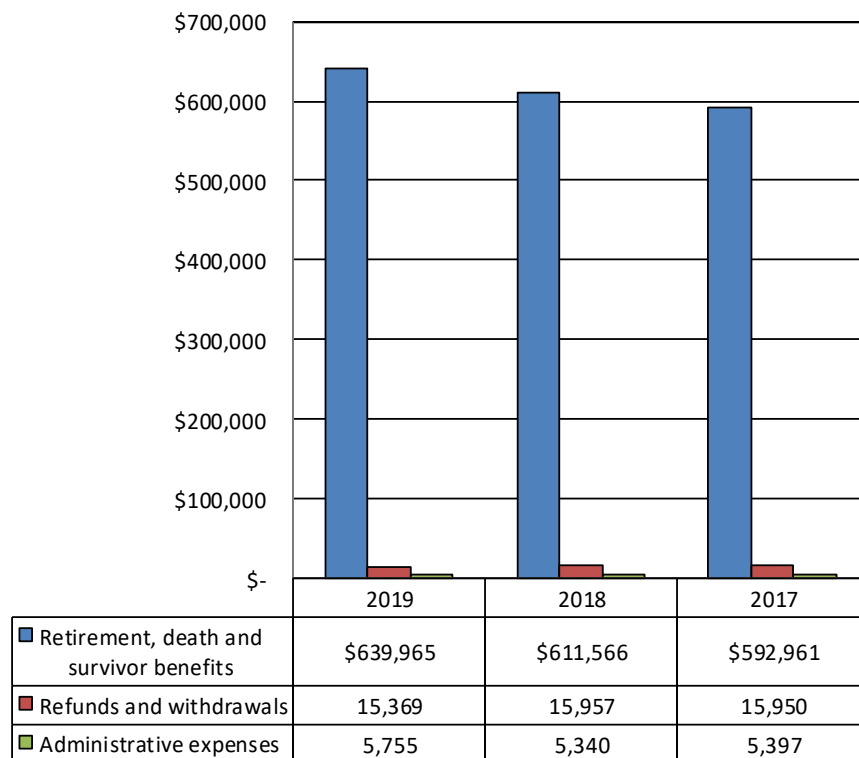
Deductions to Fiduciary Net Position

For the year ended June 30, 2019, total deductions increased \$28.4 million, or 4.5%, from the prior year. Retirement, death, and survivor benefits increased \$28.5 million, or 4.7%, due to a 1.7% increase in the number of retirees at year end and a 1.5% increase in the average benefit. Refunds and withdrawals decreased \$0.6 million or 3.7% from prior year and a 7.8% increase in administrative costs was primarily due to new IT consulting and IT services.

Deductions to Fiduciary Net Position

Comparative Data for Fiscal Years Ended June 30, 2019, 2018 and 2017

(\$ thousands)



For the year ended June 30, 2018, total deductions increased \$18.5 million, or 3.0%, from the prior year. Retirement, death, and survivor benefits increased \$18.6 million, or 3.1%, due to a 2.0% increase in the number of retirees at year end and a 1.3% increase in the average benefit. Refunds and withdrawals remained unchanged from prior year. The 1.1% decrease in administrative costs was primarily due to a decrease in professional services costs.

Investments

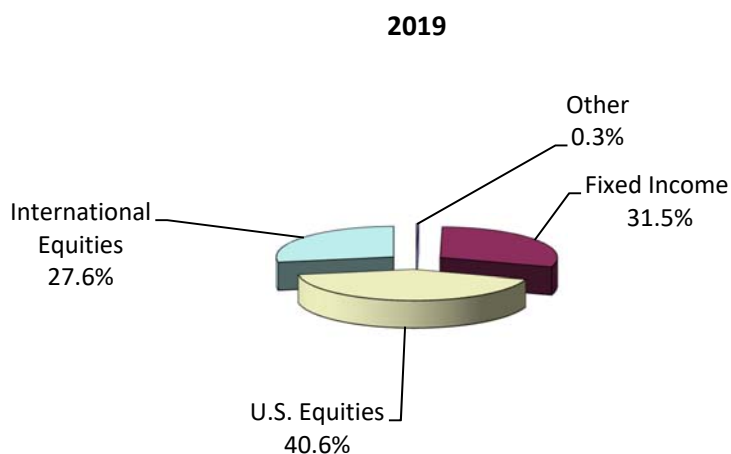
The investment portfolio is reported in the chart below by the asset class of the investment managers' portfolios which includes the cash and cash equivalents in those portfolios. In April 2017, the System's Board voted to modify the policy asset allocation to increase exposure to international equity and reduce exposure to U.S. equity. A summary of the System's cash, cash equivalents, and investments for fiscal years ended June 30, 2019 and 2018 is as follows:

Cash, Cash Equivalents, and Investment Portfolio
(\$ millions)

	June 30,		
	2019	2018	2017
Fixed income	\$ 3,175.0	\$ 3,171.8	\$ 3,149.1
U.S. equities	4,030.2	4,073.6	3,762.8
International equities	2,739.0	2,691.5	2,532.8
Other	17.8	17.9	20.8
Total managed investments	9,962.0	9,954.8	9,465.5
Cash equivalents on deposit with State	3.5	3.6	2.8
Real estate	11.8	12.6	12.1
Securities lending collateral	480.2	476.5	640.0
Total cash, cash equivalents, and investments	\$ 10,457.5	\$10,447.5	\$ 10,120.4

The 2019 increase in the System's managed investments is reflective of the increase in domestic and international equity markets for the year. The System's overall return for the year ended June 30, 2019 was 6.1%. U.S. equities showed a return of 7.1%, and international equities showed a return of 2.0%. Fixed income showed a return of 8.4%. An amount of \$309 million of U.S. equities was used to supplement the cash requirements of monthly retiree benefit payments. The change in securities lending collateral is dependent on the securities loaned by the System's master custodian at year end.

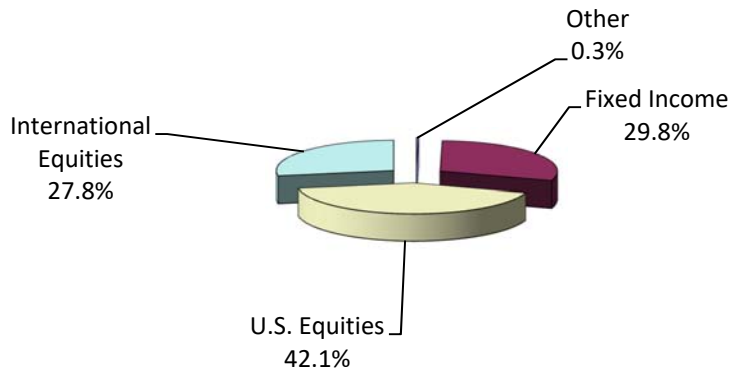
As of June 30, 2019, the distribution of the System's investments including accrued income and pending trades was as follows:



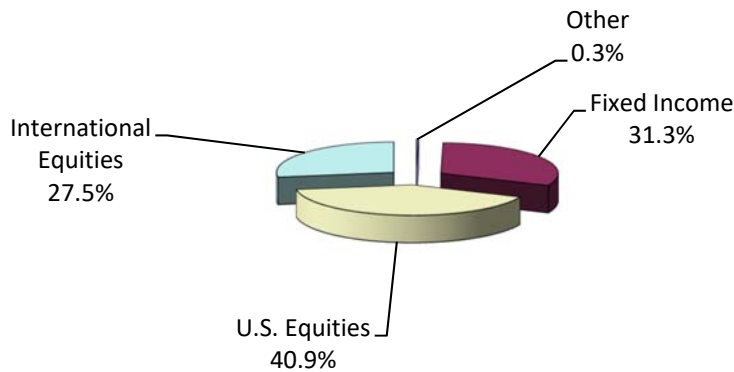
The 2018 increase in the System's managed investments is reflective of the increase in domestic and international equity markets for the year. The System's overall return for the year ended June 30, 2018 was 8.4%. U.S. equities showed a return of 15.5% exceeding the market trend for the asset class, and international equities showed a return of 7.3%. Fixed income showed a return of 0.3%. An amount of \$256.5 million of U.S. equities and \$25.0 million of international equities was used to supplement the cash requirements of monthly retiree benefit payments. The change in securities lending collateral is dependent on the securities loaned by the System's master custodian at year end.

At June 30, 2018 and 2017 the distribution of the System's investments including accrued income and pending trades was as follows:

2018



2017



Economic Factors

Ratio of Fiduciary Net Position to Total Pension Liability and to Total HISP Liability

The ratio of fiduciary net position to the total pension liability was as follows:

	June 30,		
	2019	2018	2017
Total pension liability	\$ 9,726,326,176	\$ 9,555,990,069	\$ 9,454,641,808
Plan fiduciary net position	\$ 9,593,138,099	\$ 9,360,947,061	\$ 8,913,978,627
Ratio of fiduciary net position to total pension liability	98.63%	97.96%	94.28%

The ratio of fiduciary net position to the total HISP liability was as follows:

	June 30,		
	2019	2018	2017
Total HISP liability	\$ 321,048,037	\$ 328,143,546	\$ 326,975,262
Plan fiduciary net position	\$ 359,922,778	\$ 341,084,506	\$ 315,521,246
Ratio of fiduciary net position to total HISP liability	112.11%	103.94%	96.50%

System Amendments

Other

The actuarial assumptions used in the July 1, 2019, valuation are based on the results of the most recent actuarial experience study, which covered the three-year period ending June 30, 2016.

Other than changes in the fair value of System assets as may be impacted by the equity and bond markets, no other matters are known by management to have a significant impact on the operations or financial position of the System.

Requests for Information

This financial report is designed to provide a general overview of the System's finances for all those with an interest. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Financial Reporting Division, OPERS, P.O. Box 53007, Oklahoma City, Oklahoma 73152-3007.

Statements of Fiduciary Net Position

As of June 30, 2019

	Pension Plan	Health Insurance Subsidy Plan	Combined
Assets			
Cash equivalents	\$ 127,347,308	\$ 6,926,474	134,273,782
Receivables:			
Member contributions	3,552,457	-	3,552,457
State and local agency contributions	12,393,685	462,360	12,856,045
Due from brokers for securities sold	283,030,449	10,558,679	293,589,128
Accrued interest and dividends	23,154,705	863,808	24,018,513
Total receivables	322,131,296	11,884,847	334,016,143
Investments, at fair value:			
Short-term investments	17,620,045	657,334	18,277,379
Government obligations	2,051,666,272	76,539,042	2,128,205,314
Corporate bonds	927,873,096	34,615,046	962,488,142
Domestic equities	3,839,428,357	143,232,876	3,982,661,233
International equities	2,641,176,273	98,531,179	2,739,707,452
Real estate	11,327,418	422,582	11,750,000
Securities lending collateral	462,899,794	17,268,840	480,168,634
Total investments	9,951,991,255	371,266,899	10,323,258,154
Other assets	953,433	35,576	989,009
Total assets	10,402,423,292	390,113,796	10,792,537,088
Liabilities			
Due to brokers and investment managers	346,385,399	12,922,178	359,307,577
Securities lending collateral	462,899,794	17,268,840	480,168,634
Total liabilities	809,285,193	30,191,018	839,476,211
Net position restricted for pension/HISP benefits	\$ 9,593,138,099	\$ 359,922,778	\$ 9,953,060,877

See accompanying notes to financial statements.

Statements of Fiduciary Net Position

As of June 30, 2018

	Pension Plan	Health Insurance Subsidy Plan	Combined
Assets			
Cash equivalents	\$ 216,378,231	\$ 6,637,184	\$ 223,015,415
Receivables:			
Member contributions	3,197,960	-	3,197,960
State and local agency contributions	11,237,746	411,148	11,648,894
Due from brokers for securities sold	188,026,907	6,879,178	194,906,085
Accrued interest and dividends	21,173,371	774,654	21,948,025
Total receivables	223,635,984	8,064,980	231,700,964
Investments, at fair value:			
Short-term investments	70,023,195	2,561,880	72,585,075
Government obligations	1,926,992,287	70,501,179	1,997,493,466
Corporate bonds	917,431,462	33,565,263	950,996,725
Domestic equities	3,871,466,724	141,641,929	4,013,108,653
International equities	2,605,843,543	95,337,716	2,701,181,259
Real estate	12,155,283	444,717	12,600,000
Securities lending collateral	459,653,458	16,816,941	476,470,399
Total investments	9,863,565,952	360,869,625	10,224,435,577
Other assets	782,290	28,625	810,915
Total assets	10,304,362,457	375,600,414	10,679,962,871
Liabilities			
Due to brokers and investment managers	483,761,938	17,698,967	501,460,905
Securities lending collateral	459,653,458	16,816,941	476,470,399
Total liabilities	943,415,396	34,515,908	977,931,304
Net position restricted for pension/HISP benefits	\$ 9,360,947,061	\$ 341,084,506	\$ 9,702,031,567

See accompanying notes to financial statements.

Statements of Changes in Fiduciary Net Position

As of June 30, 2019

	Pension Plan	Health Insurance Subsidy Plan	Combined
Additions			
Contributions:			
Members	\$ 66,566,433	\$ -	\$ 66,566,433
State and local agencies	263,729,659	18,744,000	282,473,659
Total contributions	330,296,092	18,744,000	349,040,092
Investment income:			
From investing activities:			
Net appreciation in fair value of investments	400,598,110	13,756,155	414,354,265
Interest	85,213,525	3,078,501	88,292,026
Dividends	69,106,891	2,373,064	71,479,955
Real estate	512,892	17,612	530,504
Total investment income	555,431,418	19,225,332	574,656,750
Less – Investment expenses	(13,325,598)	(457,588)	(13,783,186)
Income from investing activities	542,105,820	18,767,744	560,873,564
From securities lending activities:			
Securities lending income	13,846,518	475,476	14,321,994
Securities lending expenses:			
Borrower rebates	(11,370,738)	(390,460)	(11,761,198)
Management fees	(344,384)	(11,826)	(356,210)
Income from securities lending activities	2,131,396	73,190	2,204,586
Net investment income	544,237,216	18,840,934	563,078,150
Total additions	874,533,308	37,584,934	912,118,242
Deductions			
Retirement, death and survivor benefits	621,409,080	18,555,603	639,964,683
Refunds and withdrawals	15,369,288	-	15,369,288
Administrative expenses	5,563,902	191,059	5,754,961
Total deductions	642,342,270	18,746,662	661,088,932
Net increase in net position	232,191,038	18,838,272	251,029,310
Net position restricted for pension/HISP benefits			
Beginning of year	9,360,947,061	341,084,506	9,702,031,567
End of year	\$ 9,593,138,099	\$ 359,922,778	\$ 9,953,060,877

See accompanying notes to financial statements.

Statements of Changes in Fiduciary Net Position

For the Year Ended June 30, 2018

	Pension Plan	Health Insurance Subsidy Plan	Combined
Additions			
Contributions:			
Members	\$ 66,929,560	\$ -	\$ 66,929,560
State and local agencies	258,907,270	19,080,000	277,987,270
Total contributions	325,836,830	19,080,000	344,916,830
Investment income:			
From investing activities:			
Net appreciation in fair value of investments	601,761,578	20,811,063	622,572,641
Interest	74,735,617	2,668,344	77,403,961
Dividends	65,316,485	2,258,877	67,575,362
Real estate	214,497	7,418	221,915
Total investment income	742,028,177	25,745,702	767,773,879
Less – Investment expenses	(9,302,385)	(321,710)	(9,624,095)
Income from investing activities	732,725,792	25,423,992	758,149,784
From securities lending activities:			
Securities lending income	10,662,426	368,745	11,031,171
Securities lending expenses:			
Borrower rebates	(8,046,032)	(278,260)	(8,324,292)
Management fees	(366,011)	(12,658)	(378,669)
Income from securities lending activities	2,250,383	77,827	2,328,210
Net investment income	734,976,175	25,501,819	760,477,994
Total additions	1,060,813,005	44,581,819	1,105,394,824
Deductions			
Retirement, death and survivor benefits	592,725,826	18,840,056	611,565,882
Refunds and withdrawals	15,957,261	-	15,957,261
Administrative expenses	5,161,484	178,503	5,339,987
Total deductions	613,844,571	19,018,559	632,863,130
Net increase in net position	446,968,434	25,563,260	472,531,694
Net position restricted for pension/HISP benefits			
Beginning of year	8,913,978,627	315,521,246	9,229,499,873
End of year	\$ 9,360,947,061	\$ 341,084,506	\$ 9,702,031,567

See accompanying notes to financial statements.

Notes to Financial Statements

June 30, 2019 and 2018

(1) Reporting Entity

The Oklahoma Public Employees Retirement System (OPERS)(the System) is a defined benefit cost-sharing multiple employer plan consisting of a retirement plan and a cost-sharing multiple employer health insurance subsidy plan (HISP) both held in irrevocable trusts. The System, together with other similar fiduciary pension trust funds of the state of Oklahoma (the State), is a component unit of the State. The System is administered by the Oklahoma Public Employees Retirement System. As set forth in Title 74, of the Oklahoma Statutes, at Section 921, administrative expenses are paid with funds provided by operations of the System.

(2) Summary of Significant Accounting Policies

The following are the significant accounting policies followed by the System.

(a) *Basis of Accounting*

The financial statements are prepared using the economic resources measurement focus and the accrual basis of accounting under which expenses are recorded when the liability is incurred, revenues are recorded in the accounting period in which they are earned and become measurable, and investment purchases and sales are recorded as of their trade dates. Member and employer contributions are established by statute as a percentage of salaries and are recognized when due, pursuant to legal requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the System.

- (b) *Investments* – The System’s investments are presented at fair value. Purchases and sales are recorded at the trade date. At month end, there may be certain pending trades that were initiated by managers but not confirmed and, therefore, are not included in the fair value of investments. The System is authorized to invest in eligible investments as approved by the Board of Trustees (the Board) as set forth in its investment policy. System investments are reported at fair value, which is the price that would be received if the investments were sold in an orderly transaction between a willing buyer and a willing seller. Short-term investments include bills and notes, commercial paper, and international foreign currency contracts. Short-term investments, debt securities, and equity securities are reported at fair value, as determined by the System’s custodial agent, using pricing services or prices quoted by independent brokers based on the latest reported sales prices at current exchange rates for securities traded on national or international exchanges. The fair value of the pro rata share of units owned by the System in equity index and commingled trust funds is determined by the respective fund trustee based on quoted sales prices of the underlying securities. The investment in real estate is valued using an annual third-party appraisal.

Cash equivalents include investments in money market funds and investment pools and are reported at amortized cost.

Net investment income (loss) includes net appreciation (depreciation) in the fair value of investments, interest income, dividend income, securities lending income and expenses, and investment expenses, which include investment management and custodial fees and all other significant investment related costs. Foreign currency translation gains and losses are reflected in the net appreciation (depreciation) in the fair value of investments.

The System's international investment managers may enter into forward foreign exchange contracts to protect against fluctuation in exchange rates between the trade date and the settlement date of foreign investment transactions. Any gains and losses on these contracts are included in income in the period in which the exchange rates change.

The System's investment policy provides for investments in combinations of stocks, bonds, fixed income securities, and other investment securities along with investments in commingled, mutual, and index funds. Investment securities and investment securities underlying commingled or mutual fund investments are exposed to various risks, such as interest rate and credit risks. Due to the risks associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities may occur in the near term, and those changes could materially affect the amounts reported in the statement of fiduciary net position.

(c) *Use of Estimates*

Management of the System has made a number of estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities to prepare these financial statements in conformity with U.S. generally accepted accounting principles (GAAP), note disclosure and required supplementary information (RSI). Actual results could differ from these estimates.

(d) *Risk and Uncertainties*

Contributions to the System and the actuarial information included in Note (6) Net Pension Asset, Net HISP Asset and Actuarial Information and the RSI are reported based on certain assumptions pertaining to interest rates, inflation rates, and employee compensation and demographics. Due to the changing nature of these assumptions, it is at least reasonably possible that changes in these assumptions may occur in the near term and, due to the uncertainties inherent in setting assumptions, that the effect of such changes could be material to the financial statements.

(e) *Composition of Board of Trustees*

The Board of Trustees of OPERS consists of fourteen appointed members, some by position and some by association. Those serving through position are a member of the Corporation Commission as selected by the Commission, a member of the Tax Commission as selected by the Tax Commission, the Administrator of the Office of Personnel Management or designee, the State Insurance Commissioner or designee, the Director of State Finance or designee, and the State Treasurer or designee. Of the remaining members, three are appointed by the Governor, one is appointed by the Supreme Court, two are appointed by the Speaker of the House of Representatives and two are appointed by the President Pro Tempore of the Senate. Qualifications for certain of these appointees include a balance of individuals having experience in investment management, pension management, public fund management, the banking profession or a licensed attorney or a licensed accountant.

(3) System Description and Contribution Information

The following brief description of the System is provided for general information purposes only. Participants should refer to Title 74 of the Oklahoma Statutes, Sections 901 through 932 and 935, as amended, for more complete information.

(a) General

The System is a multiple-employer, cost-sharing public employee retirement plan, which is a defined benefit pension plan covering substantially all state employees except employees covered by seven other plans sponsored by the State. It also covers employees of participating county and local agencies. Nearly all new state employees first employed by a System participating employer on or after November 1, 2015, will participate in the State's new defined contribution plan. Therefore, the System is closed to nearly all new State employees, but remains open to new employees of participating counties and local agencies. Agencies and/or participants not included in the System are as follows: teachers, municipal police, municipal firefighters, judicial, wildlife, state law enforcement and nearly all State employees first employed on or after November 1, 2015.

