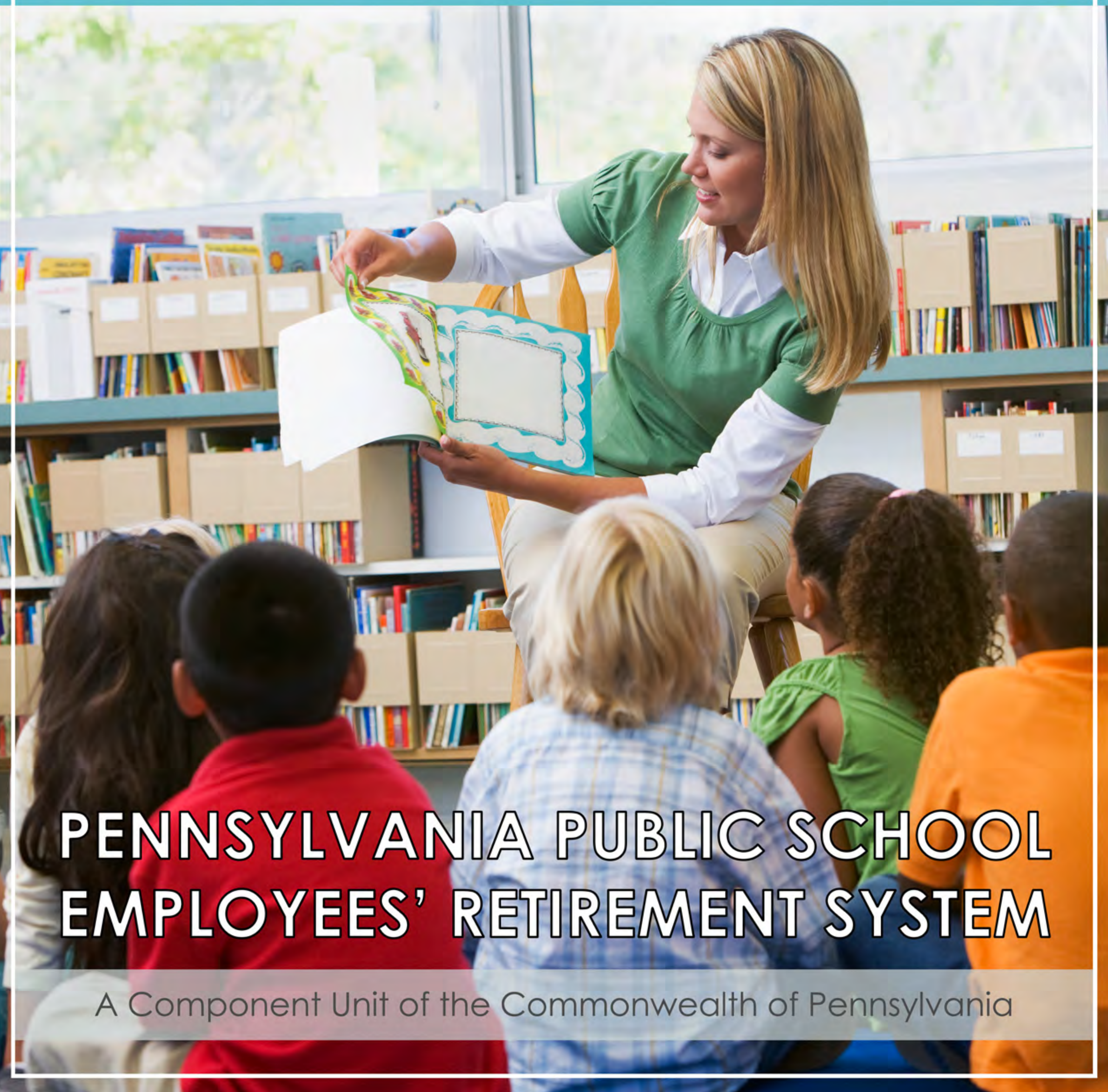
COMPREHENSIVE ANNUAL FINANCIAL REPORT

Fiscal Years Ended June 30, 2018 & 2017



PENNSYLVANIA PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

A Component Unit of the Commonwealth of Pennsylvania

Pennsylvania
Public School Employees'
Retirement System

A Component Unit of the Commonwealth of Pennsylvania

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Comprehensive Annual Financial Report

for the
Fiscal Years Ended June 30, 2018 and 2017

Report prepared by the Public School Employees' Retirement System
Office of Financial Management Staff

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Letter of Transmittal

COMMONWEALTH OF PENNSYLVANIA
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November 7, 2018

The Honorable Thomas W. Wolf, Governor of Pennsylvania
Members of the PA General Assembly
Members of the Retirement System
Members of the Boards of PSERS' Employers
Pennsylvania Public School Employees' Retirement System Board of Trustees

Dear Governor Wolf, Legislators, Members, Employers' Board members, and PSERS Board of Trustees:

We are pleased to present the ninety-ninth edition of the Comprehensive Annual Financial Report (CAFR) for the Pennsylvania Public School Employees' Retirement System (PSERS, System, or Fund) for the fiscal years ended June 30, 2018 (FY 2018) and 2017 (FY 2017). This report is intended to provide financial, investment, actuarial, and statistical information in a single publication in accordance with the Government Finance Officers Association standards.

The management of the System is solely responsible for the accuracy and completion of this report, pursuant to section 24 Pa.C.S. §8502(n) of the Public School Employees' Retirement Code (Retirement Code). The entire report can be downloaded from PSERS' website at www.psers.pa.gov.

The System was established on July 18, 1917 to provide retirement benefits to public school employees of the Commonwealth of Pennsylvania (PA). The members eligible to participate in the System include all full-time public school employees, part-time hourly public school employees who render at least 500 hours of service in the school year, and part-time per diem public school employees who render at least 80 days of service in the school year in any of the 775 reporting entities in Pennsylvania. As of June 30, 2018, the System had over 256,000 active members with an estimated annual active payroll of $13.5 billion.

The annuitant membership at June 30, 2018 was comprised of over 233,000 retirees and beneficiaries who receive over $497 million in pension and healthcare benefits each month. The average yearly benefit paid to annuitants is $25,405. The average benefit payment for each benefit type, grouped by years of credited service, is detailed in the Statistical Section of this report. See the Distribution of Annual Pension Amounts chart in the Introductory Section of this report.

In addition to retirement benefits, PSERS administers the Premium Assistance Program that provides a health insurance premium subsidy of up to $100 per month for those retirees who qualify. At June 30, 2018, there are over 93,000 retirees who receive this benefit. PSERS also manages a health insurance program, PSERS Health Options Program, that is entirely funded through participating member premiums and provides Medicare Supplemental, Medicare Advantage, Prescription Drug, and Dental plans to over 98,000 retirees and their dependents.

PSERS provides a stable source of revenue for local economies throughout Pennsylvania. In FY 2018, PSERS distributed $6.0 billion, or nearly 91%, in pension benefits to retired members who reside in Pennsylvania. These pension disbursements are a significant economic driver that benefit the economy of the Commonwealth. See the Pension Benefit Disbursement by County map in the Introductory Section of this report.

The System is a governmental cost-sharing, multiple-employer defined benefit pension plan, to which all members and 775 reporting units contribute. PSERS is administered by a staff of 327. The System is headquartered in Harrisburg, Pennsylvania, and has seven field offices in strategic areas of the Commonwealth to enable direct contact with the membership and the System's employers.

PSERS was established by law as an independent administrative board directed by a governing board of trustees (Board), which exercises control and management of the System, including the investment of its assets. PSERS is considered a component unit of the Commonwealth of Pennsylvania as defined by the Governmental Accounting Standards Board (GASB). An annual audit of the System by an independent certified public accounting firm is required by the Retirement Code. PSERS has contracted with Clifton Larson Allen LLP for this audit of its financial statements and has received an unmodified opinion as evidenced in the Report of Independent Public Accountants in the Financial Section of this CAFR. An unmodified opinion means that PSERS' financial statements fairly present, in all material respects, its financial condition. In addition, no significant findings were noted during the audit and therefore, a management letter was not issued. This is the ninth consecutive year that a management letter was not issued by the independent public accountants and is reflective of the hard work and dedication of PSERS' staff to continue to improve the internal controls, operations, and efficiency of the System.

Economic Summary

Economically, the past fiscal year can be characterized as a risk-on period where taking concentrated equity risk, specifically U.S. equity risk, paid off as opposed to holding a diversified portfolio of assets. Improving economic fundamentals, improving global growth, low but rising inflation, U.S. tax reform, and improving corporate profitability were all contributors to strong equity performance. The MSCI USA Investible Market Index (IMI), a U.S. equity index, rose by 14.9% during this period. Threats of trade sanctions imposed by the U.S. on imports and rising political uncertainty in Europe weighed on Non-U.S. equity performance vs. U.S. equity performance. Central banks globally remained generally very accommodative with the European Central Bank (ECB) and the Bank of Japan keeping short-term interest rates in negative territory and the Federal Reserve Bank in the U.S. increasing interest rates at a measured pace.

The U.S. economy showed improvement this past year, aided by favorable monetary conditions and optimism from individual and corporate tax cuts signed into law in December 2017. While interest rates rose moderately, they provided a historically low cost of borrowing which resulted in the improvement of broad economic conditions. The U.S. real Gross Domestic Product (GDP) increased year-over-year an average of 2.9% per quarter during the past fiscal year with a range of 2.2% to 4.1%. Concurrently, U.S. consumer confidence, as measured by the Conference Board's Consumer Confidence Index, increased from 117.3 at June 30, 2017 to 127.1 at June 30, 2018.

The Euro Area economy experienced modest growth this fiscal year. The unemployment rate continues to normalize and improved to 8.3% as of June 2018 from 9.2% a year earlier. The economy is still expanding as evidenced by the Markit Eurozone Manufacturing PMI (Purchasing Managers Index) measurement of 55.1 for the past fiscal year. The ECB has continued its policy of very accommodative overnight interest rates (negative 0.4%) but has slightly restricted economic conditions by reducing monthly purchases of euro-denominated sovereign and corporate debt from $68 billion last year to $35 billion as of fiscal year end. In addition, the ECB has only committed to quantitative easing through September 2018 which, if ended, would result in a further tightening of monetary conditions.

Japan's economy has moderately retreated over the past year. As of the second quarter 2018, Japan's real GDP increased by a year-over-year rate of 1.0% versus 1.6% as of June 2017. Japanese policy makers have aggressively attempted to stimulate their economy through a combination of low interest rates (the Bank of Japan policy rate is negative 0.1%), the purchase of higher risk assets by the Bank of Japan, coordinated diversification into higher risk assets by large public investors, and fiscal spending policies to encourage liquidity to move into riskier assets. China maintained robust economic growth compared to the other developed regions of the world. China's real GDP increased by 6.7% over the past year, only slightly slower than the 6.9% pace for the year ended June 2017. The Chinese government is continuing to target economic growth of between 6.5% and 7.0% over the foreseeable future.

The Board has continued to fulfill its mission to maintain stability and the long-term optimum value of the Fund. This is evidenced in the long-term growth of the System's assets and the actuarial soundness of the Fund. The annualized time-weighted rate of return for the twenty-five year period ended June 30, 2018 was 7.88% and exceeded the Fund's long-term investment rate of return assumption. Of utmost importance to the Board is the assurance that the required reserves are available for payment of retirement benefits.

Status of Pension Funding Initiatives

Act 120 of 2010 significantly reduced benefits and increased employer contributions to PSERS in stepped increments to slowly raise employer contributions to the actuarially required amount. For the second consecutive year PSERS received full actuarial funding from school employers and the Commonwealth after 15 previous years of underfunding the actuarially required amount. This is an essential step to bring PSERS back to fully funded status.

Full actuarial funding from employers, along with members contributions and investment income, are all necessary sources of funds that will pay down the unfunded liability of the System.

