2020

Oklahoma Public Employees Retirement System

Comprehensive Annual Financial Report

For the Fiscal Years Ended June 30, 2020 and June 30, 2019

A Component Unit of the State of Oklahoma

This past year, the State of Oklahoma embarked on a new branding initiative to highlight what is unique about our great state. The inspiration of the chevron logo design represents the earth, sky, water, agriculture and forest. The points come together to form a star at the center. These elements embody the sheer determination of our citizens and our state: its diverse terrain and economy. One thing always rings true: Oklahomans have an authentic spirit that has continued since before statehood.

OKLAHOMA

These same qualities represent the Oklahoma Public Employees Retirement System and its members. That spirit is reflected in the information contained in this report. OPERS maintains fiscal responsibility to ensure the system fulfills its mission of helping build a secure retirement for its members. We adapt to changes and meet challenges head-on.

Just as the star is the center of the new state logo, so are the 75,000 OPERS members at the center of our fiduciary responsibility and decision-making. Our members and OPERS staff reflect the ideas and qualities of the great State of Oklahoma: determination, innovation and authenticity. We look forward to building upon the legacy that has created a financially sound retirement system for the employees of the State of Oklahoma.

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.

2020 COMPREHENSIVE ANNUAL FINANCIAL REPORT

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Oklahoma Public Employees Retirement System
P.O. Box 53007
Oklahoma City, Oklahoma 73152-3077

800.733.9008 toll-free
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November 12, 2020

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, 2020.

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, 2020, 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 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
- Enhance digital resources to streamline service delivery
- Empower employees and members through knowledge and resources
- Foster a culture of employee development and success

Investments

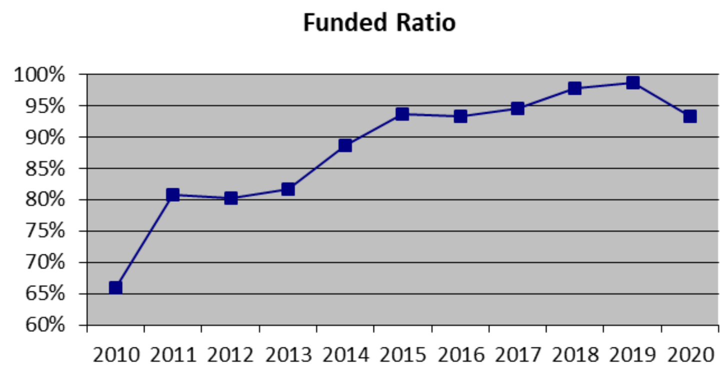
The standard for OPERS in making investments is to exercise the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and unless under the 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 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 2020 investments provided a 4.5 percent rate of return. The annualized rate of return for OPERS was 6.3 percent over the last three years and 6.3 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, 2020 amounted to $10.9 billion and and $10.2 billion, respectively.



The OPERS funded status decreased to 93.3 percent at July 1, 2020. The funded status was at 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, 2019. This was the twenty-third year OPERS has received this prestigious award. In order to be awarded a Certificate of Achievement, a government unit must 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	Brian Wolf
Executive Director	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 12, 2020

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, 2020.

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

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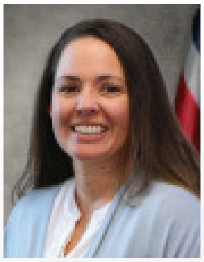
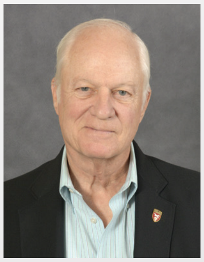


Brandy Manek
Designee, Director of the
Office of Management and
Enterprise Services

Randy McDaniel
State Treasurer

Grace McMillan
Appointee, Governor

Glen Mulready
State Insurance
Commissioner

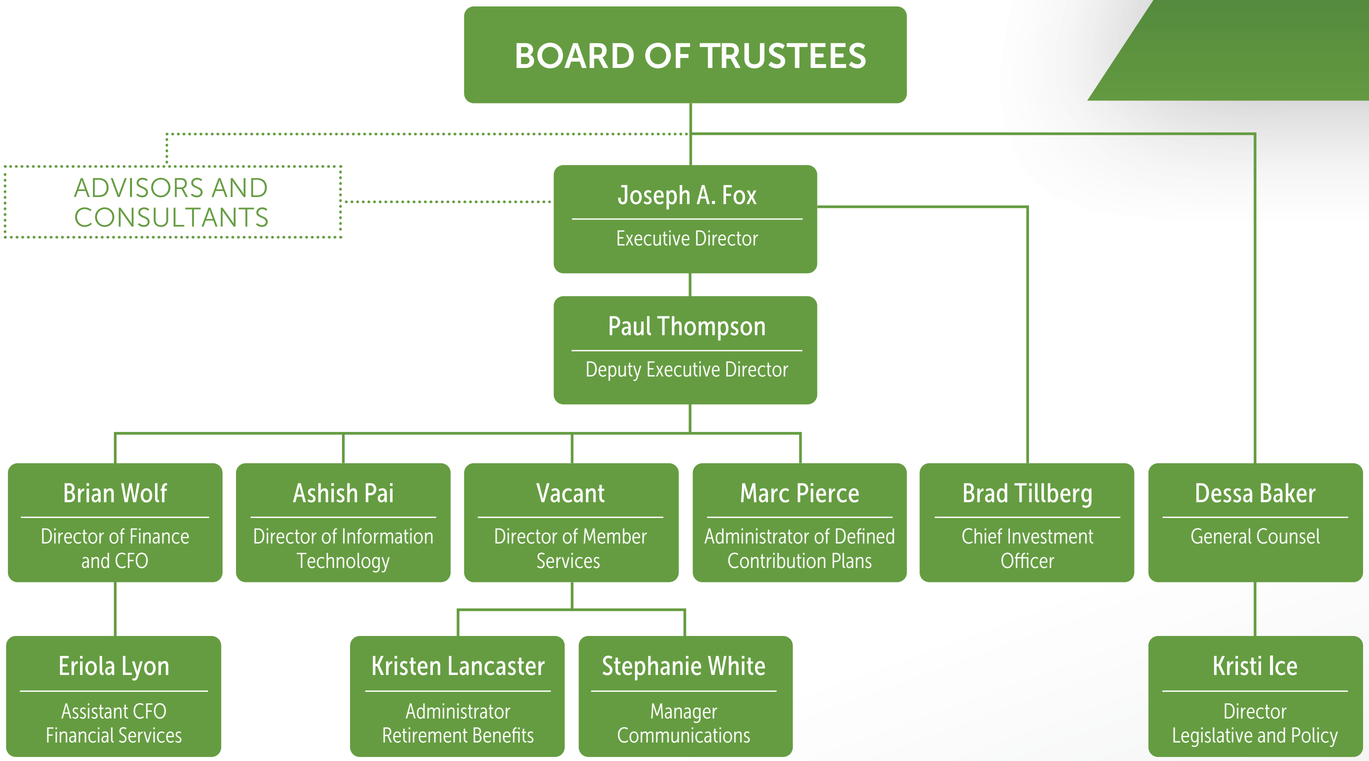


Edward Peterson
Appointee, President Pro
Tempore of the Senate

Tracey Ritz
Appointee, Speaker of the
House of Representatives

Grant Soderberg
Appointee, Governor

ORGANIZATIONAL STRUCTURE



ADVISORS AND CONSULTANTS

Master Custodian
The Northern Trust Company
Chicago, Illinois

Investment Consultant
Verus Advisory, Inc.
Seattle, Washington

Independent Auditors
Eide Bailly LLP
Oklahoma City, Oklahoma

Actuarial Consultant
Cavanaugh Macdonald Consulting, LLC
Kennesaw, Georgia

Internal Auditors
Finley & Cook PLLC
Shawnee, Oklahoma

*The Schedules of Investment Expenses and Professional/Consultant Fees (pages 58 and 60, respectively) in the Financial Section and the Schedule of Stock Brokerage Commissions Paid (page 77) 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, 2019

Christopher P. Morrill

Executive Director/CEO

Public Pension Coordinating Council

Public Pension Standards Award For Funding and Administration 2020

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)

Alan H. Winkle
Program Administrator

FINANCIAL

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Independent Auditor's Report

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 pension and health insurance subsidy plan (HISP) funds 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, 2020 and 2019, 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 opinions 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 opinion.

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Opinions
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, 2020 and 2019, 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, 2020 and 2019, 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.

Eide Bailly LLP

Oklahoma City, Oklahoma
October 5, 2020

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, 2020, 2019, and 2018.

Financial Highlights

- The net position restricted for pension and health insurance subsidy plan (HISP) totaled slightly over $10 billion at June 30, 2020, comparable to the position at June 30, 2019, improving by approximately $0.1 billion due to investment income and flows of funds, and $9.7 billion at June 30, 2018. The net position is available for payment of monthly retirement benefits and other qualified distributions to the System's participants. Fixed income performed well during fiscal year (FY) 2020, resulting in an increase in net investment income which lead to an increase in net position restricted for pension/HISP benefits from June 30, 2018 to June 30, 2019 and from June 30, 2019 to June 30, 2020.
- At June 30, 2020, 2019, and 2018, the total number of members participating in the System decreased 1.5%, decreased 1.4% and decreased 2.3%, respectively. Membership was 75,376 at June 30, 2020, 76,511 at June 30, 2019, and 77,613 at June 30, 2018. The number of retirees increased by 0.9% as of June 30, 2020, 1.7% as of June 30, 2019, and increased by 2.0% as of June 30, 2018. The total number of retirees was 36,179 at June 30, 2020, 35,869 at June 30, 2019, and 35,260 at June 30, 2018.

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, 2020 and 2019. 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/liability, 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, 2020, 2019 and 2018.

Condensed Schedules of Fiduciary Net Position
($ millions)

	2020			2019			2018		
	Pension	HISP	Combined	Pension	HISP	Combined	Pension	HISP	Combined
Assets:									
Cash and cash equivalents	$ 299.2	$ 9.4	$ 308.6	$ 127.3	$ 6.9	$ 134.2	$ 216.4	$ 6.6	$ 223.0
Receivables	258.8	9.9	268.7	322.1	11.9	334.0	223.6	8.1	231.7
Investments	9,632.5	374.1	10,006.6	9,489.1	354.0	9,843.1	9,403.9	344.1	9,748.0
Securities lending collateral	411.2	16.0	427.2	462.9	17.3	480.2	459.7	16.8	476.5
Other assets	1.0	0.1	1.1	1.0	-	1.0	0.8	-	0.8
Total assets	10,602.7	409.5	11,012.2	10,402.4	390.1	10,792.5	10,304.4	375.6	10,680.0
Liabilities:									
Other liabilities	469.0	18.2	487.2	346.4	12.9	359.3	483.7	17.7	501.4
Securities lending collateral	411.2	16.0	427.2	462.9	17.3	480.2	459.7	16.8	476.5
Total liabilities	880.2	34.2	914.4	809.3	30.2	839.5	943.4	34.5	977.9
Ending fiduciary net position	$ 9,722.5	$ 375.3	$ 10,097.8	$ 9,593.1	$ 359.9	$ 9,953.0	$ 9,361.0	$ 341.1	$ 9,702.1

Condensed Schedules of Changes in Fiduciary Net Position
($ millions)

	2020			2019			2018		
	Pension	HISP	Combined	Pension	HISP	Combined	Pension	HISP	Combined
Member contributions	$ 67.8	$ -	$ 67.8	$ 66.6	$ -	$ 66.6	$ 66.9	$ -	$ 66.9
State and local agency contributions	274.9	19.2	294.1	263.7	18.8	282.5	258.9	19.1	278.0
Net investment income	435.3	14.5	449.8	544.2	18.8	563.0	735.0	25.5	760.5
Total additions	778.0	33.7	811.7	874.5	37.6	912.1	1,060.8	44.6	1,105.4
Retirement, death and survivor benefits	628.7	18.1	646.8	621.4	18.6	640.0	592.7	18.8	611.5
Refunds and withdrawals	14.4	-	14.4	15.4	-	15.4	16.0	-	16.0
Administrative expenses	5.5	0.2	5.7	5.6	0.2	5.8	5.1	0.2	5.3
Total deductions	648.6	18.3	666.9	642.4	18.8	661.2	613.8	19.0	632.8
Net increase in fiduciary net position	129.4	15.4	144.8	232.1	18.8	250.9	447.0	25.6	472.6
Beginning of year	9,593.1	359.9	9,953.0	9,361.0	341.1	9,702.1	8,914.0	315.5	9,229.5
End of year	$ 9,722.5	$ 375.3	$ 10,097.8	$ 9,593.1	$ 359.9	$ 9,953.0	$ 9,361.0	$ 341.1	$ 9,702.1

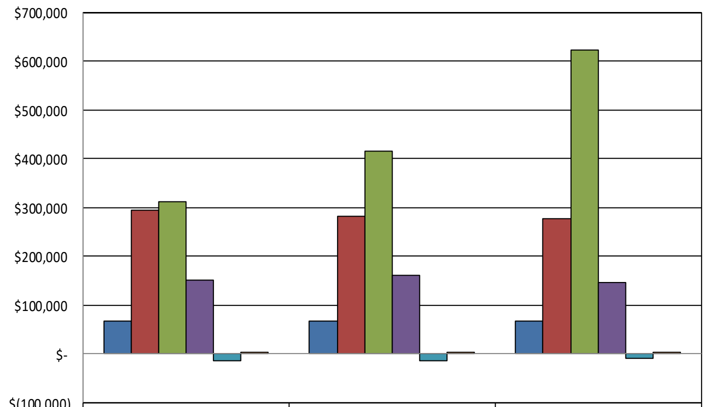
For the year ended June 30, 2020, fiduciary net position increased by $144.8 million, or 1.5%, from June 30, 2019. Total assets increased $219.7 million, or 2.0%, due to a 1.7% increase in investments change in fair value and 10.0% increase in other assets. The System achieved a rate of return of 4.5% which is less than the prior year of 6.0%. Total liabilities increased $74.9 million, or 8.9%, due to a 35.6% increase in pending purchases of securities.