The System also administers the Health Insurance Subsidy Plan, a cost-sharing multiple-employer defined benefit OPEB plan that provides OPEB covering the same categories of employees covered by the pension plan.

The supervisory authority for the management and operation of the System and HISP is the Board, which acts as a fiduciary for investment of the funds and the application of System interpretations. At June 30, the System's membership consisted of:

	2019	2018
Inactive members or their beneficiaries currently receiving benefits	35,869	35,260
Inactive members entitled to but not yet receiving benefits	6,106	6,024
Active members	34,536	36,329
Total	76,511	77,613

Of the inactive members or their beneficiaries currently receiving benefits 14,563 and 13,998 are retirees and beneficiaries in the HISP as of June 30, 2019 and 2018, respectively. The Plan also includes 54,667 and 53,406 nonvested terminated members entitled to a refund of their member contributions as of June 30, 2019 and 2018, respectively.

For purposes of the discussion on benefits and contributions, the members are described in the following categories: hazardous duty members, which includes certain employees of the Department of Corrections who are classified as correction officers, probation and parole officers, and fugitive apprehension agents along with Oklahoma Military Department firefighters; elected officials, which includes elected officials who serve the State and participating counties; and State, county, and local agency employees, which includes all other employees previously described. If the member category is not specifically identified, the attributes of the System discussed apply to all members.

(b) Benefits

Pensions

Members qualify for full retirement benefits at their specified normal retirement age or, for any person who became a member prior to July 1, 1992, when the sum of the member's age and years of credited service equals or exceeds 80 (Rule of 80), and for any person who became a member after June 30, 1992, when the member's age and years of credited service equals or exceeds 90 (Rule of 90). Normal retirement date is further qualified to require that all members employed on or after January 1, 1983 must have six or more years of full-time equivalent employment with a participating

employer before being eligible to receive benefits. Credited service is the sum of participating and prior service. Prior service includes nonparticipating service before January 1, 1975, or the entry date of the employer and active wartime military service. A member with a minimum of ten years of participating service may elect early retirement with reduced benefits beginning at age 55 if the participant became a member prior to November 1, 2011, or age 60 if the participant became a member on or after November 1, 2011. Disability retirement benefits are available for members having eight years of credited service whose disability status has been certified as being within one year of the last day on the job by the Social Security Administration. Disability retirement benefits are determined in the same manner as retirement benefits, but payable immediately without an actuarial reduction.

Health Insurance Subsidy Plan

HISP provides a health insurance premium subsidy for retirees of the System who elect to maintain health insurance with the Oklahoma Employees Group Insurance Division (EGID) or other qualified insurance plan provided by the employer. This subsidy continues until the retiree terminates health insurance coverage with EGID or other qualified plan, or until death. The subsidy is only for the retiree, not joint annuitants or beneficiaries.

The following are various benefit attributes for each member category:

State, County, and Local Agency Employees

Benefits are determined at 2% of the average annual salary received during the highest thirty-six months of the last ten years of participating service, but not to exceed the applicable annual salary cap, multiplied by the number of years of credited service. Members who join OPERS on or after July 1, 2013, will have their salary averaged over the highest 60 months of the last ten years. Normal retirement age under the System is 62 or Rule of 80/90 if the participant became a member prior to November 1, 2011, or age 65 or Rule of 90 if the participant became a member on or after November 1, 2011.

Members who elect to pay the additional contribution rate, which became available in January 2004, will receive benefits using a 2.5% computation factor for each full year the additional contributions are made. In 2004, legislation was enacted to provide an increased benefit to retiring members who were not yet eligible for Medicare. The Medicare Gap benefit option became available to members under age 65 who retired on or after May 1, 2006. Members may elect to receive a temporary increased benefit to cover the cost of health insurance premiums until the member is eligible to receive Medicare. After the member becomes eligible for Medicare, the retirement benefit will be permanently reduced by an actuarially determined amount. The option is irrevocable, must be chosen prior to retirement, and is structured to have a neutral actuarial cost to the System.

Members become eligible to vest fully upon termination of employment after attaining eight years of credited service, or the members' contributions may be withdrawn upon termination of employment.

Elected Officials

Benefits are determined as the greater of the calculation described in the preceding section or, based on the official's contribution election, either 1.9% or 4.0% of the highest annual covered compensation received as an elected official, but not to exceed the applicable annual salary cap, multiplied by the number of years of credited service. For members elected prior to November 1, 2011, normal retirement age under the System is 60 with six years of participation as an elected official or Rule of 80. For members elected on or after November 1, 2011, the normal retirement

age is 62 with 10 years of participation as an elected official or 65 with eight years of participation as an elected official. Members elected prior to November 1, 2011 become eligible to vest fully upon termination of employment after attaining six years of participating service as an elected official. Members elected on or after November 1, 2011 become eligible to vest fully upon termination of employment after attaining eight years of participating service as an elected official. The members' contributions may be withdrawn upon termination of employment.

Hazardous Duty Members

Benefits are determined at (a) 2.5% of the final average compensation up to the applicable annual salary cap multiplied by the number of years of service as a hazardous duty member not to exceed 20 years and (b) 2.0% of the final average compensation multiplied by the number of years of service in excess of 20 years and any other years of service creditable. Normal retirement age under the System is 62 or at completion of 20 years of creditable service as a hazardous duty member or Rule of 80/90 if participant became a member prior to November 1, 2011, or age 65 or at completion of 20 years of creditable service as a hazardous duty member or Rule of 90 if participant became a member on or after November 1, 2011.

Military Department firefighters are not restricted to a maximum of 20 years of hazardous duty for the 2.5% computation.

However, members who contributed prior to July 1, 1990 but do not qualify for normal retirement as a hazardous duty member shall receive benefits computed at 2.5% of the final compensation for those full time years as a hazardous duty member after July 1, 1990, 2.25% before July 1, 1990, and 2.0% for all other years of credited service. Members become eligible to vest fully after 20 years of full time service as a hazardous duty member.

Upon the death of an active member, the accumulated contributions of the member are paid to the member's named beneficiary(ies) in a single lump sum payment. If a retired member elected a joint annuitant survivor option or an active member was eligible to retire with either reduced or unreduced benefits or eligible to vest the retirement benefit at the time of death, benefits can be paid in monthly payments over the life of the spouse if the spouse so elects.

Benefits are payable to the surviving spouse of an elected official only if the elected official had at least six years of participating elected service and was married at least three years immediately preceding death. Survivor benefits are terminated upon death of the named survivor and, for elected officials, remarriage of the surviving spouse. Upon the death of a retired member, with no survivor benefits payable, the member's beneficiary(ies) are paid the excess, if any, of the member's accumulated contributions over the sum of all retirement benefit payments made.

Upon the death of a retired member, the System will pay a \$5,000 death benefit to the member's beneficiary or estate of the member if there is no living beneficiary. The death benefit will be paid in addition to any excess employee contributions or survivor benefits due to the beneficiary. Death benefits paid for the years ended June 30, 2019 and 2018 totaled approximately \$5,570,000 and \$5,576,000, respectively.

Legislation was enacted in 1999 which provided a limited additional benefit for certain terminated members eligible to vest as of July 1, 1998. This limited benefit is payable as an additional \$200 monthly benefit upon the member's retirement up to the total amount of certain excess contributions paid by the participant to the System. In April 2001, limited benefit payments began for qualified retired members

Benefits are established and may be amended by the State Legislature from time to time.

(c) Contributions

The contribution rates for each member category of the System are established by the Oklahoma Legislature after recommendation by the Board based on an actuarial calculation, which is performed to determine the adequacy of such contribution rates. An actuarially determined portion of the total contributions to the System are set aside to finance the cost of the benefits of the HISP in accordance with provisions of the Internal Revenue Code.

Each member participates based on their qualifying gross salary earned, excluding overtime. There is no cap on the qualifying gross salary earned, subject to Internal Revenue Service (IRS) limitations on compensation. Only employers contribute to the HISP.

The following contribution rates were in effect:

State, County, and Local Agency Employees

For 2019 and 2018, *state agency employers* contributed 16.5% on all salary, and *state employees* contributed 3.5% on all salary.

For 2019 and 2018, contributions of *participating county and local agencies* totaled 20.0% of salary composed of a minimum employee contribution rate of 3.5% up to a maximum of 8.5% and a minimum employer contribution rate of 11.5% up to a maximum of 16.5%.

Members have the option to elect to increase the benefit computation factor for all future service from 2.0% to 2.5%. The election is irrevocable, binding for all future employment under OPERS, and applies only to full years of service. Those who make the election pay the standard contribution rate plus an additional contribution rate, 2.91% which is actuarially determined. The election is available for all state, county, and local government employees, except for elected officials and hazardous duty members.

Elected Officials

Elected officials' employee contributions are based on the maximum compensation levels set for all members, and the participating employers are required to contribute on the elected officials' covered salary using the same percentage and limits as applicable for state agencies. Members elected prior to November 1, 2011 must select an employee contribution rate of 4.5%, 6.0%, 7.5%, 8.5%, 9.0% or 10.0%. Members elected on or after November 1, 2011 have a contribution rate of 3.5%.

Effective July 1, 1999, elected officials must affirmatively elect or decline participation in the System within 90 days after taking office. This decision is irrevocable, and failure of an elected official to decline to participate in the System will be deemed as an irrevocable election to participate and contribute at the highest rate (currently 3.5% for officials elected on or after November 1, 2011). All current elected officials who had not elected to participate in the System must have either elected, including selecting a contribution rate, or declined to participate in the System on or before December 1, 1999.

Elected officials who are first elected or appointed to an elected office between November 1, 2010 and October 31, 2011 may only select one of two benefit computation factors - 1.9% or 4.0% - with the respective employee contribution rates of 4.5% or 10.0%.

Effective November 1, 2011, elected officials who are first elected or appointed to an elected office participate with a benefit computation factor of 2.0% with an employee contribution rate of 3.5%.

Hazardous Duty Members

For 2019 and 2018, hazardous duty members contributed 8.0%, and their employer agencies contributed 16.5% on all salary.

(d) Participating Employers

At June 30, the number of participating employers for the pension plan and the HISP plan was as follows:

	2019	2018
State agencies	118	117
County governments	75	75
Local government towns and cities	29	29
Other local governmental units	63	63
Total	285	284

(e) Defined Contribution System created for New Members

House Bill 2630 and Senate Bill 2120 directed OPERS to establish a defined contribution retirement system for members first employed by a participating employer of the system on or after November 1, 2015, including statewide elected officials and legislators. The provisions of this bill are not applicable to hazardous duty members, district attorneys, assistant district attorneys or other employees of the district attorney's office who will continue to participate in the defined benefit plan. Also excluded from the plan are employees of a county, county elected officials, county hospital, city or town, conservation district, circuit engineering district, and any public or private trust in which a county, city or town participates and is the primary beneficiary.

This new defined contribution plan was created and implemented during the year ended June 30, 2016. Under this new plan, participating employees contribute a minimum of 4.5% of their compensation. Participating employers match employee contributions up to 7%. In addition to the matching contributions, participating employers are required to remit to OPERS the difference between the matching contributions for defined contribution plan members and the amount the participating employer would have contributed for a defined benefit plan member.

(4) Cash Equivalents

Cash and cash equivalents represent short-term investment funds held by the Office of the State Treasurer (State Treasurer) and the System's custodial agent, and foreign currency.

At June 30, cash and cash equivalents were:

	2019	2018
Cash equivalents		
State Treasurer	\$ 3,594,402	\$ 3,550,103
Custodial agent	129,704,193	218,150,223
Foreign currency	975,187	1,315,089
Total cash and cash equivalents	\$ 134,273,782	\$223,015,415

Cash is deposited to *OK INVEST*, an internal investment pool of the State Treasurer with holdings limited to obligations of the U.S. Government, its agencies and instrumentalities, agency senior debt and mortgage-backed pass-through securities, tri-party repurchase agreements, money market mutual funds, collateralized certificates of deposit, commercial paper, obligations of state and local governments, and

State of Israel Bonds. Participants are limited to qualifying agencies and funds within the State's reporting entity, and each participant maintains an interest in the underlying investments of *OK INVEST* and shares the risk of loss on the fund in proportion to the respective investment in the fund. The custodial agent cash equivalents consist of temporary investments in commingled trust funds of the System's custodial agent. The fund is composed of high-grade money market instruments with short maturities. Each participant in the fund shares the risk of loss on the fund in proportion to the respective investment in the fund.

Deposits are exposed to custodial credit risk if they are not covered by depository insurance and the deposits are uncollateralized, collateralized with securities held by the pledging financial institution, or collateralized with securities held by the pledging financial institution's trust department or agency but not in the depositor-government's name. At June 30, 2019 and 2018, the cash equivalents in *OK INVEST* and the System's custodial agent cash equivalents were not exposed to custodial credit risk because their existence cannot be evidenced by securities that exist in physical or book entry form.

The System holds foreign currency in banks outside the United States as a result of transactions of international investment managers. The foreign currency is in accounts in the name of the System's custodial agent and is uncollateralized, and the System is exposed to custodial credit risk. At June 30, 2019 and 2018, the foreign currency holdings were \$975,187 and \$1,315,089, respectively. The System's exposure to foreign currency risk is detailed in the section entitled Investments, Foreign Currency Risk.

(5) Investments

(a) General

Investments are pooled for administrative purposes and then allocated to the pension plan and HISP based on actuarial data, inflows and outflows. The OPERS Statement of Investment Policy states that the Board believes that System assets should be managed in a fashion that reflects the System's unique liabilities and funding resources, incorporating accepted investment theory and reliable empirical evidence. Specifically, the Board has adopted the following principles:

- Asset allocation is the key determinant of return, and therefore, commitments to asset allocation targets will be maintained through a disciplined rebalancing program.
- Diversification, both by and within asset classes, is the primary risk control element.
- Passive fund portfolios are suitable investment strategies, especially in highly efficient markets. These index funds which are externally managed by professional investment management firms selected through due diligence of the Board are deemed to be actively managed accounts within the meaning of Section 909.1(D) of Title 74 of the Oklahoma Statutes.

The investment policy, guidelines, and objectives which govern the investment of System and HISP assets shall be developed and adopted by the Board of Trustees at a regularly scheduled public Board meeting, at least annually, prior to August 1 of each year. Changes to the investment policy may be made, as necessary, at any public meeting of the Board of Trustees, in compliance with the Open Meeting Act. During 2015, the investment policy was modified to allow investments in certain real estate-related assets.

The asset allocation guidelines established by policy at June 30, 2019 and 2018, were U.S. equities – 40%, international equities – 28% and domestic fixed income – 32%. The guidelines also establish minimum and maximum percentages for each asset class allocation, and when allocations move outside these limits, portfolios are rebalanced.

The fair value of investments held by the System at June 30 was as follows:

	2019	2018
U.S. Treasury notes/bonds	\$ 1,109,226,116	\$ 994,996,296
U.S. TIPS index fund	324,711,724	309,268,778
Government agencies	11,445,632	6,652,326
Government mortgage-backed securities	659,025,220	651,534,262
Foreign bonds	14,546,433	18,539,023
Municipal bonds	9,250,189	16,502,780
Corporate bonds	746,247,542	815,197,984
Asset-backed securities	129,094,906	137,825,864
Commercial mortgage-backed securities	57,584,912	49,162,460
Non government backed collateralized mortgage obligations	47,838,648	21,394,430
Domestic equities	2,306,945,182	2,360,696,629
U.S. equity index fund	1,675,716,050	1,652,412,024
International equities	957,058,577	952,492,471
International equity index funds	1,782,648,389	1,748,689,851
Real estate	11,750,000	12,600,000
Securities lending collateral	480,168,634	476,470,399
Total investments	\$ 10,323,258,154	\$ 10,224,435,577

The System participates in fixed income and international and domestic equity index funds managed by BlackRock Institutional Trust Company, N.A. (BTC). BTC, a subsidiary of BlackRock Inc., is a national banking association and operates as a limited purpose trust company. Its primary regulator is the Office of the Comptroller of the Currency (OCC), the agency of the U.S. Treasury Department that regulates United States national banks. Each fund is a collective fund which is a group trust and an entity separate from BTC, other funds, and the investing participants. BTC is trustee of each of the collective fund trusts and holds legal title to each trust's assets for the exclusive benefit of the System. The fair value of the System's position in the pool is the same as the value of the pool shares. As of June 30, 2019 and 2018, the System was invested in two domestic equity index funds, two international equity index funds, and a fixed income index fund. The System shares the risk of loss in these funds with other participants in proportion to its respective investment. Because the System does not own any specific identifiable investment securities of these funds, the risk associated with any derivative investments held in these funds is not apparent. The degree of risk depends on the underlying portfolios of the funds, which were selected by the System in accordance with its investment policy guidelines including risk assessment.

The international funds invest primarily in equity securities of entities outside the United States and may enter into forward contracts to purchase or sell securities at specified dates in the future at a guaranteed price in a foreign currency to protect against fluctuations in exchange rates of foreign currency.

Securities Lending

The System's investment policy provides for its participation in a securities lending program. The program is administered by the System's master custodian, and there are no restrictions on the amount of loans that can be made. During 2019 and 2018, the types of securities loaned were primarily U.S. Government and corporate bonds, domestic equity securities, and international equity securities. Certain securities of the System are loaned to participating brokers, who must provide collateral in the form of cash, U.S. Treasury or Government Agency securities, or letters of credit issued by approved banks.

Under the terms of the securities lending agreement, collateral is required to be provided in the amount of 102% of the fair value of U.S. securities loaned and 105% of the fair value of non-U.S. securities loaned. At June 30, 2019 and 2018, the System had no credit risk exposure to borrowers because the amounts the System owes the borrowers exceed the amounts the borrowers owe the

System. The market value of the cash and non-cash collateral for those securities on loan were \$480,168,634 and \$218,712,750 in FY2019 and \$476,470,399 and \$164,860,108 in FY2018 respectively. The master custodian provides for full indemnification to the System for any losses that might occur in the program due to the failure of a broker to return a security that was borrowed (and if the collateral is inadequate to replace the securities lent) or failure to pay the System for income of the securities while on loan. The loan premium paid by the borrower of the securities is apportioned between the System and its custodial agent in accordance with the securities lending agreement. All securities loans can be terminated on demand by either the lender or the borrower.

Securities On Loan	2019		2018	
Collateralized by cash collateral	\$ 471,408,191	69 %	\$ 465,375,945	74 %
Collateralized by non- cash collateral	214,659,118	31	160,267,183	26
Total	\$ 686,067,309	100 %	\$ 625,643,128	100 %

The securities lending agreement provides that cash collateral be invested in the custodial agent's short-term investment pool and sets forth credit -quality standards, acceptable investments, diversification standards, and maturity and liquidity constraints for the investment fund. The System's investment guidelines do not require a matching of investment maturities with loan maturities but do establish minimum levels of liquidity and other investment restrictions designed to minimize the interest rate risk associated with not matching the maturities of the investments with the loans. At June 30, 2019 and 2018, the cash collateral investments had an average weighted maturity of 16 and 18 days, respectively, and the relationship between the maturities of the custodial agent's investment pool and the System's loans is affected by the maturities of the securities loans made by other entities that use the agent's pool, which the System cannot determine. The System's non-cash collateral is represented by its allocated share of a pool administered by the agent for the System and other pool participants.

(b) Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will default or will otherwise not fulfill its obligations.

The System's investment guidelines provide for the domestic fixed income managers to follow one of four investment styles and specifies quality guidelines for each style.

The *Constrained Core* manager will invest in a broadly diversified portfolio with characteristics similar to a broad fixed income market index, such as the Barclays Capital Aggregate Bond Index. The total portfolio minimum quality should be single-A as rated by a nationally recognized statistical rating organization (NRSRO). The portfolio should primarily consist of investment grade securities, with a minimum quality rating for any issue of triple-B minus rating by at least one NRSRO. In the event that a credit rating is downgraded below this minimum, the investment manager shall immediately notify OPERS staff and provide an evaluation and recommended course of action.

The *Core Plus* manager will invest in a broadly diversified portfolio with characteristics similar to the Constrained Core manager and will add a "plus" of limited exposure to high yield bonds. The total portfolio minimum quality should be single-A as rated by an NRSRO. No more than 20% of the portfolio shall consist of non-investment grade issues. The minimum quality rating for any issue is single-B rating by at least one NRSRO, and no more than 5% of a portfolio shall be invested in issues rated below double-B rating by at least one NRSRO. In the event that a credit rating is downgraded below this minimum, the investment manager shall immediately notify OPERS staff and provide an evaluation and recommended course of action.

The *Interest Rate Anticipator* manager follows a style that seeks to correctly forecast the long term trend in interest rates and adjust the portfolio duration accordingly. The total portfolio minimum quality should be single-A as rated by an NRSRO, and the portfolio should consist of investment grade securities only.

The *Passive* fixed income style consists of a Treasury Inflation-Protection Securities (TIPS) index fund. TIPS are securities issued by the U.S. Government that are designed to protect the purchasing power of the investor.

At June 30, 2019, the domestic fixed income portfolio consisted of a constrained core fixed income portfolio, a core plus fixed income portfolio, a rate anticipator portfolio, and a passive U.S. TIPS Index fund. All components met the stated policy restrictions except the core fixed income portfolio, which held \$3,255,655 in issues rated below triple-B minus, and the core plus fixed income portfolio, which held \$22,660,283 in issues rated below single-B. The System's investment managers have advised retention of the securities after having assessed their risk/reward profiles. At June 30, 2018, the domestic fixed income portfolio consisted of a constrained core fixed income portfolio, a core plus fixed income portfolio, a rate anticipator portfolio, and a passive U.S. TIPS Index fund. All components met the stated policy restrictions except the core fixed income portfolio, which held \$3,255,655 in issues rated below triple-B minus, and the core plus fixed income portfolio, which held \$22,660,283 in issues rated below single-B. The System's investment managers have advised retention of the securities after having assessed their risk/reward profiles.