The dramatic funding progress under Act 120 of 2010 also helped PSERS funded ratio, on a market value basis, which improved for the second year in row from 51.84% at June 30, 2017 to 54.00% at June 30, 2018. Additionally, on a market value basis, PSERS' unfunded liability declined by $1.4 billion in FY 2018 as PSERS' total net position grew faster than its total pension liability.

The number of new members under the reduced Act 120 benefit plan continues to grow. As of June 30, 2018, approximately 77,000 or over 30% of PSERS' active membership is under the reduced benefit structure of Act 120. The cumulative savings from the reduced benefit structure also grew in FY 2018 and exceeded $553 million.

Pension Legislation

On June 12, 2017 Governor Tom Wolf signed Act 5 of 2017 into law. This pension legislation represents a substantial change to our operations and made significant changes to PSERS benefit structure. School employees who become new members of PSERS on or after July 1, 2019 will have one of three new retirement plan options for their retirement benefits. The new plan design options include two hybrid plans consisting of defined benefit and defined contribution (DC) components and a stand-alone defined contribution plan. The current defined benefit plan will no longer be available to new members after June 30, 2019.

PSERS has begun a major effort to implement the new plan designs by the implementation date of July 1, 2019. Voya Institutional Plan Services (VIPS) was selected as the Third Party Administrator for the DC plan. Additionally, after extensive research and analysis by PSERS Investment staff and pension consultant Charles W. Cammack Associates, PSERS Board selected T. Rowe Price Retirement Blend Target Date Funds as the default investment option for the DC plan.

PSERS also completed and submitted the draft Plan Document for the new DC plan for approval to the Internal Revenue Service (IRS) on behalf of the PSERS Board of Trustees. It is anticipated that PSERS will have the Plan Document, as approved by the IRS, ready for final review and ratification by early 2019.

PSERS staff are dedicated to maintaining the high quality and excellence standards of PSERS current defined benefit plan while implementing new DC features. Much work remains to implement the new benefit plan, but PSERS staff, together with these two vendors, will successfully meet this challenge.

Major Initiatives

Pension Administration System Upgrade Completed

The multi-year effort to upgrade the pension administration system was successfully completed in March 2018. This mission critical system is used by PSERS' staff members and employers to execute PSERS' primary pension administration functions for its members. This upgrade allows members and employers to conduct transactions for themselves which would have previously required staff intervention. Members can now view correspondence from PSERS such as letters, newsletters, Statement of Accounts and 1099Rs securely online.

Since April 2018, more than 100,000 members have created a Member Self-Service (MSS) account and have conducted more than 50,000 transactions for themselves. The most common action taken was to update their nomination of beneficiaries. This new system also enables members to select their preference for how they would like PSERS to communicate with them. To date, 98% of all MSS accounts have opted to go paperless and receive information from PSERS electronically.

Investment Management Fees

PSERS is one of the most transparent among large public pension funds in the nation for the disclosure of management fees. For example, certain pension funds report very little or no management fees for alternative investments because they are considered part of the cost of the investment and are netted against performance rather than shown separately. PSERS, however, gathers management fee information from each of its limited partnerships and collective trust fund investments, even if it is not specifically disclosed in the fund's standard reports or specifically identified in capital call requests. Such management fee information includes both base and performance fees obtained from either the fund's administrator statement, capital account statement or financial statements. This information is then utilized to report all relevant management fees in the System's financial statements. While the national debate over what constitutes a "fee" continues, PSERS will endeavor to remain transparent and report fees in accordance with current GASB standards and prevailing public pension industry practice to keep PSERS' financial statements both meaningful and comparative to its peers. In addition, PSERS reports all other investment expenses, including staff compensation and overhead, consultant, legal, and bank expenses incurred.

Investment expenses decreased by $6.8 million from $474.5 million in FY 2017 to $467.7 million in FY 2018 mainly due to a decrease in management fees in absolute return and alternative investments of $18 million. The decrease in absolute return is mainly attributable to a renegotiation of fee terms and lower performance fees earned in FY 2018. The decrease in the alternative investment class is attributable to changes in fee structure brought on by partnerships maturing. The decreases are partially offset by increases in management fees in international equity, fixed income, and commodities asset classes of $11 million.

As a percentage of total benefits and expenses, investment expense decreased from 6.3% in FY 2017 to 6.1% in FY 2018. Similarly, investment expense has decreased from a high of 8.2% in FY 2013 to 6.1% in FY 2018 due to a decrease in investment expenses from $558 million in FY 2013 to $468 million in FY 2018. During this same period net assets increased $8 billion from $48.7 billion at June 30, 2012 to $56.7 billion at June 30, 2018.

Budgetary and Financial Governance

PSERS manages multiple budgets/appropriations which support its ongoing operations. These include the Administrative Budget; Defined Contribution Budget; Investment Related Expenses Budget; Health Insurance Premium Assistance Program Budget; Health Options Program Budget, and the Directed Commissions Recapture Program Budget. Each October, the agency submits its budget requests to the Governor's Office of the Budget. PSERS' Administrative, Defined Contribution and Directed Commissions Recapture Program Budgets each require legislative approval. None of PSERS' budgets, with the exception of the Defined Contribution Budget, are funded from the Commonwealth's General Fund, but rather from the earnings of the Fund itself. Historically, PSERS has underspent its approved budgets, keeping more funds available to invest for PSERS' members.

PSERS continues to be prudent in its use of funds and managing its annual budget. In FY 2018, PSERS completed the upgrade of its pension administration system from the "classic" to the "browser-based" version. Due to this change, a significant number of PSERS' active and retired members have elected to receive newsletters, statement of accounts, 1099Rs and other documents electronically, thereby saving the agency thousands of dollars in postage, printing and paper costs annually for years to come. Other savings include a decline in contracted maintenance and repair services, a decrease in consultant and legal fees, and a reduction in equipment purchases, all part of PSERS' ongoing efforts to control costs and improve operational efficiency. PSERS began using an obituary service as an additional means of identifying deceased members and also survivors receiving a benefit. This service, along with improved processes, has enabled PSERS to ensure that payments are provided accurately and timely and reduced the volume of payments distributed to deceased members which will lower the number of uncollectible accounts in the future.

PSERS participates in an independent, international benchmarking survey evaluating its costs and service performance in comparison to other similar public pension funds. Based on the most recent survey, PSERS had a 16% lower pension administration cost per member than the average cost for its peer group. By running a lean and efficient operation, PSERS saves the Commonwealth and school employers approximately $8.2 million annually in administrative expenses compared to its peers.

In addition, during FY 2018, PSERS continued its ongoing efforts to recover funds from securities class action litigation. The System received $4.9 million in settlements from these cases in FY 2018.

Financial Highlights

The fair value of the System's fiduciary net position grew $3.2 billion during FY 2018 to $56.7 billion as of June 30, 2018 and the unfunded liability, on a market value basis, declined by $1.4 billion. The System is the 15th largest state-sponsored public defined benefit pension fund in the nation and the 31st largest among public and corporate pension funds in the nation. More specific information on the System's net position is detailed in the Statements of Fiduciary Net Position and Management's Discussion and Analysis included in the Financial Section of this report.

One of PSERS' mission critical objectives is the timely and accurate payment of benefits. In FY 2018, PSERS provided over $7.1 billion in pension and healthcare benefits to its members.

The System's administrative budget request is appropriated by the PA General Assembly and funded by the investment income of the System. For FY 2018, the appropriation was $51.6 million.

Funding

Funding is the process of specifically setting aside money for current and future use. Proper funding for a defined benefit pension plan entails an actuarial examination of the fund balances and liabilities to ensure money will be available for current and future benefit payments. The actuarial valuation measures the progress toward funding pension obligations of the System by comparing the actuarial assets to the actuarial liabilities of the System.

The results of PSERS' latest published actuarial valuation (as of June 30, 2017) indicated that the rates of contribution payable by the members and employers, when taken together with the current assets of the System, are adequate to fund the actuarial liabilities for all benefits payable under the System at that date. The total funded status as of the latest actuarial valuation was 56.3%. Additional comparative information on the funded status of PSERS can be found in the Financial Section and in the Actuarial Section of this report.

Investments

In the years following the Great Recession of 2008-2009, PSERS' Board and investment professionals made significant changes to the Fund's investment asset allocation, including further refining its investment strategy and increasing the diversification of assets. In particular, PSERS actively reduced its risk profile by significantly decreasing its equity exposure and by moving portions of the Fund's assets into asset classes that are less correlated to the equity markets.

Income from the investment portfolio represents the major source of revenue to the System, accounting for 60% of total revenues over the twenty-year period from FY 1999 to FY 2018. During FY 2018, net investment income was $4.7 billion. The investment portfolio, which is one part of the System's net position, totaled $55.9 billion, at fair value, as of June 30, 2018. For FY 2018, the time-weighted net rate of return on the System's investments was 9.27%.

The investment portfolio is well diversified to emphasize a long-term investment approach. The overall objective of the System is to provide benefits to its members through a carefully planned and well-executed investment program. The return objectives are to: (i) realize a return that exceeds the Policy Index (the Policy Index is a custom benchmark, based on the Board-established asset allocation structure that seeks to generate a return that meets the actuarial rate of return assumption); and (ii) invest the assets to maximize returns for the level of risk taken. The risk objectives are to: (i) diversify the assets of the System to minimize the risk of losses within any one asset class, investment type, industry or sector distribution, maturity date, or geographic location; and (ii) invest the assets so that the probability of investment losses (as measured by the Policy Index) in excess of 15.0% in any one year is no greater than 2.5% (or two standard deviations below the expected return). Additional information on the System's investments is contained in the Investment Section of this report.

Federal and State Tax Status

The System is a qualified trust fund under Section 401(a) of the Internal Revenue Code (IRC). As a result of the qualified status, the trust fund is entitled to an exemption, under Section 501(a) of the IRC, from federal income taxation on its investment earnings. Additionally, contributions made on behalf of the active members are tax deferred under Section 414(h) of the IRC. The trust fund and any benefits accruing to the members of PSERS are exempt from Pennsylvania state and municipal taxes. The Internal Revenue Service (IRS) issued a determination letter dated March 16, 2017 which stated that the plan and its underlying trust qualify under the provisions of Section 501(a) of the IRC and therefore are exempt from federal income taxes.

Internal Controls and Reporting

PSERS' management is responsible for and has implemented internal controls designed to provide reasonable assurances for the safeguarding of assets and the reliability of financial records. This report has been prepared in accordance with accounting principles generally accepted in the United States of America. The System maintains a full accrual accounting system. More specific accounting information is detailed in the Summary of Significant Accounting Policies (Note 2) in the notes to the financial statements found in the Financial Section of this report.

A system of internal controls provides reasonable, but not absolute, assurance that assets are properly safeguarded and that financial statements are reliable. The concept of reasonable assurance recognizes that first, the cost of a control should not exceed the benefits likely to be derived, and second, the valuation of the cost and benefits requires estimates and judgments by management.

PSERS' management believes the internal accounting controls currently in place are adequate to meet the purpose for which they were intended and also believes the financial statements, supporting schedules, and statistical tables are fairly presented.

GASB 75 OPEB Accounting and Financial Reporting Project (OPEB Project)

In June 2018, PSERS sent information to its employers to assist them in complying with the Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions.* The information sent to employers included a memo explaining PSERS' role, descriptions of the material provided, and the employers' responsibilities. In addition to the memo, PSERS provided a variety of schedules audited by PSERS' independent public accountants as well as unaudited schedules. PSERS strives to incorporate all the information necessary for employers to comply with GASB 75 reporting requirements in these audited and unaudited schedules. Additionally, PSERS continues to make itself available to assist employers and their auditors should they have any additional requests in order to comply with GASB 75.