Fiscal year 2020 resulted in a $100.4 million decrease in total additions and a $5.7 million increase in total deductions. Compared to the prior year, the decrease in additions was primarily due to a decrease of $103.0 million in the fair value of investments. Deductions increased 0.9% due to an $6.8 million increase in retirement, death, and survivor benefits.

Additions to Fiduciary Net Position

For the year ended June 30, 2020, total additions to fiduciary net position decreased $100.4 million from the prior year. The net decrease in net appreciation of the fair value of investments of $103.0 million was the result of a weaker market in 2020. Interest income decreased $5.2 million, or 5.9%, and dividend income decreased $4.3 million, or 6.0%. Securities lending net income decreased $0.2 million or 10.7%. Contributions were $12.9 million, or 3.7% 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, 2020, 2019 and 2018
($ thousands)



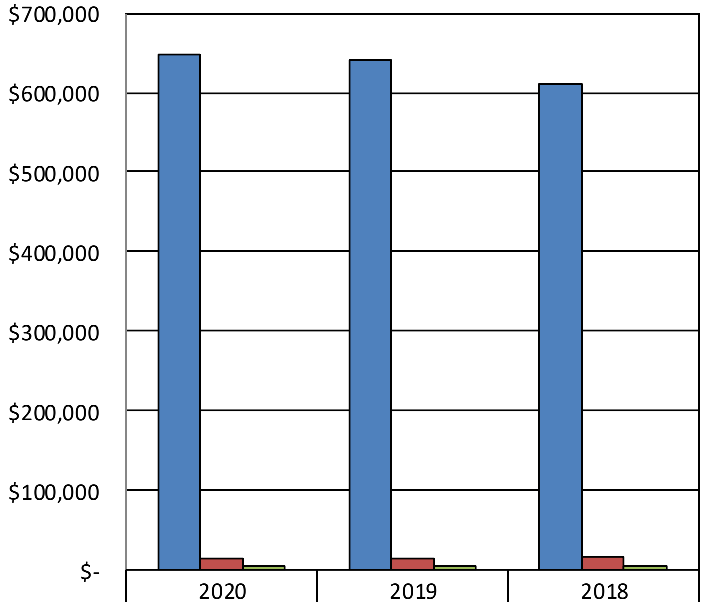
	2020	2019	2018
Member contributions	$67,808	$66,566	$66,930
State and local agency contributions	294,118	282,474	277,987
Net appreciation	311,353	414,354	622,573
Interest, dividends, and other investment income	151,187	160,302	145,201
Investment expenses	(14,681)	(13,783)	(9,624)
Securities lending income	1,970	2,205	2,328

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.

Deductions to Fiduciary Net Position

For the year ended June 30, 2020, total deductions on the following page increased $5.9 million, or 0.9%, from the prior year. Retirement, death, and survivor benefits increased $6.8 million, or 1.1%, due to a 0.9% increase in the number of retirees at year end and a 4.6% increase in the average benefit. Refunds and withdrawals decreased $1.0 million or 6.0% from prior year followed by a 0.5% decrease in administrative costs.

Deductions to Fiduciary Net Position
Comparative Data for Fiscal Years Ended June 30, 2020, 2019 and 2018
($ thousands)



	2020	2019	2018
Retirement, death and survivor benefits	$646,840	$639,965	$611,566
Refunds and withdrawals	14,452	15,369	15,957
Administrative expenses	5,726	5,755	5,340

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.

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.

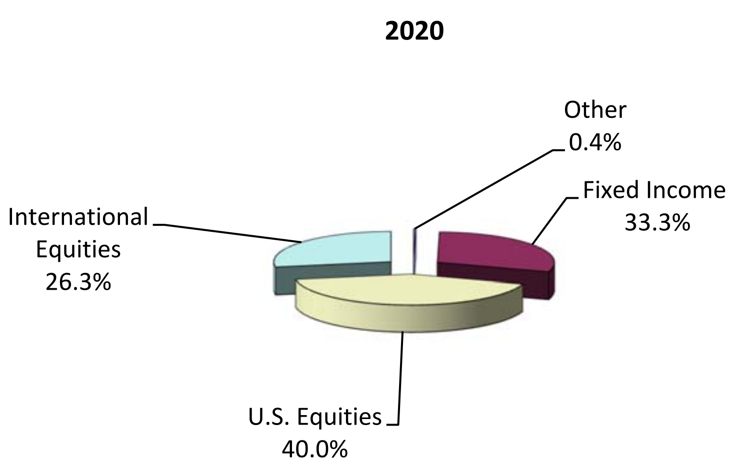
A summary of the System's cash, cash equivalents, and investments for fiscal years ended June 30, 2020, 2019 and 2018 is as follows:

Cash, Cash Equivalents, and Investment Portfolio

($ millions)	June 30, 2020	June 30, 2019	June 30, 2018
Fixed income	$ 3,593.3	$ 3,175.0	$ 3,171.8
U.S. equities	4,032.7	4,030.2	4,073.6
International equities	2,650.2	2,739.0	2,691.5
Other	23.8	17.8	17.9
Total managed investments	10,300.0	9,962.0	9,954.8
Cash equivalents on deposit with State	5.0	3.5	3.6
Real estate	10.2	11.8	12.6
Securities lending collateral	427.2	480.2	476.5
Total cash, cash equivalents, and investments	$ 10,742.4	$10,457.5	$ 10,447.5

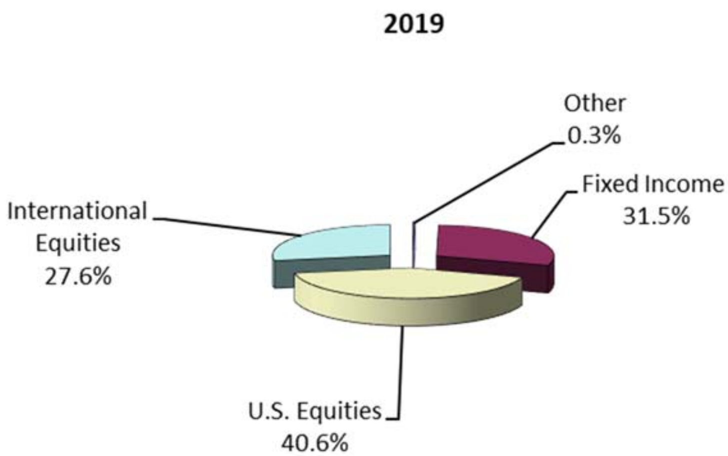
The 2020 increase in the System's managed investments is reflective of the increase in domestic and fixed income markets for the year. The System's overall return for the year ended June 30, 2020 was 4.5%. U.S. equities showed a return of 3.8%, and international equities showed a negative return of 3.2%. Fixed income showed a return of 11.7%. An amount of $309 million from the portfolio 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.

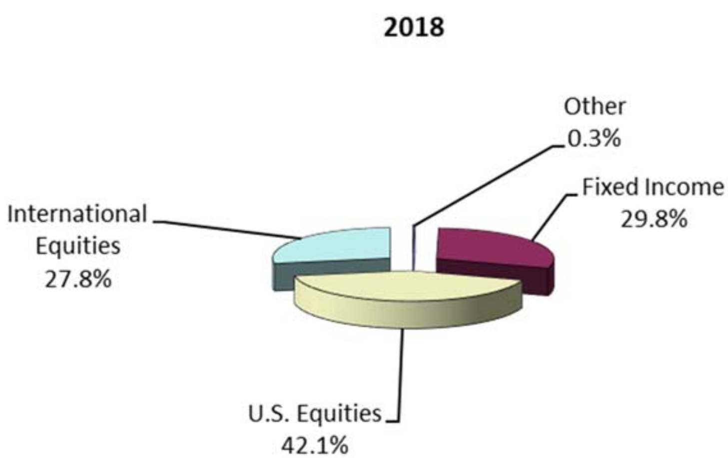
As of June 30, 2020, the distribution of the System's investments including accrued income and pending trades was as follows:



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.

At June 30, 2019 and 2018 the distribution of the System's investments including accrued income and pending trades was as follows:





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, 2020	June 30, 2019	June 30, 2018
Total pension liability	$ 10,614,647,291	$ 9,726,326,176	$ 9,555,990,069
Plan fiduciary net position	$ 9,722,484,043	$ 9,593,138,099	$ 9,360,947,061
Ratio of fiduciary net position to total pension liability	91.59%	98.63%	97.96%

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

	June 30, 2020	June 30, 2019	June 30, 2018
Total HISP liability	$ 328,431,762	$ 321,048,037	$ 328,143,546
Plan fiduciary net position	$ 375,314,784	$ 359,922,778	$ 341,084,506
Ratio of fiduciary net position to total HISP liability	114.27%	112.11%	103.94%

The actuarial assumptions used in the July 1, 2020, valuation are based on the results of the most recent actuarial experience study, which covered the three-year period ending June 30, 2019.

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, 2020

	Pension Plan	Health Insurance Subsidy Plan	Combined
Assets			
Cash equivalents	$ 299,166,810	$ 9,460,084	$ 308,626,894
Receivables:			
Member contributions	3,756,450	-	3,756,450
State and local agency contributions	12,970,364	503,776	13,474,140
Due from brokers for securities sold	221,716,864	8,611,466	230,328,330
Accrued interest and dividends	20,302,265	788,546	21,090,811
Total receivables	258,745,943	9,903,788	268,649,731
Investments, at fair value:			
Short-term investments	2,214,323	86,013	2,300,336
Government obligations	2,098,234,739	81,495,214	2,179,729,953
Corporate bonds	1,124,815,735	43,687,727	1,168,503,462
Domestic equities	3,851,306,555	149,584,228	4,000,890,783
International equities	2,546,136,769	98,891,679	2,645,028,448
Real estate	9,780,132	379,868	10,160,000
Securities lending collateral	411,192,745	15,970,672	427,163,417
Total investments	10,043,680,998	390,095,401	10,433,776,399
Other assets	1,093,130	42,475	1,135,605
Total assets	10,602,686,881	409,501,748	11,012,188,629
Liabilities			
Due to brokers and investment managers	469,010,093	18,216,292	487,226,385
Securities lending collateral	411,192,745	15,970,672	427,163,417
Total liabilities	880,202,838	34,186,964	914,389,802
Net position restricted for pension/HISP benefits	$ 9,722,484,043	$ 375,314,784	$ 10,097,798,827

See accompanying notes to financial statements.

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 Changes in Fiduciary Net Position

As of June 30, 2020

	Pension Plan	Health Insurance Subsidy Plan	Combined
Additions			
Contributions:			
Members	$ 67,808,024	$ -	$ 67,808,024
State and local agencies	274,882,022	19,236,000	294,118,022
Total contributions	342,690,046	19,236,000	361,926,046
Investment income:			
From investing activities:			
Net appreciation in fair value of investments	301,404,584	9,948,808	311,353,392
Interest	80,337,085	2,792,311	83,129,396
Dividends	64,981,009	2,144,903	67,125,912
Real estate	901,980	29,773	931,753
Total investment income	447,624,658	14,915,795	462,540,453
Less – Investment expenses	(14,211,952)	(469,110)	(14,681,062)
Income from investing activities	433,412,706	14,446,685	447,859,391
From securities lending activities:			
Securities lending income	7,317,498	241,537	7,559,035
Securities lending expenses:			
Borrower rebates	(5,073,920)	(167,481)	(5,241,401)
Management fees	(336,214)	(11,098)	(347,312)
Income from securities lending activities	1,907,364	62,958	1,970,322
Net investment income	435,320,070	14,509,643	449,829,713
Total additions	778,010,116	33,745,643	811,755,759
Deductions			
Retirement, death and survivor benefits	628,669,618	18,170,671	646,840,289
Refunds and withdrawals	14,451,508	-	14,451,508
Administrative expenses	5,543,046	182,966	5,726,012
Total deductions	648,664,172	18,353,637	667,017,809
Net increase in net position	129,345,944	15,392,006	144,737,950
Net position restricted for pension/HISP benefits			
Beginning of year	9,593,138,099	359,922,778	9,953,060,877
End of year	$ 9,722,484,043	$ 375,314,784	$ 10,097,798,827

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.

Notes to Financial Statements
June 30, 2020 and 2019

(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 (Other Post Employee Benefit) 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:

	2020	2019
Inactive members or their beneficiaries currently receiving benefits	36,179	35,869
Inactive members entitled to but not yet receiving benefits	6,082	6,106
Active members	33,115	34,536
Total	75,376	76,511

Of the inactive members or their beneficiaries currently receiving benefits 14,172 and 14,563 are retirees and beneficiaries in the HISP as of June 30, 2020 and 2019, respectively. The Plan also includes 55,874 and 54,667 nonvested terminated members entitled to a refund of their member contributions as of June 30, 2020 and 2019, 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, 2020 and 2019 totaled approximately $5,853,000 and $5,570,000, 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 2020 and 2019, *state agency employers* contributed 16.5% on all salary, and *state employees* contributed 3.5% on all salary.