Investments issued by or explicitly guaranteed by the U.S. Government are not considered to have credit risk. At June 30, 2019, the System held 36.6% of fixed income investments that were not considered to have credit risk and 10.4% in a U.S. TIPS index fund made up of explicitly guaranteed U.S. Treasury Inflation-Protected Securities. At June 30, 2018, the System held 34.4% of fixed income investments that were not considered to have credit risk and 10.2% in a U.S. TIPS index fund made up of explicitly guaranteed U.S. Treasury Inflation-Protected Securities. Implicitly guaranteed investments primarily refer to bonds issued by a government sponsored entity (GSE) which is a government chartered corporation. This government charter implies that the government is unlikely to allow a GSE to default on its bond payments.

The System's exposure to credit risk at June 30, 2019 is presented below, in thousands, by investment category as rated by an NRSRO.

	Triple-A	Double-A	Single-A	Triple-B	Double-B	Single-B	Triple-C	Double-C	Not Rated or Rating Not Available	Total
Government agencies	\$ -	\$ -	\$ -	\$ 4,937	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,937
Foreign bonds	-	-	547	13,999	-	-	-	-	-	14,546
Municipal bonds	-	6,321	-	2,929	-	-	-	-	-	9,250
Corporate bonds	4,864	29,054	232,544	445,608	10,038	5,052	690	-	18,397	746,247
Asset-backed securities	83,752	19,692	17,074	94	-	4,765	3,640	79	-	129,096
Commercial mortgage-backed securities	54,113	426	-	1,467	475	-	-	-	1,104	57,585
Non government backed collateralized mortgage obligations	16,004	12,037	265	3,783	7,237	3,484	5,029	-	-	47,839
Total fixed income securities										
exposed to credit risk	\$ 158,733	\$ 67,530	\$ 250,430	\$ 472,817	\$ 17,750	\$ 13,301	\$ 9,359	\$ 79	\$ 19,501	\$ 1,009,500
Percent of total fixed income portfolio	5.1%	2.2%	8.1%	15.2%	0.6%	0.4%	0.3%	0.0%	0.6%	32.5%

The System's exposure to credit risk at June 30, 2018 is presented below, in thousands, by investment category as rated by an NRSRO.

	Triple-A	Double-A	Single-A	Triple-B	Double-B	Single-B	Triple-C	Not Rated or Rating Not Available	Total
Government agencies	\$ -	\$ 511	\$ -	\$ 681	\$ -	\$ -	\$ -	\$ -	\$ 1,192
Foreign bonds	-	761	-	17,778	-	-	-	-	18,539
Municipal bonds	3,375	8,343	1,942	2,843	-	-	-	-	16,503
Corporate bonds	19,262	28,052	314,189	343,791	44,946	3,938	-	61,020	815,198
Asset-backed securities	107,549	10,024	4,976	10,635	4,195	346	101	-	137,826
Commercial mortgage- backed securities	40,519	2,065	-	1,456	-	-	-	5,122	49,162
Non government backed collateralized mortgage obligations	9,681	2,842	749	7,207	149	-	34	732	21,394
Total fixed income securities exposed to credit risk	\$ 180,386	\$ 52,598	\$ 321,856	\$ 384,391	\$ 49,290	\$ 4,284	\$ 135	\$ 66,874	\$ 1,059,814
Percent of total fixed income portfolio	6.0%	1.7%	10.7%	12.7%	1.6%	0.1%	0.0%	2.2%	35.0%

The exposure to credit risk of the underlying investments of the System's cash equivalents at June 30 is as follows:

Credit Rating	2019	2018
Double-A	100.0	100.0
	100.0 %	100.0 %

(c) Concentration of Credit Risk

Investments can be exposed to concentration of credit risk if significant amounts are invested in any one issuer. The System's investment policy states that portfolios managed on behalf of the System should not hold more than 5% of the outstanding securities of any single issuer. As of June 30, 2019 and 2018, the System did not have 5% or more of its total investments in any single issuer.

(d) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment or a deposit. Duration is a measure of a debt investment's exposure to fair value changes arising from changing interest rates based upon the present value of cash flows, weighted for those cash flows as a percentage of the investment's full price. Effective duration estimates the sensitivity of a bond's price to interest rate changes and makes assumptions regarding the most likely timing and amounts of variable cash flows arising from investments, such as callable bonds, collateralized mortgage obligations, and other mortgage-backed securities.

At June 30, the System's exposure to interest rate risk as measured by effective duration is listed below by investment category.

	2019		2018	
	Fair Value	Effective duration in years	Fair Value	Effective duration in years
U.S. Treasury notes/bonds	\$ 1,109,226,116	12.4	\$ 994,996,296	12.2
U.S. TIPS index fund	324,711,724	7.5	309,268,778	7.7
Government agencies	11,445,632	8.2	6,652,326	9.0
Government mortgage-backed securities	659,025,220	4.1	651,534,262	5.2
Foreign bonds	14,546,433	9.6	18,539,023	9.9
Municipal bonds	9,250,189	4.4	16,502,780	5.1
Corporate bonds	746,247,542	6.1	815,197,984	5.2
Asset-backed securities	129,094,906	1.2	137,825,864	1.0
Commercial mortgage-backed securities	57,584,912	4.8	49,162,460	3.8
Non government backed collateralized mortgage obligations	47,838,648	1.3	21,394,430	1.4
Total fixed income	\$ 3,108,971,322		\$ 3,021,074,203	
Portfolio duration		7.8		7.6

The System does not have a formal investment policy on interest rate risk. Interest rate risk is controlled through diversification of portfolio management styles.

Some investments' sensitivity to changing interest rates may derive from prepayment options embedded in an investment. Asset-backed securities, mortgage-backed securities, and collateralized mortgage obligations are pass-through securities that represent pooled debt obligations repackaged as securities that pass income and principal from debtors through the intermediary to investors.

Asset-backed securities are bonds or notes backed by loan paper or accounts receivable originated by banks, credit card companies, or other providers of credit and often enhanced by a bank letter of credit or by insurance coverage proved by an institution other than the issuer. At June 30, 2019 and 2018, the System held \$129,094,906 and \$137,825,864, respectively, in asset-backed securities.

Mortgage-backed securities are securities backed by mortgages issued by public and private institutions. At June 30, 2019 and 2018, the System held \$659,025,220 and \$651,534,262, respectively, in government mortgage-backed securities issued by the Federal Home Loan Mortgage Corporation (FHLMC), Government National Mortgage Association (GNMA), and Federal National Mortgage Association (FNMA) as well as \$57,584,912 and \$49,162,460, respectively, in commercial mortgage-backed securities.

Collateralized mortgage obligations (CMOs) are mortgage-backed bonds that allocate mortgage cash flows (interest and principal) into different maturity classes, called tranches. This is accomplished by dedicating mortgage cash flows to specific tranches and paying each tranche off in turn by prespecified rules. CMOs provide investors with increased security about the life of their investment compared to purchasing a pass-through mortgage-backed security. If mortgage rates drop (rise) sharply, prepayment rates will increase (decrease), and CMO tranches may be repaid before (after) the expected maturity. At June 30, 2019 and 2018, the System held \$47,838,648 and \$21,394,430, respectively, in non-government backed CMOs.

The exposure to interest rate risk of the underlying investments of the System's cash equivalents at June 30 is as follows:

Maturities (in days)	2019	2018
0 - 14	35.5 %	29.1 %
15 - 30	4.3	12.5
31 - 60	16.8	15.2
61 - 90	22.8	17.0
91 - 180	12.3	11.9
181 - 364	7.0	11.1
365 - 730	1.3	3.2
	100.0 %	100.0 %

(e) 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 OPERS Statement of Investment Policy addresses foreign currency risk by stating that the primary sources of value-added for international equity investment managers will be issue and country selection, with currency management focused on limiting losses due to fluctuations in currency values.

The System's exposure to foreign currency risk by asset class at June 30, 2019 is as follows:

Currency	Equities	Short-term Investments	Cash	Total	Percent
Australian dollar	\$ 22,388,937	\$ -	\$ -	\$ 22,388,937	0.8 %
Brazilian real	16,094,349	-	-	16,094,349	0.6
British pound sterling	158,374,298	-	81,937	158,456,235	5.8
Canadian dollar	10,467,463	-	30,043	10,497,506	0.4
Danish krone	14,483,546	-	-	14,483,546	0.5
Euro	199,250,990	(110,004)	-	199,140,986	7.2
Hong Kong dollar	83,769,297	-	177,594	83,946,891	3.1
Indonesian rupiah	2,702,475	-	-	2,702,475	0.1
Japanese yen	167,010,610	-	595,533	167,606,143	6.1
Malaysian ringgit	8,444,624	-	-	8,444,624	0.3
Mexican peso	6,790,404	-	89,636	6,880,040	0.3
Polish zloty	-	-	444	444	0.0
Qatari rial	680,629	-	-	680,629	0.0
Singapore dollar	32,773,781	-	-	32,773,781	1.2
South African rand	12,392,187	-	-	12,392,187	0.5
South Korean won	25,303,406	-	-	25,303,406	0.9
Swedish krona	31,035,793	108,560	-	31,144,353	1.1
Swiss franc	41,904,906	-	-	41,904,906	1.5
Thai baht	2,315,954	(80,097)	-	2,235,857	0.1
United Arab Emirates dirham	1,912,901	-	-	1,912,901	0.1
International portfolio exposed to foreign currency risk	838,096,550	(81,541)	975,187	838,990,196	30.5
International portfolio in U.S. dollars	1,901,610,902	81,055	8,432,040	1,910,123,997	69.5
Total international portfolio	\$ 2,739,707,452	\$ (486)	\$ 9,407,227	\$ 2,749,114,193	100.0 %

The System's exposure to foreign currency risk by asset class at June 30, 2018 is as follows:

Currency	Short-term		Cash	Total	Percent
	Equities	Investments			
Australian dollar	\$ 22,474,297	\$ -	\$ -	\$ 22,474,297	0.8 %
Brazilian real	15,881,829	77,330	-	15,959,159	0.6
British pound sterling	163,973,850	-	128,639	164,102,489	6.0
Canadian dollar	10,068,088	-	46,915	10,115,003	0.4
Danish krone	19,443,383	-	-	19,443,383	0.7
Euro	196,403,902	708,076	8,031	197,120,009	7.2
Hong Kong dollar	59,434,917	94,927	205,714	59,735,558	2.2
Indonesian rupiah	1,791,420	-	-	1,791,420	0.1
Japanese yen	136,974,338	66,273	643,334	137,683,945	5.0
Malaysian ringgit	9,441,752	-	107,128	9,548,880	0.3
Mexican peso	5,260,043	-	-	5,260,043	0.2
Philippine peso	2,422,953	-	-	2,422,953	0.1
Polish zloty	-	-	442	442	0.0
Qatari rial	2,435,879	-	-	2,435,879	0.1
Singapore dollar	32,443,791	-	171,383	32,615,174	1.2
South African rand	19,295,177	-	-	19,295,177	0.7
South Korean won	27,858,524	(4,811)	-	27,853,713	1.0
Swedish krona	35,674,224	-	-	35,674,224	1.3
Swiss franc	39,743,951	-	-	39,743,951	1.5
Thai baht	3,668,616	-	3,503	3,672,119	0.1
Turkish lira	3,387,052	-	-	3,387,052	0.1
United Arab Emirates dirham	2,642,343	-	-	2,642,343	0.1
International portfolio exposed to foreign currency risk	810,720,329	941,795	1,315,089	812,977,213	29.7
International portfolio in U.S. dollars	1,890,460,930	22,378,015	10,091,296	1,922,930,241	70.3
Total international portfolio	\$ 2,701,181,259	\$ 23,319,810	\$ 11,406,385	\$ 2,735,907,454	100.0 %

The System's actively-managed international equity securities are recorded at fair value, which includes foreign currency gains and losses attributable to fluctuations in the exchange rate between the foreign denominated currency of the investment and the U.S. dollar. This translation gain or loss is calculated based on month-end exchange rates. Cumulative unrealized translation losses at June 30, 2019 and 2018 were approximately \$46.0 and \$50.0 million, respectively.

(f) Rate of Return

For the year ended June 30, 2019 and 2018, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expenses, was 5.91% and 8.38% respectively, and the annual money-weighted rate of return on HISP plan investments, net of HISP plan investment expenses, was 5.52% and 8.08% respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

(g) Fair Value Measurement

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to quoted prices in active markets for identical assets (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The inputs to the three levels of the fair value hierarchy are described as follows:

- Level 1:** Quoted prices in active markets for identical assets or liabilities
- Level 2:** Significant other observable inputs, including quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets in markets that are not active and other market corroborated inputs
- Level 3:** Significant unobservable inputs

Investments in equity securities classified in level 1 are valued directly from a predetermined primary external pricing vendor using published prices. Investments in debt securities classified as level 2 are obtained from using an alternative pricing source due to lack of information by the primary vendor. The investment in real estate is classified as level 3 due to lack of observable pricing inputs and is valued using annual appraisals.

Assets measured at fair value and net asset value at June 30, 2019 are as follows:

Investments by Fair Value Level	6/30/2019	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Short-term investment fund	\$ 121,272,153	\$ -	\$ 121,272,153	\$ -
Debt Securities				
U.S. Treasury notes/bonds	\$ 1,109,226,116	\$ -	\$ 1,109,226,116	\$ -
Government agencies	11,445,632	-	11,445,632	-
Government mortgage-backed securities	659,025,220	-	659,025,220	-
Foreign bonds	14,546,433	-	14,546,433	-
Municipal bonds	9,250,189	-	9,250,189	-
Corporate bonds	746,247,542	-	746,247,542	-
Asset-backed securities	129,094,906	-	129,094,906	-
Commercial mortgage-backed securities	57,584,912	-	57,584,912	-
Non government backed collateralized m	47,838,648	-	47,838,648	-
Total Debt Securities	2,784,259,598	-	2,784,259,598	-
Equity Securities				
International equities	957,058,577	957,058,577	-	-
U.S. common and preferred stock	2,306,945,182	2,306,945,182	-	-
Total Equity Securities	3,264,003,759	3,264,003,759	-	-
Real estate				
Real estate	11,750,000	-	-	11,750,000
Total Investments by Fair Value Level	\$ 6,060,013,357	\$ 3,264,003,759	\$ 2,784,259,598	\$ 11,750,000
Investments Measured at the Net Asset Value (NAV)				
U.S. TIPS index fund	\$ 324,711,724			
International equity index funds	1,782,648,389			
U.S. equity index fund	1,675,716,050			
Total Investments Measured at NAV	3,783,076,163			
Securities lending collateral	480,168,634			
Total Investments	\$ 10,323,258,154			

Assets measured at fair value and net asset value at June 30, 2018 are as follows:

Investments by Fair Value Level	6/30/2018	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Short-term investment fund	\$ 208,058,926	\$ -	\$ 208,058,926	\$ -
Debt Securities				
U.S. Treasury notes/bonds	\$ 994,996,296	\$ -	\$ 994,996,296	\$ -
Government agencies	6,652,326	-	6,652,326	-
Government mortgage-backed	651,534,262	-	651,534,262	-
Foreign bonds	18,539,023	-	18,539,023	-
Municipal bonds	16,502,780	-	16,502,780	-
Corporate bonds	815,197,984	-	815,197,984	-
Asset-backed securities	137,825,864	-	137,825,864	-
Commercial mortgage-backed	49,162,460	-	49,162,460	-
Non government backed collateralized mortgage obligations	21,394,430	-	21,394,430	-
Total Debt Securities	2,711,805,425	-	2,711,805,425	-
Equity Securities				
International equities	952,492,471	952,492,471	-	-
U.S. common and preferred stock	2,360,696,629	2,360,696,629	-	-
Total Equity Securities	3,313,189,100	3,313,189,100	-	-
Real estate				
Real estate	12,600,000	-	-	12,600,000
Total Investments by Fair Value Level	\$ 6,037,594,525	\$ 3,313,189,100	\$ 2,711,805,425	\$ 12,600,000
Investments Measured at the Net Asset Value (NAV)				
U.S. TIPS index fund	\$ 309,268,778			
International equity index funds	1,748,689,851			
U.S. equity index fund	1,652,412,024			
Total Investments Measured at NAV	3,710,370,653			
Securities lending collateral	476,470,399			
Total Investments	\$ 10,224,435,577			

There have been no significant changes in valuation techniques during the fiscal years ended June 30, 2019 and 2018.

Certain investments that do not have a readily determinable fair value are measured at NAV (or its equivalent), such as member units or an ownership interest. NAV per share is calculated as of the System's year-end and provided by the investment manager. The valuation method for investments measured at the NAV per share, or equivalent, is presented in the table below.

Investments Measured at the Net Asset Value	6/30/2019	6/30/2018	Redemption Frequency	Redemption Notice Period
U.S. TIPS index fund (1)	\$ 324,711,724	\$ 309,268,778	Daily	2 days
International equity index funds (2)	1,782,648,389	1,748,689,851	Daily	2 days
U.S. equity index fund (3)	1,675,716,050	1,652,412,024	Daily	1 day
	\$ 3,783,076,163	\$ 3,710,370,653		

⁽¹⁾ **U.S. TIPS index fund** – The US Treasury Inflation Protected Securities fund is an index fund that establishes an objective of delivering investment performance approximating the rate of return for outstanding US Treasury inflation protected securities with a maturity of one year or greater. The investment is valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.

⁽²⁾ **International Equity Index Funds** – The International equity funds consist of index funds that are designed to track various segments of non-US equity markets. Those index funds include the ACWI ex-US Index Fund and the ACWI ex-US Growth Index Fund. The index funds are invested and reinvested in portfolios of non-US developed and emerging markets equity securities, with the objective of approximating the capitalization-weighted return of each respective market segment for publicly traded equity securities. The investment is valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.

⁽³⁾ **U.S. Equity Index Fund** – The US equity fund consist of an index fund that is designed to track various segments of US equity markets. That index fund is the Russell 1000 Index Fund. The index fund is invested and reinvested in portfolios of US equity securities, with the objective of approximating the capitalization-weighted return of each respective market segment for publicly traded equity securities. The investment is valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.

(6) Net Pension Liability, Net HISP Asset and Actuarial Information

(a) Net Pension Liability and Net HISP Asset of Participating Agencies

The components of the net pension liability of the employers at June 30 were as follows:

	2019	2018
Total pension liability	\$ 9,726,326,176	\$ 9,555,990,069
Plan fiduciary net position	<u>\$ 9,593,138,099</u>	<u>\$ 9,360,947,061</u>
Employers' net pension liability	<u>\$ 133,188,077</u>	<u>\$ 195,043,008</u>
Plan fiduciary net position as a percentage of the total pension liability	98.63%	97.96%

The components of the net HISP liability of the employers at June 30 were as follows:

	2019	2018
Total HISP liability	\$ 321,048,037	\$ 328,143,546
HISP plan fiduciary net position	<u>\$ 359,922,778</u>	<u>\$ 341,084,506</u>
Employers' net HISP (asset) liability	<u>\$ (38,874,741)</u>	<u>\$ (12,940,960)</u>
Plan fiduciary net position as a percentage of the total HISP liability	112.11%	103.94%

(b) Actuarial Methods and Assumptions

The total pension liability and total HISP Asset, both as of June 30, 2019 and 2018, were determined based on actuarial valuations prepared as of July 1, 2019, using the following actuarial assumptions:

- Investment return – 7.00% compounded annually net of investment expense and including inflation
- Salary increases – 3.5% to 9.5% per year including inflation
- Mortality rates – active participants and nondisabled pensioners – RP-2014 Mortality Table projected to 2025 by Scale MP-2016 (disabled pensioners set forward 12 years)

- No annual post-retirement benefit increases
- Assumed inflation rate – 2.75%
- Payroll growth – 3.5%
- Actuarial cost method – Entry age
- Select period for the termination of employment assumptions – 10 years

The actuarial assumptions used in the July 1, 2019, valuation are based on the results of the most recent actuarial experience study, which covered the three-year period ending June 30, 2016. The experience study report is dated April 13, 2017.

The long-term expected rate of return on pension plan investments and HISP plan investments was determined using a log-normal distribution analysis in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan 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. The HISP represents a subsidy that is capped at \$105 per month per retiree.

The target asset allocation and best estimates of arithmetic real rates of return for each major class, as used in the June 30, 2016 experience study, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U.S. Large Cap Equity	38.0%	3.8%
U.S. Small Cap Equity	6.0%	4.9%
Non-US Equity	24.0%	9.2%
U.S. Fixed	32.0%	1.4%
Total	100.0%	

(c) Discount rate

The discount rate used to measure the total pension liability and the total HISP liability was 7.00%, net of investment expenses, for 2019 and 2018. The projection of cash flows used to determine the discount rate assumed that contributions from System members and the employers will be made at the current contribution rate as set out in state statute. Based on those assumptions, the pension plan's fiduciary net position and the HISP's fiduciary net position were projected through 2114 to be available to make all projected future benefit payments of current System members. Therefore, the long-term expected rate of return on pension plan and HISP plan investments was applied to all periods of projected benefit payments to determine the total pension liability and total HISP liability. The discount rate determined does not use a municipal bond rate.