PSERS also adopted Statement No. 75 for the fiscal year ended June 30, 2018 for the postemployment healthcare plan for employees of the System. Due to the implementation of Statement No. 75, PSERS' beginning net position restricted for pension, DC, and postemployment healthcare benefits has been restated. PSERS also reported its proportionate share of net OPEB liability from the Commonwealth's REHP plan. An analysis of Statement No. 75 can be found in the Management's Discussion and Analysis and notes to the financial statements.

Professional Services

Professional consultants are appointed by the Board of Trustees to perform services essential to the efficient operation of the System. An annual audit by an independent certified public accounting firm and an annual valuation by an actuarial consultant attest to the financial and actuarial soundness of PSERS. The investment performance of the System is reviewed by an investment evaluation firm on a quarterly basis. The consultants providing services to the System are listed in the Financial Section and Investment Section of this report.

Other Information

In compliance with the Retirement Code, actuarial tables and the computational procedures used by the System in calculating annuities and other benefits were published in the Pennsylvania Bulletin (Vol. 48, No. 26). This information can be found at http://www.pabulletin.com/secure/data/vol48/48-26/1029.html.

System Awards

Government Finance Officers Association of the United States and Canada Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to PSERS for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2017. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports. To be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report whose contents conform to program standards. Such a comprehensive annual financial report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year. PSERS has received a Certificate of Achievement for 35 consecutive years from FY 1983 to FY 2017. A photograph of this award appears in the Introductory Section of this report. Its attainment represents a significant accomplishment by the System, whose Office of Financial Management holds general responsibility for the compilation and validity of the financial data presented in the Comprehensive Annual Financial Report.

The System believes the current report continues to conform to the Certificate of Achievement program requirements and will be submitting this report to GFOA to determine eligibility for the 2018 certificate.

GFOA Popular Annual Financial Reporting Award

Government Finance Officers Association of the United States and Canada (GFOA) has given an Award for Outstanding Achievement in Popular Annual Financial Reporting to PSERS for its Popular Annual Financial Report for the fiscal year ended June 30, 2017, which PSERS refers to as its Summary Annual Financial Report. The Award for Outstanding Achievement in Popular Annual Financial Reporting is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government popular reports.

In order to receive an Award for Outstanding Achievement in Popular Annual Financial Reporting, a government unit must publish a Popular Annual Financial Report, whose contents conform to program standards of creativity, presentation, understandability, and reader appeal.

A Certificate of Achievement is valid for a period of one year. PSERS has received a Certificate of Achievement for two consecutive years from FY 2016 to FY 2017. Its attainment represents an important accomplishment by the System.

Public Pension Coordinating Council Public Pension Standards Award

The Public Pension Coordinating Council has awarded its Public Pension Standards Award for Funding and Administration to PSERS for 2017. This award is in recognition of meeting professional standards for plan design and administration as set forth in the Public Pension Standards. Achievement of the Funding portion of this award is in recognition of the commitment of the Governor and General Assembly to fund 100% of the actuarially required contributions.

The Public Pension Coordinating Council was formed in 1990 to assist the public employee retirement community. The Council is composed of representatives from three national associations whose members are directly involved in the administration of public employee retirement systems: the National Association of State Retirement Administrators (NASRA); the National Conference on Public Employee Retirement Systems (NCPERS); and the National Council on Teacher Retirement (NCTR). A reproduction of this award appears in the Introductory Section.

Acknowledgements

The preparation of this report reflects the combined efforts of PSERS' staff under the direction of the PSERS Board. It is intended to provide complete and reliable information in conformance with accepted standards and to document responsible stewardship of the System's assets.

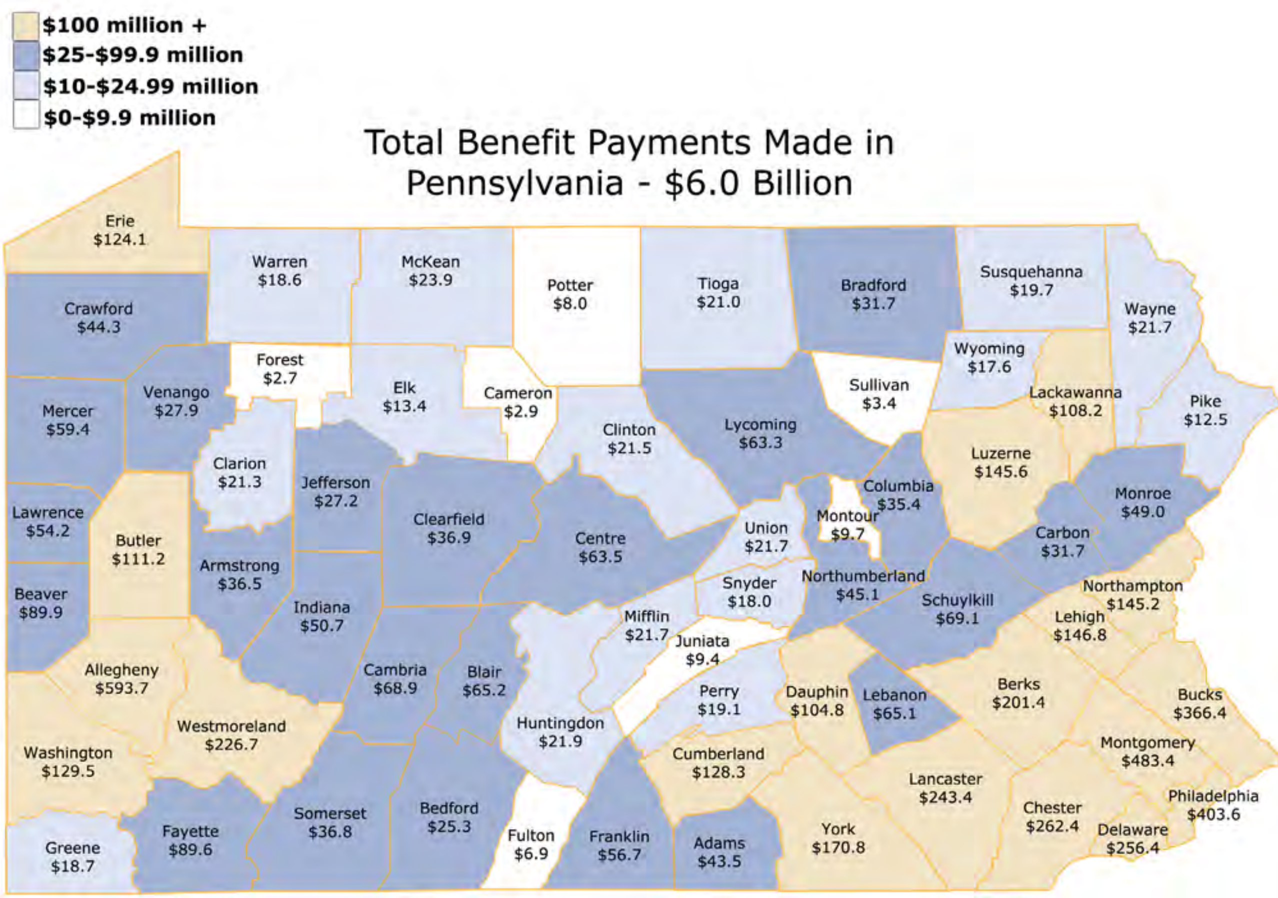
Respectfully submitted,

Glen R. Grell	Brian S. Carl, CPA, CTP
Executive Director	Chief Financial Officer

Pension Benefit Disbursement by County
Fiscal Year 2018
(Dollar Amounts in Millions)

PSERS provides a stable source of revenue for local economies throughout Pennsylvania. Each year PSERS pays out billions in pension benefits to retired members who reside in Pennsylvania. In fiscal year 2018, PSERS pension disbursements to retirees totaled approximately $6.6 billion. Of this amount nearly 91%, or $6.0 billion, went directly into state and local economies. These pension disbursements are a significant economic driver that benefit the economy of the Commonwealth.

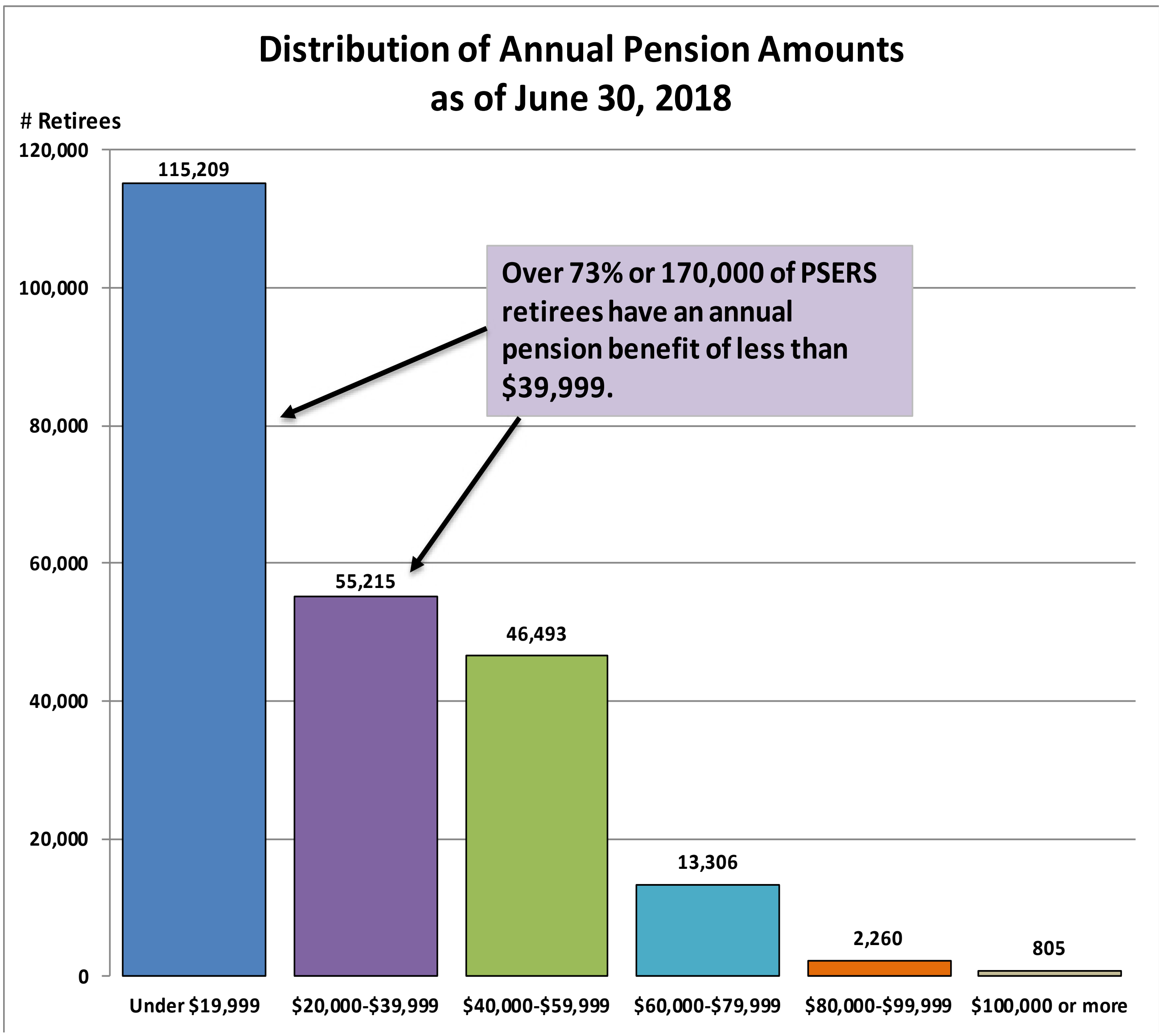
Top 10 Counties Based on Pension Benefit Disbursements (Dollars in Millions)	
Allegheny	$593.7
Montgomery	$483.4
Philadelphia	$403.6
Bucks	$366.4
Chester	$262.4
Delaware	$256.4
Lancaster	$243.4
Westmoreland	$226.7
Berks	$201.4
York	$170.8



Pension Benefit Disbursement Amounts
Fiscal Year 2018
(Dollar Amounts in Millions)

The average PSERS retiree receives a modest pension of $25,405 on an annual basis, a benefit earned through a lengthy career of 23 years in public education. During their career, members make mandatory contributions to PSERS to help fund their own retirement benefit. Most members contribute between 7.50% and 10.30% of their pay depending on their class of membership to help fund their own retirement benefit. In accordance with Act 120, new members as of July 1, 2011 and thereafter are funding the majority of the cost of their benefit. This is in contrast to many non-public (private) pension plans. In over 90% of such plans, members do not contribute and the employers bear 100% of the cost of the benefit.