For 2020 and 2019, 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 2020 and 2019, 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:

	2020	2019
State agencies	117	118
County governments	75	75
Local government towns and cities	29	29
Other local governmental units	63	63
Total	284	285

(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:

	2020	2019
Cash equivalents		
State Treasurer	$ 5,041,033	$ 3,594,402
Custodial agent	301,807,274	129,704,193
Foreign currency	1,778,587	975,187
Total cash and cash equivalents	$ 308,626,894	$134,273,782

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, 2020 and 2019, 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, 2020 and 2019, the foreign currency holdings were $1,778,587 and $975,187, 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, 2020 and 2019, 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:

	2020	2019
U.S. Treasury notes/bonds	$ 930,990,645	$ 1,109,226,116
U.S. TIPS index fund	352,275,062	324,711,724
Government agencies	12,702,125	11,445,632
Government mortgage-backed securities	829,136,215	659,025,220
Foreign bonds	26,250,320	14,546,433
Municipal bonds	28,375,586	9,250,189
Corporate bonds	908,409,819	746,247,542
Asset-backed securities	128,359,824	129,094,906
Commercial mortgage-backed securities	75,843,412	57,584,912
Non government backed collateralized mortgage obligations	58,190,981	47,838,648
Domestic equities	2,301,103,393	2,306,945,182
U.S. equity index fund	1,699,787,390	1,675,716,050
International equities	924,316,737	957,058,577
International equity index funds	1,720,711,473	1,782,648,389
Real estate	10,160,000	11,750,000
Securities lending collateral	427,163,417	480,168,634
Total investments	$ 10,433,776,399	$ 10,323,258,154

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, 2020 and 2019, 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 2020 and 2019, 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, 2020 and 2019, 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 $427,163,417 and $339,900,424 in FY2020 and $480,168,634 and $218,712,750 in FY2019. 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		2020	%		2019	%
Collateralized by Cash Collateral	$	419,324,064	56%	$	471,408,191	69%
Collateralized by non- Cash Collateral		332,109,627	44%		214,659,118	31%
Total	$	751,433,691	100%	$	686,067,309	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, 2020 and 2019, the cash collateral investments had an average weighted maturity of 26 and 16 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 and the System cannot pledge or sell them unless the borrower default and thus, is not included in the statements of fiduciary net position.

(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, 2020, 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 $2,795,948 in issues rated below triple-B minus, and the core plus fixed income portfolio, which held $22,979,938 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, 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.

Investments issued by or explicitly guaranteed by the U.S. Government are not considered to have credit risk. At June 30, 2020, the System held 28.8% of fixed income investments that were not considered to have credit risk and 10.5% in a U.S. TIPS index fund made up of explicitly guaranteed U.S. Treasury Inflation-Protected Securities. 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. 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, 2020 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	$ 395	$ -	$ -	$ 3,435	$ -	$ -	$ -		$ -	$ 3,830
Municipal bonds	9,949	12,828	2,582	3,017	-	-				28,376
Foreign government bonds	-	-	571	25,679	-	-	-	-	-	26,250
Corporate bonds	4,295	41,779	319,490	507,277	29,095	6,087	349	-	38	908,410
Asset-backed securities	93,777	14,414	9,476	-	72	7,078	3,475	68	-	128,360
Commercial mortgage-backed securities	68,630	3,092	2,005	713	-	-	-	-	1,403	75,843
Non government backed collateralized mortgage obligations	32,449	8,188	4,557	128	6,396	2,712	3,667	-	94	58,191
Total fixed income securities exposed to credit risk	$ 209,495	$ 80,301	$ 338,681	$ 540,249	$ 35,563	$ 15,877	$ 7,491	$ 68	$ 1,535	$ 1,229,260
Percent of total fixed income portfolio	6.3%	2.4%	10.1%	16.1%	1.1%	0.5%	0.2%	0.0%	0.0%	36.7%

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 exposure to credit risk of the underlying investments of the System's cash equivalents at June 30 is 100% invested in Double-A credit rating at June 30, 2020 and 2019.

(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, 2020 and 2019, 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 assumpti1ons 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.

	2020		2019	
	Fair Value	Effective duration in years	Fair Value	Effective duration in years
U.S. Treasury notes/bonds	$ 930,990,407	13.7	$ 1,109,226,116	12.4
U.S. TIPS index fund	352,275,062	7.7	324,711,724	7.5
Government agencies	12,702,125	9.0	11,445,632	8.2
Government mortgage-backed securities	829,136,215	4.2	659,025,220	4.1
Foreign bonds	26,250,320	8.9	14,546,433	9.6
Municipal bonds	28,375,586	11.2	9,250,189	4.4
Corporate bonds	908,409,819	7.3	746,247,542	6.1
Asset-backed securities	128,359,824	2.1	129,094,906	1.2
Commercial mortgage-backed securities	75,843,412	4.7	57,584,912	4.8
Non government backed collateralized mortgage obligations	58,190,981	3.1	47,838,648	1.3
Total fixed income	$ 3,350,533,751		$ 3,108,971,322	
Porfolio duration		8.1		7.8

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, 2020 and 2019, the System held $128,359,824 and $129,094,906, respectively, in asset-backed securities.

Mortgage-backed securities are securities backed by mortgages issued by public and private institutions. At June 30, 2020 and 2019, the System held $829,136,215 and $659,025,220, 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 $75,843,412 and $57,584,912, 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, 2020 and 2019, the System held $58,190,981 and $47,838,648, 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)	2020	2019
0 - 14	36.3 %	35.5 %
15 - 30	8.3	4.3
31 - 60	14.6	16.8
61 - 90	11.2	22.8
91 - 180	22.9	12.3
181 - 364	4.2	7.0
365 - 730	2.7	1.3
	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, 2020 is as follows:

Currency	Equities	Short-term Investments	Cash	Total	Percent
Australian dollar	$ 22,203,447	$ -	$ 126,465	$ 22,329,912	0.8 %
Brazilian real	9,896,498	-		9,896,498	0.4
British pound sterling	128,586,573	20,107	263,334	128,870,014	4.9
Canadian dollar	5,036,493	-	46,628	5,083,121	0.2
Danish krone	5,218,599	-		5,218,599	0.2
Euro	203,526,265	338,139		203,864,404	7.7
Hong Kong dollar	93,077,707	87,284	89,835	93,254,826	3.5
Indonesian rupiah	2,294,040	-		2,294,040	0.1
Japanese yen	193,567,136	321,027	637,815	194,525,978	7.3
Malaysian ringgit	600,517	-		600,517	0.0
Mexican peso	5,242,490	-	10,214	5,252,704	0.2
Polish zloty	-	-	418	418	0.0
Singapore dollar	22,829,050	(337,929)	603,878	23,094,999	0.9
South African rand	7,819,026	-	-	7,819,026	0.3
South Korean won	22,128,116	-	-	22,128,116	0.8
Swedish krona	33,293,271	-	-	33,293,271	1.3
Swiss franc	27,987,973	(25,762)	-	27,962,211	1.1
United Arab Emirates dirham	1,163,539	-	-	1,163,539	0.0
International portfolio exposed to foreign currency risk	784,470,740	402,866	1,778,587	786,652,193	29.6
International portfolio in U.S. dollars	1,860,557,708	(403,103)	10,099,257	1,870,253,862	70.4
Total international portfolio	$ 2,645,028,448	$ (237)	$ 11,877,844	$ 2,656,906,055	100.0 %

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 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, 2020 and 2019 were approximately $49.0 and $46.0 million, respectively.

(f) Rate of Return

For the year ended June 30, 2020 and 2019, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expenses, was 4.61% and 5.91% respectively, and the annual money-weighted rate of return on HISP plan investments, net of HISP plan investment expenses, was 4.03% and 5.52% 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, 2020 are as follows:

		Fair Value Measurements Using		
Investments by Fair Value Level	**6/30/2020**	**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	$ 291,708,017	$ -	$ 291,708,017	$ -
Debt Securities				
U.S. Treasury notes/bonds	930,990,645	-	930,990,645	-
Government agencies	12,702,125	-	12,702,125	-
Government mortgage-backed securities	829,136,215	-	829,136,215	-
Foreign bonds	26,250,320	-	26,250,320	-
Municipal bonds	28,375,586	-	28,375,586	-
Corporate bonds	908,409,819	-	908,409,819	-
Asset-backed securities	128,359,824	-	128,359,824	-
Commercial mortgage-backed securities	75,843,412	-	75,843,412	-
Non government backed collateralized m	58,190,981	-	58,190,981	-
Total Debt Securities	2,998,258,927	-	2,998,258,927	-
Equity Securities				
International equities	924,316,737	924,316,737	-	-
U.S. common and preferred stock	2,301,103,393	2,301,103,393	-	-
Total Equity Securities	3,225,420,130	3,225,420,130	-	-
Real estate				
Real estate	10,160,000	-	-	10,160,000
Total Investments by Fair Value Level	$ 6,233,839,057	$ 3,225,420,130	$ 2,998,258,927	$ 10,160,000
Investments Measured at the Net Asset Value (NAV)				
U.S. TIPS index fund	$ 352,275,062			
International equity index funds	1,720,711,473			
U.S. equity index fund	1,699,787,390			
Total Investments Measured at NAV	3,772,773,925			
Securities lending collateral	427,163,417			
Total Investments	$ 10,433,776,399			

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

			Fair Value Measurements Using	
Investments by Fair Value Level	**6/30/2019**	**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			

There have been no significant changes in valuation techniques during the fiscal years ended June 30, 2020 and 2019.

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. Redemption information for investments measured at the NAV per share, or equivalent, is presented in the table below.

Investments Measured at the Net Asset Value	**6/30/2020**	**6/30/2019**	**Redemption Frequency**	**Redemption Notice Period**
U.S. TIPS index fund (1)	$ 352,275,062	$ 324,711,724	Daily	2 days
International equity index funds (2)	1,720,711,473	1,782,648,389	Daily	2 days
U.S. equity index fund (3)	1,699,787,390	1,675,716,050	Daily	1 day
	$ 3,772,773,925	$ 3,783,076,163		

(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:

	2020	2019
Total pension liability	$ 10,614,647,291	$ 9,726,326,176
Plan fiduciary net position	$ 9,722,484,043	$ 9,593,138,099
Employers' net pension liability	$ 892,163,248	$ 133,188,077
Plan fiduciary net position as a percentage of the total pension liability	91.59%	98.63%

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

	2020	2019
Total HISP liability	$ 328,431,762	$ 321,048,037
HISP plan fiduciary net position	$ 375,314,784	$ 359,922,778
Employers' net HISP (asset) liability	$ (46,883,022)	$ (38,874,741)
Plan fiduciary net position as a percentage of the total HISP liability	114.27%	112.11%

(b) Actuarial Methods and Assumptions

The total pension liability and total HISP Asset, both as of June 30, 2020 and 2019, were determined based on actuarial valuations prepared as of July 1, 2020, using the following actuarial assumptions:

- Investment return – 6.50% for 2020 and in 7.00% in 2019 compounded annually net of investment expense and including inflation
- Salary increases, including price inflation – 3.25% to 9.25% for 2020 and 3.50% to 9.50% for 2019

- Mortality rates – In 2020, Pub-2010 Below Media, General Membership Active/Retiree Healthy Mortality Table with base rates projected to 2030 using Scale MP-2019. Male rates are set back one year, and female rates are set forward one year.
- No annual post-retirement benefit increases
- Assumed inflation rate – 2.50% for 2020 and 2.75% in 2019
- Payroll growth – 3.25% for 2020 and 3.50% for 2019
- Actuarial cost method – Entry age
- Select period for the termination of employment assumptions – 10 years

The actuarial assumptions used in the July 1, 2020, valuation are based on the results of the most recent actuarial experience study, which covered the three-year period ending June 30, 2019. The experience study report is dated May 13, 2020.

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, 2019 experience study, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U.S. Large Cap Equity	34.0%	4.7%
U.S. Small Cap Equity	6.0%	5.8%
Int's Developed Equity	23.0%	6.5%
Emerging Market Equity	5.0%	8.5%
Core Fixed Income	25.0%	0.5%
Long Term Treasuries	3.5%	0.0%
US TIPS	3.5%	0.3%
Total	100.0%	

(c) Discount rate

The discount rate used to measure the total pension liability and the total HISP liability was 6.50%, net of investment expenses, for 2020 and 7.00% for 2019. 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 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 (asset) to changes in the discount rate

The following presents the net pension liability of the employer calculated using the discount rate of 6.50% for 2020 and 7.00% for 2019, 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, 2020			June 30, 2019		
	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net pension liability (asset)	$2,100,226,839	$ 892,163,248	$ (128,635,844)	$1,204,228,260	$ 133,188,077	$ (774,849,359)

The following presents the net HISP liability (asset) of the employer calculated using the discount rate of 6.50% for 2020 and 7.00% for 2019, 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, 2020			June 30, 2019		
	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net HISP liability (asset)	$ (11,936,240)	$ (46,883,022)	$ (76,833,004)	$ (6,140,488)	$ (38,874,741)	$ (67,031,422)

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

GASB Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*, provides clarity and consistency in the reporting of potential component units that are defined contribution pension or OPEB plans as well as other employee benefit plans, such as certain (not all) Internal Revenue Code Section 457 plans. Upon implementation, the provisions of GASB Statement No. 32, *Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans* are superseded. Some of the elements of GASB Statement No. 97 became effective immediately, including the provisions exempting governments such as the System, that perform the duties that a governing board typically performs from treating the absence of a governing board the same as the appointment of a voting majority of a governing board in determining whether they are financially accountable for defined contribution pension plans, defined contribution OPEB plans, or other employee benefit plans. Another provision that became effective immediately was the limitation of the applicability of the financial burden criterion in GASB Statement No. 84 solely to defined benefit pension plans and defined benefit OPEB plans that are administered through trusts. The remaining provisions of GASB Statement No. 97 will become effective for the fiscal year ended June 30, 2022. The

System is analyzing the remaining impact of this Statement on the Pathfinder 457 defined contribution plan reporting.

GASB Technical Bulletin No. 2020-1, *Accounting and Financial Reporting Issues Related to the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) and Coronavirus Diseases* became effective upon issuance at the close of this fiscal year. The provisions of the Technical Bulletin provide six questions and answers related to the CARES Act, of which five had no impact on the System as it did not receive CARES Act funding. Question 6 of the Technical Bulletin discusses the reporting of outflows of resources incurred in response to the coronavirus disease, such as funds used to slow the spread of the virus, adjustments in the provision of services and the implementation of 'stay-at-home' orders. GASB pronouncements require that these outflows of resources not be reported as extraordinary nor special items and therefore, no impact on the System occurred despite the flows as a result of the pandemic.

Due to the issuance of GASB Statement No. 95, (GASB-95) *Postponement of the Effective Dates of Certain Authoritative Guidance*, the System exercised the option to delay implementation of previously issued GASB pronouncements that were supposed to be implemented during the fiscal year ended June 30, 2020.