Sensitivity of the net pension liability and net HISP liability to changes in the discount rate

The following presents the net pension liability of the employer calculated using the discount rate of 7.00% for 2019 and 2018, as well as what the System's net pension liability (asset) would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

	June 30, 2019			June 30, 2018		
	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net pension liability (asset)	\$1,199,343,656	\$ 128,303,473	\$ (779,733,963)	\$1,251,438,814	\$ 195,043,008	\$ (700,194,263)

The following presents the net HISP liability of the employer calculated using the discount rate of 7.00% for 2019 and 2018, as well as what the System's net HISP liability (asset) would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

	June 30, 2019			June 30, 2018		
	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net HISP liability (asset)	\$ (6,308,220)	\$ (39,042,473)	\$ (67,199,154)	\$ 20,603,534	\$ (12,940,960)	\$ (41,793,057)

Due to the structure of the HISP, healthcare cost trend rate sensitivity analysis is not meaningful.

(7) Federal Income Tax Status

Pursuant to a determination by the IRS, the System is qualified under the Internal Revenue Code of 1986, as amended and, therefore, is exempt from federal income taxes. The latest determination letter is dated October 28, 2014 and was a favorable determination for the Oklahoma Public Employees Retirement Plan. The System has been amended since receiving the determination letter; however, the System administrator believes that the System is designed and is currently being operated in substantial compliance with the applicable requirements of the Internal Revenue Code and will retain its status as a qualified plan.

(8) New Accounting Pronouncements

The following GASB statements were implemented during the fiscal year:

GASB Statement No. 83, *Asset Retirement Obligations*, requires a liability to be recognized if a government is subjected to a law, regulation, court judgment or similar requiring a liability, or funding of a liability. The provisions of the Standard did not apply to the System.

GASB Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements* redefined the word 'debt' for disclosure purposes and requires recognition of direct borrowings and direct placements. The provisions of the Standard did not have a material effect on the System's current disclosure.

Fiscal Year Ended June 30, 2020 (and beyond):

GASB Statement No. 84, *Fiduciary Activities*, clarifies fiduciary relationships and reporting. The System is analyzing the effect of this Statement.

GASB Statement No. 87, *Leases*, changes reporting of nearly all leasing arrangements for lessors and lessees. The System is analyzing the effect of this Statement.

GASB Statement No. 89, *Accounting for Interest Cost before the End of a Construction Period*, removes the GAAP related to capitalization of interest costs. The Standard will likely not apply as the System has not issued in the past, and currently does not issue debt for construction of capital assets.

GASB Statement No. 90, *Majority Equity Interests*, clarifies reporting of when a government has a majority equity position in another entity, which may result in the equity method of reporting or a component unit relationship. This Statement will likely not apply as the System is precluded by State statute from holding a majority equity position in another entity.

GASB Statement No. 91, *Conduit Debt Obligations*, clarifies the reporting of conduit debt. The Standard will not apply to the System as the System does not issue such obligations, nor is it a party to such obligations.

Required Supplementary Information

(Unaudited)

June 30, 2019

Schedule 1

Schedule of Changes in the Net Pension Liability (\$ in Thousands)

Year Ended June 30,	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service cost	\$ 162,170	\$ 170,490	\$ 177,082	\$ 178,523	\$ 175,809	\$ 184,835
Interest	647,009	640,881	639,266	653,306	635,975	621,990
Benefit changes	-	8,929	-	-	-	-
Difference between expected and actual experience	(2,065)	(110,269)	(117,283)	(52,745)	(11,228)	(89,172)
Changes of assumptions	-	-	238,225	233,874	-	15,413
Benefit payments	(621,409)	(592,726)	(573,962)	(565,412)	(542,488)	(520,641)
Refunds of contributions	(15,369)	(15,957)	(15,950)	(15,862)	(15,611)	(14,878)
Net change in total pension liability	170,336	101,348	347,378	431,684	242,457	197,547
Total pension liability - beginning	9,555,990	9,454,642	9,427,810	8,996,126	8,753,669	8,556,122
Adoption of GASB 74	-	-	(320,546)	-	-	-
Total pension liability - ending (a)	\$9,726,326	\$ 9,555,990	\$ 9,454,642	\$ 9,427,810	\$ 8,996,126	\$ 8,753,669
Plan Fiduciary Net Position						
Contributions - employer	\$ 263,730	\$ 258,907	\$ 269,511	\$ 296,249	\$ 292,185	\$ 280,047
Contributions - member	66,566	66,930	70,276	73,801	73,145	70,524
Net investment income	544,237	734,976	1,013,868	15,756	264,289	1,317,980
Benefit payments	(621,409)	(592,726)	(573,962)	(565,412)	(542,488)	(520,641)
Administrative expense	(5,564)	(5,162)	(5,214)	(5,395)	(5,183)	(4,709)
Refunds of contributions	(15,369)	(15,957)	(15,950)	(15,862)	(15,611)	(14,878)
Net change in plan fiduciary net position	232,191	446,968	758,529	(200,863)	66,337	1,128,323
Plan fiduciary net position - beginning	9,360,947	8,913,979	8,435,579	8,636,442	8,570,105	7,441,782
Adoption of GASB 74	-	-	(280,129)	-	-	-
Plan fiduciary net position - ending (b)	9,593,138	9,360,947	8,913,979	8,435,579	8,636,442	8,570,105
Net pension liability - ending (a) - (b)	\$ 133,188	\$ 195,043	\$ 540,663	\$ 992,231	\$ 359,684	\$ 183,564

Schedule of the Net Pension Liability (\$ in Thousands)

Year Ended June 30,	2019	2018	2017	2016	2015	2014
Total pension liability	\$9,726,326	\$ 9,555,990	\$ 9,454,642	\$ 9,427,810	\$ 8,996,126	\$ 8,753,669
Plan fiduciary net position	9,593,138	9,360,947	8,913,979	8,435,579	8,636,442	8,570,105
Net pension liability	\$ 133,188	\$ 195,043	\$ 540,663	\$ 992,231	\$ 359,684	\$ 183,564
Ratio of plan fiduciary net position to total pension liability	98.63%	97.96%	94.28%	89.48%	96.00%	97.90%
Covered payroll	\$1,601,075	\$ 1,688,544	\$ 1,790,810	\$ 1,808,973	\$ 1,744,042	\$ 1,695,348
Net pension liability as a % of covered payroll	8.32%	11.55%	30.19%	54.85%	20.62%	10.83%

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, the information included is for those years for which information is available.

Required Supplementary Information

Schedule of Pension Employer Contributions (\$ in Thousands)

(Unaudited)

June 30, 2019

Schedule 2

Year Ended June 30,	2019	2018	2017	2016	2015	2014
Actuarially determined employer contribution	\$ 129,707	\$ 168,494	\$ 176,016	\$ 164,600	\$ 200,784	\$ 258,879
Actual employer contributions	263,730	258,907	269,511	296,249	292,185	280,047
Annul contribution deficiency (excess)	\$ (134,023)	\$ (90,413)	\$ (93,495)	\$ (131,649)	\$ (91,401)	\$ (21,168)
Covered payroll*	\$ 1,601,075	\$ 1,688,544	\$ 1,790,810	\$ 1,808,973	\$ 1,744,042	\$ 1,695,348
Actual contributions as a percentage of covered payroll*	16.47%	15.33%	15.05%	16.38%	16.75%	16.52%

* Covered payroll beginning in 2017 is for the defined benefit plan members only although employer contributions toward the net pension liability are being received on behalf of defined contribution plan members. Note: 2017 was the first year to exclude the health insurance subsidy.

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, the information included is for those years for which information is available.

Notes to Schedule

Valuation date:

Actuarially determined contributions are calculated as of the beginning of the fiscal year in which contributions are reported

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, closed
Remaining amortization period	9 years
Asset valuation method	5-year moving average
Inflation	2.75% for 2019, 2018 and 2017, and 3.00% for 2016
Salary increase	3.50 to 9.50 percent, including inflation
Investment rate of return	7.00% for 2019, 7.00% for 2018 and 2017, and 7.25% for 2016, compounded annually, net of investment expense and including inflation
Retirement age	Age 65 for all members hired on or after November 1, 2011, age 62 for members hired prior to November 1, 2011
Mortality	For 2019 and 2018, active participants and nondisabled pensioners – RP-2014 Mortality Table projected to 2025 by Scale MP-2016 (disabled pensioners set forward 12 years). For 2016, Active participants and nondisabled pensioners – RP-2000 Mortality Table projected to 2010 by Scale AA (disabled pensioners set forward 15 years)

Other information:

The plan has been amended by House Bill 2630 in 2014 which states that effective November 1, 2015, OPERS shall create a defined contribution plan for most people first employed by a participating employer. Exemptions from the new defined contribution plan include hazardous duty members and district attorneys, assistant district attorneys and employees of the district attorney's office. Each employer shall send to OPERS the difference between the required employer contribution to OPERS and the amount required to match the participating employee's contribution in the defined contribution plan.

Senate Bill 2120, also enacted in 2014, amends House Bill 2630 to further exempt from the new defined contribution plan county elected officials and employees of a county, county hospital, city or town, conservation district, circuit engineering district, and any public or private trust in which a county, city or town participates. Senate Bill 2120 also states that employees who participate in the defined contribution system are excluded from the \$105 health subsidy.

New employees specifically exempted from the defined contribution plan will participate in the existing defined benefit plan.

Required Supplementary Information

Schedule of Money-Weighted Rate of Return on Pension Plan Investments

(Unaudited)

June 30, 2019

Schedule 3

Annual money-weighted rate of return, net of investment expense	
Year Ended June 30, 2019	5.91%
Year Ended June 30, 2018	8.38%
Year Ended June 30, 2017	12.64%
Year Ended June 30, 2016	0.18%
Year Ended June 30, 2015	3.12%
Year Ended June 30, 2014	17.96%

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, the information included is for those years for which information is available.

Required Supplementary Information

(Unaudited)

June 30, 2019

Schedule 4

Schedule of Changes in the Net HISP Liability (Asset) (\$ in Thousands)

Year Ended June 30,	2019	2018	2017
Total HISP Liability			
Service cost	\$ 7,909	\$ 8,367	\$ 8,550
Interest	22,332	22,240	22,563
Difference between expected and actual experience	(18,780)	(10,599)	(16,757)
Changes of assumptions	-	-	11,073
Benefit payments	(18,556)	(18,840)	(18,999)
Net change in total HISP liability	(7,095)	1,168	6,430
Total HISP liability - beginning	328,143	326,975	320,545
Total HISP liability - ending (a)	\$ 321,048	\$ 328,143	\$ 326,975
Plan Fiduciary Net Position			
Contributions - employer	\$ 18,744	\$ 19,080	\$ 18,828
Net investment income	18,841	25,502	35,747
Benefit payments	(18,556)	(18,840)	(18,999)
Administrative expense	(191)	(179)	(184)
Net change in plan fiduciary net position	18,838	25,563	35,392
Plan fiduciary net position - beginning	341,084	315,521	280,129
Plan fiduciary net position - ending (b)	359,922	341,084	315,521
Net HISP liability (asset) - ending (a) - (b)	\$ (38,874)	\$ (12,941)	\$ 11,454

Schedule of the Net HISP Liability (Asset) (\$ in Thousands)

Year Ended June 30,	2019	2018	2017
Total HISP liability	\$ 321,048	\$ 328,143	\$ 326,975
Plan fiduciary net position	359,922	341,084	315,521
Net HISP liability	\$ (38,874)	\$ (12,941)	\$ 11,454
Ratio of plan fiduciary net position to total HISP liability	112.11%	103.94%	96.50%
Covered payroll*	N/A	N/A	N/A
Net HISP liability as a percentage of covered payroll	N/A	N/A	N/A

*Covered Payroll is not meaningful to formulate a ratio of net HISP liability as a percentage of covered payroll. Contributions are only received from employers.

Discount Rate as of June 30, 2019 and 2018 was 7.00%

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, the information included is for those years for which information is available.

Required Supplementary Information

Schedule of HISP Employer Contributions (\$ in Thousands)

(Unaudited)

June 30, 2019

Schedule 5

Year Ended June 30,	2019	2018	2017
Actuarially determined employer contribution	\$ 4,281	\$ 5,786	\$ 6,087
Actual employer contributions	18,744	19,080	18,828
Annual contribution deficiency (excess)	\$ (14,463)	\$ (13,294)	\$ (12,741)
Covered payroll*	N/A	N/A	N/A
Actual contributions as a % of covered payroll*	N/A	N/A	N/A

*Covered Payroll is not meaningful to formulate a ratio of net HISP liability (asset) as a percentage of covered payroll. Contributions are only received from employers.

Notes to Schedule

Valuation date:

Actuarially determined contributions are calculated as of the beginning of the fiscal year in which contributions are reported

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, closed
Remaining amortization period	9 years
Asset valuation method	5-year moving average
Inflation	2.75%
Salary increase	3.50 to 9.50 percent, including inflation
Investment rate of return	7.00%, compounded annually, net of investment expense and including inflation
Retirement age	Age 65 for all members hired on or after November 1, 2011, age 62 for members hired prior to November 1, 2011
Mortality	Active participants and nondisabled pensioners – RP-2014 Mortality Table projected to 2025 by Scale MP-2016 (disabled pensioners set forward 12 years)

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, the information included is for those years for which information is available.

Required Supplementary Information

Schedule of Money-Weighted Rate of Return on HISP Investments

(Unaudited)

June 30, 2019

Schedule 6

Annual money-weighted rate of return, net of investment expense	
Year Ended June 30, 2019	5.52%
Year Ended June 30, 2018	8.08%
Year Ended June 30, 2017	12.76%

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, the information included is for those years for which information is available.

Supplementary Information

Schedule of Investment Expenses

Year Ended June 30, 2019 and 2018

Schedule 7

	2019	2018
Investment management fees		
Fixed Income Managers:		
BlackRock Financial Management, Inc.	\$ 1,158,692	\$ 1,136,263
Hoisington Investment Management	450,709	448,370
Metropolitan West Asset Management, LLC	883,004	909,298
BlackRock Institutional Trust Company, N.A. - TIPS	26,461	32,210
U.S. Equity Managers:		
Barrow, Hanley, Mewhinney & Strauss, Inc.	1,083,739	1,123,376
BlackRock Institutional Trust Company, N.A.	122,131	121,726
DePrince Race & Zollo, Inc.	3,041,501	770,519
Mellon Capital Management	125,000	125,000
State Street Global Advisors	167,120	164,978
UBS Global Asset Management	2,654,717	321,620
Westfield Capital Management	315,198	307,739
International Equity Managers:		
Baillie Gifford Overseas Limited	661,766	668,439
BlackRock Institutional Trust Company, N.A.	455,099	787,118
Mondrian Investment Partners, Ltd	2,131,397	2,209,644
Total investment management fees	13,276,534	9,126,300
Investment consultant fees		
Verus Investment Advisory Group	244,686	246,470
Investment custodial fees		
Northern Trust Company	38,650	38,655
Other investment related expenses	223,316	212,670
Total investment expenses	\$ 13,783,186	\$ 9,624,095

Supplementary Information

Schedule of Administrative Expenses

Year Ended June 30, 2019 and 2018

Schedule 8

	2019	2018
Staff salaries	\$ 3,264,469	\$ 3,192,021
Social Security	240,437	236,160
Retirement	564,939	536,864
Insurance	632,362	640,286
Temporary employees	30,873	26,482
Total personnel services	4,733,080	4,631,813
Actuarial	106,004	89,695
Audit	298,864	247,467
IT Consulting	260,219	-
Legal	18,328	39,939
Total professional services	683,415	377,101
Printing	72,858	50,958
Telephone	22,649	30,063
Postage and mailing expenses	131,173	117,222
Travel	43,656	43,106
Information Technology	296,971	-
Total communication	567,307	241,349
Office space	299,350	228,540
Equipment leasing	24,842	37,927
Total rentals	324,192	266,467
Supplies	19,793	17,086
Maintenance	2,290	133,850
Depreciation	113,339	176,536
Other	190,174	248,921
Total miscellaneous	325,596	576,393
Total administrative expenses	6,633,590	6,093,123
Administrative expenses allocated		
Uniform Retirement System for Justices and Judges (URSJJ)	(176,045)	(161,247)
Oklahoma State Employees Deferred Compensation Plan (DCP)	(507,077)	(458,574)
Oklahoma State Employees Deferred Savings Incentive Plan (SIP)	(128,513)	(120,911)
Pathfinder 401(a) Defined Contribution Plan	(60,454)	(11,345)
Pathfinder 457 Defined Contribution Plan	(6,540)	(1,059)
Total administrative expenses allocated	(878,629)	(753,136)
Net administrative expenses	\$ 5,754,961	\$ 5,339,987

Note to Schedule of Administrative Expenses

Administrative overhead expenses, including personnel and other supporting services costs, which are paid for by the Plan, are allocated to three other retirement funds also administered by OPERS. The allocation is based on OPERS' estimate of the cost of service provided by the Plan to the other funds.

Supplementary Information

Schedule of Professional/Consultant Fees

Year Ended June 30, 2019 and 2018

Schedule 9

		2019	2018
Professional/Consultant	Service		
Cavanaugh Macdonald Consulting, Inc.	Actuarial	\$ 106,004	\$ 89,695
Eide Bailly LLP	External Auditor	71,500	69,900
Arledge & Associates	External Auditor	37,250	35,250
Finley & Cook, PLLC	Internal Auditor	190,114	142,317
Gartner Inc.	IT Consulting	145,069	-
ImageNet	IT Consulting	103,670	-
OMES - Communications	IT Consulting	11,480	-
Ice Miller LLP	Legal	18,328	39,939
Total professional/consultant fees		\$ 683,415	\$ 377,101



INVESTMENT

ESTABLISHED SEASON

By this season, you are established in your career and have set good saving habits. Your accumulation of knowledge and rich experiences are a reminder of a life lived to its fullest. Living within your means will create the freedom to pursue life-long dreams in the retirement season.

- 56** Investment Consultant's Report
- 61** Chief Investment Officer's Report
- 67** Largest Holdings
- 68** Investment Portfolio by Type and Manager
- 69** Asset Comparison
- 70** Schedule of Stock Brokerage Commissions Paid

Investment Consultant's Report

Investment Objectives

The primary financial objective for Oklahoma Public Employees' Retirement System (OPERS) is to earn a long-term return sufficient to avoid deterioration in funded status. The System's actuary estimates this return requirement to be 7.0% while its investment consultant estimates the return requirement to be 6.0% for the fiscal year ended June 30, 2019. It is important to note that Verus uses a 10-year investment horizon whereas actuarial consultants use a much longer time horizon in developing forecasts, typically 30 years.

The secondary goals for OPERS are to outperform the asset allocation-weighted benchmark and to rank in the top fortieth percent of a universe of large public pension funds.

Asset Allocation

The System's Investment Philosophy stresses the following key points:

1. Asset allocation is the key determinant of return. Therefore, commitments to asset allocation targets are maintained through a disciplined rebalancing program.
2. Diversification, both by and within asset classes, is the primary tool for risk control.
3. Passive instruments (index funds) are suitable strategies in highly efficient markets.

ASSET CLASS	6/30/19 ALLOCATION	LOW	TARGET	HIGH	% PASSIVE OR SEMI-PASSIVE
U.S. EQUITY	40.6%	34.4%	40.0%	45.6%	68.7%
FIXED INCOME	31.5%	27.5%	32.0%	36.5%	59.0%
INT'L EQUITY	27.6%	25.0%	28.0%	31.0%	64.9%
REAL ESTATE	0.1%	0.0%	0.0%	0.2%	0.0%
CASH	0.2%	0.0%	0.0%	0.0%	0.0%

Review of Fiscal Year 2019 Investment Environment

U.S. Equity

U.S. equities delivered strong returns over the trailing 1-year period ending in June; the S&P 500 Index returned +10.4%, weathering a healthy degree of volatility along the way. Last December, trade uncertainty and a decision from the Federal Reserve to hike interest rates helped to spark a -19.8% decline in the S&P 500 Index from previous peak levels, just shy of the -20.0% drawdown that indicates a technical bear market. Year-to-date, U.S. large-cap equities have led global equity markets higher, and the S&P 500 Index advanced +18.5%, nearly recovering from the selloff at the end of 2018.

In recent decades, equity and bond markets have benefited from Federal Reserve support during periods of market stress. In late 2018 and the first half of 2019 some weakness appeared in the U.S. economy and markets grew shaky. During this time the Fed stepped in, indicating much easier monetary policy, which has boosted asset prices. Many investors have expressed concern regarding the level of the current (cycle-high) fed funds range relative to past business cycle highs. This has left many to ask how impactful further central bank easing might be as U.S. interest rates approach zero.

A variety of secular trends have helped cultivate a supportive environment for U.S. stocks. Technological advances, lower interest rates, and falling corporate tax rates have all helped to boost corporate profit margins to record highs. As earnings expectations moderate, these margins may be increasingly scrutinized by investors. Per FactSet, the estimated year-over-year revenue and earnings growth for the S&P 500 Index in the second quarter are +3.7% and -3.0% respectively. At the end of the first quarter, expectations called for revenue and earnings growth of +4.5% and -0.5%, respectively, indicating that analysts' expectations fell markedly over the second quarter.

International Equity

International equities underperformed domestic stocks as U.S. exceptionalism remained the story. For the year ending June 30th, 2019, the S&P 500 Index delivered a +10.4% return, outpacing the MSCI ACWI Index (+5.7%), the MSCI Emerging Markets Index (+1.2%), and the MSCI EAFE Index (+1.1%). Within emerging market equities, Latin American equities (MSCI EM Latin America +18.4%) diverged from Asian equities (MSCI EM Asia -2.3%), likely aided by lower levels of economic exposure to the Chinese economy, which in Q2 grew only +6.2% from the prior year, its lowest rate since 1992.