Six-figure pensions are rare. At June 30, 2018, there were 805 retired members receiving an annual benefit over $100,000 out of a total 233,000 PSERS retirees. These six-figure pension retirees spent an average of 38 years working in their public education careers and contributing to their benefit.




2012
2013
2014
2015
2016
2017
GOVERNMENT FINANCE OFFICERS ASSOCIATION
Certificate of Achievement
for Excellence
in Financial Reporting
Presented to
Pennsylvania Public School
Employees' Retirement System
Executive Director / CEO

PPC

Public Pension Coordinating Council

Public Pension Standards Award
For Funding and Administration
2017

Presented to

Pennsylvania Public School 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
Alan H. Winkle
Program Administrator

Mission Statement

The Board of Trustees and the employees of the Public School Employees' Retirement System (System) serve the members and stakeholders of the System by:

- *Providing timely and accurate payment of benefits*
- *Maintaining a financially sound System*
- *Prudently investing the assets of the System*
- *Clearly communicating members' and employers' rights and responsibilities, and*
- *Effectively managing the resources of the System*

adopted June 20, 2008

Administrative Organization
PSERS Board of Trustees

Seated, front row: *Deborah J. Beck; Melva S. Vogler, Board Chairman; Susan C. Lemmo; Stacey Connors, designee for Honorable Patrick M. Browne*

Standing, second row: *Brian LaForme, designee for Secretary Robin L. Wiessman; Honorable John P. Blake; Lori Graham, designee for Secretary Pedro A. Rivera; Ambassador Martin J. Silverstein; Jason M. Davis; Glen R. Grell, PSERS' Executive Director, Board Secretary; Christopher SantaMaria; Honorable Stephen Bloom; Nathan G. Mains; Thomas Clancy, designee for Honorable Joseph M. Torsella; Bernard Gallagher, designee for Honorable Joseph F. Markosek*

Not pictured: *Eric DiTullio*

PSERS Board of Trustees

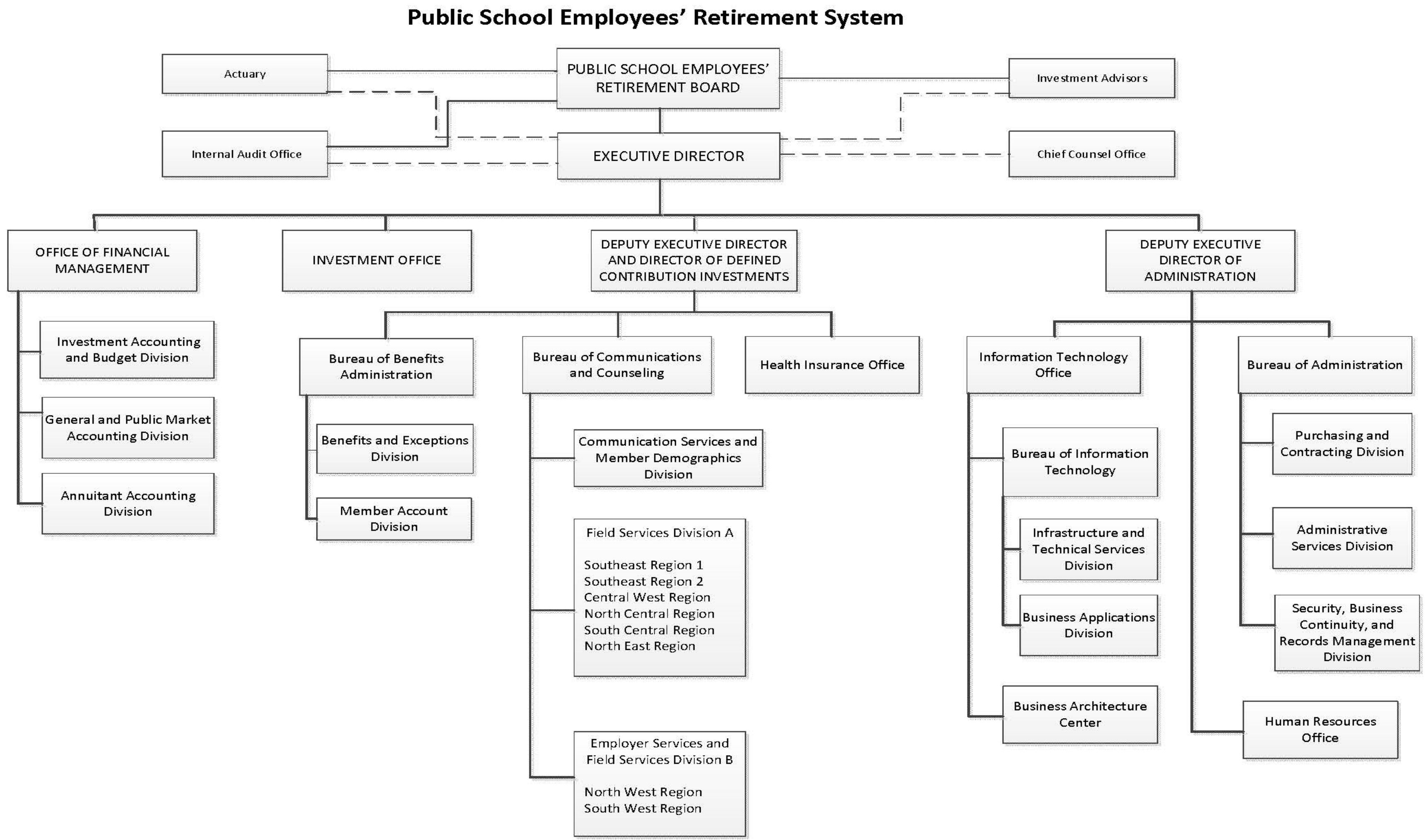
2018 Board Committees

Appeals/Member & Employer Services	Audit/Compliance	Budget/Finance
Ms. Beck, Chair Senator Blake Representative Bloom Mr. Davis Ms. Lemmo Mr. SantaMaria	Representative Bloom, Chair Mr. Mains Representative Markosek Mr. Rivera Ambassador Silverstein Treasurer Torsella	Mr. Davis, Chair Senator Blake Senator Browne Mr. DiTullio Mr. SantaMaria Ms. Wiessmann
Bylaws/Policy	**Corporate Governance**	**Elections**
Representative Markosek, Chair Senator Browne Mr. Davis Mr. DiTullio Mr. Mains Ms. Wiessmann	Senator Browne, Chair Representative Markosek Mr. SantaMaria Ambassador Silverstein Treasurer Torsella Ms. Wiessmann	Ambassador Silverstein, Chair Ms. Beck Senator Browne Mr. Rivera Treasurer Torsella Ms. Wiessmann
Health Care	**Investment**	**Personnel**
Ms. Lemmo, Chair Ms. Beck Senator Blake Representative Bloom Mr. Davis Mr. DiTullio	Mr. Mains, Chair Ms. Lemmo Committee is comprised of all Board Members	Mr. SantaMaria, Chair Senator Blake Ms. Lemmo Mr. Mains Representative Markosek Mr. Rivera

NOTE: The chair of the Board of Trustees is a voting ex officio member of all Committees.

Organizational Chart of the Public School Employees' Retirement System

As of November 1, 2018



For Schedules of Fees and Commissions please refer to the Financial section page 76 and Investment section page 93.

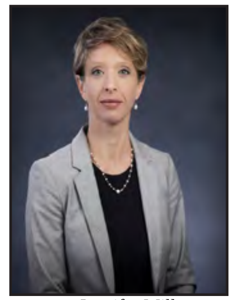
Administrative Staff

As of November 1, 2018


Glen R. Grell
Executive Director


James H. Grossman Jr.
Chief Investment Officer


Joseph E. Wasiak
Deputy Executive Director
of Administration


Jennifer Mills
Deputy Executive Director and Director
of Defined Contribution Investments


Charles K. Serine
Chief Counsel


Brian S. Carl
Chief Financial Officer


Steven C. Goldstein
Chief Technology Officer


Patricia Dence
Director of Administration


Peter Camacci
Director of Health Insurance


Eugene W. Robison
Director of Communications and
Counseling


Marla Cattermole
Director of Benefits Administration


Tammy L. Meshey
Director of Human
Resources


Alicia James
Internal Auditor


Tony Parisi
Legislative Liaison


Evelyn M. Williams
Communications
Director

PSERS REGIONAL OFFICES

Public School Employees' Retirement System of Pennsylvania

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Toll-Free: 1.888.773.7748 ext. 5575
Joshua Catalfu, Administrator
Linda Visco, Administrator

As of 06/30/2018

PSERS Headquarters Building

The administrative headquarters of the Public School Employees' Retirement System (PSERS) is located at 5 North Fifth Street in downtown Harrisburg, Pennsylvania within the State Capitol complex. Regional field offices are also maintained in Ebensburg, Franklin, Lock Haven, Harrisburg, Pittsburgh, Warminster, and Scranton.

The headquarters building was constructed and first occupied by the Retirement System in 1987. It is the first time a building was constructed, for PSERS' use. It is owned by the Five North Fifth Street Corporation, a holding entity formed by PSERS, and is managed by Property Management, Inc.

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INDEPENDENT AUDITORS' REPORT

The Board of Trustees of
Commonwealth of Pennsylvania Public School Employees' Retirement System
Harrisburg, Pennsylvania

Report on the Financial Statements

We have audited the financial statements of the Commonwealth of Pennsylvania Public Employees' Retirement System (PSERS), which comprise the Statement of Fiduciary Net Position as of June 30, 2018, and the related Statement of Changes in Fiduciary Net Position for the year then ended, and the related Notes to the Financial Statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audit 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 auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the net position of the PSERS as of June 30, 2018, and the respective changes in its net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

The Board of Trustees of
Commonwealth of Pennsylvania Public School Employees' Retirement System
Harrisburg, Pennsylvania

Other Matters

Other Auditors
The financial statements of PSERS which comprise the Statement of Fiduciary Net Position as of June 30, 2017, and the related Statement of Changes in Fiduciary Net Position for the year then ended, and the related Notes to the Basic Financial Statements, were audited by other auditors whose report dated September 25, 2017, expressed an unmodified opinion on those statements.

Required Supplementary Information
Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and the Schedules of Changes in the Employer Net Pension Liability, Employer Net Pension Liability, Employer Pension Contributions, Changes in the Employer Net OPEB Liability, Employer Net OPEB Liability, Employer Premium Assistance Contributions, Investment Returns – Pension and OPEB, and related Notes, as listed in 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 audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information
Our audits were conducted for the purpose of forming an opinion on the basic financial statements. The Schedule of Administrative and Investment Expenses, Summary of Investment Expenses, and the Schedule of Payments to Non-Investment Consultants, as listed in the table of contents, for the year ended June 30, 2018 are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The other supplementary information is the responsibility of management and was derived from and relate 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 audits of the basic financial statements for the year ended June 30, 2018 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 supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole for the year ended June 30, 2018.