As adjusted by GASB-95, the System is due to implement the following GASB pronouncements during the following fiscal years then ended:

<u>Fiscal Year Ended June 30, 2021:</u>

GASB Statement No. 84, *Fiduciary Activities*, clarifies fiduciary relationships and reporting. The System is analyzing the effect of this pronouncement along with amendments made to the Statement by GASB Statement No. 92 and GASB Statement No. 97 (both discussed herein).

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 pronouncement will likely not apply as the System is precluded by State statute from holding a majority equity position in another entity.

<u>Fiscal Year Ended June 30, 2022:</u>

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

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 pronouncement will likely not apply.

As introduced previously, GASB Statement No. 92, *Omnibus* 2020, includes guidance addressing various accounting and financial reporting issues identified during the implementation and application of certain GASB pronouncements, including GASB Statement No. 84. Issued clarified by GASB Statement No. 92 include the reporting of intra-equity transfers of assets to other bodies within a reporting entity, including plans such as the System and applicability of certain provisions of recently issued GASB pronouncements. In addition, terminology used to refer to derivatives and other investments is converting to the use of the word 'instruments' as part of a global change and became effective upon issuance. The System is analyzing the effect of this Statement.

GASB Statement No. 93, *Replacement of Interbank Offered Rates*, includes the removal of the London Interbank Offered Rate (LIBOR) as an appropriate benchmark interest rate for variable rate payments. The removal is a result of global reference rate reform. LIBOR is expected to cease to exist in its current form at the end of 2021. Financial instruments benchmarked to such rates may be amended as part of this global change. GASB Statement No. 93 provides exceptions to recognition of a gain or loss on termination when the replacement provisions are enabled, among other elements in the pronouncement. GASB Statement

No. 93 is effective for reporting periods ending after December 31, 2021. However, the removal of LIBOR and other reference rate reform may be further delayed by central banks as a result of the pandemic, which may cause an extension of the implementation of GASB-93. The System is analyzing the effect of this Statement.

Fiscal Year Ended June 30, 2023:

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

GASB Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, provides guidance to improve accounting and financial reporting such transactions (commonly referred to as P3s). The System is analyzing the effect of this Statement.

GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*, provides accounting and financial reporting guidance for such arrangements (also known as SBITAs). The framework for the accounting and financial reporting is based on the provisions established in GASB Statement No. 87, *Leases*. The System is analyzing the effect of this Statement.

Required Supplementary Information

(Unaudited)

June 30, 2020

Schedule 1

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

Year Ended June 30,	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability							
Service cost	$ 158,748	$ 162,170	$ 170,490	$ 177,082	$ 178,523	$ 175,809	$ 184,835
Interest	658,714	647,009	640,881	639,266	653,306	635,975	621,990
Benefit changes	182,977	-	8,929	-	-	-	-
Difference between expected and actual experience	(7,442)	(2,065)	(110,269)	(117,283)	(52,745)	(11,228)	(89,172)
Changes of assumptions	538,446	-	-	238,225	233,874	-	15,413
Benefit payments	(628,669)	(621,409)	(592,726)	(573,962)	(565,412)	(542,488)	(520,641)
Refunds of contributions	(14,452)	(15,369)	(15,957)	(15,950)	(15,862)	(15,611)	(14,878)
Net change in total pension liability	888,322	170,336	101,348	347,378	431,684	242,457	197,547
Total pension liability - beginning	9,726,326	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)	$ 10,614,648	$9,726,326	$ 9,555,990	$ 9,454,642	$ 9,427,810	$ 8,996,126	$ 8,753,669
Plan Fiduciary Net Position							
Contributions - employer	$ 274,882	$ 263,730	$ 258,907	$ 269,511	$ 296,249	$ 292,185	$ 280,047
Contributions - member	67,808	66,566	66,930	70,276	73,801	73,145	70,524
Net investment income	435,320	544,237	734,976	1,013,868	15,756	264,289	1,317,980
Benefit payments	(628,669)	(621,409)	(592,726)	(573,962)	(565,412)	(542,488)	(520,641)
Administrative expense	(5,543)	(5,564)	(5,162)	(5,214)	(5,395)	(5,183)	(4,709)
Refunds of contributions	(14,452)	(15,369)	(15,957)	(15,950)	(15,862)	(15,611)	(14,878)
Net change in plan fiduciary net position	129,346	232,191	446,968	758,529	(200,863)	66,337	1,128,323
Plan fiduciary net position - beginning	9,593,138	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)	9,722,484	9,593,138	9,360,947	8,913,979	8,435,579	8,636,442	8,570,105
Net pension liability - ending (a) - (b)	$ 892,164	$ 133,188	$ 195,043	$ 540,663	$ 992,231	$ 359,684	$ 183,564

Schedule of the Net Pension Liability ($ in Thousands)

Year Ended June 30,	2020	2019	2018	2017	2016	2015	2014
Total pension liability	$ 10,614,648	$9,726,326	$ 9,555,990	$ 9,454,642	$ 9,427,810	$ 8,996,126	$ 8,753,669
Plan fiduciary net position	9,722,484	9,593,138	9,360,947	8,913,979	8,435,579	8,636,442	8,570,105
Net pension liability	$ 892,164	$ 133,188	$ 195,043	$ 540,663	$ 992,231	$ 359,684	$ 183,564
Ratio of plan fiduciary net position to total pension liability	91.59%	98.63%	97.96%	94.28%	89.48%	96.00%	97.90%
Covered payroll	$ 1,584,631	$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	56.30%	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.

Discount Rate as of 6/30/2020 was changed to 6.50% in 2020 from 7% in 2019

Required Supplementary Information

Schedule of Pension Employer Contributions ($ in Thousands)
(Unaudited)
June 30, 2020
Schedule 2

Year Ended June 30,	2020	2019	2018	2017	2016	2015	2014
Actuarially determined employer contribution	$ 118,083	$ 129,707	$ 168,494	$ 176,016	$ 164,600	$ 200,784	$ 258,879
Actual employer contributions	274,882	263,730	258,907	269,511	296,249	292,185	280,047
Annul contribution deficiency (excess)	$ (156,799)	$ (134,023)	$ (90,413)	$ (93,495)	$ (131,649)	$ (91,401)	$ (21,168)
Covered payroll*	$ 1,584,631	$ 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*	17.35%	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	7 years
Asset valuation method	5-year moving average
Inflation	2.50% for 2020, and 2.75% 2019, 2018 and 2017, and 3.00% for 2016
Salary increases, including inflation	3.25% to 9.25%
Investment rate of return	6.50% for 2020, 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 2020 - Pub-2010 Below Median, General membership Active/ Retiree Healthy Mortality table with base rates projected to 2030 using Scale MP-2019. Males rates are set back one year, and female rates are set forward one year. 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, 2020

Schedule 3

Annual money-weighted rate of return, net of investment expense	
Year Ended June 30, 2020	4.61%
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.

(Unaudited)

June 30, 2020

Schedule 4

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

Year Ended June 30,	2020	2019	2018	2017
Total HISP Liability				
Service cost	$ 7,567	$ 7,909	$ 8,367	$ 8,550
Interest	21,848	22,332	22,240	22,563
Difference between expected and actual experience	(18,882)	(18,780)	(10,599)	(16,757)
Changes of assumptions	15,022	-	-	11,073
Benefit payments	(18,171)	(18,556)	(18,840)	(18,999)
Net change in total HISP liability	7,384	(7,095)	1,168	6,430
Total HISP liability - beginning	321,048	328,143	326,975	320,545
Total HISP liability - ending (a)	$ 328,432	$ 321,048	$ 328,143	$ 326,975
Plan Fiduciary Net Position				
Contributions - employer	$ 19,236	$ 18,744	$ 19,080	$ 18,828
Net investment income	14,510	18,841	25,502	35,747
Benefit payments	(18,171)	(18,555)	(18,840)	(18,999)
Administrative expense	(183)	(191)	(179)	(184)
Net change in plan fiduciary net position	15,392	18,839	25,563	35,392
Plan fiduciary net position - beginning	359,923	341,084	315,521	280,129
Plan fiduciary net position - ending (b)	375,315	359,923	341,084	315,521
Net HISP liability (asset) - ending (a) - (b)	$ (46,883)	$ (38,875)	$ (12,941)	$ 11,454

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

Year Ended June 30,	2020	2019	2018	2017
Total HISP liability	$ 328,432	$ 321,048	$ 328,143	$ 326,975
Plan fiduciary net position	375,315	359,923	341,084	315,521
Net HISP liability (asset)	$ (46,883)	$ (38,875)	$ (12,941)	$ 11,454
Ratio of plan fiduciary net position to total HISP liability (asset)	114.27%	112.11%	103.94%	96.50%
Covered payroll*	N/A	N/A	N/A	N/A
Net HISP liability as a percentage of covered payroll	N/A	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.

Discount Rate as of June 30, 2020 was 6.50% and in 2019 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, 2020

Schedule 5

Year Ended June 30,	**2020**	**2019**	**2018**	**2017**
Actuarially determined employer contribution	$ 3,654	$ 4,281	$ 5,786	$ 6,087
Actual employer contributions	19,236	18,744	19,080	18,828
Annul contribution deficiency (excess)	$ (15,582)	$ (14,463)	$ (13,294)	$(12,741)
Covered payroll*	N/A	N/A	N/A	N/A
Actual contributions as a % of covered payroll*	N/A	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	7 years
Asset valuation method	5-year moving average
Inflation	2.50% for 2020, 2.75% for 2019, 2018 and 2017, 3.00% for 2016 and 2015
Salary increases, including inflation	3.25% to 9.25% for FY20, 3.75% for 2019, 3.75% for 2018 and 2017, 5.00% for 2016 and 2015, including inflation
Investment rate of return	6.50% for 2020, 7.00% for 2019, 7.00% for 2018 and 2017, 7.25% for 2016 and 7.50% for 2015, compounded annually, net of investment expense and including
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 2020 - Pub-2010 Below Median, General membership Active/ Retiree Healthy Mortality table with base rates projected to 2030 using Scale MP-2019. Males rates are set back one year, and female rates are set forward one year.

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, 2020

Schedule 6

Annual money-weighted rate of return, net of investment expense	
Year Ended June 30, 2020	4.03%
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

Years Ended June 30, 2020 and 2019

Schedule 7

	2020	2019
Investment management fees		
Fixed Income Managers:		
BlackRock Financial Management, Inc.	$ 1,269,944	$ 1,158,692
Hoisington Investment Management	479,385	450,709
Metropolitan West Asset Management, LLC	1,394,567	883,004
BlackRock Institutional Trust Company, N.A. - TIPS	28,708	26,461
U.S. Equity Managers:		
Barrow, Hanley, Mewhinney & Strauss, Inc.	1,022,527	1,083,739
BlackRock Institutional Trust Company, N.A.	124,488	122,131
DePrince Race & Zollo, Inc.	792,552	3,041,501
Mellon Capital Management	125,000	125,000
State Street Global Advisors	163,012	167,120
UBS Global Asset Management	3,097,778	2,654,717
Westfield Capital Management	301,477	315,198
International Equity Managers:		
Baillie Gifford Overseas Limited	2,820,842	661,766
BlackRock Institutional Trust Company, N.A.	466,436	455,099
Mondrian Investment Partners, Ltd	2,072,691	2,131,397
Total investment management fees	14,159,408	13,276,534
Investment consultant fees		
Verus Investment Advisory Group	246,784	244,686
Investment custodial fees		
Northern Trust Company	42,272	38,650
Other investment related expenses	232,599	223,316
Total investment expenses	$ 14,681,062	$ 13,783,186

Supplementary Information

Schedule of Administrative Expenses

Years Ended June 30, 2020 and 2019

Schedule 8

	2020	2019
Staff salaries	$ 3,519,717	$ 3,264,469
Social Security	262,373	240,437
Retirement	611,938	564,939
Insurance	656,956	632,362
Temporary employees	2,690	30,873
Total personnel services	5,053,674	4,733,080
Actuarial	161,614	106,004
Audit	198,812	298,864
IT Consulting	183,593	260,219
Legal	14,094	18,328
Total professional services	558,113	683,415
Printing	53,961	72,858
Telephone	23,475	22,649
Postage and mailing expenses	89,052	131,173
Travel	37,148	43,656
Information Technology	334,596	296,971
Total communication	538,232	567,307
Office space	259,736	299,350
Equipment leasing	17,866	24,842
Total rentals	277,602	324,192
Supplies	15,362	19,793
Maintenance	49,940	2,290
Depreciation	72,373	113,339
Other	104,892	190,174
Total miscellaneous	242,567	325,596
Total administrative expenses	6,670,188	6,633,590
Administrative expenses allocated		
Uniform Retirement System for Justices and Judges (URSJJ)	(182,325)	(176,045)
Oklahoma State Employees Deferred Compensation Plan (DCP)	(507,542)	(507,077)
Oklahoma State Employees Deferred Savings Incentive Plan (SIP)	(136,603)	(128,513)
Pathfinder 401(a) Defined Contribution Plan	(105,380)	(60,454)
Pathfinder 457 Defined Contribution Plan	(12,326)	(6,540)
Total administrative expenses allocated	(944,176)	(878,629)
Net administrative expenses	$ 5,726,012	$ 5,754,961

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

Years Ended June 30, 2020 and 2019

Schedule 9

Professional/Consultant	Service	2020	2019
Cavanaugh Macdonald Consulting, Inc.	Actuarial	$ 161,614	$ 106,004
Eide Bailly LLP	External Auditor	73,000	71,500
Arledge & Associates	External Auditor	38,250	37,250
Finley & Cook, PLLC	Internal Auditor	87,562	190,114
Gartner Inc.	IT Consulting	146,465	145,069
ImageNet	IT Consulting	-	103,670
OMES - Communications	IT Consulting	11,253	11,480
True Digital Security	IT Consulting	25,875	-
Ice Miller LLP	Legal	13,715	18,328
Phillips Murrah, P.C.	Legal	300	-
Michael Mitchelson	Legal	79	-
Total professional/consultant fees		$ 558,113	$ 683,415

INVESTMENT

Verus

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 6.5% while its investment consultant estimates the return requirement to be 5.4% for the fiscal year ended June 30, 2020. 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	6/30/20 ALLOCATION	LOW	TARGET	HIGH	% PASSIVE OR SEMI-PASSIVE
U.S. EQUITY	40.0%	34.4%	40.0%	45.6%	70.4%
FIXED INCOME	33.3%	27.5%	32.0%	37.3%	58.4%
INT'L EQUITY	26.3%	25.0%	28.0%	31.0%	64.8%
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 2020 Investment Environment

Market Environment

During the latter half of calendar year 2019, global economies generally exhibited moderate and positive economic growth, inflation remained mild, central bank policies were accommodative to further growth, labor markets had fully recovered from the Global Financial Crisis, and economic surprises were few. Risk assets delivered robust performance during the second half of the year.