Interest rate differentials between U.S. Treasuries and sovereign bonds in Europe and Japan widened as the Federal Reserve hiked rates while the European Central Bank and the Bank of Japan held rates steady. Expanding interest rate differentials likely contributed to the strength of the U.S. dollar over the period, which presented headwinds for unhedged investors in international equities. The only major international developed currency which strengthened vs. the dollar over the trailing year was the Japanese yen. The yen firmed up +2.8% relative to the dollar, mostly due to risk-off currency flows during the market selloff in the 4th quarter of 2018, where international investors sought safe-haven in the Japanese currency. Elsewhere, the

British pound sterling weakened as uncertainty surrounding Brexit continued to drive trading in the currency.

Fixed Income

Late last year, the Federal Reserve tightened monetary policy further with 0.25% rate hikes in September and December, bringing the target range for federal funds to 2.25% - 2.50%. In December, escalating geopolitical tensions and expectations for slowing global growth weighed on market sentiment, and despite the Fed cutting its guidance for additional rate hikes in 2019 from three to two, markets sold off. Moving into 2019, the Fed pivoted to a much more dovish stance, starting by clarifying its “patient approach” to future rate hikes, walking back its previous commitment to “further gradual increases”. In March, the Fed announced its balance sheet “normalization” process would unwind faster than originally anticipated, which effectively eased financial conditions by creating additional market liquidity. Finally, in June the Fed pledged to “act as appropriate to sustain the expansion”, an initiative unsupported by the Fed’s mandate targeting maximum employment, stable prices, and moderate long-term interest rates. Analysts viewed the Fed’s language as effective in preparing markets for a 0.25% cut during its July meeting, and perhaps another 0.25%-0.50% in cuts by the end of the calendar year.

The shift to more accommodative monetary policy is not a phenomenon unique to the Fed – the European Central Bank, the Bank of Japan, and others have also changed their tune, citing benign inflation pressures and an uncertain geopolitical backdrop as justification for lower rates. Still, with U.S. unemployment near 50-year lows and equities near all-time highs, some analysts have expressed concern over the strength of the Fed’s stimulus measures should a recession rear its head.

Falling ten-year sovereign yields were one of the biggest stories driving markets over the year. Ten-year Treasury yields reached as high as +3.2% in November but ended Q2 2019 at +2.0%. Long-duration U.S. Treasuries were top performers in the U.S., gaining +12.3% over the year and benefitting from precipitous declines in yields. Hard-currency emerging market debt (+12.4%) was the top fixed income performer over the year, and outperformed local-currency EMD (+9.0%), mostly due to a period of emerging market currency weakness last summer. In Europe, yields on many ten-year sovereign bonds established fresh all-time lows with German yields falling from 0.3% to -0.3% and French yields falling from 0.7% to 0.0%. In Italy, yields fell from 2.6% to 2.1%, but spiked as high as 3.6% in the fourth quarter of last year due to concerns that the sitting coalition government would not respect the fiscal budget deficit limits enforced by the European Union. Over the year, the value of global negative-yielding debt rose from \$8.16 trillion to \$12.92 trillion.

In U.S. credit, high yield and investment grade spreads remained near cycle tights at 3.77% and 1.15%. The BBgBarc U.S. High Yield Corporate Index and BBgBarc U.S. Agg Corporate Index returned 7.5% and 7.9% over the period, respectively.

Portfolio Review

The Board adopted a new asset allocation in fiscal year 2017, pursuant to an asset/liability study. The Board has maintained the same strategic asset allocation since that time. OPERS is scheduled to conduct its next asset/liability study in 2020 which could potentially result in an asset allocation change.

Performance Review

At quarterly intervals, the System reviews performance at the total fund, asset class and individual manager levels. At each level, returns are evaluated versus appropriate indexes and peers. Index comparisons have as return objectives various after-fee return premiums with risk (standard deviation) not exceeding 125%-150% of the underlying index. OPERS targets returns within the top fortieth percentile of peer comparisons over longer time periods.

Investment returns achieved through June 30, 2019 have been calculated using a time-weighted rate of return methodology based upon market values. As shown in the following table, for the 1, 3 and 5-year annualized time periods ended June 30, 2019; the U.S. Equity asset class performed above the benchmark for the 3-year period but below its respective blended benchmark for the 1 and 5-year periods. Over the 1-year period, one enhanced index manager that uses a factor-based approach had a particularly challenging year due to stylistic headwinds. The Non-U.S. Equity asset class performed below the benchmark for the 3-year period and above its respective benchmark for the 1-year and 5-year time periods. The Fixed Income asset class performed above the benchmark for the 1-year, 3-year, and 5-year annualized time periods ended June 30, 2019. During a fiscal year where bonds broadly performed well, OPERS' fixed income composite had strong absolute and relative returns, in particular from its long duration manager.

The Domestic Equity asset class was ranked in the second quartile for the 3-year and 5-year annualized time periods. The Non-U.S. Equity asset class was ranked in the third quartile of its universe for the 3-year time period and in the second quartile for the 5-year time period. The Fixed Income asset class ranked in the third quartile of its universe for the 3-year period and in the second quartile of its peer group for the 5-year annualized time periods ended June 30, 2019. OPERS' fixed income asset class structure is more conservative than many of its large plan peers.

The total OPERS Plan performed below its Policy Benchmark for the 1 and 3-year periods and in line with the Policy Benchmark for the 5-year periods ended June 30, 2019. The total OPERS Plan ranked in the second quartile of its peers for 1, 3, and 5-year time periods ended June 30, 2019 compared to the peer universe of Public Funds greater than \$1 Billion, with percentile rankings of 31%, 44%, and 40% respectively.

	ONE YEAR	THREE YEARS	FIVE YEARS
PERIODS ENDED 6/30/19			
Domestic Equity	7.1%	14.0%	9.8%
<i>85% Russell 1000 / 15% Russell 2000</i>	8.0%	13.9%	10.0%
Rank*	64	46	47
Non-U.S. Equity	2.0%	9.3%	2.8%
<i>MSCI ACWI ex-U.S.</i>	1.8%	9.9%	2.6%
Rank*	21	53	47
Fixed Income	8.4%	2.6%	3.5%
<i>78% BC Agg./11% Citi 20+ Year Tsy./11% BC U.S. TIPS</i>	8.0%	2.2%	3.2%
Rank*	25	65	42
Total Fund	6.1%	9.1%	6.1%
<i>Policy Benchmark**</i>	6.7%	9.2%	6.1%
Public Fund > \$1 Billion Median*	5.3%	8.9%	5.8%
Rank*	31	44	40

* Ranking 1 is best, 100 is worst. Rankings source is Investment Metrics (formerly called InvestorForce).

** Policy Benchmark is:

40% Custom Domestic Equity Benchmark (85% Russell 1000/ 15% Russell 2000)/
32% Custom Fixed Income Benchmark (78% BB U.S. Aggregate/ 11% Citi 20-Year+ Treasury/ 11% BC U.S. TIPS)/
28% MSCI ACWI ex-U.S. Index

In summary, Verus believes that OPERS is managed in a prudent and cost effective manner. The sound and disciplined policies implemented by OPERS are evidenced by its competitive performance compared to relevant benchmarks and its above median total Plan peer ranking over longer time periods.

Yours truly,

Margaret S. Jadallah
Managing Director

Chief Investment Officer's Report

Oklahoma Public Employees Retirement System

P.O. Box 53007
Oklahoma City, Oklahoma 73152-3077

800.733.9008 toll-free
405.848.5946 fax

Dear Members:

The Fund's total return of 6.1% for fiscal year 2019 was below the 7% long-term return target and below the 6.7% return of the policy portfolio. Capital market returns in the U.S. carried the day, as the equity markets continued this historic bull run. But it was the U.S. fixed income markets that provided the highest overall contribution to the total return of the Fund for the period. Non-U.S. equity markets lagged the U.S., but still provided positive total returns in U.S. dollar terms for the period. Our use of active management was an overall detractor from the performance of the Fund for the period, especially in the large cap areas of the market. We endeavor to build a durable portfolio that will weather tumultuous market conditions. Maintaining diversification among asset classes and geographical regions is a critical component of that effort. We also de-emphasize active management in the portfolio, as demonstrated by our large holdings of index funds. This year's letter, which covers the 2019 fiscal year, will follow the same format as in years past. First, I will discuss the general economic environment and the performance of various markets throughout the fiscal year. Next, I will focus on the Fund by reviewing the investment performance and the asset allocation. Then, I will offer an investment outlook and discuss recent events at the Fund. Finally, I will review the Fund's investment philosophy and guiding principles, because both are critically important to the investment decision-making process.

Economic Environment

The Gross Domestic Product (GDP), the primary gauge for economic activity in the U.S., entered the eleventh year of expansion since the Great Recession ended in 2009. U.S. GDP posted an annual growth rate of 2.0% in the second quarter. Spending by consumers surged, supported by the lowest unemployment rate in almost fifty years, rising wealth from stock market gains, and favorable consumer sentiment. The strength in consumer spending was offset by declining exports and weakness in the industrial, manufacturing, and housing sectors. The U.S. Administration and China continued to antagonize each other with rhetoric on trade and by each placing reciprocal tariffs on the other's products. The U.S. dollar strengthened relative to the rest of the developed world's currencies. Note that a stronger dollar makes U.S. exports more expensive in other countries. The Federal Reserve raised the Fed Funds rate twice during the fiscal year, to 2.5%. However, the trade dispute, geopolitical risks, and a global economic slowdown caused the Fed to reverse course and reduce rates in July 2019. Fed Chairman Powell stated the Fed would "act as appropriate" to preserve the economic expansion in the U.S.

Economic activity in the European Union continued to slow on a year-over-year and quarter-over-quarter basis during the fiscal year. GDP growth for the Eurozone was just 0.2% for the second quarter of 2019. Eurozone GDP growth suffered on the potential for a global trade war, Brexit uncertainty, and reduced exports. The German economy, the largest in the Euro block, contracted on reduced industrial activity and exports. The European Central Bank (ECB) continued its stimulative measures, holding short-term rates at 0% and continuing to implement quantitative easing to lower long-term interest rates. The ECB also slashed its forecasted growth rate and inflation expectations for the Euro Zone. The United Kingdom's economic prospects have been dimmed by Brexit turmoil. Japan's quarterly economic growth was 0.3% percent in the second quarter of 2019. The trade war with the U.S. sapped economic strength in China, as the 6.3% annual GDP growth rate was the lowest it has been in nearly 30 years. GDP growth reflected lower import and export activity from trade protectionism in addition to declining domestic demand.

Chief Investment Officer's Report (continued)

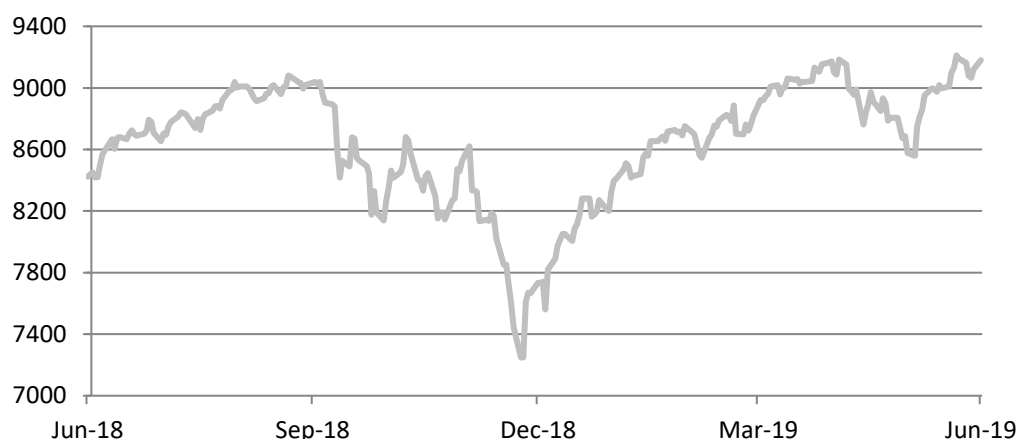
U.S. and Global Stock Markets

The U.S. stock market, as measured by the Russell 3000 Index, continued to perform well during the fiscal year. The Russell 3000 Index is one of the broadest equity indices available and a good proxy for the U.S. equity market as a whole. Surging profitability by companies in the U.S. and corporate tax cuts lent support to the equity market index returns for the period.

Change in the Russell 3000 Index during the fiscal year ended June 30, 2019

Value at 6/30/19 9,180.3

Value at 6/30/18 8,423.6



Source: FTSE Russell

The Russell 3000 ended the one-year period through June 30, 2019, up 8.98%, despite a spike in volatility towards the end of the calendar year. While economic activity in the U.S. continued to offer support to earnings growth in general, the stock market sold off precipitously in the fourth quarter. The tariff-driven trade wars with China, Europe and Mexico, along with a ballooning federal budget deficit, contributed to uncertainty and an erosion of confidence in the business and consumer sectors. Large capitalization stocks performed especially well compared to small capitalization stocks over the one-year period ended June 30. The Russell 1000 index (large cap stocks) returned over 10%, while the Russell 2000 index (small cap stocks) lost over 3% over the period. The market again rewarded risk taking during the period, but this time in the largest companies with relatively less sensitivity to the general economy. Shares in sectors of the market with the least economic sensitivity, like utility stocks and consumer staples companies, performed well for the period, and technology shares continued to rise. The rest of the developed world continued to underperform the U.S. equity market on a U.S. dollar basis. The MSCI All Country World Index ex-U.S. (ACWI ex-U.S. Index), which includes developed and emerging markets, gained 1.29% (net) in U.S. dollar terms for the fiscal year. The U.S. dollar continued to strengthen relative to many other foreign currencies, which detracted from gains experienced by U.S. dollar investors in foreign markets. Emerging market returns in U.S. dollar terms were comparable to non-U.S. developed market returns.

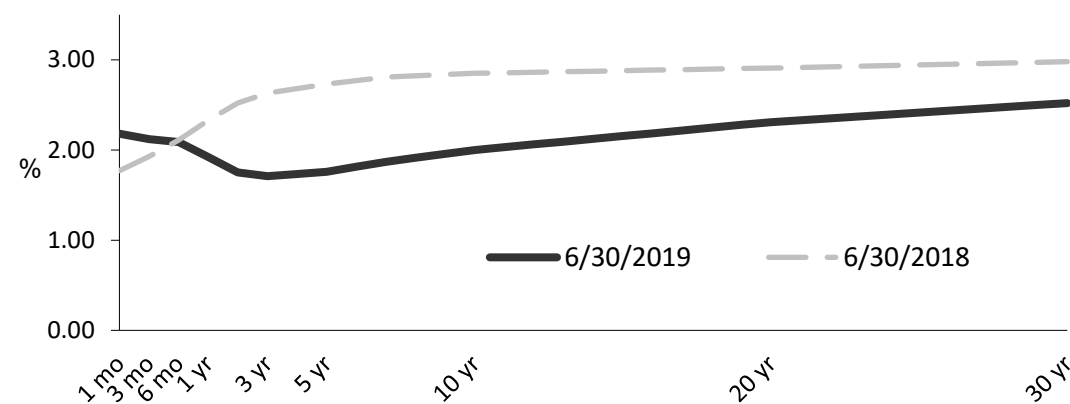
Interest Rates

The chart on the next page depicts the U.S. Treasury term structure of interest rates. The yield curve is a graphical representation of yield levels across the spectrum of bond maturities. As shown, interest rate levels declined in the “belly” of the curve over the period, causing the yield curve to invert. For most of the fiscal year, the Federal Reserve continued on the path towards interest rate normalization by raising the Fed Funds rate twice during the fiscal year. The Fed Funds Rate stood at a range of 2.25%- 2.50% at the end of the fiscal year. The Federal Reserve then reversed course and began an easing cycle on fears that slowing economies outside of the U.S. would cause the economic expansion to stall in the U.S.

Chief Investment Officer's Report (continued)

Outside of the U.S., yields continued to be low, and even negative in Japan and Germany. Geopolitical risks associated with Brexit have caused great uncertainty in Europe, and central banks have continued to be accommodative.

U.S. Treasury Yield Curve



Source: U.S. Treasury

Investment Returns Through June 30, 2019

U.S. Equity	Style	1 Year	3 Years	5 Years
Russell 3000	Broad U.S. Equity	8.98%	14.02%	10.19%
S&P 500	Large Cap Equity	10.42%	14.19%	10.71%
Russell 1000	Large Cap Equity	10.02%	14.15%	10.45%
Russell 1000 Growth	Large Cap Growth	11.56%	18.07%	13.39%
Russell 1000 Value	Large Cap Value	8.46%	10.19%	7.46%
Russell 2000	Small Cap Equity	-3.31%	12.30%	7.06%
Russell 2000 Growth	Small Cap Growth	-0.49%	14.69%	8.63%
Russell 2000 Value	Small Cap Value	-6.24%	9.81%	5.39%
Oklahoma Public Employees Retirement System	Broad U.S. Equity	7.15%	13.99%	9.79%
U.S. Fixed Income	Style	1 Year	3 Years	5 Years
ML 3-Month T-Bill	Cash	2.27%	1.33%	0.83%
Bloomberg Barclays U.S. Aggregate	Core Bonds	7.87%	2.31%	2.95%
Citigroup 20-year Treasury Average	Long Term Bonds	12.22%	1.23%	5.94%
Bloomberg Barclays Corporate High Yield	High Yield Bonds	7.48%	7.52%	4.70%
Oklahoma Public Employees Retirement System	Domestic Fixed Income	8.43%	2.60%	3.48%
International Equity	Style	1 Year	3 Years	5 Years
MSCI ACWI Ex-US	Broad Non-US Equity	1.29%	9.39%	2.16%
MSCI EAFE	Developed Non-US Equity	1.08%	9.11%	2.25%
MSCI Emerging Market	Emerging Non-US Equity	1.21%	10.66%	2.49%
Oklahoma Public Employees Retirement System	Non-U.S. Equity	2.00%	9.26%	2.85%
Oklahoma Public Employees Retirement System	Total Fund	6.11%	9.05%	6.07%

Source: Various index providers, including FTSE Russell, S&P, Barclays, Citigroup, and MSCI. OPERS returns were calculated using the BAI Iterative method (as such returns are time-weighted) and are gross of investment fees.

Chief Investment Officer's Report (continued)

Investment Performance

Bull market continued

The Fund produced a total return of 6.1% for the period gross of fees (6.0% net of fees), which underperformed the policy benchmark portfolio by 55 basis points for the period. The results from active management this year were mixed, but overall detracted from total returns of the Fund. The U.S. small capitalization equity, non-U.S. equity, and fixed income portions of the Fund benefited from their respective exposures to active management, adding value relative to the benchmark. This positive influence was offset, however, by generally poor active results in the U.S. large capitalization equity portion of the portfolio.

The Fund benefited from robust absolute returns from the U.S. market, in both fixed income and equity market exposures. These two segments of the portfolio returned in excess of the 7% required return for the period and were the primary drivers of the Fund's overall results. Non-U.S. equity market returns were positive, but performed well below the required return-rate hurdle.

U.S. Equity

The Fund used a mix of passive and active investment management within the domestic equity portfolio structure, with a high proportion of U.S. equity assets managed in a passive style. Active U.S. equity management detracted from the Fund's overall performance for the fiscal year. The value added from the advisors in the large capitalization areas of the market was pressured, as value-oriented stocks underperformed the overall market in favor of growth-oriented stocks. While small capitalization stocks dramatically underperformed large capitalization stocks for the period, the small cap managers added value overall relative to the small cap index. The Fund's small capitalization managers who emphasize growth-oriented stocks and value (and yield)-oriented stocks both performed exceptionally well versus their respective benchmarks. The Fund's modest overweight to small cap stocks, combined with the underperformance of the large capitalization advisors caused the U.S. equity portion of the Fund to underperform the policy for the period.

Fixed Income

The Fund's bond portfolio contributed meaningfully to overall results, driving the total return for the fiscal year. As mentioned above, yields declined, especially in the belly of the yield curve, which boosted the nominal total return of the asset class. The Fund's advisor who uses interest rate positioning in managing its portion of the portfolio by analyzing long-term economic trends performed very well for the period, as its long duration position was handsomely rewarded. The inflation-sensitive portion of the bond portfolio also performed well. The two advisors who focus on the broader bond market both outperformed the benchmark, delivering equity-like total returns for the period, which is not expected from the asset class. Bonds are maintained in the portfolio for their diversified return pattern when compared with exposure to the equity markets. The decline in rates over the course of the fiscal year provided strong returns to the diversified Fund.

Non-U.S. Equity

The non-U.S. equity portfolio contributed positively to the total return of the Fund, having gained 2% in U.S. dollar terms for the period. Much like the U.S. Equity portfolio, a high proportion of these Fund assets are managed in a passive style. Within this segment of the asset allocation, two active managers are used. One of the active managers emphasizes the value area of the international market, and the other manager emphasizes the growth area. Nominal returns were positive for both active managers, but the benchmark-relative results for one of the advisors disappointed. The manager who focuses on the international value area of the global equity markets outperformed its benchmark, as defensiveness was rewarded outside of the U.S. The advisor who emphasizes the growth style underperformed its benchmark. The Fund's high relative allocation to the value-oriented manager allowed for the international portion of the Fund to outperform the benchmark.

Chief Investment Officer's Report (continued)

Asset Allocation

Diversification Reduces Volatility

Diversification is the most effective defense against the risks associated with any one individual security or asset class. Risks are controlled by allocating the Fund's assets across various asset classes and sectors within asset classes. There were no changes to the asset allocation during the fiscal year.