The Introductory, Actuarial, Investment and Statistical section, as listed in the table of contents, have not been subjected to the auditing procedures applied in the audits of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Baltimore, Maryland
October 1, 2018

Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) of the Commonwealth of Pennsylvania Public School Employees' Retirement System (PSERS, System, Fund) for the fiscal year ended June 30, 2018 (FY 2018) provides a narrative summary of PSERS' financial position and performance, including highlights and comparative data. The MD&A is presented as required supplementary information to the financial statements and should be read in conjunction with the financial statements, the notes to financial statements, and the supplementary schedules.

Overview of Financial Statements

PSERS is primarily responsible for administering a defined benefit pension plan for public school employees in the Commonwealth of Pennsylvania. PSERS also administers two voluntary postemployment healthcare programs, the Health Insurance Premium Assistance Program (Premium Assistance) and the Health Options Program (HOP), for its annuitants. As part of the HOP, PSERS has an Employer/Union Direct Contract with the Centers for Medicare and Medicaid Services (CMS) to provide a Medicare Part D Prescription Drug Plan to participants. On July 1, 2019 PSERS will begin administration of a Defined Contribution (DC) Plan for new employees. The financial statements reflect start-up funding and expenses for the DC plan. The financial statements present the financial position and activities for the pension plan, the DC Plan and the two postemployment healthcare programs.

The ***Statements of Fiduciary Net Position*** provide a snapshot of the financial position of PSERS at June 30, 2018. Amounts are shown for the most recent and previous fiscal years for comparison and analysis of changes in individual line items.

The ***Statements of Changes in Fiduciary Net Position*** summarize PSERS' financial activities that occurred during the fiscal period from July 1, 2017 to June 30, 2018. Amounts are shown for the most recent and previous fiscal years for comparison and analysis of changes in individual line items.

The ***Notes to Financial Statements*** provide additional information that is essential for a full understanding of the financial statements. The notes are an integral part of the financial statements and include detailed information not readily evident in the basic financial statements such as accounting policies, plan membership and benefits, and summary disclosures of selected financial data.

The ***Required Supplementary Information*** immediately following the notes to financial statements provide seven schedules illustrating the Changes in the Employer Net Pension Liability, Employer Net Pension Liability, Employer Pension Contributions, Changes in the Employer Net OPEB Liability, Employer Net OPEB Liability, Employer Premium Assistance Contributions, and Investment Returns - Pension and OPEB.

The remaining supplementary schedules provide additional detailed information concerning the administrative expenses, investment expenses, and payments to non-investment consultants. These schedules emphasize the long-term nature of the pension and premium assistance plans and show the progress of PSERS in accumulating assets sufficient to pay benefits when due. All of this supplementary information is considered useful in understanding and evaluating the financial activities of PSERS.

Financial Highlights

- The time-weighted rate of return on investments was 9.27% for FY 2018, 10.14% for the fiscal year ended June 30, 2017 (FY 2017), and 1.29% for the fiscal year ended June 30, 2016 (FY 2016). The annualized rate of return since the Great Recession was 9.28%, which exceeded the 7.25% actuarial investment rate. Unless otherwise noted, all rates of return are net of fees.

- PSERS' total net position increased by $3.2 billion from $53.5 billion at June 30, 2017 to $56.7 billion at June 30, 2018. The change in total net position from June 30, 2016 to June 30, 2017 was an increase of $3.3 billion from $50.2 billion at June 30, 2016 to $53.5 billion at June 30, 2017. The increase in both years was due mostly to net investment income plus member and employer contributions exceeding deductions for benefit and administrative expenses.

- After increasing for many years, PSERS' unfunded liability on a market value basis declined for the second year in a row due to the Fund receiving actuarially required contributions and earning investment returns above the assumed rate of return in both years.

- Total employer contributions increased from $3.9 billion in FY 2017 to $4.4 billion in FY 2018. This increase was primarily attributable to an increase in the total employer contribution rate from 30.03% in FY 2017 to 32.57% in FY 2018 in accordance with Act 120 of 2010. PSERS' employers fully funded the actuarially required contributions in both FY 2018 and FY 2017.

- PSERS' total benefit expense increased from $6.9 billion in FY 2017 to $7.1 billion in FY 2018. The average monthly benefit and the number of members receiving benefits increased in FY 2018. New retirements during FY 2018 increased by approximately 2% from FY 2017.

Management's Discussion and Analysis (continued)

Progress of Act 120 on PSERS' Funding

On November 23, 2010, the Governor signed HB 2497 into law. The legislation is now known as Act 120 of 2010. Act 120 preserves the benefits of existing members and includes a series of actuarial and funding changes to PSERS and benefit reductions for individuals who become new members of PSERS on or after July 1, 2011. The Act created two new membership classes, T-E and T-F. T-E and T-F members are "shared-risk," meaning that their employee contributions can increase or decrease due to investment performance.

Act 120 addressed the pending employer contribution rate spike projected for FY 2013 by smoothing the projected rate increases over a five- to nine-year time period. Instead of a large rate spike in one year, under Act 120, the employer contribution rate has increased steadily each year from the 5.64% in effect when Act 120 became law to the 32.57% rate in FY 2018. Prior to Act 120, PSERS' Annual Required Contribution (ARC) percentage under Governmental Accounting Standards Board (GASB) standards was 27%. As a result of the Act 120 funding increases, on July 1, 2016, PSERS began receiving 100% of actuarially required contributions based on sound actuarial practices and principles for the first time in 15 years. This marks a significant milestone in PSERS' contribution history and establishes a path to full funding. PSERS received the actuarially required contributions in both FY 2017 & FY 2018 and the large annual employer contribution rate increases that occurred over the past seven years are now complete.

Funded Status and State Accumulation Account

PSERS uses an actuarial reserve type of funding that is financed by member contributions, employer contributions, and earnings from invested assets. Figure 1 illustrates a thirty-year history of PSERS' funded status. An independent

Analysis of Fiduciary Net Position

(Dollar Amounts in Thousands)

Summary of Fiduciary Net Position	FY 2018	Increase (Decrease)	FY 2017	Increase (Decrease)	FY 2016
Assets:					
Receivables	**$ 2,204,001**	$ (332,841)	$ 2,536,842	$ (658,316)	$ 3,195,158
Investments	**55,902,330**	3,416,519	52,485,811	4,487,827	47,997,984
Securities lending collateral pool	**2,980,119**	964,056	2,016,063	(76,666)	2,092,729
Capital assets	**23,430**	(571)	24,001	1,130	22,871
Miscellaneous	**17,529**	278	17,251	5,061	12,190
Total Assets	**61,127,409**	4,047,441	57,079,968	3,759,036	53,320,932
Liabilities:					
Payables and other liabilities	**1,418,563**	(138,396)	1,556,959	479,318	1,077,641
Obligations under securities lending	**2,980,119**	964,056	2,016,063	(76,666)	2,092,729
Total Liabilities	**4,398,682**	825,660	3,573,022	402,652	3,170,370
Net Position	**$ 56,728,727**	$ 3,221,781	$ 53,506,946	$ 3,356,384	$ 50,150,562
Summary of Changes in Fiduciary Net Position					
Additions:					
Contributions	**$ 5,387,972**	$ 430,367	$ 4,957,605	$ 665,522	$ 4,292,083
Commonwealth of Pennsylvania	**6,801**	6,801	-	-	-
Participant premiums and CMS	**423,894**	13,477	410,417	51,251	359,166
Net investment income	**4,717,626**	(279,077)	4,996,703	4,522,656	474,047
Total Additions	**10,536,293**	171,568	10,364,725	5,239,429	5,125,296
Deductions:					
Benefit expense	**7,143,341**	219,437	6,923,904	144,327	6,779,577
Administrative expenses	**91,095**	6,658	84,437	4,206	80,231
Total Deductions	**7,234,436**	226,095	7,008,341	148,533	6,859,808
Effect of change in accounting principle	**(80,076)**	(80,076)	-	-	-
Changes in Net Position	**$ 3,221,781**	$ (134,603)	$ 3,356,384	$ 5,090,896	$ (1,734,512)

Management's Discussion and Analysis (continued)

actuarial valuation of PSERS' actuarial assets and liabilities is performed annually. As part of this valuation, the progress toward funding pension obligations of PSERS is measured by comparing the actuarial value of assets to the actuarial accrued liability. This measurement is referred to as the funded ratio or funded status. The most recent actuarial valuation reports that PSERS is 56.3% funded as of June 30, 2017. The funded ratio decreased from 57.3% as of June 30, 2016 due to the recognition of asset losses from the use of ten-year asset smoothing and an increase in the actuarial accrued liability from additional member service. The actuarial value of assets, which is based on a ten-year smoothing period, remained consistent.

The results of operations for FY 2018 will be reflected in the actuarial valuation for the year ended June 30, 2018. Due to the normal lag time for completion of the actuarial valuation, the resulting funded status will be available at the end of the 2018 calendar year and will be reported in the financial statements for the fiscal year ending June 30, 2019 (FY 2019). Based on the investment performance for the ten-year period ended June 30, 2018, which is below the investment rate of return assumption during that time period, the funded ratio at June 30, 2018 is expected to decrease. The June 30, 2018 valuation will recognize the last year of losses from the Great Recession under the System's ten-year asset smoothing. As a result, the funded ratio in the June 30, 2019 valuation and thereafter is expected to improve.

Under GASB 67, the market value funded ratio, which is referred to as the plan fiduciary net position as a percentage of total pension liability, increased from 51.84% at June 30, 2017 to 54.00% at June 30, 2018 as the Fund received the full actuarially determined contributions, had investment returns which exceeded the investment return assumption and experienced a small growth in benefit payments in FY 2018. The Fund has reached a turning point after experiencing declining actuarial and market value funded ratios for many years. All the ingredients are now in place and a path to full funding has been established.

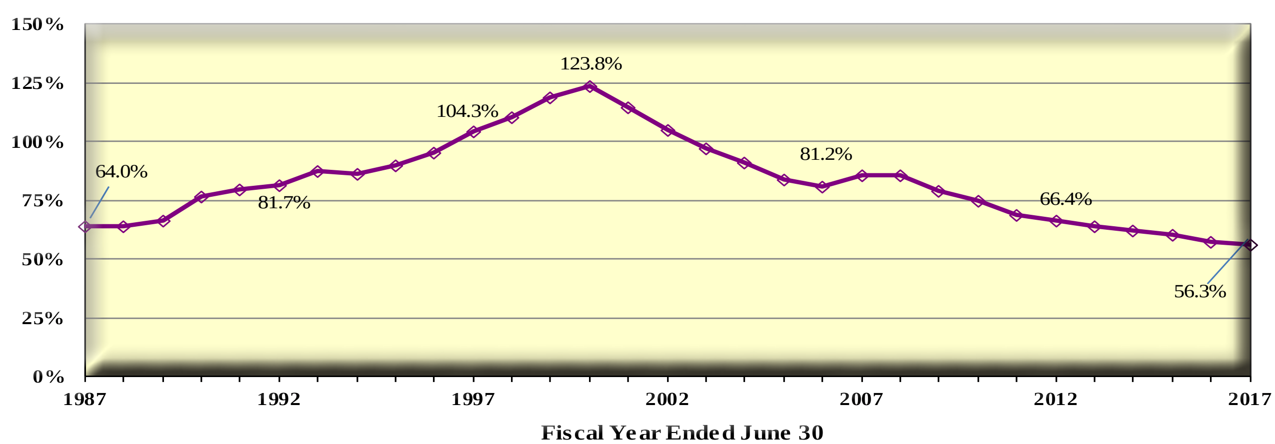
PSERS' State Accumulation Account improved from $(19.0) billion at June 30, 2017 to $(17.2) billion at June 30, 2018 due to favorable investment performance and employer contributions at the actuarially required level. Investment earnings and actuarially required employer contributions will reduce the deficit in this account in the future (See Note 3).