Investors' main concerns in the market appeared to be around troubled U.S.-Chinese relations, the resulting trade conflict which could interrupt economic progress and corporate profits, and even the potential for military conflict. However, the relationship between the two superpowers was seemingly on a more conciliatory track. A series of meetings between the U.S. and Chinese officials culminated in a "phase one" deal addressing agricultural trade, intellectual property protections, and some loose agreements on how China would manage its currency.

In early 2020, the calm and relatively stable environment began to shift. A novel coronavirus, and the disease it causes (COVID-19), began spreading through Wuhan, the capital of China's Hubei province. Containment efforts were ineffective, and the virus continued to spread. The sudden impact of this global pandemic on economic activity and markets was unprecedented. One of the most immediate effects of the forced closure of businesses around the world was an unparalleled shock to the global labor market. In the United States, approximately 10 million workers applied for unemployment benefits in the last two weeks of March alone. The unemployment rate rose from a 50-year low of 3.5% in February to 14.7% in April—the worst level since the Great Depression.

Investor sentiment, which had been strong in the second half of 2019, fell severely in March and April as equity markets sold-off and workers (most prominently within the leisure and hospitality sectors) were told not to come to work. Consumers exercised a notable degree of fiscal conservatism, paying down their credit card bills and paring back their spending. Retail sales generally plunged and then recovered. Household savings rates jumped as high as 33% as spending slowed and government support replaced lost income.

U.S. real GDP contracted sharply during the second quarter, falling at a 32.9% annualized rate, and was down 9.5% over the twelve-month period ended on June 30th. The slowdown consisted of decreased consumer spending, exports, inventory investment, fixed investment, as well as state and local government expenditures. Federal government spending partly offset the deceleration. While significant, this shock to the economy was in line with revised forecasts.

The size and pace of the shutdowns resulted in central bank intervention on a massive scale. The U.S. Federal Reserve Bank cut its target range for overnight loans between banks to near-zero and dusted off a variety of liquidity facilities left over from the Global Financial Crisis to help calm markets. The Federal Reserve's balance sheet swelled from around $4.7 trillion to $7.2 trillion between the end of March and the beginning of June as the New York Fed's trading desk purchased massive amounts of U.S. Treasuries and mortgage-backed securities. Additionally, the Fed opened facilities allowing it to buy corporate debt through exchange traded funds.

The European Central Bank elected not to push rates further into negative territory as the pandemic hit. Instead, the ECB put together a €750 billion asset purchase program, which was eventually boosted in June to €1.35 trillion. The package will allow the ECB to keep borrowing costs low by buying bonds across jurisdictions until June 2021, or until it believes the crisis is over.

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U.S. Equity

U.S. stocks led risk assets higher during the first half of the fiscal year, with the S&P 500 Index returning 10.9% over the six months ending in December. As COVID-19 began to course through the U.S. in the first quarter of calendar-year 2020, the index plunged 33.8% between February 19th and March 23rd before rebounding strongly in the second quarter. Due to the nature of the crisis, investors piled into mega-cap technology stocks, which powered the rise in both the S&P 500 and NASDAQ 100 indices. By the end of the fiscal year on June 30th the S&P 500 had reached 3,100—placing the index within 10% of the February high water mark of 3,386.

After this roller-coaster ride of historical proportions, the S&P 500 Index finished the fiscal year with a respectable 7.5% full-period return, outperforming both developed and emerging market equities (in USD terms).

International Equity

By contrast, international developed market equities lagged behind US stocks during the first half of the fiscal year, with the MSCI World ex US Index posting a 6.9% return. The index then fell further than did the S&P 500 during the first quarter of 2020, and rebounded less strongly in the second quarter, thus finishing the fiscal year in negative territory (-5.4%, in USD terms).

Similarly, the MSCI Emerging Markets Index returned -3.4% over the full fiscal year. China (MSCI China Index +13.1%) supported emerging market equity performance substantially, likely due to having moved into the recovery phase relatively quickly. Additionally, massive intervention from the People's Bank of China and the tech-concentration of the Chinese equity universe provided further support. More broadly, the Asian segment of the emerging markets complex (MSCI EM Asia +4.9%) diverged materially from the Latin American component (MSCI EM Latin America -32.5%). While some of the divergence was driven by differences in sector composition, Latin American emerging markets faced much more significant currency depreciation relative to the dollar—an important story during the first half of the year. The J.P. Morgan Emerging Market Currency Index, a basket of ten emerging market currencies, depreciated roughly -14% relative to the dollar, presenting material headwinds for U.S. investors in emerging market equities.

Fixed Income

Bonds rallied for much of the fiscal year, and ten-year Treasury yields fell from 2.01% to 0.66%, establishing fresh all-time closing lows of 0.54% along the way. Holding duration in portfolios provided a significant downside ballast during the crisis. The Bloomberg Barclays Long Duration Treasury Index returned 25.4%, topping the fixed income performance table over the one-year period. The rally in European sovereign bonds was more muted, as yields had less room to fall and the ECB preferred not to push their main deposit rate below -0.50%. Japanese government bonds largely moved sideways as the Bank of Japan left its yield curve control policy unchanged and continued to manage 10-year Japanese government bond yields within 20 basis points of its 0.00% target.

Credit spreads jumped considerably in the first quarter of 2020, leading to poor performance in credit over the quarter. On March 23rd, the option-adjusted spreads of the Bloomberg Barclays Aggregate Corporate and Corporate High Yield indices topped out at 3.73% and 11.00%, respectively. From a sector perspective, stress in the energy market exacerbated the blowout in spreads as concerns over the crude oil outlook worked their way into debt pricing. In the second quarter,

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however, as corporate credit facilities announced by the Fed in March became operational, spreads fell—back down to 6.26% for high yield credit and 1.50% for investment grade credit—resulting in a performance comeback. Over the fiscal year, investment-grade credit posted performance of 9.5% while high-yield credit underperformed, returning 0.0%.

Local-currency denominated emerging market debt (J.P. Morgan GBI-EM Global Diversified Index -2.8%) underperformed risky U.S. credit, while dollar-denominated emerging market debt (J.P. Morgan EMBI Global Diversified Index +0.8%) fared slightly better.

Portfolio Review

The Board reaffirmed its existing strategic asset allocation in fiscal year 2020, pursuant to a comprehensive asset/liability study that considered alternative asset mixes. Following the asset-liability study, the Board reduced its actuarial return from 7.0% to 6.5%. The Board will formally revisit its strategic asset allocation again when it conducts its next asset/liability study in 2023.

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, 2020 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, 2020, the U.S. Equity asset class performed below the benchmark for the annualized periods but at or above median compared to the US equity peer group. Returns in recent years have been particularly challenging for active U.S large cap managers compared to passive alternatives, which have ranked in the top quartile of the peer group. Active value managers also faced headwinds as the market continued to favor growth stocks, and the growth-value dispersion reached all time highs. The Non-U.S. Equity asset class outperformed the benchmark for all annualized time periods measured and ranked at or above median versus the peer group for the 1-year, 3-year, 5-year and 7-year time periods. The Non-U.S. Equity composite ranked just slightly below median over the 10-year period ended 6/30/20. The Fixed Income asset class performed above the benchmark for all annualized time periods measured as of June 30, 2020. During the fiscal year, bonds were the highest performing asset class in the OPERS portfolio on an absolute basis, in particular from its long duration manager. The Fixed Income composite was in the top third of the peer group over all periods measured, despite the fact that its structure is more conservative compared to a many large plan peers.

The total OPERS Plan performed below its Policy Benchmark for the 1, 3 and 5-year periods and at or above the Policy Benchmark for the 7 and 10-year periods ended June 30, 2020. The total OPERS Plan ranked in the top quartile for the 1, 3, 5, 7 and 10-years ended 6/30/20 compared to the peer universe of Public Funds greater than $1 Billion, with percentile rankings of 4%, 14%, 18%, 18% and 21%, respectively.

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PERIODS ENDED 6/30/20	ONE YEAR	THREE YEARS	FIVE YEARS
Domestic Equity	3.8%	8.7%	8.9%
85% Russell 1000 / 15% Russell 2000	5.3%	9.4%	9.6%
Rank*	47	49	50
Non-U.S. Equity	-3.2%	1.9%	3.1%
MSCI ACWI ex-U.S.	-4.4%	1.6%	2.7%
Rank*	50	35	39
Fixed Income	11.7%	6.7%	5.3%
78% BC Agg./11% Citi 20+ Year Tsy./11% BC U.S. TIPS	10.6%	6.1%	4.8%
Rank*	19	20	23
Total Fund	4.5%	6.3%	6.3%
*Policy Benchmark***	4.8%	6.5%	6.6%
Public Fund > $1 Billion Median*	1.2%	4.9%	5.4%
Rank*	4	14	18

* 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 unusually strong total Plan peer ranking over longer time periods.

Yours truly,

Margaret S. Jadallah
Managing Director

Verus

Chief Investment Officer's Report

Oklahoma Public Employees Retirement System
P.O. Box 53007
Oklahoma City, Oklahoma 73152-3007

800.733.9008 toll-free
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Dear Members:

The Fund's total return of 4.5% for fiscal year 2020 was below the 6.5% long-term return target (see the **Recent Events** section regarding the change to the long-term return assumption) and below the 4.8% return of the policy portfolio. Capital markets around the globe exhibited extreme volatility due to the uncertainties of the extent of economic damage caused by the coronavirus pandemic. The historic bull market run of the stock market in the U.S. was decidedly interrupted during the fiscal year. Stock market returns outside of the U.S. did not contribute positively to total returns as the pandemic spread across the globe. The safe haven of the bond market provided a needed boost, as fixed income results delivered the highest contribution to the total return of the portfolio for the entire fiscal year. 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 2020 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

Gross Domestic Product (GDP), the primary gauge for economic activity in the U.S., plunged in the second quarter of 2020, shrinking by an annualized rate of 31.7%. This contraction in U.S. GDP was the largest ever, which immediately sent the economy officially into a recession. The breathtaking reduction in economic activity was a result of measures taken to reduce the spread of the coronavirus. The closure of restaurants, factories, stores and other businesses, in addition to "stay-at-home" orders issued by authorities, brought consumer and business spending to a standstill during the period. Weekly initial jobless claims were measured in the millions from March to April. Cumulative initial jobless claims surpassed 58 million since mid-to-late March, when the business closures due to coronavirus began in earnest. By the end of August, weekly jobless claims averaged over 1 million as non-essential businesses were allowed to open after weeks of having been closed due to the pandemic. The unemployment rate reached an all-time high of 14.7% in April of 2020. It fell to 8.4% in August 2020 from 10.2% in July, as businesses began to reopen and rehire employees. To compare the speed and extent of the damage to the labor market during the fiscal year, the highest unemployment rate experienced during the Great Recession was 10%. The Federal Government responded to the crisis with an assortment of stimulative measures, including the CARES Act, which provided $2 trillion in government aid, and Congress continues to debate the possibility of a second stimulus bill. The Federal Reserve also responded strongly to the crisis by dropping the Federal Funds target rate to zero and resuming and expanding the quantitative easing programs first seen during the Great Recession. The U.S. dollar strengthened relative to the rest of the developed world's currencies during this flight to quality. Note that a stronger dollar makes U.S. exports more expensive in other countries and detracts from U.S. dollar-based investor returns.

Economic activity outside of the U.S. followed a similar trajectory. The World Bank and OECD (Organization for Economic Co-operation and Development) predicted the deepest peacetime global recession in the last 80-100 years due to the pandemic. The European Central Bank (ECB) also launched lending and quantitative easing programs to support economic

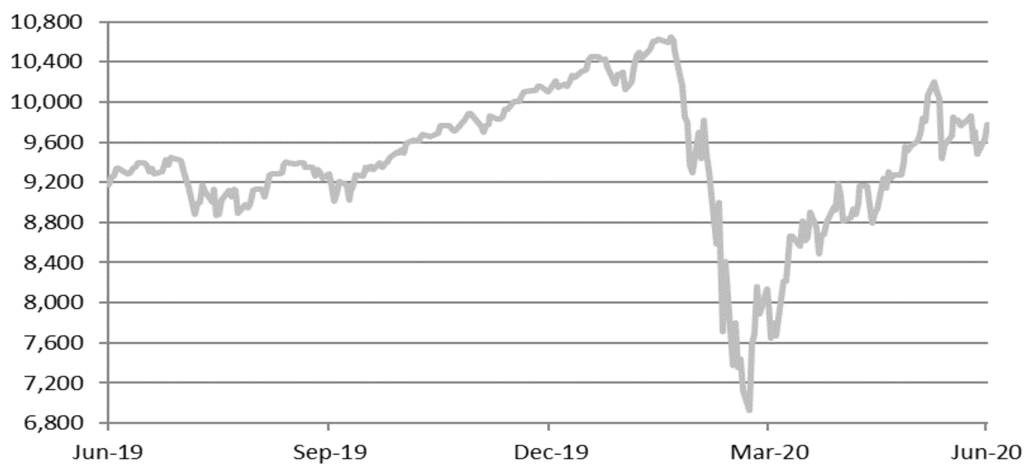
Chief Investment Officer's Report (continued)

activity. The monetary response by central banking authorities has been on a global scale to lessen the damaging impact of the pandemic on economies.