Asset Class	Min	6/30/2019	Target	Max
Cash and Real Estate	0.0%	0.3%	0.0%	0.0%
Domestic Fixed Income	27.5%	31.5%	32.0%	36.5%
U.S. Equity	34.4%	40.6%	40.0%	45.6%
Non-U.S. Equity	25.0%	27.6%	28.0%	31.0%
Total Fund		100%	100%	

Outlook and Recent Events

Outlook

If you've read this report in previous years, you know that I begin this section on a cautionary note regarding the accuracy of forecasted market returns. Correctly and consistently forecasting the market's behavior is impossible, and taking any forecast as fact is sheer folly. We build the Fund according to the tenets set forth in our Investment Policy while making diversification, with respect to different asset classes and within each asset class, a priority. We endeavor to structure the Fund so it may benefit from strong returns in relatively riskier asset classes, but are ever mindful to maintain a level of diversification to dampen the return volatility that can result.

The current global economic environment continues to be driven by economic activity in the U.S. However, the specter of trade wars with traditional trading partners, like China and potentially Europe, are tempering global economic growth forecasts. While the U.S. consumer appears to have withstood the saber rattling thus far, industrial and manufacturing activity, in addition to business confidence, have certainly been diminished in the U.S. The economic slowdown that has impacted the rest of the world has continued. The process for Brexit poses great uncertainty, not only to the U.K., but to Europe and the rest of the developed world. The good news is that central banks in the U.S., Europe, and Asia have continued to pursue easy money policies to support economic activity. Some of these measures are unprecedented, such as maintaining negative interest rate levels. The efficacy of these supportive policies, combined with the resolution of trade deals, will be the key to restoring confidence and enhancing global economic activity levels.

Our largest concern continues to be the prospect of generating and maintaining investment results that match or exceed the actuarial assumed rate of return of 7.00%. This will continue to be a challenging task going forward. Interest rates remain low, which pressures the long-term return generating capacity of a diversified portfolio. Additionally, with the stock market hitting record levels, equity market valuation levels appear stretched, which reduces prospective future returns.

Fixed Income

Over a long period of time, the total return of the bond market **tends** to resemble the yield of years past. Over short periods, interest rate movements may have a profound impact on the capital gains (or losses) experienced by bond investors. Even though rates started the year at relatively low levels, rates fell dramatically over the fiscal year, producing outsized returns for the bond market. Falling rates produce positive returns for bonds in the short-term, but also constrain prospective returns of the bond market going forward. Our medium-term expectation for the total return of the broad U.S. fixed income market going forward would more closely reflect current yields, which are around 1.5%-1.7%. Bonds are a necessary part of a diversified portfolio, but are unlikely to contribute to the total returns of the Fund as the asset class has in the past.

Chief Investment Officer's Report (continued)

Equity

Equity markets are particularly difficult to predict with any type of precision. Over short periods of time, market sentiment and technical factors (buying and selling) have an overwhelming impact on returns experienced by investors. ***Over a long period of time***, the real return from the equity markets can be attributable to three main sources: dividends on stocks, the growth rate of corporate earnings, and changes in the valuation ratios. Generally, the growth rate of earnings depends on the economic environment. The U.S. economy continues to exhibit relatively stable growth. Consumer spending, the biggest driver of the U.S. economy, remains stable as the outlook for employment is satisfactory but wage growth is stagnant. Market sentiment has been negatively impacted by trade tensions and a slowdown in the global economy. Geopolitical risks remain in the global economy, and the resolution of Brexit and trade tensions would contribute positively to the general economic outlook. Market valuations appear extended, and confidence is a fuel that can quickly evaporate.

Recent Events

There were no changes to the Fund structure or the managers within the Fund during the year.

Investment Philosophy and Guiding Principles

The investment philosophy and the principles that guide the stewardship of the Fund have remained consistent and are listed below. A pension fund has the longest of investment horizons and, therefore, rightly focuses on factors impacting long-term results:

- Asset allocation is the key factor determining long-term results.
- Disciplined rebalancing toward the desired asset allocation maintains diversification and controls risk.
- Diversification within and across asset classes is the most effective tool for controlling risk.
- Passive investment management is commonly the most effective approach in efficient markets; active investment management can succeed in less efficient markets.

For a complete discussion of the investment portfolio and policies thereof, please see the Statement of Investment Policy. A copy of the policy is posted on the OPERS website, www.OPERS.OK.gov/Investment. If you have any questions about this report or the management of the Fund's investments, please contact me. Thank you.

Regards,

Brad Tillberg, CFA
Chief Investment Officer

Largest Holdings

The Plan's ten largest fixed income and stock holdings at June 30, 2019, are described in the following schedules. The Plan invests in various index and commingled funds which are separately presented.

Ten Largest Fixed Income Holdings (By Fair Value):

Security	Par	Fair Value
U.S. Treasury Bonds 2.5% due 2-15-2046	102,200,000	\$ 101,665,085
U.S. Treasury Notes 2.125% due 05-31-2021	93,930,000	94,568,442
U.S. Treasury Bonds 2.5% due 5-15-2046	80,560,000	80,094,283
U.S. Treasury Bonds 3.0% due 11-15-2045	64,000,000	70,040,000
U.S. Treasury Bonds 2.875% due 5-15-2049	60,397,000	64,794,687
U.S. Treasury Notes 2.125% due 5-31-2026	54,570,000	55,482,356
U.S. Treasury Notes 1.625% due 6-30-2024	48,370,000	48,349,201
U.S. Treasury Notes 2.0% due 5-31-2024	46,660,000	47,208,628
U.S. Treasury Bonds Strip Prin Pmt due 11-15-2045	85,000,000	43,101,035
US TREASURY N/B 2.375% 05-15-2029	41,005,000	42,374,485

Ten Largest Stock Holdings (By Fair Value):

Security	Shares	Fair Value
Microsoft Corporation Common Stock	440,696	\$ 59,035,636
Apple Inc.Common Stock	264,501	52,350,038
Amazon.com, Inc. Common Stock	27,292	51,680,950
Johnson & Johnson Common Stock	223,430	31,119,330
Facebook, Inc. Class A Common Stock	149,350	28,824,550
Verizon Communications Common Stock	461,392	26,359,325
Chevron Corporation	210,421	26,184,789
Alphabet Inc. Common Stock	20,760	22,439,692
Bank of America Corporation Common Stock	725,120	21,028,480
United Overseas Bank BANK NPV	1,082,854	20,913,541

Investments in Funds (By Fair Value):

Fund	Units	Fair Value
BlackRock Russell 1000 Index Fund	7,359,694	\$ 1,675,716,050
BlackRock ACWI ex-U.S. Index Fund	51,636,747	1,452,047,478
BlackRock ACWI ex-U.S. Growth Index Fund	18,485,112	330,600,910
BlackRock U.S. TIPS Index Fund	14,023,651	324,711,724

A complete list of portfolio holdings is available upon request from the OPERS Investment Accounting and Financial Reporting Department.

Investment Portfolio by Type and Manager

At June 30, 2019, the investment portfolio of OPERS was allocated by type and style as follows:

Investment Type and Manager	Style	Fair Value*	Percent of Total Fair Value
		(000's)	
Fixed Income:			
Blackrock Financial Management, Inc.	Constrained Core	\$ 1,511,330	15.2%
Hoisington Investment Management	Interest Rate Anticipation	358,645	3.6%
BlackRock Institutional Trust Company	Index Fund – U.S. TIPS	324,717	3.3%
Metropolitan West Asset Management	Core Plus	980,336	9.8%
Total Fixed Income		3,175,028	31.9%
U.S. Equities:			
BlackRock Institutional Trust Company	Index Fund – Russell 1000	1,675,716	16.7%
Mellon Capital Management	Large cap – Enhanced Index	544,020	5.5%
State Street Global Advisors	Large cap – Enhanced Index	548,711	5.5%
Westfield Capital Management	Large cap – Growth	309,317	3.1%
Aronson + Johnson + Ortiz	Large cap – Value	302,386	3.0%
UBS Global Asset Management	Small cap – Growth	224,524	2.3%
Barrow, Hanley, Mewhinney & Strauss, Inc.	Small cap – Value	207,888	2.1%
DePrince, Race & Zollo, Inc.	Small cap – Value	217,612	2.2%
Total U.S. Equities		4,030,174	40.4%
International Equities:			
Baillie Gifford Overseas Ltd.	International Growth	351,221	3.5%
Mondrian Investment Partners, Ltd.	International Value	605,154	6.1%
BlackRock Institutional Trust Company	Index Fund – ACWI ex-U.S. Growth	330,602	3.3%
BlackRock Institutional Trust Company	Index Fund – ACWI ex-U.S.	1,452,050	14.6%
Total International Equities		2,739,027	27.5%
Short-term Investment Funds	Operating Cash	17,790	0.2%
Total Managed Investments		9,962,019	100.0%
Real Estate		11,750	
Securities Lending Collateral		480,169	
Cash Equivalents on Deposit with State		3,594	
Total Investments and Cash Equivalents		\$ 10,457,532	
Statement of Fiduciary Net Position			
Cash Equivalents		134,274	
Investments		10,323,258	
Total Investments and Cash Equivalents		\$ 10,457,532	

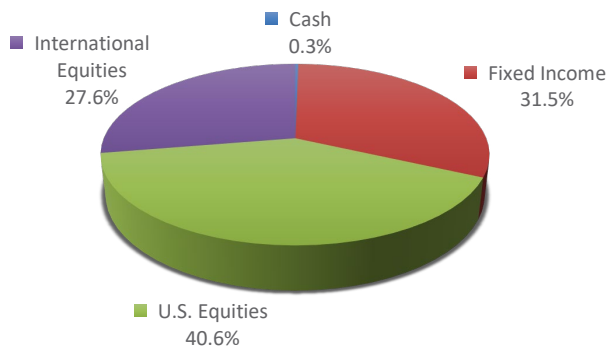
* Manager fair values include their respective cash and cash equivalents.

Asset Comparison

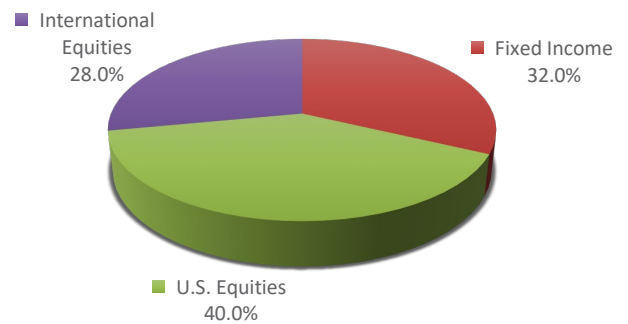
A comparison of the actual investment distribution at June 30, 2019 and 2018, based on the net investment manager holdings, including accrued income, payables and receivables, compared to the target allocation for each year is as follows:

2019

Asset Mix

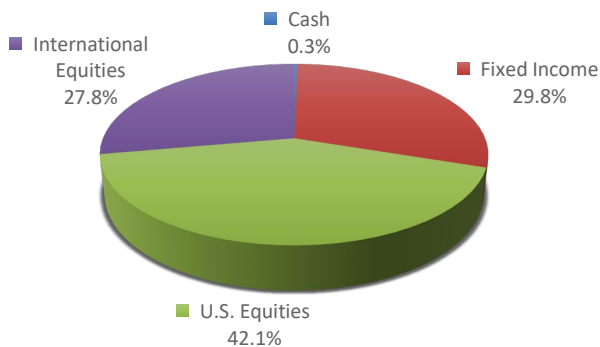


Target Policy Mix

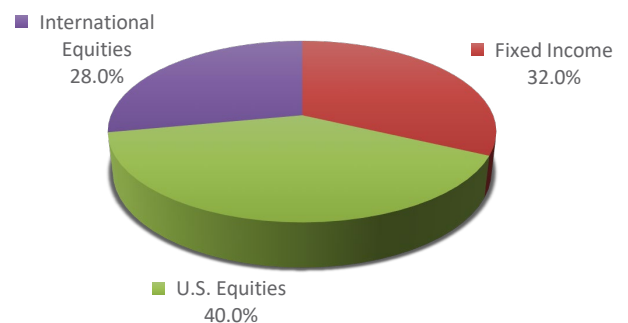


2018

Asset Mix



Target Policy Mix



Schedule of Stock Brokerage Commissions Paid

Year Ended June 30, 2019

Brokerage Firm	Shares Traded	Dollar Volume of Trades	Commission	
			Dollar Amount	Per Share
NATIONAL FINANCIAL SERVICES LLC	12,413,091	\$ 516,546,813	\$ 117,122	0.009
INSTINET, LLC	5,859,135	325,521,433	74,034	0.013
BARCLAYS CAPITAL INC./LE	2,723,775	200,725,674	40,259	0.015
NORTHERN TRUST SECURITIES, INC.	3,779,878	171,232,274	116,598	0.031
MORGAN STANLEY & CO. LLC	2,947,302	133,033,534	39,560	0.013
UBS SECURITIES LLC	1,918,017	123,072,499	20,575	0.011
SANFORD C. BERNSTEIN & CO., LLC	1,933,049	115,064,293	39,899	0.021
CANTOR FITZGERALD & CO.	1,792,674	107,784,667	24,365	0.014
VIRTU AMERICAS LLC	1,233,177	105,244,542	12,230	0.010
J.P. MORGAN SECURITIES LLC	2,329,797	99,671,654	30,086	0.013
WEEDEN AND CO	1,807,009	97,357,344	30,708	0.017
ROSENBLATT SECURITIES INC	1,344,178	89,254,423	13,324	0.010
JONESTRADING INSTITUTIONAL SERVICES, LLC.	3,245,381	77,839,016	111,746	0.034
ITG INC.	1,312,001	75,445,515	11,666	0.009
PERSHING LLC	1,478,407	73,862,873	15,349	0.010
BOFA SECURITIES, INC.	1,316,412	61,637,844	18,830	0.014
LIQUIDNET INC	1,800,488	58,648,333	31,508	0.017
ISI GROUP INC.	509,736	54,362,013	14,961	0.029
SANFORD C. BERNSTEIN LTD	5,878,272	51,331,970	15,618	0.003
GOLDMAN, SACHS & CO.	1,102,616	50,130,888	28,352	0.026
Other	71,250,862	1,051,611,387	577,887	0.008
Total	127,975,257	\$ 3,639,378,989	\$ 1,384,676	0.012



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You have worked hard for many seasons to protect the financial wealth you have built. As you move into the transition season, planning your retirement and personal goals establishes what the next season will hold and gives you a sense of security.

- 71** 2019 Certification of Actuarial Valuation
- 73** Summary of Results
- 74** Analysis of Financial Experience
- 75** Solvency Test
- 76** Schedule of Active Member Valuation Data
- 76** Schedule of Retirants, Disabled Retirants and Beneficiaries Added to and Removed from Rolls
- 77** Summary of System Provisions
- 79** Summary of Actuarial Assumptions and Methods



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November 6, 2019

Board of Trustees
Oklahoma Public Employees Retirement System
5400 N Grand Boulevard, Suite 400
P.O. Box 53007
Oklahoma City, OK 73112-5625

Members of the Board:

In this report are submitted the results of the annual valuation of the assets and liabilities of the State of Oklahoma Public Employees Retirement System (OPERS), prepared as of July 1, 2019.

The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2019 and to provide the actuarially determined rate. While not verifying the data at the source, the actuary performed tests for consistency and reasonability. There have been no changes to the actuarial assumptions or methods since the last valuation.

The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the Entry Age Normal cost method. A five-year market-related value of assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded actuarial accrued liability (UAAL) that is being amortized by regular annual contributions as a level percentage of payroll, on the assumption that payroll will increase by 3.50% annually.

As in recent valuations, liabilities have been calculated without considering future cost of living adjustments (COLAs) in keeping with House Bill 2132 (2011). We note that House Bill 1340 (2018) granted a one-time stipend to retirees, funded by the System. Should funding of future COLAs and/or stipends be provided by the System, the COLAs and/or stipends should be included in the actuarial valuation. In addition, House Bill 2630 (2014) closes the plan to most new employees hired after November 1, 2015.

We have prepared the Schedule of Funding Progress and Employer Contribution Trend Information shown in the Comprehensive Annual Financial Report. All historical information that references a valuation date prior to July 1, 2010 was prepared by the previous actuarial firm.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to factors such as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Because the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

We have also reviewed the supplemental medical benefits provided by the System under Section 401(h) of the Internal Revenue Code and have determined that these benefits are subordinate to the retirement benefits as required.

In our opinion, in order for the System to meet all the benefit obligations of the plan for current active and retired members, contributions equal to at least the actuarially determined rate are necessary for future fiscal years. Assuming these contributions are made to the System, from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated. Because the statutory contribution exceeds the actuarially determined rate in this valuation, we recommend the statutory contribution be used to pay the UAAL down faster than under the current schedule and to protect against future investment and experience losses.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,



Alisa Bennett, FSA, EA, FCA, MAAA
President



Brent Banister, PhD, FSA, EA, FCA, MAAA
Chief Actuary

Summary of Results

	7/1/2019 Valuation	7/1/2018 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members	34,536	36,329	(4.9)
Retired and Disabled Members and Beneficiaries	35,869	35,260	1.7
Inactive Members	6,106	6,024	1.4
Total Members	76,511	77,613	(1.4)
Projected Annual Salaries of Active Members	\$ 1,584,630,994	\$ 1,601,074,591	(1.0)
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 614,578,512	\$ 595,301,608	3.2
2. ASSETS AND LIABILITIES			
Total Actuarial Accrued Liability	\$ 10,047,374,213	\$ 9,884,133,615	1.7
Market Value of Assets	\$ 9,958,113,213	\$ 9,702,031,567	2.6
Actuarial Value of Assets	\$ 9,909,683,940	\$ 9,658,126,021	2.6
Unfunded Actuarial Accrued Liability	\$ 137,690,273	\$ 226,007,594	(39.1)
Funded Ratio	98.6%	97.7%	0.9
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost Rate	10.15%	10.27%	
Amortization of Unfunded Actuarial Accrued Liability	1.08%	1.66%	
Budgeted Expenses	0.47%	0.43%	
Total Actuarially Determined Contribution Rate	11.70%	12.36%	
Less Estimated Member Contribution Rate	4.19%	4.18%	
Employer Actuarially Determined Contribution Rate	7.51%	8.18%	
Less Statutory State Employer Contribution Rate	16.50%	16.50%	
Contribution Shortfall/(Surplus)	(8.99%)	(8.32%)	

Analysis of Financial Experience

Gains & Losses in Actuarial Accrued Liability During the Year Ended June 30, 2019
Resulting from Differences Between Assumed Experience & Actual Experience

Type of Activity	(Gain) or Loss for Year End 2019
1. Age & Service Retirements. Generally, if members retire at older ages or with smaller benefits than assumed, there is a gain. If they retire at younger ages or have higher average pays, a loss occurs.	\$ (3,900,000)
2. Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	900,000
3. Deaths. If more deaths occur than assumed, there is a gain. If fewer, there is a loss.	(13,400,000)
4. Withdrawal from Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(11,200,000)
5. Pay Increases. If there are smaller pay increase than assumed, there is a gain. If greater increases, a loss.	19,900,000
6. New Entrants. All new entrants to the System create a loss.	21,100,000
7. Other. Miscellaneous gains and losses resulting from data adjustments, employee transfers, valuation methods, etc.	(34,200,000)
8. (Gain) or Loss During Year From Financial Experience.	101,700,000
9. Composite (Gain) or Loss During Year.	\$ 80,900,000

Solvency Test

The OPERS funding objective is to be able to pay long-term benefit promises through contributions that remain approximately level from year to year as a percent of salaries earned by members. In this way, members and employers in each year pay their fair share for retirement service accrued in that year by OPERS members.

If the retirement system follows level contribution rate financing principles, the system will pay all promised benefits when due – the ultimate test of financial soundness.

A short-term solvency test is one means of monitoring OPERS funding progress. In a short-term solvency test, the retirement System's present valuation assets are compared with: 1) active member contributions on deposit, 2) the liabilities for future benefits to persons who have retired and the liabilities for terminated employees with vested benefits, and 3) the liabilities for service already rendered by active members. In a system that has been following the discipline of level contribution rate financing, the liabilities for member contributions on deposit (liability 1), the liabilities for future benefits to present retirees and the liabilities for future benefits for terminated employees (liability 2) will be fully covered by present assets, except in rare circumstances.

In addition, the liabilities for service already rendered by members (liability 3) will be partially covered by the remainder of present assets. Generally, if the system has been using level contribution rate financing, the funded portion of liability 3 will increase over time; however, a decrease generally occurs in those years when substantial benefit improvements are granted by the Legislature. It is unusual for liability 3 to be fully funded. The funded ratio of the System based on total actuarial accrued liabilities (1 + 2 + 3) provides an indication of how well the System is funded.

The schedule below illustrates the progress of funding the actuarial accrued liabilities of OPERS.

Actuarial Accrued Liability and Valuation Assets (in thousands)						Portion of Actuarial Accrued Liability Covered by Reported Assets			
Date	Active Member Contributions (Liability 1)	Retirees, Beneficiaries and Terminated Vested Members (Liability 2)	Employer Financed Portion of Active Members (Liability 3)	Total Liability (1 + 2 + 3)	Reported Assets ¹	(1)	(2)	(3)	Funded Ratio of Total Accrued Actuarial Liability
July 1, 2010	487,980	5,252,862	3,881,786	9,622,628	6,348,416	100	100	15.8	66.0
July 1, 2011	488,418	4,677,760	3,013,590	8,179,768	6,598,628	100	100	47.5	80.7
July 1, 2012	505,373	4,832,068	2,997,197	8,334,638	6,682,200	100	100	44.9	80.2
July 1, 2013	517,653	5,032,769	3,005,700	8,556,122	6,978,873	100	100	47.5	81.6
July 1, 2014	534,081	5,184,818	3,034,770	8,753,669	7,759,258	100	100	67.2	88.6
July 1, 2015	537,046	5,417,604	3,041,476	8,996,126	8,420,307	100	100	81.1	93.6
July 1, 2016	545,020	5,757,019	3,125,771	9,427,810	8,790,886	100	100	79.6	93.2
July 1, 2017	549,211	6,131,997	3,100,409	9,781,617	9,241,292	100	100	82.6	94.5
July 1, 2018	550,806	6,312,792	3,020,536	9,884,134	9,658,126	100	100	92.5	97.7
July 1, 2019	549,813	6,463,941	3,033,620	10,047,374	9,909,684	100	100	95.5	98.6

¹Actuarial value of assets based on the smoothing technique adopted by Board.

Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
July 1, 2019	34,536	\$1,584,630,994	\$45,883	4.11
July 1, 2018	36,329	1,601,074,591	44,072	1.46
July 1, 2017	38,873	1,688,543,856	43,437	1.40
July 1, 2016	41,806	1,790,809,603	42,836	3.82
July 1, 2015	43,843	1,808,972,785	41,260	3.97
July 1, 2014	43,947	1,744,041,536	39,685	1.29
July 1, 2013	43,273	1,695,347,809	39,178	2.08
July 1, 2012	42,569	1,633,837,374	38,381	(0.90)
July 1, 2011	40,551	1,570,500,148	38,729	1.06
July 1, 2010	43,934	1,683,697,139	38,323	1.01

Schedule of Retirants, Disabled Retirants, and Beneficiaries Added to and Removed from Rolls

Year Ended	Added to Rolls		Removed from Rolls		Rolls – End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
June 30, 2019	1,692	\$33,093,583	1,083	\$ 13,816,679	35,869	\$ 614,578,512	3.24	\$17,134
June 30, 2018	1,692	31,763,873	1,011	13,010,324	35,260	595,301,608	3.25	16,883
June 30, 2017	1,846	35,653,217	1,016	12,736,245	34,579	576,548,059	4.14	16,673
June 30, 2016	1,986	37,356,248	991	12,505,069	33,749	553,631,087	4.70	16,404
June 30, 2015	1,898	35,731,879	977	11,895,298	32,754	528,779,908	4.72	16,144
June 30, 2014	1,667	28,477,713	969	11,707,809	31,833	504,943,327	3.44	15,862
June 30, 2013	1,767	31,633,122	895	10,184,240	31,135	488,173,423	4.60	15,679
June 30, 2012	1,703	29,234,998	858	10,430,214	30,263	466,724,541	4.20	15,422
June 30, 2011	2,232	40,890,700	823	9,670,100	29,418	447,919,757	7.49	15,226
June 30, 2010	1,867	32,394,848	807	9,942,962	28,009	416,699,157	5.69	14,877

Summary of System Provisions

Effective Date: The System became effective January 1, 1964. The fiscal year is July 1 to June 30.

Employees Included: All permanent employees of the State of Oklahoma, and any other employer such as a county, county hospital, city or town, conservation districts, circuit engineering districts, and any trust in which a county, city, or town participates and is the primary beneficiary, are eligible to join if:

- the employee is not eligible for or participating in another retirement system authorized under Oklahoma law, is covered by Social Security and not participating in the U.S. Civil Service Retirement System,
- the employee is scheduled for 1,000 hours per year and salary is not less than the hourly rate of the monthly minimum wage for State employees (for employees of local government employers, not less than the hourly rate of the monthly minimum wage for such employees).

Membership is mandatory for new eligible employees on the first of the month following employment. Beginning November 1, 2015, most new state employees are excluded from participating in the defined benefit plan.

Employee and Employer Contributions: 3.5% of pay for most State employees and 16.5% for employers. Local employees, elected officials, members covered by the Department of Corrections Hazardous Duty provisions, and members who elect the step up provision contribute at varying rates.

Final Average Compensation: Generally the highest annual average of any thirty-six months within the last ten years of participating service. For members hired on or after July 1, 2013, the highest annual average of any sixty months within the last ten years of participating service.

Retirement Date:
Normal: Age 62 (age 60 for elected officials), 80 age/service points if hired before July 1, 1992, 90 age/service points if hired on or after July 1, 1992.

For non-elected employees hired on or after November 1, 2011, the retirement age is age 65 or 90 age/service points if at least 60. For elected officials hired on or after November 1, 2011, age 65 with 8 years of service or 62 with 10 years of service.

Summary of System Provisions (continued)

	20 years of service for certain members covered by the Department of Corrections Hazardous Duty provisions and certain Oklahoma Military Department Firefighters.
<i>Early:</i>	Age 55 with 10 years of service.
<i>Normal Retirement Benefit:</i>	General formula is 2% of final average compensation multiplied by years of credited service.
<i>Disability Benefit:</i>	After eight years of service, provided the member qualifies for disability benefits as certified either by the Social Security Administration or the Railroad Retirement Board. Benefit is determined by the normal retirement formula based on service and salary history at date of disability. The benefit is payable immediately without actuarial reduction.
<i>In-service Death Benefit:</i>	<p>If the deceased member was vested, the benefit that would have been paid the member had he retired and elected the joint and 100% survivor option (Option B).</p> <p>For elected officials, it is 50% of the benefit that would have been paid the member had he retired.</p>
<i>Postretirement Death Benefit:</i>	\$5,000 lump-sum.
<i>Forms of Payment:</i>	Life annuity, joint and 50% survivor, joint and 100% survivor annuity, life annuity with a minimum of 120 monthly payments, and Medicare Gap Benefit option.
<i>Supplemental Medical Insurance Premium:</i>	The System will contribute the lesser of \$105 per month or the Medicare Supplement Premium to the Office of Management and Enterprise Services, Employees Group Insurance Division (or other eligible employer health plans) for members receiving retirement benefits.

Summary of Actuarial Assumptions and Methods

1. The investment return rate used in the valuation was 7.00 percent per year, net of investment expenses, compounded annually. This rate of return is not the assumed real rate of return. The real rate of return is the rate of return in excess of the inflation rate. Considering other financial assumptions, the 7.00 percent investment return rate translates to an assumed real rate of return of 4.25 percent.
2. The RP-2014 Mortality Table projected to 2025 using Scale MP-2016 with male rates multiplied by 95% under age 70 and 105% over age 70, while female rates are multiplied by 90% and 115%.
3. The probabilities of withdrawal from service, together with individual pay increase assumptions, are shown in Schedule 1.
4. The probabilities of retirement with an age and service allowance are shown in Schedules 2A, 2B and 2C.
5. Because of the passage of House Bill 2132, benefits are not assumed to increase due to future ad hoc cost-of-living increases. We note that House Bill 1340 (2018) granted a one-time stipend to retirees, funded by the System.
6. The individual entry-age normal actuarial cost method of valuation was used in determining actuarial accrued liability and normal cost. Actuarial gains and losses reduce or increase the unfunded actuarial accrued liability and are amortized over the remaining amortization period (8 years as of July 1, 2019).
7. The actuarial value of assets is based on a five-year moving average of expected actuarial values and market values. A preliminary expected value is determined equal to the prior year's actuarial value of assets plus net cash flow for the year ending on the valuation date, assuming the valuation investment return. The expected actuarial asset value is equal to the preliminary expected actuarial value plus the unrecognized investment gains and losses as of the beginning of the previous fiscal year. Twenty percent (20%) of the gain/loss as measured by the difference between the expected actuarial value and the market value at the valuation date is added to the preliminary expected actuarial value plus twenty percent (20%) of the unrecognized gains or losses for the four preceding fiscal years. The final result is constrained to a value no less than 80% and no more than 120% of the market value at the valuation date.
8. The actuarial assumptions and methods used in the valuation were adopted by the Board based on System experience from July 1, 2013 through June 30, 2016.

Summary of Actuarial Assumptions and Methods (continued)

Schedule 1

Withdrawal From Active Employment Before Age & Service Retirement and Individual Pay Increase Assumptions

Sample Service Values	Withdrawal	Sample Ages	Percent Increase in Individual's Pay During Next Year
1	22.00%	25	7.80%
5	10.50	30	6.30
10	6.00	35	5.50
15	4.25	40	5.20
20	3.00	45	4.80
25	1.75	50	4.50
		55	4.30

Schedule 2A

Percent of Eligible Regular Non-Elected Active Members Retiring Within Next Year

Those Eligible for Unreduced Retirement and Hired Before November 1, 2011

Retirement Ages	Percent	Retirement Ages	Percent
50	15%	61	20%
51	15%	62	25%
52	15%	63	15%
53	15%	64	15%
54	15%	65	30%
55	10%	66	25%
56	10%	67	25%
57	11%	68	25%
58	12%	69	25%
59	13%	70	100%
60	14%		

Summary of Actuarial Assumptions and Methods (continued)

Those Eligible for Unreduced Retirement and Hired on or after November 1, 2011

Retirement Ages	Percent
60	*
61	*
62	*
63	*
64	*
65	*
66	20%
67	20%
68	20%
69	25%
70	100%

*30% when first eligible and 15% thereafter.

Schedule 2B

Percent of Eligible Non-Elected Active Members Retiring Within Next Year

Those Not Eligible for Unreduced Retirement or Department of Corrections Members With Less Than 20 Years of Service, hired before November 1, 2011

Regular Employees		Department of Corrections			
Retirement Ages	Percent	Retirement Ages	Percent	Retirement Ages	Percent
55	3%	55	4%	63	22%
56	4%	56	5%	64	25%
57	4%	57	5%	65	40%
58	5%	58	5%	66	25%
59	6%	59	5%	67	25%
60	6%	60	5%	68	25%
61	15%	61	20%	69	25%
		62	40%	70	100%

Summary of Actuarial Assumptions and Methods (continued)

Those Not Eligible for Unreduced Retirement and hired on or after November 1, 2011

Regular Employees		Department of Corrections			
Retirement		Retirement		Retirement	
Ages	Percent	Ages	Percent	Ages	Percent
60	7%	60	7%	66	25%
61	7%	61	20%	67	23%
62	20%	62	20%	68	22%
63	15%	63	20%	69	21%
64	15%	64	20%	70	100%
		65	40%		

Schedule 2C

Percent of Eligible Active Members Retiring Within Next Year

Department of Corrections Members With More Than 20 Years of Service

Service	Percent
20	25%
21	25%
22	20%
23 - 24	15%
25 - 29	23%
30 - 34	25%
35	100%



STATISTICAL

RETIREMENT SEASON

Like the seasons reach full circle, retirement is both an ending and a beginning. Your dream about retirement has now become a reality. You have reached a significant milestone, and this season is about embracing your future and living your best life. Years of investing and partnering with OPERS have provided you with financial independence. However, this season is not the end of the journey; it is the continuation of a life well-lived.

- | | |
|--|--|
| 83 Statistical Section Narrative Explanation | 93 Member Statistics |
| 84 Schedule of Changes in Fiduciary Net Position | 94 Distribution of Retirees and Beneficiaries |
| 85 Schedule of Revenue by Source | 95 Summary of Active Members |
| 85 Schedule of Expenses by Type | |
| 86 Schedule of Benefit Payments and Refunds by Type | |
| 86 Funded Ratio Chart | |
| 87 Rate of Return by Type of Investment | |
| 88 Schedule of Retired Members by Type of Benefit | |
| 89 Schedule of Average Benefit Payments | |
| 90 Principal Participating Employer | |
| 90 Demographics Chart | |
| 91 Participating Employers | |

The Statistical Section provides additional historical perspective, context, and detail to assist the reader in using the information in the financial statements, notes to financial statements and required supplementary information to understand and assess the economic condition of the Oklahoma Public Employees Retirement System (OPERS) on a combined basis, including both the Defined Benefit Pension Plan and the Health Insurance Subsidy Plan.

Financial trend information is intended to assist users in understanding and assessing the changes in the financial position over time. Schedules presenting financial trend information are *Schedule of Changes in Fiduciary Net Position, Schedule of Revenue by Source, Schedule of Expenses by Type, Schedule of Benefit Payments and Refunds by Type, and Funded Ratio Chart*.

Revenue capacity information is intended to assist users in understanding and assessing the factors affecting the ability of OPERS to generate own-source revenue, specifically investment income. The schedule presenting revenue capacity information is the *Rate of Return by Type of Investment*.

Operating information is intended to provide contextual information about the operations and resources of OPERS to assist readers in using financial statement information to understand and assess the economic condition. Schedules and charts presenting operating information are *Schedule of Retired Members by Type of Benefit, Schedule of Average Benefit Payments, Principal Participating Employer, Demographics Chart, Participating Employers, Member Statistics*, Distribution of Retirees and Beneficiaries*, Summary of Active Members**.

Schedules and information are derived from OPERS internal sources unless otherwise noted.

*Schedules and data are provided by actuarial consultant Cavanaugh McDonald, LLC.

Schedule of Changes in Fiduciary Net Position

Year Ended June 30,	Additions			Deductions			Total Changes in Fiduciary Net Position
	Member Contributions	Employer Contributions	Investment Income (Loss)	Benefit Payments	Administrative Expenses	Refunds	
2019	\$ 66,566,433	\$ 282,473,659	\$ 563,078,150	\$ 639,964,683	\$ 5,754,961	\$ 15,369,288	\$ 251,029,310
2018	66,929,560	277,987,270	760,477,994	611,565,882	5,339,987	15,957,261	472,531,694
2017	70,276,234	288,338,941	1,049,614,508	592,961,277	5,397,137	15,950,303	793,920,966
2016	73,800,890	296,249,191	15,756,524	565,412,267	5,394,992	15,862,423	(200,863,077)
2015	73,145,380	292,184,940	264,289,114	542,488,709	5,182,848	15,610,803	66,337,074
2014	70,523,854	280,047,664	1,317,980,271	520,641,175	4,708,895	14,878,427	1,128,323,292
2013	68,200,616	269,994,831	804,177,712	502,636,899	4,612,783	14,645,400	620,478,077
2012	66,299,570	262,710,009	154,692,436	484,309,893	4,758,636	14,331,714	(19,698,228)
2011	66,431,434	252,904,579	1,226,686,493	462,062,563	4,680,679	12,656,758	1,066,622,506
2010	69,041,436	259,779,236	716,895,081	429,260,056	4,555,833	11,058,379	600,841,485

Schedule of Revenue by Source

Year Ended June 30,	Member Contributions	Employer Contributions		Investment Income (Loss)	Total
		Dollars	% of Annual Covered Payroll		
2019	\$ 66,566,433	\$ 282,473,659	17.83 %	\$ 563,078,150	\$ 912,118,242
2018	66,929,560	277,987,270	17.36	760,477,994	1,105,394,824
2017	70,276,234	288,338,941	17.08	1,049,614,508	1,408,229,683
2016	73,800,890	296,249,191	16.54	15,756,524	385,806,605
2015	73,145,380	292,184,940	16.15	264,289,114	629,619,434
2014	70,523,854	280,047,664	16.06	1,317,980,271	1,668,551,789
2013	68,200,616	269,994,831	15.93	804,177,712	1,142,373,159
2012	66,299,570	262,710,009	15.60	154,692,436	483,702,015
2011	66,431,434	252,904,579	15.02	1,226,686,493	1,546,022,506
2010	69,041,436	259,779,236	14.59	716,895,081	1,045,715,753

Schedule of Expenses by Type

Year Ended June 30,	Benefit Payments	Administrative Expenses	Withdrawals	Total
2019	\$ 639,964,683	\$ 5,754,961	\$ 15,369,288	\$ 661,088,932
2018	611,565,882	5,339,987	15,957,261	632,863,130
2017	592,961,277	5,397,137	15,950,303	614,308,717
2016	565,412,267	5,394,992	15,862,423	586,669,682
2015	542,488,709	5,182,848	15,610,803	563,282,360
2014	520,641,175	4,708,895	14,878,427	540,228,497
2013	502,636,899	4,612,783	14,645,400	521,895,082
2012	484,309,893	4,758,636	14,331,714	503,400,243
2011	462,062,563	4,680,679	12,656,758	479,400,000
2010	429,260,056	4,555,833	11,058,379	444,874,268

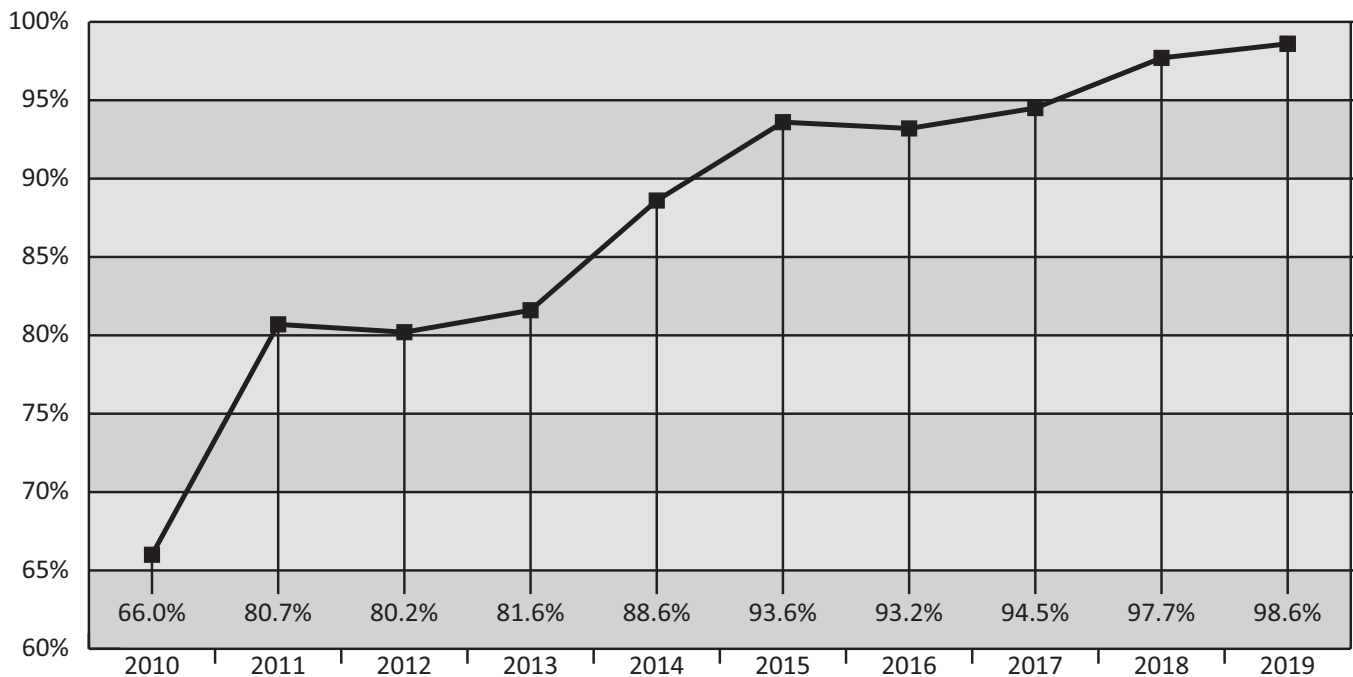
Schedule of Benefit Payments and Refunds by Type

The following schedule provides information as to the type of benefit expenses incurred by the Plan as reflected in the “Benefit Payment” and “Refunds” columns of the **Schedule of Expenses by Type** included elsewhere in this Statistical Section.

Year Ended June 30,	Benefits				Refunds			Total Benefit Payments and Refunds
	Age and Service	Disability	Beneficiary Death	Withdrawals	Transfers to Systems	Member Death	Other	
2019	\$ 616,796,975	\$ 17,598,163	\$ 5,569,545	\$ 10,664,312	\$ 3,522,635	\$ 881,612	\$ 300,729	\$655,333,972
2018	588,815,903	17,173,572	5,576,407	10,704,430	4,128,787	916,168	207,876	627,523,143
2017	569,870,507	17,597,316	5,493,454	11,827,836	3,219,022	746,849	156,596	608,911,580
2016	542,788,467	17,433,604	5,190,196	9,866,169	5,069,244	798,666	128,344	581,274,690
2015	522,513,529	14,775,998	5,199,181	10,562,956	3,988,925	897,939	160,984	558,099,512
2014	498,432,095	17,292,985	4,916,095	10,276,798	3,881,544	682,179	37,906	535,519,602
2013	480,885,816	17,325,263	4,425,820	10,423,136	3,191,104	897,727	133,433	517,282,299
2012	462,439,623	17,279,429	4,590,841	11,225,699	2,260,790	725,434	119,791	498,641,607
2011	441,043,149	16,590,662	4,428,752	9,043,642	2,716,718	807,918	88,480	474,719,321
2010	408,662,665	16,131,274	4,466,117	7,460,216	2,720,008	808,993	69,162	440,318,435

Funded Ratio Chart

As of July 1



Rate of Return by Type of Investment

Year Ended June 30,	Fixed Income	U.S. Equity	International Equity	Total
2019	8.4 %	7.1 %	2.0 %	6.1 %
2018	0.3	15.5	7.3	8.4
2017	(0.6)	19.6	19.2	12.8
2016	7.1	(0.2)	(7.7)	0.3
2015	2.5	7.9	(4.4)	3.2
2014	5.1	25.6	21.9	18.0
2013	(1.0)	22.7	13.9	12.0
2012	11.5	4.1	(12.5)	2.4
2011	4.6	32.2	30.0	21.2
2010	12.9	16.4	10.0	13.8

Schedule of Retired Members by Type of Benefit

June 30, 2019

Amount of Monthly Benefit	Number of Retirees	Type of Retirement					Option Selected			
		1	2	3	4	5	1	2	3	4
\$1 – 1,000	15,560	8,737	3,147	2,381	980	315	8,773	3,074	3,477	236
1,001 – 2,000	11,980	10,137	445	998	396	4	6,663	2,059	3,080	178
2,001 – 3,000	5,447	5,096	40	291	20	-	2,821	996	1,514	116
3,001 – 4,000	1,796	1,681	5	109	1	-	866	299	601	30
4,001 – 5,000	663	642	4	17	-	-	325	119	211	8
Over 5,000	423	411	3	9	-	-	214	55	150	4
Totals	35,869	26,704	3,644	3,805	1,397	319	19,662	6,602	9,033	572

Type of Retirement

- Type 1 – *Normal retirement for age and service:* Eligible at (1) age 62 or (2) when the sum of the member's age plus years of service equals 80 points for those who became members before July 1, 1992 and 90 points for those becoming members after that date.
- Type 2 – *Early retirement:* Eligible beginning at age 55 with ten (10) years of participating service.
- Type 3 – *Survivor payment:* Normal or early retirement.
- Type 4 – *Disability:* Eligible if member is qualified for payment of disability benefits as certified by the Social Security Administration, has eight (8) years of credited service, and has terminated employment.
- Type 5 – *Survivor payment:* Disability retirement.