Investments

PSERS is a long-term investor and manages the pension fund with long-term objectives in mind. A primary element of PSERS' investment philosophy is diversification among various asset classes, which is the best way to achieve its goals. PSERS makes estimates of future long-term market returns and establishes an asset allocation plan taking into account the risk associated with each asset class as well as the financial objectives of the Fund.

The past fiscal year can be characterized as a risk-on period where taking concentrated equity risk, specifically U.S. equity risk, paid off as opposed to holding a diversified portfolio of assets. Improving economic fundamentals, improving global growth, low but rising inflation, U.S. tax reform, and improving corporate profitability were all contributors to strong equity performance. The MSCI USA Investible Market Index (IMI), a U.S. equity index, rose by 14.9% during this period. Threats of trade sanctions imposed by the U.S. on imports and rising political uncertainty in Europe weighed on Non-U.S. equity performance vs. U.S.

Figure 1 - PSERS' Funded Ratio
Funded Ratio = Actuarial Value of Assets / Actuarial Accrued Liability



Management's Discussion and Analysis (continued)

equity performance. Central banks globally remained generally very accommodative with the European Central Bank (ECB) and the Bank of Japan keeping short-term interest rates in negative territory and the Federal Reserve Bank in the U.S. increasing interest rates at a measured pace.

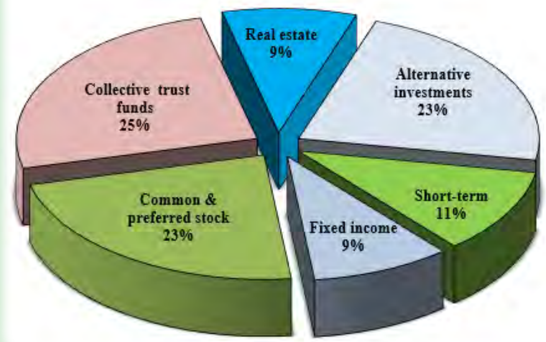
The U.S. economy showed improvement this past year, aided by favorable monetary conditions and optimism from individual and corporate tax cuts signed into law in December 2017. While interest rates rose moderately, they provided a historically low cost of borrowing which resulted in the improvement of broad economic conditions. The U.S. real Gross Domestic Product (GDP) increased year-over-year an average of 2.9% per quarter during the past fiscal year with a range of 2.2% to 4.1%. Concurrently, U.S. consumer confidence, as measured by the Conference Board's Consumer Confidence Index, increased from 117.3 at June 30, 2017 to 127.1 at June 30, 2018.

The Euro Area economy experienced modest growth this fiscal year. The unemployment rate continues to normalize and improved to 8.3% as of June 2018 from 9.2% a year earlier. The economy is still expanding as evidenced by the Markit Eurozone Manufacturing PMI (Purchasing Managers Index) measurement of 55.1 for the past fiscal year. The ECB has continued its policy of very accommodative overnight interest rates (negative 0.4%) but has slightly restricted economic conditions by reducing monthly purchases of euro-denominated sovereign and corporate debt from $68 billion last year to $35 billion as of fiscal year end. In addition, the ECB has only committed to quantitative easing through September 2018 which, if ended, would result in a further tightening of monetary conditions.

Japan's economy has moderately retreated over the past year. As of the second quarter 2018, Japan's real GDP increased by a year-over-year rate of 1.0% versus 1.6% as of June 2017. Japanese policy makers have aggressively attempted to stimulate their economy through a combination of low interest rates (the Bank of Japan policy rate is negative 0.1%), the purchase of higher risk assets by the Bank of Japan, coordinated diversification into higher risk assets by large public investors, and fiscal spending policies to encourage liquidity to move into riskier assets. China maintained robust economic growth compared to the other developed regions of the world. China's real GDP increased by 6.7% over the past year, only slightly slower than the 6.9% pace for the year ended June 2017. The Chinese government is continuing to target economic growth of between 6.5% and 7.0% over the foreseeable future.

For FY 2018, PSERS' time-weighted rate of return on investments was 9.27% which far exceeded PSERS' total fund Policy Index of 7.95% for the same time period. A time-weighted rate of return considers investment performance of a hypothetical dollar invested from the beginning of an investment period to the period's end. The Policy Index is a custom benchmark, based on the Board-established asset allocation structure, that seeks to generate a return that meets the actuarial rate of return assumption. Net investment income of $4.7 billion in FY 2018 declined slightly from a net investment income of $5.0 billion in FY 2017 as both years' returns exceeded the actuarial investment rate of return.

Figure 2 - Asset Distribution
June 30, 2018



The time-weighted annualized rate of return over the past three- and five-year periods ended June 30, 2018 was 6.84% and 7.62%, respectively. The time-weighted returns for the three- and five-year periods exceeded the total fund Policy Index returns for those periods by 39 and 32 basis points, respectively. The annualized time-weighted rate of return for the ten- and twenty-five-year periods ended June 30, 2018 was 5.03% and 7.88%, respectively.

PSERS' long-term actuarial investment rate of return assumption was 7.25% during FY 2018. PSERS' Board lowered the return assumption from 7.50% to 7.25% effective with the June 30, 2016 actuarial valuation.

The asset distribution of PSERS' investment portfolio at June 30, 2018, 2017, and 2016, at fair value, and including defined contribution and postemployment healthcare assets, is presented in Figure 2 and Table 1.

FY 2018

- ***Short-term investments*** (cash and cash equivalents) remained consistent at $6.1 billion at June 30, 2017 and $6.2 billion at June 30, 2018.
- ***Fixed income investments*** increased by $0.2 billion from $5.0 billion at June 30, 2017 to $5.2 billion at June 30, 2018 mainly due to investment performance.
- ***Common and preferred stock investments*** increased by $1.5 billion from $11.3 billion at June 30, 2017 to

Management's Discussion and Analysis (continued)

$12.8 billion at June 30, 2018. Due to a reallocation of exposure from other asset classes and favorable investment performance, PSERS increased its common and preferred stock investments during FY 2018.

- ***Collective trust funds*** increased by $1.2 billion from $12.8 billion at June 30, 2017 to $14.0 billion at June 30, 2018 mostly due to investment performance.
- ***Real estate investments*** decreased by $0.3 billion from $5.3 billion at June 30, 2017 to $5.0 billion at June 30, 2018 due to significant partnership distributions which exceeded contributions to new and existing partnerships and valuation increases in partnership portfolio holdings.
- ***Alternative investments*** increased by $0.7 billion from $11.9 billion at June 30, 2017 to $12.6 billion at June 30, 2018 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant partnership distributions.

FY 2017

- ***Short-term investments*** (cash and cash equivalents) increased by $1.1 billion from $5.0 billion at June 30, 2016 to $6.1 billion at June 30, 2017. Due to a reallocation of exposure from other asset classes, PSERS increased its short-term investments during FY 2017.
- ***Fixed income investments*** increased by $0.9 billion from $4.1 billion at June 30, 2016 to $5.0 billion at June 30, 2017 mainly due to investment performance.
- ***Common and preferred stock investments*** increased by $0.8 billion from $10.5 billion at June 30, 2016 to $11.3 billion at June 30, 2017. The increase in this asset category was mainly due to higher market value increases compared to the prior fiscal year.
- ***Collective trust funds*** increased by $0.7 billion from $12.1 billion at June 30, 2016 to $12.8 billion at June 30, 2017 mostly due to investment performance.
- ***Real estate investments*** increased by $0.1 billion from $5.2 billion at June 30, 2016 to $5.3 billion at June 30, 2017 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant partnership distributions.
- ***Alternative investments*** increased by $0.7 billion from $11.2 billion at June 30, 2016 to $11.9 billion at June 30, 2017 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant partnership distributions.

Securities Lending

The System's net income from securities lending activities increased from $11.8 million in FY 2017 to $12.5 million in FY 2018. Lending income rose significantly in FY 2018 due to the increased popularity of master limited partnerships among borrowers and an increase in short-term rates, however, this was offset by increased amounts of earnings on collateral being rebated to the borrowers.

Contributions

Employer contributions increased from $3.9 billion in FY 2017 to $4.4 billion in FY 2018 due to the increase in the total employer contribution rate from 30.03% in FY 2017 to 32.57% in FY 2018. Total employer contributions increased from $3.3 billion in FY 2016 to $3.9 billion in FY 2017. This increase was primarily attributable to an increase in the total employer contribution rate from 25.84% in FY 2016 to 30.03% in FY 2017.

Total member contributions slightly increased from $1.01 billion in FY 2017 to $1.03 billion in FY 2018. The increase was mainly due to an increase in member contributions from active member payroll. Total member contributions increased from $989.3 million in FY 2016 to $1.01 billion in FY 2017. The increase was mainly due to an increase in member contributions from active member payroll and purchase of service.

Table 1 - Investment Balances by Asset Class

(Dollar Amounts in Thousands)

Asset Class	2018	%	2017	%	2016	%
Short-term	**$ 6,173,655**	**11.0**	$ 6,107,020	11.6	$ 4,980,721	10.4
Fixed income	**5,235,603**	**9.4**	4,961,284	9.5	4,052,513	8.4
Common and preferred stock	**12,832,667**	**23.0**	11,337,865	21.6	10,456,298	21.8
Collective trust funds	**14,011,193**	**25.1**	12,816,147	24.4	12,143,184	25.3
Real estate	**5,039,237**	**9.0**	5,340,555	10.2	5,166,068	10.8
Alternative investments	**12,609,975**	**22.5**	11,922,940	22.7	11,199,200	23.3
Total	**$ 55,902,330**	**100.0**	$ 52,485,811	100.0	$ 47,997,984	100.0

Management's Discussion and Analysis (continued)

As a result of an increase in the receivables of member contributions from active member payroll, in the last quarter of FY 2017 to the last quarter of FY 2018, member contribution receivables increased from $349.7 million at June 30, 2017 to $350.4 million at June 30, 2018. The increase in the employer contribution rate from FY 2017 to FY 2018, resulted in the employer contribution receivables rising from $1.1 billion at June 30, 2017 to $1.2 billion at June 30, 2018. See Figure 4 for thirty-year history of PSERS' contribution rates.

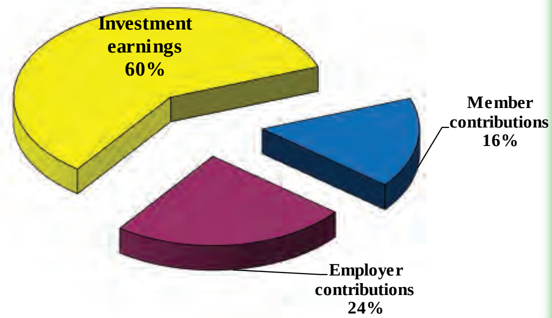
Investment Income

Net investment income slightly decreased from $5.0 billion in FY 2017 to $4.7 billion in FY 2018, which is consistent with the decrease in the time-weighted investment rate of return from 10.14% for FY 2017 to 9.27% for FY 2018. The investment returns in both years exceeded the actuarial rate return assumption. Net investment income increased significantly from $0.5 billion in FY 2016 to $5.0 billion in FY 2017, which is consistent with the increase in the time-weighted investment rate of return from 1.29% for FY 2016 to 10.14% for FY 2017. As depicted in Figure 3, investment earnings provided 60% of PSERS' funding over the past 20 years. Net investment income also includes investment expenses as a deduction. The "Total PSERS' Benefits and Expenses" section that follows includes an analysis of investment expenses.

Total PSERS' Benefits and Expenses

The primary source of expense during FY 2018 was for the payment of pension and healthcare benefits approximating $7.1 billion. The breakdown consisted of $6.6 billion for Pension, $111.8 million for Premium Assistance, and $376.3 million for HOP benefits. Figure 5 illustrates the significant portion of expenses attributable to benefit payments.