U.S. and Global Stock Markets
The U.S. stock market, as measured by the Russell 3000 Index, exhibited profound volatility during the fiscal year. The Russell 3000 Index is one of the broadest domestic equity indices available and a good proxy for the U.S. equity market as a whole. Equity markets fluctuated between extreme fear, as the pandemic's effect on the economy led to dire economic conditions, and extreme greed, as the market cheered the fiscal and monetary support provided by the Government in response to the crisis.

Change in the Russell 3000 Index during the fiscal year ended June 30, 2020

Value at 6/30/20	9,779.7
Value at 6/30/19	9,180.3



Source: FTSE Russell

The Russell 3000 ended the one-year period through June 30, 2020 up 6.53%, despite the severe volatility towards the second half of the fiscal year. From late February to late March, the Russell 3000 lost almost 35% of its value as fear from the effects of the pandemic gripped the markets. The market was able to claw back the losses experienced in the first calendar quarter and managed a respectable gain for the fiscal year. Investors sought the opportunity for risk-taking in equity markets as the Federal Government provided trillions of dollars of economic support in an effort to hold-off complete economic calamity. Large capitalization stocks continued to perform especially well compared to small capitalization stocks over the one-year period ended June 30. The Russell 1000 index (large cap stocks) gained 7.5%, while the Russell 2000 index (small cap stocks) lost 6.6% over the period. While the stock market performed well overall, the gains were not evenly distributed throughout the sectors of the index. Within the Russell 1000 index, return dispersion among the sectors was high, ranging from a gain of over 35% for the fiscal year in the technology sector, to a loss of over 36% in the energy sector. Stocks of technology companies were heavily favored, as the stay-at-home orders boosted demand for products and online sales activity flourished. With respect to the energy sector, oil sold-off during the period as demand evaporated; futures contracts briefly reflected oil prices below $0 per barrel! Equity style leadership continued to favor growth-oriented stocks, as growth stocks trounced value stocks during the period—that effect was felt in both the large and small cap areas of the market.

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, lost 4.4% (gross) in U.S.

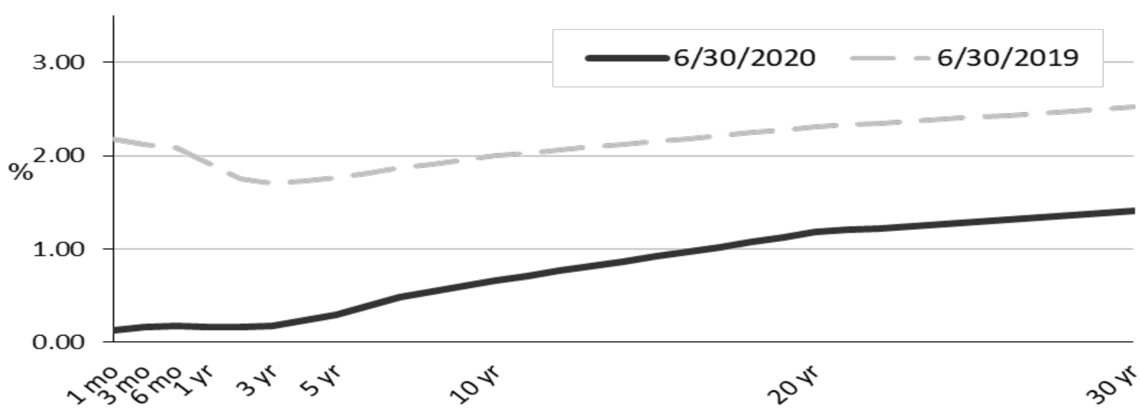
Chief Investment Officer's Report (continued)

dollar terms for the fiscal year. The U.S. dollar continued to strengthen relative to many other foreign currencies, which exacerbated losses experienced by U.S. dollar investors in foreign markets. Emerging market returns in U.S. dollar terms were slightly better than non-U.S. developed market returns, but still logged a nominal loss in excess of 3% for the period.

Interest Rates

The chart below 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 across the curve over the period, as the Federal Reserve acted quickly to lower rates. By March 16th, the Federal Reserve had lowered the Fed Funds Rate by 150 basis points, after which it stood at a range of 0%-0.25% at the end of the fiscal year. The Fed stated that "the ongoing public health crisis will weigh heavily on economic activity, employment, and inflation in the near term, and poses considerable risks to the economic outlook over the medium term…". In addition to lowering rates, the Fed reenacted quantitative easing measures, which included the purchase of longer-term Treasury securities, and expanded the program to include mortgage-backed securities and corporate bonds. The Fed also announced several pandemic lending facilities, which were geared toward medium and smaller businesses. The actions by the Fed indicated that it was now taking on the role of lender to the real economy, instead of just acting as the lender of last resort to the financial industry. Outside of the U.S., yields were at all-time lows (in the U.K.) or below zero (in Japan and Germany). Central banks across the world have either lowered rates or maintained low rates in an effort to combat the pandemic and support their respective economies.

U.S. Treasury Yield Curve



Source: U.S. Treasury

Chief Investment Officer's Report (continued)

Investment Returns Through June 30, 2020

U.S. Equity	Style	1 Year	3 Years	5 Years
Russell 3000	Broad U.S. Equity	6.53%	10.04%	10.03%
S&P 500	Large Cap Equity	7.51%	10.73%	10.73%
Russell 1000	Large Cap Equity	7.48%	10.64%	10.47%
Russell 1000 Growth	Large Cap Growth	23.28%	18.99%	15.89%
Russell 1000 Value	Large Cap Value	-8.84%	1.82%	4.64%
Russell 2000	Small Cap Equity	-6.63%	2.01%	4.29%
Russell 2000 Growth	Small Cap Growth	3.48%	7.86%	6.86%
Russell 2000 Value	Small Cap Value	-17.48%	-4.35%	1.26%
Oklahoma Public Employees Retirement System	**Broad U.S. Equity**	**3.76%**	**8.71%**	**8.94%**

U.S. Fixed Income	Style	1 Year	3 Years	5 Years
ML 3-Month T-Bill	Cash	1.47%	1.68%	1.12%
Bloomberg Barclays U.S. Aggregate	Core Bonds	8.74%	5.32%	4.30%
Citigroup 20-year Treasury Average	Long Term Bonds	25.95%	12.26%	9.51%
Bloomberg Barclays Corporate High Yield	High Yield Bonds	0.03%	3.33%	4.79%
Oklahoma Public Employees Retirement System	**Domestic Fixed Income**	**11.75%**	**6.70%**	**5.27%**

International Equity	Style	1 Year	3 Years	5 Years
MSCI ACWI Ex-US	Broad Non-US Equity	-4.39%	1.61%	2.74%
MSCI EAFE	Developed Non-US Equity	-5.13%	0.81%	2.05%
MSCI Emerging Market	Emerging Non-US Equity	-3.39%	1.90%	2.86%
Oklahoma Public Employees Retirement System	**Non-U.S. Equity**	**-3.22%**	**1.94%**	**3.10%**

Oklahoma Public Employees Retirement System	**Total Fund**	**4.49%**	**6.32%**	**6.33%**

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.

<u>Investment Performance</u>

Bull market interrupted

The Fund produced a total return of 4.5% for the period gross of fees (4.3% net of fees), which underperformed the policy benchmark portfolio by 30 basis points for the period. The results from active management in excess of the benchmark this year were mixed, but overall, modestly accretive to the excess return 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 their benchmarks. This positive influence was offset by underperformance of the active managers in the U.S. large capitalization equity portion of the portfolio. Given the volatility in the markets, small deviations in the Fund's asset allocation relative to the Policy portfolio exhibited above-average return dispersion, which ultimately resulted in underperformance of the Fund's return relative to the Policy portfolio for the fiscal year.

The Fund benefited from especially robust returns in the fixed income asset class and positive absolute returns from parts of the U.S. equity market. The fixed income segment of the portfolio returned well in excess of the 6.5% required return for the period and was the primary driver of the Fund's overall results. The U.S. equity portion of the portfolio contributed positively on an absolute basis, but total returns were below the nominal hurdle rate. The non-U.S. equity market segment detracted from results on an absolute basis.

Chief Investment Officer's Report (continued)

U.S. Equity

The Fund uses 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. Excess returns from the advisors in the large capitalization areas of the market were pressured, as value-oriented stocks continued to underperform 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 significant return relative to the small cap index. The Fund's small capitalization managers who emphasize growth-oriented stocks and relative value-oriented stocks both performed exceptionally well versus their benchmark. The underperformance of the large capitalization advisors as a group, in addition to the Fund's modest overweight to small cap stocks, caused the U.S. equity portion of the Fund to considerably underperform the policy return for the period.

Fixed Income

The Fund's bond portfolio contributed meaningfully to overall results, once again driving the total return for the fiscal year. As mentioned above, yields declined across the yield curve, which gave a hefty boost to the nominal total return of the asset class, especially in the longer-dated maturities. The Fund's advisor who uses interest rate positioning in managing its portion of the portfolio by analyzing long-term economic trends performed exceptionally well for the period, as its long duration position was handsomely rewarded with total returns of almost 30% for the period. The inflation-sensitive portion of the bond portfolio, which features U.S. Treasury securities, also performed quite well during the flight to quality. The two advisors who focus on the broader bond market both outperformed the benchmark, once again delivering meaningful total returns for the period, which is not generally expected from the asset class. Bonds are maintained in the portfolio for their volatility-dampening effect when combined with exposure to the equity markets. The decline in rates over the course of the fiscal year, especially at the long end of the yield curve, provided strong returns to the diversified Fund.

Non-U.S. Equity

The non-U.S. equity segment lagged the total return experienced in other segments of the Fund, having lost 3.2% in U.S. dollar terms for the period. The U.S. dollar continued to strengthen relative to many other foreign currencies, which exacerbated losses experienced by U.S. dollar investors in foreign markets. 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 equity market, and the other manager emphasizes the growth area. Both active managers outperformed their respective benchmarks for the period. The manager focusing on the international value area of the global equity markets outperformed its benchmark, but the benchmark itself was down almost 15% in U.S. dollar terms for the period. The advisor who emphasizes the growth style handily outperformed its benchmark and contributed positively to nominal returns. The Fund's overweight to the active managers and their relative performance resulted in the international portion of the Fund outperforming the benchmark for the period.

<u>Asset Allocation</u>

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	6/30/2020	Target	Max
Cash and Real Estate	0.0%	0.3%	0.0%	0.0%
Domestic Fixed Income	27.5%	33.3%	32.0%	36.5%
U.S. Equity	34.4%	40.0%	40.0%	45.6%
Non-U.S. Equity	25.0%	26.3%	28.0%	31.0%
Total Fund		**100%**	**100%**	

May not equal 100% due to rounding

Chief Investment Officer's Report (continued)

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 a priority with respect to different asset classes and within each asset class. 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 outlook for the global economic environment lacks clarity and is very much dependent on getting the COVID-19 pandemic under control. Global economic activity has fallen dramatically and no economy has been immune from the devastation caused by the pandemic. The U.S. is starting to see a slow recovery in the jobs lost early in calendar year 2020 in the areas hardest hit by the closures, including the retail, professional and business services, and leisure and hospitality. Questions remain regarding a return normalcy, which creates uncertainty in the short term. The global response from governments world-wide has provided a stabilizing force for their respective economies and has unquestionably supported financial markets. The evolution of support in the form of fiscal and monetary policy will be a key factor to consider in the outlook going forward.

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 6.50%. This will continue to be a challenging task going forward. Interest rates remain historically 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 and potentially detached from the underlying economic fundamentals, 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 as the Federal Reserved took aggressive action to ease monetary policy, which produced 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. My 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 0.25%-0.50%. Bonds are a necessary part of a diversified portfolio but are unlikely to contribute as significantly to the total returns of the Fund as they have in the recent past.

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 impact of the pandemic is certainly felt in the pronounced contraction of the global economy. Corporate earnings lack clarity in forecasting for the short term and businesses remain pressured. U.S. equity markets have pushed pricing levels to new highs based on the stimulative measures taken by governmental authorities. Volatility of the market is high and is likely to remain elevated over the foreseeable future as investors vacillate between the economic realities created by the pandemic and the "sugar rush" of stimulative programs. As of now, optimism regarding the recovery of the economy in the face of the pandemic appears to be winning the day. However, should the pandemic drag on, the sustainability of market gains experienced thus far would certainly be in question.

Chief Investment Officer's Report (continued)

Recent Events

There were no changes to the Fund structure or the managers within the Fund during the year. In May of 2020, the Board lowered the assumed rate of return on invested assets to 6.5% from 7.0%, based on a recommendation from the actuaries who review the plan. During the triennial experience study, the System's actuaries recommended reducing the components of the assumed rate of return, price inflation and the real rate of return, by 0.25% each resulting in the decline of the assumed rate by 0.50%. The Experience Study (July 1, 2016 to June 30, 2019) can be found on our website, www.OPERS.OK.gov.