Option Selected

- Option 1 – *Single-life annuity:* The maximum benefit is paid for the member's lifetime.
- Option 2 – *Option A – ½ Joint and Survivor Annuity:* The member will receive a reduced retirement benefit for life and ½ of the reduced retirement benefit will be paid to the surviving joint annuitant for their lifetime.
- Option 3 – *Option B – 100% Joint and Survivor Annuity:* A reduced benefit is paid to the member for life and the same benefit is paid to a surviving joint annuitant for their lifetime.
- Option 4 – *Option C – Single-life Annuity with a 10-Year Certain Period:* The member will receive a reduced benefit for their lifetime. If the member dies within ten years of when the benefit payments began, the monthly payment will be made to the beneficiary for the balance of the 10-year period.

Deferred Members

At June 30, 2019, there are 6,106 former members with deferred future benefits.

Schedule of Average Benefit Payments

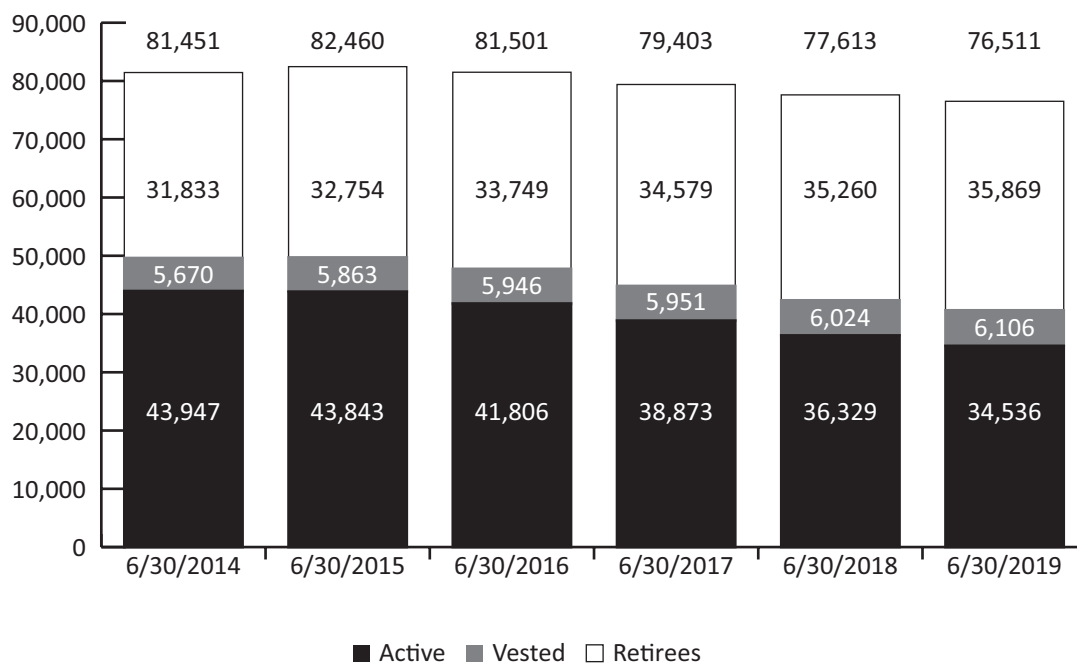
Retirement Effective Dates July 1, 2009 to June 30, 2019	Years of Credited Service						
	0 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	31+
Period 7/1/09 to 6/30/10							
Average Monthly Benefit	\$ 153	\$ 431	\$ 649	\$ 1,075	\$ 1,572	\$ 2,057	\$ 2,773
Average Final Average Salary	\$ 1,699	\$ 2,693	\$ 2,822	\$ 3,190	\$ 3,466	\$ 3,780	\$ 4,058
Number of Active Retirees	3	223	308	292	343	340	291
Period 7/1/10 to 6/30/11							
Average Monthly Benefit	\$ 59	\$ 476	\$ 661	\$ 1,116	\$ 1,665	\$ 2,083	\$ 2,946
Average Final Average Salary	\$ 1,759	\$ 2,821	\$ 2,815	\$ 3,215	\$ 3,597	\$ 3,788	\$ 4,205
Number of Active Retirees	1	280	355	333	442	413	357
Period 7/1/11 to 6/30/12							
Average Monthly Benefit	\$ 95	\$ 456	\$ 671	\$ 1,023	\$ 1,612	\$ 2,126	\$ 2,866
Average Final Average Salary	\$ 1,590	\$ 2,824	\$ 3,006	\$ 3,078	\$ 3,854	\$ 3,869	\$ 4,218
Number of Active Retirees	1	252	286	297	291	281	273
Period 7/1/12 to 6/30/13							
Average Monthly Benefit	\$ 193	\$ 462	\$ 745	\$ 1,172	\$ 1,663	\$ 2,204	\$ 3,031
Average Final Average Salary	\$ 1,928	\$ 2,859	\$ 3,068	\$ 3,644	\$ 3,664	\$ 3,838	\$ 4,214
Number of Active Retirees	1	259	343	261	324	294	272
Period 7/1/13 to 6/30/14							
Average Monthly Benefit	\$ -	\$ 476	\$ 741	\$ 1,107	\$ 1,620	\$ 2,382	\$ 2,790
Average Final Average Salary	\$ -	\$ 3,060	\$ 3,069	\$ 3,325	\$ 3,579	\$ 4,176	\$ 4,202
Number of Active Retirees	-	292	331	243	295	245	256
Period 7/1/14 to 6/30/15							
Average Monthly Benefit	\$ 623	\$ 487	\$ 771	\$ 1,216	\$ 1,728	\$ 2,360	\$ 3,003
Average Final Average Salary	\$ 2,387	\$ 2,924	\$ 3,146	\$ 3,484	\$ 3,687	\$ 4,252	\$ 4,303
Number of Active Retirees	2	292	323	311	331	321	310
Period 7/1/15 to 6/30/16							
Average Monthly Benefit	\$ 159	\$ 491	\$ 772	\$ 1,163	\$ 1,586	\$ 2,196	\$ 3,100
Average Final Average Salary	\$ 1,900	\$ 3,121	\$ 3,253	\$ 3,410	\$ 3,506	\$ 3,949	\$ 4,505
Number of Active Retirees	5	300	342	308	301	358	370
Period 7/1/16 to 6/30/17							
Average Monthly Benefit	\$ 362	\$ 546	\$ 813	\$ 1,230	\$ 1,714	\$ 2,393	\$ 3,324
Average Final Average Salary	\$ 4,716	\$ 3,241	\$ 3,265	\$ 3,626	\$ 3,789	\$ 4,256	\$ 4,716
Number of Active Retirees	4	293	377	295	257	292	326
Period 7/1/17 to 6/30/18							
Average Monthly Benefit	\$ -	\$ 552	\$ 787	\$ 1,202	\$ 1,622	\$ 2,448	\$ 3,310
Average Final Average Salary	\$ -	\$ 3,225	\$ 3,328	\$ 3,493	\$ 3,657	\$ 4,406	\$ 4,787
Number of Active Retirees	-	260	335	324	237	256	281
Period 7/1/18 to 6/30/19							
Average Monthly Benefit	\$ 702	\$ 578	\$ 834	\$ 1,343	\$ 1,845	\$ 2,521	\$ 3,412
Average Final Average Salary	\$ 7,635	\$ 3,346	\$ 3,451	\$ 3,824	\$ 4,038	\$ 4,427	\$ 4,854
Number of Active Retirees	3	290	379	277	230	225	284

Principal Participating Employer

The Oklahoma Public Employees Retirement System is a multiple-employer cost-sharing public employee retirement plan. The Plan covers all state employees that are not covered by six other plans and employees of participating county and local agencies in the State. The State of Oklahoma is the principal participating employer. A list of participating state, county and local agencies is included elsewhere in this Statistical Section.

Year Ended June 30,	Covered Employees of the State	Percent of Total System
2019	23,610	68.4 %
2018	25,594	70.5
2017	27,850	71.6
2016	30,776	73.6
2015	33,002	75.3
2014	33,242	75.6
2013	32,671	75.5
2012	32,403	76.1
2011	32,840	81.0
2010	34,086	77.6

Demographics Chart



Participating Employers

State Agencies

ABLE Commission
Abstractors, Board of
Accountancy, Board of Public
Aeronautics Commission
Agriculture, Department of
Architects, Board of Governors
Arts Council, State
Attorney General's Office
Auditor and Inspector
Banking Department
Behavioral Health Licensure, Board of
Boll Weevil Eradication Organization
Bond Advisor, Office of the State
Children and Youth, Commission on
Chiropractic Examiners, Board of
Commerce, Department of
Conservation Commission
Construction Industries Board
Consumer Credit, Department of
Corporation Commission
Corrections, Department of
Cosmetology, Board of
Council on Judicial Complaints
Court of Criminal Appeals
Davis Gun Museum
Dentistry, Board of
Disability Concerns, Office of
District Attorneys' Council
District Courts
Educational Television Authority
Election Board, State
Emergency Management
Employees Group Insurance Division
Employment Security Commission
Engineers and Surveyors, Board of
Environmental Quality, Department of
Ethics Commission
Finance, State Office of
Fire Marshall Commission, State
Firefighters Pension and Retirement
Board
Funeral Board
Governor's Office
Grand River Dam Authority
Health, Department of
Heath Care Authority
Historical Society
Horse Racing Commission
House of Representatives
Housing Finance Agency
Human Services, Department of
Indigent Defense System
Industrial Finance Authority

Insurance Department, State
Interstate Oil Compact Commission
Investigation, State Bureau of
Juvenile Affairs, Office of
Labor, Department of
Land Office, Commissioners of the
Law Enforcement Education and
Training, Council on
Law Enforcement Retirement System
Legislative Service Bureau
Libraries, Department of
Licensed Alcohol and Drug Counselors,
Board of
Licensed Social Workers, Registration
Board of
Lieutenant Governor, Office of
Liquefied Petroleum Gas Administration
Lottery Commission
Marginally Producing Oil and Gas Wells,
Commission on
J.D. McCarty Center
Medical Licensure Board
Medicolegal Investigations, Board of
Mental Health & Substance Abuse,
Department of
Merit Protection Commission
Military Department
Mines, Department of
Motor Vehicle Commission
Multiple Injury Trust Fund
Municipal Power Authority
Narcotics and Dangerous Drugs Control,
Bureau of
Native American Cultural and Education,
Authority of Oklahoma
Nursing, Board of
Nursing Home Administrators, Board of
Examiners for
Optometry Board
Ordinance Works Authority
Osteopathic Examiners, State Board of
Pardon and Parole Board
Pharmacy, Board of
Physicians Manpower Training
Commission
Police Pension and Retirement
Psychologists Examiners, Board of
Public Employees Retirement System
Public Safety, Department of
Quartz Mountain Arts and Conference
Center Nature Park
Real Estate Commission
Rehabilitation, Department of
Science and Technology, Center for
Advancement of

Secretary of State, Office of the
Securities Commission
Senate, State
Space Industry Development Authority
Speech Pathology and Audiology Board
Supreme Court
Tax Commission
Test for Alcohol and Drug Influence
Board
Tobacco Settlement Trusts
Tourism and Recreation Department
Transportation, Department of
Treasurer's Office, State
Turnpike Authority
Uniform Building Code Commission
University Health Sciences Center
University Hospitals Authority
Used Motor Vehicles and Parts
Commission
Veterans Affairs, Department of
Veterinary Medical Examiners,
State Board of
Waters Resources Board
Wheat Commission
Workers' Compensation Commission

Counties and County Governmental Units

Adair County
Alfalfa County
Alfalfa County Rural Water District
Atoka County
Atoka County Rural Water District #2
Atoka County Rural Water District #4
Beaver County
Beaver County Memorial Hospital
Beckham County
Blaine County
Bryan County
Caddo County
Canadian County
Carter County
Cherokee County
Choctaw County
Choctaw County Ambulance
Cimarron County
Cleveland County
Coal County
Comanche County
Comanche County Facilities Authority
Cotton County
Craig County
Creek County
Creek County Rural Water District #3

Participating Employers (continued)

Creek County Rural Water District #5
 Custer County
 Delaware County
 Delaware County E-911 Trust Authority
 Delaware County Solid Waste Trust Authority
 Dewey County
 Ellis County
 Garfield County
 Garfield County Fairgrounds Trust Auth.
 Garvin County
 Grady County
 Grady County Criminal Justice Authority
 Grady County EMS
 Grant County
 Greer County
 Greer County Special Ambulance Service
 Harmon County
 Harper County
 Haskell County
 Hughes County
 Jackson County
 Jefferson County
 Johnston County
 Johnston County Rural Water District
 Kay County
 Kay County Justice Facilities Authority
 Kingfisher County
 Kiowa County
 Latimer County
 LeFlore County
 LeFlore County EMS
 LeFlore County Rural Water and Sewer
 LeFlore County Rural Water District #3
 Lincoln County
 Lincoln County E-911 Trust Authority
 Logan County
 Love County
 Major County
 Major County EMS
 Marshall County
 Mayes County
 Mayes County Rural Water District #3
 Mayes Emergency Services Trust Authority
 McClain County
 McClain-Grady County EMS
 McCurtain County
 McCurtain County EMS
 McIntosh County
 Murray County
 Muskogee County
 Muskogee County EMS
 Noble County
 Nowata County
 Nowata Consolidated Rural Water

District #1
 Okfuskee County
 Okmulgee County
 Okmulgee County Criminal Justice Authority
 Osage County
 Ottawa County
 Ottawa County E-911 Authority
 Pawnee County
 Payne County
 Pittsburg County
 Pittsburg County Rural Water District #7
 Pontotoc County
 Pottawatomie County
 Pottawatomie County Public Safety Center
 Pushmataha County
 Roger Mills County
 Rogers County
 Seminole County
 Sequoyah County
 Sequoyah County 911 Trust Authority
 Sequoyah County Rural Water District #7
 Stephens County
 Texas County
 Tillman County
 Tillman County EMS
 Tillman County Rural Water District
 Wagoner County
 Washington County
 Washita County
 Woods County
 Woodward County

Towns, Cities and Municipal Governmental Units

Anadarko Housing Authority
 Arnett, Town of
 Beaver, City of
 Bixby, City of
 Bixby Public Works
 Cheyenne, City of
 Commerce, City of
 Cyril, Town of
 Fairfax, Town of
 Fort Supply, Town of
 Grandfield, City of
 Grove, City of
 Grove Municipal Airport Managing Authority
 Heavener, City of
 Heavener Utility Authority
 Hinton, Town of
 Holdenville, City of
 Holdenville Housing Authority

Hugo, City of
 Idabel Housing Authority
 Indianola Rural Water District #18
 Ketchum, City of
 Ketchum Public Works
 Kingfisher, City of
 Mangum, City of
 Mountain View, City of
 Muskogee City-County 911 Trust Authority
 Okarche, City of
 Poteau Valley Improvement Authority
 Rush Springs, Town of
 Ryan, City of
 Sentinel, Town of
 Shattuck, City of
 Sportsmen Acres, Town of
 Stigler, City of
 Tahlequah, City of
 Vici, Town of
 Watonga Housing Authority
 Watts Public Works Authority
 Wewoka, City of
 Wilson, City of

Other Governmental Units

Association of South Central Oklahoma Government
 Circuit Engineering District #4
 Circuit Engineering District #6
 Eastern Oklahoma Circuit Engineering District #2
 Eastern Oklahoma District Library
 Grand Gateway Economic Development Association
 Kiamichi Economical Development District of Oklahoma
 Midwestern Oklahoma Development Authority
 Northeast Oklahoma Enhanced 911 Trust Authority
 Northern Oklahoma Development Authority
 Northwestern Oklahoma Solid Waste Disposal Authority
 Oklahoma Environmental Management Authority
 Southeast Circuit Engineering District #3
 Southwestern Oklahoma Ambulance Authority
 Southwestern Oklahoma Developmental Authority
 Tri-County Rural Water District

Member Statistics

Inactive members as of July 1, 2019	Number	Amount of Annual Benefit
Members receiving benefits		
Retired	30,355	\$ 553,540,461
Surviving spouses	4,117	46,913,371
Disabled	1,397	14,124,680
Total	35,869	\$ 614,578,512
Members with deferred benefits		
Vested terminated	2,930	\$ 30,978,490
Assumed deferred vested members (estimated benefits)	3,176	32,076,242
Total	6,106	\$ 63,054,732

Statistics for	Average			
	Number	Age	Service	Earnings
Active members as of July 1, 2018				
Continuing	33,182	48.0	12.0	\$ 43,689
New	3,147	37.4	1.9	25,105
Total	36,329	47.0	11.1	\$ 42,079
Active members as of July 1, 2019				
Continuing	31,004	48.4	12.4	\$ 45,697
New	3,532	38.1	2.0	27,657
Total	34,536	47.3	11.4	\$ 43,852

Distribution of Retirees and Beneficiaries

Age	Number			Annual Benefits		
	Male	Female	Total	Male	Female	Total
Under 50	109	97	206	\$ 1,829,441	\$ 1,053,745	\$ 2,883,186
50-55	235	192	427	5,709,250	3,952,537	9,661,787
55-60	939	1,135	2,074	22,948,101	24,397,461	47,345,562
60-65	1,787	2,922	4,709	37,167,146	56,183,773	93,350,919
65-70	3,230	4,641	7,871	60,932,986	79,917,885	140,850,871
70-75	3,324	4,488	7,812	61,917,634	70,976,839	132,894,473
75-80	2,435	3,363	5,798	42,107,712	49,124,416	91,232,128
80-85	1,486	2,233	3,719	24,562,428	29,171,976	53,734,404
85-90	782	1,402	2,184	12,044,186	17,224,500	29,268,686
90-95	258	596	854	3,672,001	7,121,125	10,793,126
95-100	55	138	193	908,130	1,466,638	2,374,768
Over 100	2	20	22	25,377	163,225	188,602
Total	14,642	21,227	35,869	\$ 273,824,392	\$ 340,754,120	\$ 614,578,512

Summary of Active Members

Age and years of credited service

Earnings tabulated are average rates of pay as of July 1, 2019

Age	Years of Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1,128	32								1,160
Avg. Pay	\$26,090	\$34,924								\$26,333
25 to 29	1,496	650	11							2,157
Avg. Pay	\$31,058	\$38,617	\$40,396							\$33,383
30 to 34	1,260	1,509	318	9						3,096
Avg. Pay	\$33,191	\$43,578	\$44,924	\$50,603						\$39,510
35 to 39	1,157	1,443	1,034	234	3					3,871
Avg. Pay	\$32,946	\$44,375	\$49,663	\$51,068	\$52,224					\$42,783
40 to 44	845	1,247	943	673	187	2				3,897
Avg. Pay	\$33,797	\$44,070	\$49,010	\$51,971	\$54,395	\$47,730				\$44,899
45 to 49	781	1,088	954	702	617	129	9			4,280
Avg. Pay	\$34,242	\$43,720	\$47,852	\$50,041	\$54,348	\$53,383	\$91,843			\$45,873
50 to 54	689	1,003	834	614	640	480	176	10		4,446
Avg. Pay	\$34,361	\$42,192	\$46,659	\$49,302	\$51,792	\$56,007	\$60,024	\$56,913		\$46,411
55 to 59	646	1,026	855	716	632	450	443	226	9	5,003
Avg. Pay	\$33,735	\$42,357	\$44,545	\$47,130	\$48,389	\$54,552	\$59,581	\$58,964	\$53,752	\$46,455
60 to 64	426	819	751	597	539	356	331	229	102	4,150
Avg. Pay	\$35,235	\$41,922	\$45,987	\$47,180	\$48,690	\$54,345	\$56,671	\$61,078	\$58,880	\$47,322
65 to 69	182	377	361	220	195	144	121	70	81	1,751
Avg. Pay	\$33,278	\$44,130	\$45,480	\$50,947	\$52,297	\$56,158	\$56,582	\$62,067	\$58,622	\$48,284
70 & up	108	144	124	117	78	48	42	27	37	725
Avg. Pay	\$28,178	\$48,401	\$44,487	\$44,296	\$47,196	\$51,707	\$55,553	\$49,702	\$65,796	\$45,496
Total	8,718	9,338	6,185	3,882	2,891	1,609	1,122	562	229	34,536
Avg. Pay	\$32,199	\$43,077	\$47,117	\$49,223	\$51,094	\$54,897	\$58,576	\$59,730	\$59,705	\$43,852



Oklahoma Public Employees Retirement System

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