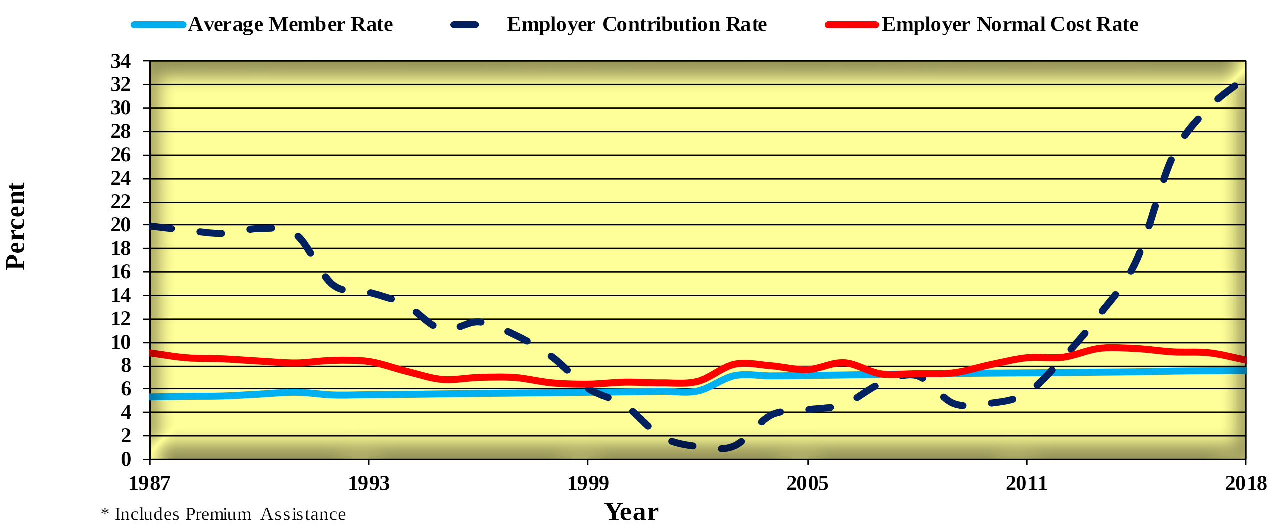
Figure 3 - PSERS' Sources of Funding
Twenty Year History (1999-2018)



Total PSERS' benefit expense increased from $6.9 billion in FY 2017 to $7.1 billion in FY 2018. The increase is attributable to an ongoing increase to the average monthly benefit and an increase in the number of members receiving benefits. Pension benefits payable increased from $529.8 million at June 30, 2017 compared to $582.4 million at June 30, 2018. This increase was mainly attributable to an increase in pension payments payable which was partially offset by a small decrease in death payments payable. New retirements during FY 2018 increased by approximately 2% from FY 2017 and lump sum rollovers increased by 10%. Total PSERS' benefit expense increased from $6.8 billion in FY 2016 to $6.9 billion in FY 2017. The increase is attributable to an ongoing increase to the average monthly benefit and an increase in the number of members receiving benefits. Pension benefits payable increased slightly from $520.5 million at June 30, 2016 compared to $529.8 million

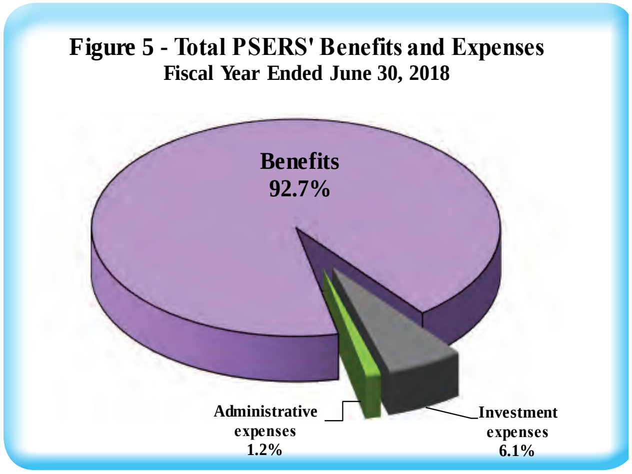
Below is a thirty-year history of PSERS' contribution rates:

Figure 4 - History of PSERS' Contribution Rates as a Percent of Payroll*



* Includes Premium Assistance

Management's Discussion and Analysis (continued)



at June 30, 2017. This increase was mainly attributable to a small increase in pension payments payable which was partially offset by a small decrease in death payments payable. New retirements during FY 2017 decreased by approximately 6% from FY 2016.

Investment expenses decreased by $6.8 million from $474.5 million in FY 2017 to $467.7 million in FY 2018 mainly due to a decrease in management fees in absolute return and alternative investments of $18 million. The decrease in absolute return is mainly attributable to a renegotiation of fee terms and lower performance fees earned in FY 2018. The decrease in the alternative investment class is attributable to change in fee structure brought on by partnerships maturing. The decreases are partially offset by increases in management fees in international equity, fixed income, and commodities asset classes of $11 million.

As a percentage of total benefits and expenses, investment expense decreased from 6.3% in FY 2017 to 6.1% in FY 2018. Investment expenses increased by $58.7 million from $415.8 million in FY 2016 to $474.5 million in FY 2017 mainly due to increases in management fees in fixed income, absolute return, and risk parity. This increase is mainly attributable to an increase in performance fees due to performance and growth in the asset base in the fixed income, absolute return, and risk parity asset classes. The fixed income fee increase was also attributable to a higher allocation in this asset class. As a percentage of total benefits and expenses, investment expense has decreased from a high of 8.2% in FY 2013 to 6.1% in FY 2018 due to a decrease in investment expenses from $558 million in FY 2013 to $468 million in FY 2018. During this same period net assets increased $8 billion from $48.7 billion at June 30, 2012 to $56.7 billion at June 30, 2018.

PSERS continues to be one of the most transparent among large public pension funds in the nation for the disclosure of management fees. For example, certain pension funds report no or very little management fees for alternative investments because they are considered part of the cost of the investment and are netted against performance rather than shown separately. PSERS, however, gathers management fee information from each of its limited partnerships and collective trust fund investments, even if it is not specifically disclosed in the fund's standard reports or specifically identified in capital call requests. Such management fee information includes both base and performance fees obtained from either the fund's administrator statement, capital account statement or financial statements. This information is then utilized to report all relevant management fees in the System's financial statements. While the national debate over what constitutes a "fee" continues, PSERS will endeavor to remain transparent and report fees in accordance with current GASB standards and prevailing public pension industry practice to keep PSERS' financial statements both meaningful and comparative to its peers. In addition, PSERS reports all other investment expenses, including staff compensation and overhead, consultant, legal, and bank expenses incurred.

Administrative expenses increased by $6.7 million from $84.4 million during FY 2017 compared to $91.1 million during FY 2018. This rise was mainly attributable to the increase in administrative costs for HOP due to an increase in the number of participants. As depicted in Figure 5, administrative expenses represent only 1.2% of total benefits and expenses.

New GASB Standards

During the fiscal year ended June 30, 2018 the System adopted GASB Statement No. 75, A*ccounting and Financial Reporting for Postemployment Benefits Other Than Pensions (OPEB).* GASB 75 addresses financial accounting and reporting for governments that provide or finance OPEB. GASB 75 replaces GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and GASB No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans,* for OPEB.

Management's Discussion and Analysis (continued)

Postemployment Healthcare

PSERS administers two postemployment healthcare programs, the Health Insurance Premium Assistance Program (Premium Assistance) and the Health Options Program (HOP), for its annuitants. The following paragraphs and summary financial data provide supplementary information to the financial statements which contain the financial position and activities for the two postemployment healthcare programs.

Health Insurance Premium Assistance Program (Premium Assistance)

Financial Highlights

- Total net position decreased by $1.0 million in FY 2018 mainly due to deductions for benefits and administrative expenses slightly exceeding net investment income and employer contributions. The total net position continues to be sufficient to fund one full year of benefits. The change from June 30, 2016 to June 30, 2017 was a decrease of $0.8 million mainly due to deductions for benefits and administrative expenses slightly exceeding employer contributions and investment income. The contribution rate decreased from 0.84% for FY 2016 to 0.83% for FY 2017.
- Investments increased from $82.9 million at June 30, 2017 to $91.7 million at June 30, 2018 mainly due to a decrease in interfund receivables which resulted in a higher amount available to invest at June 30, 2018.

Contributions

Total employer contributions for Premium Assistance increased slightly from $111 million in FY 2017 to $112 million in FY 2018 due to an increase in active member payroll and a level contribution rate of 0.83% for both FY 2017 and FY 2018.

Investment Income

Total investment income for Premium Assistance increased from $0.7 million for FY 2017 to $1.5 million for FY 2018 due to higher short-term interest rates.

Benefits and Expenses

Overall deductions for Premium Assistance increased from $112.5 million in FY 2017 to $114.5 million in FY 2018. This increase is due to the increase in the number of members receiving premium assistance benefits and an increase in administrative expenses.

Health Options Program (HOP)

Financial Highlights

- Total net position increased by $7.7 million in FY 2018 primarily due to the rise in premiums and investment income that outpaced the rise in both benefit payments and administrative expenses. The change from June 30, 2016 to June 30, 2017 is also primarily due to the rise in premiums and investment income that outpaced the rise in expenses in both benefit payments and administrative expenses.
- Total receivables decreased from $67.2 million at June 30, 2017 to $58.6 million at June 30, 2018. The decrease is attributed to a change in CMS reimbursement.
- Investments increased from $219.8 million at June 30, 2017 to $237.5 million at June 30, 2018 as HOP additions exceeded deductions, which produced more funds for investment.
- Total liabilities increased 6.8% from $59.2 million at June 30, 2017 to $63.3 million at June 30, 2018. The increase is mainly due to increased participation in the program and claim costs causing an increase in claims payable and administrative expense payable.

Participant and CMS Premiums

Total participant CMS premiums for HOP increased from $410.4 million at June 2017 to $423.9 million at June 2018 due to an increase in plan participation.

Investment Income

Investment income for HOP increased from $0.7 million for FY 2017 to $2.0 million for FY 2018 due to the increase in investments and higher short-term interest rates.

Benefits and Expenses

Overall deductions for HOP increased from $377.2 million in FY 2017 to $418.2 million in FY 2018. This increase is primarily due to the increase in the number of members enrolled in the HOP combined with an increase in the cost of claims and an increase in administrative costs.