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, 2020, 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 5-15-2046	80,560,000	$	99,916,428
U.S. Treasury Bonds 2.5% due 2-15-2046	66,800,000		82,730,234
U.S. Treasury Bonds 3.0% due 11-15-2045	56,907,500		76,705,085
FNMA Single Family Mortgage 2.5% 30 Years	60,513,000		62,986,702
U.S. Treasury 0.25% due 06-30-2025	59,665,000		59,548,467
U.S. Treasury Bonds Strip Prin Pmt due 11-15-2045	85,000,000		58,408,541
WI Treasury SEC .125% Due 05-31-2022	54,990,000		54,949,187
U.S. Treasury Notes .25% due 05-31-2025	52,475,000		52,411,456
FNMA Single Family Mortgage 2.5% 30 Years	38,477,000		40,112,273
U.S. Treasury Bonds Strip Due 08-15-2045	52,000,000		35,869,661

Ten Largest Stock Holdings (By Fair Value):

Security	Shares		Fair Value
Microsoft Corporation Common Stock	462,101	$	94,042,175
Apple Inc.Common Stock	247,960		90,455,808
Amazon.com, Inc. Common Stock	26,905		74,226,052
Alphabet Inc. Common Stock	29,227		41,445,347
Facebook, Inc. Class A Common Stock	172,797		39,237,015
Visa Inc. Common Stock	131,834		25,466,374
Taiwan Semiconductor Manufacturing Common Stock	446,171		25,329,128
Intel Corp Common Stock	413,754		24,754,902
Verizon Communications Common Stock	408,826		22,538,577
Johnson & Johnson Common Stock	156,701		22,036,862

Investments in Funds (By Fair Value):

Fund	Units		Fair Value
BlackRock Russell 1000 Index Fund	6,943,165	$	1,699,787,390
BlackRock ACWI ex-U.S. Index Fund	51,635,934		1,385,487,595
BlackRock U.S. TIPS Index Fund	14,031,561		352,275,062
BlackRock ACWI ex-U.S. Growth Index Fund	18,482,055		335,223,878

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, 2020, 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	$ 1,741,718	16.9%
Hoisington Investment Management	Interest Rate Anticipation	381,002	3.7%
BlackRock Institutional Trust Company	Index Fund – U.S. TIPS	352,281	3.4%
Metropolitan West Asset Management	Core Plus	1,118,265	10.9%
Total Fixed Income		3,593,266	34.9%
U.S. Equities:			
BlackRock Institutional Trust Company	Index Fund – Russell 1000	1,699,787	16.4%
Mellon Capital Management	Large cap – Enhanced Index	576,545	5.6%
State Street Global Advisors	Large cap – Enhanced Index	565,474	5.5%
Westfield Capital Management	Large cap – Growth	332,287	3.2%
Aronson + Johnson + Ortiz	Large cap – Value	266,083	2.6%
UBS Global Asset Management	Small cap – Growth	230,147	2.2%
Barrow, Hanley, Mewhinney & Strauss, Inc.	Small cap – Value	190,800	1.9%
DePrince, Race & Zollo, Inc.	Small cap – Value	171,605	1.7%
Total U.S. Equities		4,032,728	39.1%
International Equities:			
Baillie Gifford Overseas Ltd.	International Growth	399,285	3.9%
Mondrian Investment Partners, Ltd.	International Value	530,225	5.1%
BlackRock Institutional Trust Company	Index Fund – ACWI ex-U.S. Growth	335,225	3.3%
BlackRock Institutional Trust Company	Index Fund – ACWI ex-U.S.	1,385,491	13.5%
Total International Equities		2,650,226	25.8%
Short-term Investment Funds	Operating Cash	23,819	0.2%
Total Managed Investments		10,300,039	100.0%
Real Estate		10,160	
Securities Lending Collateral		427,163	
Cash Equivalents on Deposit with State		5,041	
Total Investments and Cash Equivalents		$ 10,742,403	
Statement of Fiduciary Net Position			
Cash Equivalents		308,627	
Investments		10,433,776	
Total Investments and Cash Equivalents		$ 10,742,403	

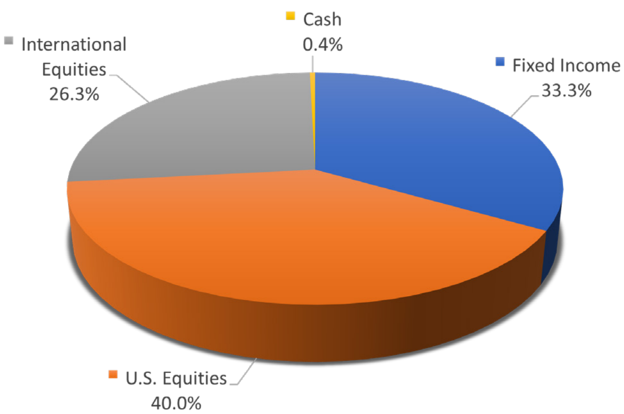
* *Manager fair values include their respective cash and cash equivalents.*

Asset Comparison

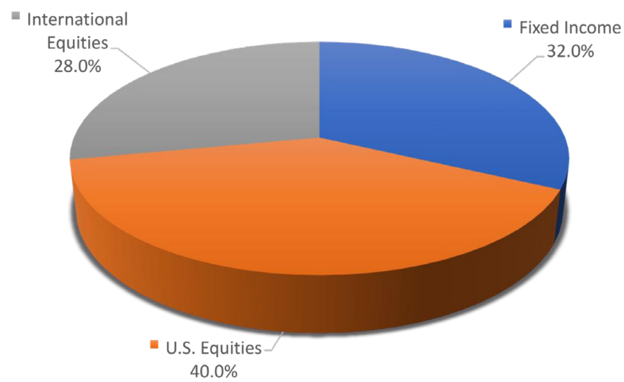
A comparison of the actual investment distribution at June 30, 2020 and 2019, based on the net investment manager holdings, including accrued income, payables and receivables, compared to the target allocation for each year is as follows:

2020

Asset Mix

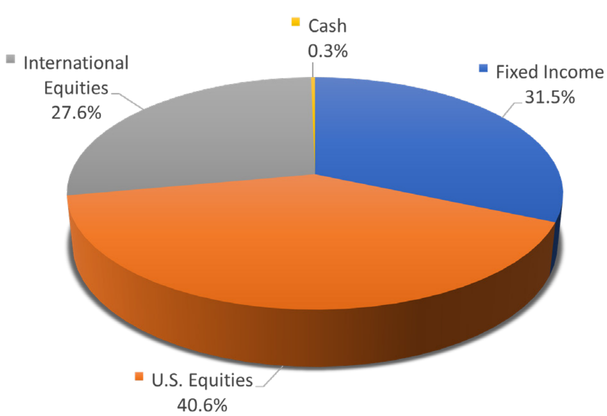


Target Policy Mix

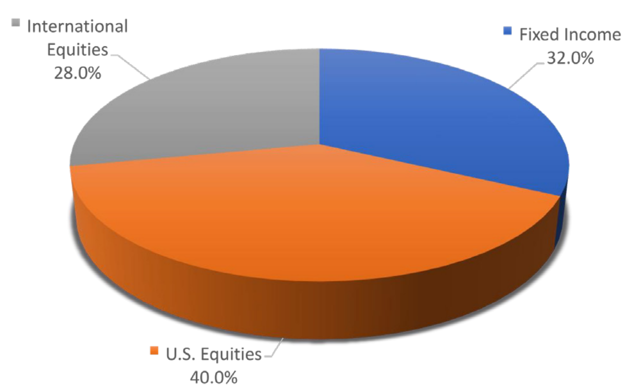


2019

Asset Mix



Target Policy Mix



Schedule of Stock Brokerage Commissions Paid

Year Ended June 30, 2020

Brokerage Firm	Shares Traded	Dollar Volume of Trades	Commission Dollar Amount	Commission Per Share
BOFA SECURITIES, INC.	5,419,165	$ 302,659,858	$ 87,817	0.016
GOLDMAN, SACHS & CO.	5,681,126	293,221,262	72,132	0.013
CREDIT SUISSE SECURITIES (USA) LLC	5,054,962	217,094,798	61,405	0.012
NORTHERN TRUST SECURITIES, INC.	6,097,837	209,652,905	188,945	0.031
INSTINET, LLC	4,888,886	201,194,631	58,175	0.012
J.P. MORGAN SECURITIES LLC	3,511,382	182,804,957	46,383	0.013
NATIONAL FINANCIAL SERVICES LLC	5,862,827	179,636,172	74,630	0.013
VIRTU AMERICAS LLC	2,437,725	140,745,433	35,568	0.015
MORGAN STANLEY & CO. LLC	2,973,245	135,362,967	23,472	0.008
J.P. MORGAN SECURITIES LLC/JPMC	1,617,424	120,289,890	24,262	0.015
JONESTRADING INSTITUTIONAL SERVICES, LLC.	5,278,129	118,900,371	186,362	0.035
BTIG LLC	1,829,505	111,871,939	27,443	0.015
BROADCORT CAPITAL CORPORATION-SUB OF M	2,651,972	106,006,966	67,207	0.025
JEFFERIES LLC	2,301,802	93,291,718	44,524	0.019
SG AMERICAS SECURITIES, LLC	1,384,830	79,566,291	8,365	0.006
CANTOR FITZGERALD & CO.	2,343,894	71,116,889	28,154	0.012
MISCHLER FINANCIAL GROUP INC-EQUITIES	861,366	59,279,345	7,947	0.009
ITG INC.	837,313	54,065,244	8,830	0.011
FIDELITY CAPITAL MARKETS (DIV OF NFSC)	2,458,089	54,029,132	17,820	0.007
INDUSTRIAL AND COMMERCIAL BANK OF CHIN	855,845	51,044,433	8,558	0.010
Other	68,303,235	1,101,009,148	656,679	0.010
Total	132,650,559	$ 3,882,844,350	$ 1,734,677	0.012

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November 4, 2020

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, 2020.

The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2020 and to provide the actuarially determined rate. While not verifying the data at the source, the actuary performed tests for consistency and reasonability.

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 3.25% annually.

An experience study was performed covering the period from July 1, 2016 through June 30, 2019, resulting in several recommendations that were ultimately adopted by the Board of Trustees. The changes to the actuarial assumptions and methods are discussed in detail in the Executive Summary section of this report.

As in recent valuations, liabilities have been calculated without considering future cost of living adjustments (COLAs) and/or stipends in keeping with House Bill 2132 (2011). We note that House Bill 3350 (2020) granted a one-time benefit increase to certain 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 for funding purposes with assumptions and methods that meet the parameters of the Actuarial Standards of Practice, 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.

The Comprehensive Annual Financial Report (CAFR) contains several exhibits that disclose the actuarial position of the System. 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. This annual report, prepared as of July 1, 2020, provides data and tables that we prepared for use in the following sections of the CAFR:

Actuarial Section:
- Analysis of Financial Experience
- Solvency Test
- Schedule of Active Member Valuation Data
- Schedule of Retirants, Disabled Retirants, and Beneficiaries Added to and Removed from Rolls

Statistical Section:
- Member Statistics
- Distribution of Retirees and Beneficiaries
- Summary of Active Members

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.

Respectfully submitted,

Alisa Bennett, FSA, EA, FCA, MAAA
President

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

Summary of Results

	7/1/2020 Valuation	7/1/2019 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members	33,115	34,536	(4.1)
Retired and Disabled Members and Beneficiaries	36,179	35,869	0.9
Inactive Members	6,082	6,106	(0.4)
Total Members	75,376	76,511	(1.5)
Projected Annual Salaries of Active Members	$ 1,571,954,116	$ 1,584,630,994	(0.8)
Annual Retirement Payments for Retired Members and Beneficiaries	$ 648,673,669	$ 614,578,512	5.5
2. ASSETS AND LIABILITIES			
Total Actuarial Accrued Liability	$ 10,943,079,053	$ 10,047,374,213	8.9
Market Value of Assets	$ 10,097,798,827	$ 9,958,113,213	1.4
Actuarial Value of Assets	$ 10,212,241,395	$ 9,909,683,940	3.1
Unfunded Actuarial Accrued Liability	$ 730,837,658	$ 137,690,273	430.8
Funded Ratio	93.3%	98.6%	(5.4)
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost Rate	10.99%	10.15%	
Amortization of Unfunded Actuarial Accrued Liability	6.19%	1.08%	
Budgeted Expenses	0.47%	0.47%	
Total Actuarially Determined Contribution Rate	17.65%	11.70%	
Less Estimated Member Contribution Rate	4.24%	4.19%	
Employer Actuarially Determined Contribution Rate	13.41%	7.51%	
Less Statutory State Employer Contribution Rate	16.50%	16.50%	
Contribution Shortfall/(Surplus)	(3.09%)	(8.99%)	

Analysis of Financial Experience

Gains & Losses in Actuarial Accrued Liability During the Year Ended June 30, 2020
Resulting from Differences Between Assumed Experience & Actual Experience

	Type of Activity	(Gain) or Loss for Year End 2020
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.	$ (5,000,000)
2.	**Disability Retirements.** If disability claims are less than assumed, there is a gain. If more claims, a loss.	800,000
3.	**Deaths.** If more deaths occur than assumed, there is a gain. If fewer, there is a loss.	(18,400,000)
4.	**Withdrawal from Employment.** If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	1,800,000
5.	**Pay Increases.** If there are smaller pay increase than assumed, there is a gain. If greater increases, a loss.	6,400,000
6.	**New Entrants.** All new entrants to the System create a loss.	23,100,000
7.	**Other.** Miscellaneous gains and losses resulting from data adjustments, employee transfers, valuation methods, etc.	(35,000,000)
8.	**(Gain) or Loss During Year From Financial Experience.**	75,500,000
9.	**Composite (Gain) or Loss During Year.**	$ 49,200,000

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, 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
July 1, 2020	561,222	7,061,087	3,320,770	10,943,079	10,212,241	100	100	78.0	93.3

[1]Actuarial 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, 2020	33,115	$1,571,954,116	$47,470	3.46
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

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

	Added to Rolls		Removed from Rolls		Rolls – End of Year			
Year Ended	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
June 30, 2020	1,475	$29,864,562	1,165	$ 15,376,187	36,179	$ 648,673,669	5.55	$17,930
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, Grand River Dam Authority Public Safety Officers Provisions, and certain Oklahoma Military Department Firefighters.
Early:	Age 55 with 10 years of service.
Normal Retirement Benefit:	General formula is 2% of final average compensation multiplied by years of credited service.
Disability Benefit:	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.
In-service Death Benefit:	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). For elected officials, it is 50% of the benefit that would have been paid the member had he retired.
Postretirement Death Benefit:	$5,000 lump-sum.
Forms of Payment:	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.
Supplemental Medical Insurance Premium:	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 6.50 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 6.50 percent investment return rate translates to an assumed real rate of return of 4.00 percent.

2. Pub-2010 Below Median, General Membership Active/Retiree Healthy Mortality Table with base rates projected to 2030 using Scale MP-2019. Male rates are unadjusted and female rates are set forward two years.

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 3350 (2020) 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 (7 years as of July 1, 2020).

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, 2016 through June 30, 2019.

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	7.55%
5	10.50	30	6.05
10	6.00	35	5.25
15	4.30	40	4.95
20	3.00	45	4.55
25	1.80	50	4.25
		55	4.05

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%	70-74	50%
60	14%	75	100%

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	25%
67	25%
68	25%
69	25%
70-74	50%
75	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	4%	55	4%	63	22%
56	4%	56	5%	64	25%
57	4%	57	5%	65	40%
58	4%	58	5%	66	25%
59	5%	59	5%	67	25%
60	6%	60	5%	68	25%
61	13%	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 Ages	Percent	Retirement Ages	Percent	Retirement Ages	Percent
60	5%	60	7%	66	25%
61	6%	61	20%	67	23%
62	6%	62	20%	68	22%
63	6%	63	20%	69	21%
64	13%	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

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	
2020	$ 67,808,024	$ 294,118,022	$ 449,829,713	$ 646,840,289	$ 5,726,012	$ 14,451,508	$ 144,737,950
2019	66,566,433	282,473,659	568,130,487	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

Schedule of Revenue by Source

Year Ended June 30,	Member Contributions	Employer Contributions Dollars	Employer Contributions % of Annual Covered Payroll	Investment Income (Loss)	Total
2020	$ 67,808,024	$ 294,118,022	18.71 %	$ 449,829,713	$ 811,755,759
2019	66,566,433	282,473,659	17.83	568,130,487	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

Schedule of Expenses by Type

Year Ended June 30,	Benefit Payments	Administrative Expenses	Withdrawals	Total
2020	$ 646,840,289	$ 5,726,012	$ 14,451,508	$ 667,017,809
2019	639,964,684	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

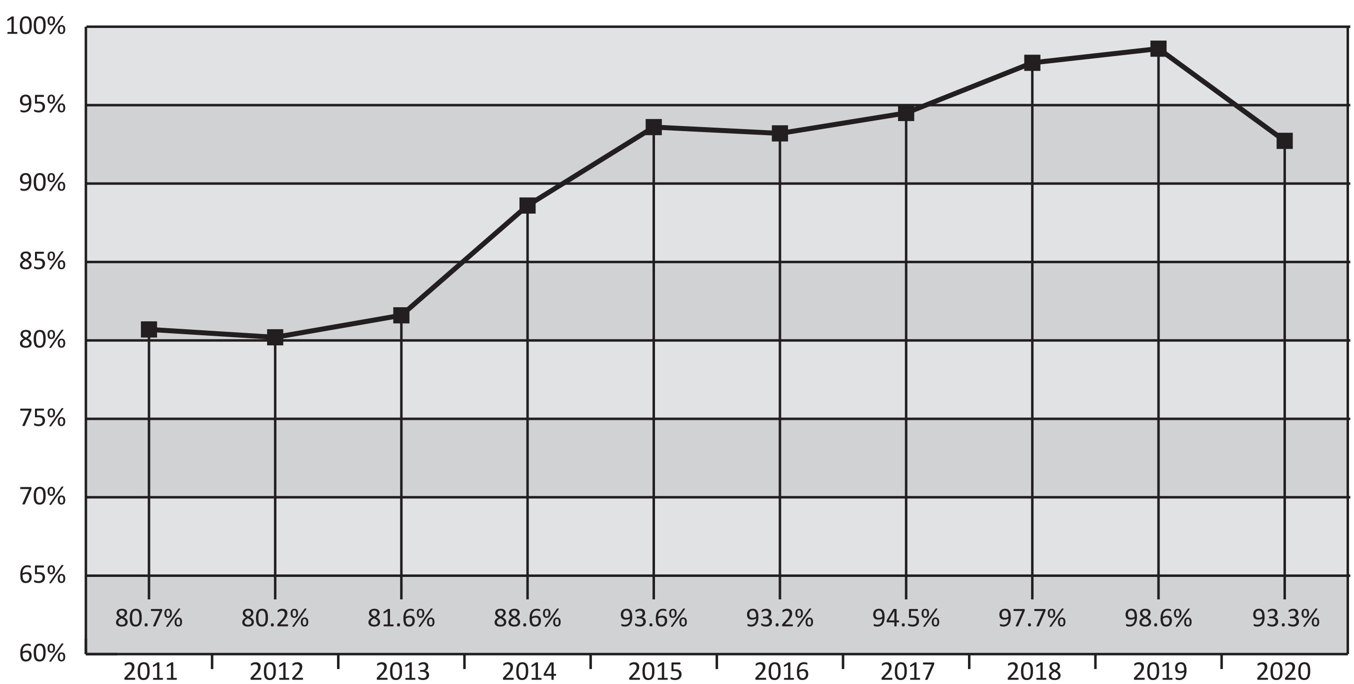
Schedule of Benefit Payments and Refunds by Type

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	Benefits			Refunds				Total Benefit
Ended June 30,	Age and Service	Disability	Beneficiary Death	Withdrawals	Transfers to Systems	Member Death	Other	Payments and Refunds
2020	$ 624,283,035	$ 16,704,506	$ 5,852,750	$ 8,297,248	$ 4,930,490	$ 789,120	$ 434,650	$661,291,798
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

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
2020	11.7 %	3.8 %	(3.2) %	4.5 %
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

Schedule of Retired Members by Type of Benefit

June 30, 2020

Amount of Monthly Benefit	Number of Retirees	Type of Retirement					Option Selected			
		1	2	3	4	5	1	2	3	4
$1 – 1,000	15,083	8,438	3,061	2,366	904	314	8,459	2,963	3,424	237
1,001 – 2,000	11,886	9,870	504	1,079	426	7	6,571	2,063	3,088	164
2,001 – 3,000	5,864	5,463	49	326	26	-	3,042	1,089	1,620	113
3,001 – 4,000	2,046	1,904	5	136	1	-	983	342	688	33
4,001 – 5,000	773	742	5	26	-	-	375	135	254	9
Over 5,000	527	513	3	11	-	-	263	76	183	5
Totals	**36,179**	**26,930**	**3,627**	**3,944**	**1,357**	**321**	**19,693**	**6,668**	**9,257**	**561**

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. Members joining OPERS after November 1, 2011 are eligible at (1) age 65 or (2) when reaching 90 points and at least age 60.

Type 2 – *Early retirement: Eligible beginning at age 55 with ten (10) years of participating service. Members joining OPERS after November 1, 2011 are eligible for early retirement beginning at age 60.*

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, 2020, there are 6,082 former members with deferred future benefits.

Schedule of Average Benefit Payments

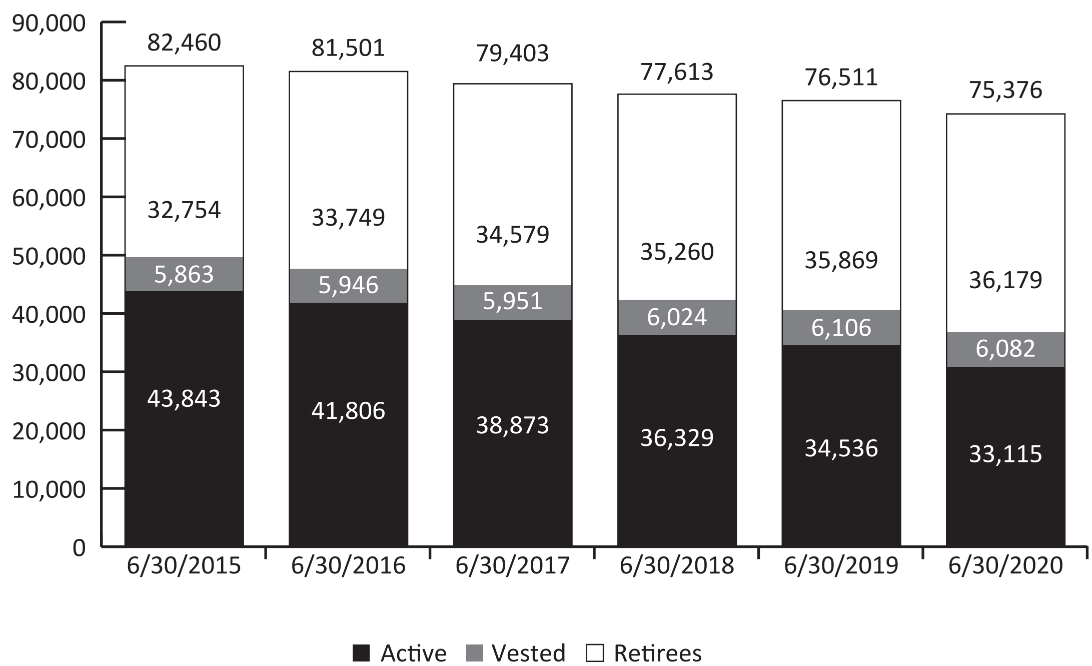
Retirement Effective Dates	Years of Credited Service						
July 1, 2010 to June 30, 2020	**0 to 5**	**6 to 10**	**11 to 15**	**16 to 20**	**21 to 25**	**26 to 30**	**31+**
Period 7/1/10 to 6/30/11							
Average Monthly Benefit	$ 59	$ 476	$ 661	$ 1,116	$ 1,665	$ 2,083	$ 2,946
Average Final Average Salary	$ 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
Period 7/1/19 to 6/30/20							
Average Monthly Benefit	$ 111	$ 574	$ 853	$ 1,261	$ 1,731	$ 2,640	$ 3,425
Average Final Average Salary	$ 2,281	$ 3,477	$ 3,498	$ 3,872	$ 3,980	$ 4,786	$ 4,977
Number of Active Retirees	1	255	303	265	200	178	274

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
2020	22,467	67.8 %
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

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
Commission for Education Quality & Accountability
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
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
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 Trust
Used Motor Vehicles and Parts Commission
Veterans Affairs, Department of
Veterinary Medical Examiners, State Board of
Waters Resources Board
Wheat Commission
Workers' Compensation Court
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

Participating Employers (continued)

Creek County Rural Water District #3
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, 2020	Number	Amount of Annual Benefit
Members receiving benefits		
Retired	30,560	$ 582,847,985
Surviving spouses	4,262	51,453,127
Disabled	1,357	14,372,557
Total	**36,179**	**$ 648,673,669**
Members with deferred benefits		
Vested terminated	2,808	$ 30,407,748
Assumed deferred vested members (estimated benefits)	3,274	33,058,266
Total	**6,082**	**$ 63,466,014**

	Average			
Statistics for	Number	Age	Service	Earnings
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**
Active members as of July 1, 2020				
Continuing	30,012	48.7	12.7	$ 47,295
New	3,103	38.4	2.2	27,755
Total	**33,115**	**47.7**	**11.7**	**$ 45,464**

Distribution of Retirees and Beneficiaries

	Number			Annual Benefits		
Age	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Under 50	114	102	216	$ 2,049,203	$ 1,138,698	$ 3,187,901
50-55	213	173	386	5,164,598	3,687,690	8,852,288
55-60	867	969	1,836	21,845,231	21,902,432	43,747,663
60-65	1,736	2,807	4,543	38,654,501	54,646,848	93,301,349
65-70	3,196	4,708	7,904	63,971,677	86,251,109	150,222,786
70-75	3,439	4,705	8,144	65,869,989	78,710,458	144,580,447
75-80	2,485	3,429	5,914	45,098,310	52,673,805	97,772,115
80-85	1,535	2,313	3,848	27,706,023	32,806,766	60,512,789
85-90	787	1,463	2,250	12,740,745	18,947,828	31,688,573
90-95	280	616	896	4,209,376	7,690,365	11,899,741
95-100	50	159	209	900,143	1,628,707	2,528,850
Over 100	8	25	33	91,610	287,557	379,167
Total	**14,710**	**21,469**	**36,179**	**$ 288,301,406**	**$ 360,372,263**	**$ 648,673,669**

Summary of Active Members

Age and years of credited service
Earnings tabulated are average rates of pay as of July 1, 2020

	Years of Service									
Age	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	Total
Under 25	1,032	21								**1,053**
Avg. Pay	$26,848	$35,997								**$27,031**
25 to 29	1,191	642	4							**1,837**
Avg. Pay	$30,167	$40,562	$52,874							**$33,849**
30 to 34	1,018	1,620	287	5						**2,930**
Avg. Pay	$31,357	$44,756	$46,715	$57,395						**$40,314**
35 to 39	918	1,552	960	243	5					**3,678**
Avg. Pay	$31,491	$46,656	$52,018	$51,775	$53,242					**$44,618**
40 to 44	629	1,383	930	661	203					**3,806**
Avg. Pay	$31,220	$46,514	$51,282	$54,899	$54,723					**$47,045**
45 to 49	602	1,108	832	724	614	139	9			**4,028**
Avg. Pay	$32,914	$45,654	$48,539	$53,827	$57,330	$57,739	$52,692			**$48,027**
50 to 54	560	1,089	833	649	658	397	182	8		**4,376**
Avg. Pay	$33,442	$44,492	$48,056	$51,269	$54,535	$56,923	$64,022	$69,937		**$48,258**
55 to 59	530	1,033	722	710	637	444	436	186	17	**4,715**
Avg. Pay	$31,618	$42,888	$46,761	$48,402	$50,847	$54,177	$62,130	$60,027	$62,613	**$47,710**
60 to 64	367	890	727	614	592	341	315	263	99	**4,208**
Avg. Pay	$33,748	$43,457	$45,973	$49,287	$50,978	$53,902	$57,597	$63,685	$60,628	**$48,527**
65 to 69	172	383	335	232	209	139	117	69	91	**1,747**
Avg. Pay	$30,430	$44,653	$47,166	$51,111	$50,081	$55,731	$57,944	$60,634	$64,470	**$48,677**
70 & up	100	153	125	120	77	51	43	26	42	**737**
Avg. Pay	$27,360	$49,907	$44,745	$49,035	$50,233	$52,921	$60,141	$51,024	$58,480	**$47,198**
Total	**7,119**	**9,874**	**5,755**	**3,958**	**2,995**	**1,511**	**1,102**	**552**	**249**	**33,115**
Avg. Pay	**$30,869**	**$44,844**	**$48,695**	**$51,483**	**$53,210**	**$55,265**	**$60,548**	**$61,565**	**$61,805**	**$45,464**

OPERS
OKLAHOMA

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