Management's Discussion and Analysis (continued)

Premium Assistance

Summary of Fiduciary Net Position (Dollar Amounts in Thousands)

Assets:	**FY 2018**	Increase (Decrease)	FY 2017	Increase (Decrease)	FY 2016
Receivables	**$ 35,208**	$ (5,718)	$ 40,926	$ 4,961	$ 35,965
Investments	**91,705**	8,788	82,917	(5,970)	88,887
Miscellaneous	**247**	(8)	255	(232)	487
Total Assets	**127,160**	3,062	124,098	(1,241)	125,339
Liabilities:					
Payables and other liabilities	**4,426**	4,071	355	(421)	776
Total Liabilities	**4,426**	4,071	355	(421)	776
Net Position	**$ 122,734**	$ (1,009)	$ 123,743	$ (820)	$ 124,563

Summary of Changes in Fiduciary Net Position

Additions:	**FY 2018**	Increase (Decrease)	FY 2017	Increase (Decrease)	FY 2016
Contributions	**$ 111,986**	$ 1001	$ 110,985	$ (2,322)	$ 113,307
Net investment income	**1,455**	792	663	121	542
Total Additions	**113,441**	1,793	111,648	(2,201)	113,849
Deductions:					
Benefit expenses	**111,847**	1,618	110,229	1,956	108,273
Administrative expenses	**2,603**	364	2,239	583	1,656
Total Deductions	**114,450**	1,982	112,468	2,539	109,929
Changes in Net Position	**$ (1,009)**	$ (189)	$ (820)	$ (4,740)	$ 3,920

Health Options Program

Summary of Fiduciary Net Position (Dollar Amounts in Thousands)

Assets:	**FY 2018**	Increase (Decrease)	FY 2017	Increase (Decrease)	FY 2016
Receivables	**$ 58,577**	$ (8,669)	$ 67,246	$ 14,583	$ 52,663
Investments	**237,498**	17,747	219,751	26,421	193,330
Miscellaneous	**2,717**	2,624	93	(3)	96
Total Assets	**298,792**	11,702	287,090	41,001	246,089
Liabilities:					
Payables and other liabilities	**63,272**	4,049	59,223	7,073	52,150
Total Liabilities	**63,272**	4,049	59,223	7,073	52,150
Net Position	**$ 235,520**	$ 7,653	$ 227,867	$ 33,928	$ 193,939

Summary of Changes in Fiduciary Net Position

Additions:	**FY 2018**	Increase (Decrease)	FY 2017	Increase (Decrease)	FY 2016
Participant and CMS premiums	**$ 423,894**	$ 13,477	$ 410,417	$ 51,251	$ 359,166
Net investment income	**1,960**	1,282	678	379	299
Total Additions	**425,854**	14,759	411,095	51,630	359,465
Deductions:					
Benefit expenses	**376,348**	36,252	340,096	29,117	310,979
Administrative expenses	**41,853**	4,782	37,071	3,614	33,457
Total Deductions	**418,201**	41,034	377,167	32,731	344,436
Changes in Net Position	**$ 7,653**	$ (26,275)	$ 33,928	$ 18,899	$ 15,029

Statements of Fiduciary Net Position
June 30, 2018 and 2017
(Dollar Amounts in Thousands)

	2018				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Assets:					
Receivables:					
Members	$ 347,684	$ -	$ 2,703	$ 40	$ 350,427
Employers	1,207,900	-	31,789	-	1,239,689
Investment income	192,262	53	124	156	192,595
Investment proceeds	362,317	-	-	-	362,317
CMS Part D and prescriptions	-	-	-	58,381	58,381
Interfund receivable	-	-	592	-	592
Total Receivables	2,110,163	53	35,208	58,577	2,204,001
Investments, at fair value:					
Short-term	5,837,717	6,735	91,705	237,498	6,173,655
Fixed income	5,235,603	-	-	-	5,235,603
Common and preferred stock	12,832,667	-	-	-	12,832,667
Collective trust funds	14,011,193	-	-	-	14,011,193
Real estate	5,039,237	-	-	-	5,039,237
Alternative investments	12,609,975	-	-	-	12,609,975
Total Investments	55,566,392	6,735	91,705	237,498	55,902,330
Securities lending collateral pool	2,980,119	-	-	-	2,980,119
Capital assets (net of accumulated depreciation $31,840)	23,430	-	-	-	23,430
Miscellaneous	14,565	-	247	2,717	17,529
Total Assets	60,694,669	6,788	127,160	298,792	61,127,409
Liabilities:					
Accounts payable and accrued expenses	82,219	29	313	2,541	85,102
Benefits payable	582,430	-	72	26,721	609,223
HOP Participant premium advances	-	-	-	34,010	34,010
Investment purchases and other payables	537,857	-	4,041	-	541,898
Obligations under securities lending	2,980,119	-	-	-	2,980,119
Interfund payable	592	-	-	-	592
Other liabilities	147,738	-	-	-	147,738
Total Liabilities	4,330,955	29	4,426	63,272	4,398,682
Net position restricted for pension, DC and postemployment healthcare benefits	$ 56,363,714	$ 6,759	$ 122,734	$ 235,520	$ 56,728,727

The accompanying notes are an integral part of the financial statements.

Statements of Fiduciary Net Position
June 30, 2018 and 2017
(Dollar Amounts in Thousands)

	2017			
		Postemployment Healthcare		
	Pension	Premium Assistance	Health Options Program	Totals
Assets:				
Receivables:				
Members	$ 346,618	$ 3,057	$ 36	$ 349,711
Employers	1,067,100	30,540	-	1,097,640
Investment income	150,626	112	84	150,822
Investment proceeds	864,326	-	-	864,326
CMS Part D and prescriptions	-	-	67,126	67,126
Interfund receivable	-	7,217	-	7,217
Total Receivables	2,428,670	40,926	67,246	2,536,842
Investments, at fair value:				
Short-term	5,804,352	82,917	219,751	6,107,020
Fixed income	4,961,284	-	-	4,961,284
Common and preferred stock	11,337,865	-	-	11,337,865
Collective trust funds	12,816,147	-	-	12,816,147
Real estate	5,340,555	-	-	5,340,555
Alternative investments	11,922,940	-	-	11,922,940
Total Investments	52,183,143	82,917	219,751	52,485,811
Securities lending collateral pool	2,016,063	-	-	2,016,063
Capital assets (net of accumulated depreciation $29,973)	24,001	-	-	24,001
Miscellaneous	16,903	255	93	17,251
Total Assets	56,668,780	124,098	287,090	57,079,968
Liabilities:				
Accounts payable and accrued expenses	92,777	272	2,288	95,337
Benefits payable	529,833	83	24,539	554,455
HOP Participant premium advances	-	-	32,396	32,396
Investment purchases and other payables	800,996	-	-	800,996
Obligations under securities lending	2,016,063	-	-	2,016,063
Interfund payable	7,217	-	-	7,217
Other liabilities	66,558	-	-	66,558
Total Liabilities	3,513,444	355	59,223	3,573,022
Net position restricted for pension and postemployment healthcare benefits	$ 53,155,336	$ 123,743	$ 227,867	$ 53,506,946

The accompanying notes are an integral part of the financial statements.

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2018 and 2017
(Dollar Amounts in Thousands)

	2018				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Additions:					
Contributions:					
Members	$ 1,026,375	$ -	$ -	$ -	$ 1,026,375
Employers	4,249,611	-	111,986	-	4,361,597
Total contributions	5,275,986	-	111,986	-	5,387,972
HOP Participant premiums	-	-	-	359,896	359,896
Centers for Medicare & Medicaid Services premiums	-	-	-	63,998	63,998
Commonwealth of Pennsylvania	-	6,801	-	-	6,801
Investment income:					
From investing activities:					
Net appreciation in fair value of investments	3,710,566	-	1	-	3,710,567
Short-term	85,074	53	1,485	1,988	88,600
Fixed income	193,759	-	-	-	193,759
Common and preferred stock	321,547	-	-	-	321,547
Collective trust funds	5,166	-	-	-	5,166
Real estate	367,526	-	-	-	367,526
Alternative investments	485,718	-	-	-	485,718
Total investment activity income	5,169,356	53	1,486	1,988	5,172,883
Investment expenses	(467,653)	-	(31)	(28)	(467,712)
Net income from investing activities	4,701,703	53	1,455	1,960	4,705,171
From securities lending activities:					
Securities lending income	38,506	-	-	-	38,506
Securities lending expense	(26,051)	-	-	-	(26,051)
Net income from securities lending activities	12,455	-	-	-	12,455
Total net investment income	4,714,158	53	1,455	1,960	4,717,626
Total Additions	**9,990,144**	**6,854**	**113,441**	**425,854**	**10,536,293**
Deductions:					
Benefits	6,635,265	-	111,847	376,348	7,123,460
Refunds of contributions	19,881	-	-	-	19,881
Administrative expenses	46,544	95	2,603	41,853	91,095
Total Deductions	**6,701,690**	**95**	**114,450**	**418,201**	**7,234,436**
Net increase (decrease)	**3,288,454**	**6,759**	**(1,009)**	**7,653**	**3,301,857**
Net position restricted for pension, DC and postemployment healthcare benefits:					
Balance, beginning of year	53,155,336	-	123,743	227,867	53,506,946
Effect of change in accounting principle	(80,076)	-	-	-	(80,076)
Balance, beginning, as restated	53,075,260	-	123,743	227,867	53,426,870
Balance, end of year	$ 56,363,714	$ 6,759	$ 122,734	$ 235,520	$ 56,728,727

The accompanying notes are an integral part of the financial statements.

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2018 and 2017
(Dollar Amounts in Thousands)

	2017			
		Postemployment Healthcare		
	Pension	Premium Assistance	Health Options Program	Totals
Additions:				
Contributions:				
Members	$ 1,013,847	$ -	$ -	$ 1,013,847
Employers	3,832,773	110,985	-	3,943,758
Total contributions	4,846,620	110,985	-	4,957,605
HOP Participant premiums	-	-	336,646	336,646
Centers for Medicare & Medicaid Services premiums	-	-	73,771	73,771
Investment income:				
From investing activities:				
Net appreciation (depreciation) in fair value of investments	4,204,585	(337)	-	4,204,248
Short-term	67,694	1,024	704	69,422
Fixed income	156,837	-	-	156,837
Common and preferred stock	295,427	-	-	295,427
Collective trust funds	3,379	-	-	3,379
Real estate	236,650	-	-	236,650
Alternative investments	493,426	-	-	493,426
Total investment activity income	5,457,998	687	704	5,459,389
Investment expenses	(474,441)	(24)	(26)	(474,491)
Net income from investing activities	4,983,557	663	678	4,984,898
From securities lending activities:				
Securities lending income	21,395	-	-	21,395
Securities lending expense	(9,590)	-	-	(9,590)
Net income from securities lending activities	11,805	-	-	11,805
Total net investment income	4,995,362	663	678	4,996,703
Total Additions	9,841,982	111,648	411,095	10,364,725
Deductions:				
Benefits	6,452,651	110,229	340,096	6,902,976
Refunds of contributions	20,928	-	-	20,928
Administrative expenses	45,127	2,239	37,071	84,437
Total Deductions	6,518,706	112,468	377,167	7,008,341
Net increase (decrease)	3,323,276	(820)	33,928	3,356,384
Net position restricted for pension and postemployment healthcare benefits:				
Balance, beginning of year	49,832,060	124,563	193,939	50,150,562
Balance, end of year	$ 53,155,336	$ 123,743	$ 227,867	$ 53,506,946

The accompanying notes are an integral part of the financial statements.

Notes to Financial Statements
Years Ended June 30, 2018 and 2017

1. Organization and Description of the System

(A) Organization

The System was established on July 18, 1917, under the provisions of Pamphlet Law 1043, No. 343 as a governmental cost-sharing multiple-employer plan that provides retirement allowances and other benefits to its members. Membership in the System is mandatory for nearly all qualifying public school employees in the Commonwealth of Pennsylvania (Commonwealth). At June 30, 2018, there were 775 participating employers, generally school districts. Membership at June 30, 2017, the most recent year for which actual amounts are available, is presented in Table 2.

The Public School Employees' Retirement Board (Board) is established by state law as an independent administrative board of the Commonwealth. The Board exercises control and management of the System, including the investment of its assets. The Board has fifteen members including the Commonwealth's Secretary of Education, the Commonwealth's Secretary of Banking and Securities, the State Treasurer, the Executive Director of the Pennsylvania School Boards Association, one member appointed by the Governor, six elected members (three from among the System's certified members, one from among the System's noncertified members, one from among the System's annuitants, and one from among school board members in Pennsylvania), two members from the Senate, and two members from the House of Representatives. Effective with Act 5 which was enacted on June 12, 2017, one of the Governor's appointees was replaced with the Commonwealth's Secretary of Banking and Securities who is also appointed by the Governor.

The State Treasurer is the custodian of the System's Fund. The retirement plan of the System is a contributory defined benefit plan for which the benefit payments to members and contribution provisions by employers and employees are specified in the Pennsylvania Public School Employees' Retirement Code (Code). Changes in benefit and contribution provisions for the retirement plan must be made by legislation. Pursuant to state law, all legislative bills and amendments proposing to change the System's retirement plan are to be accompanied with an actuarial note prepared by an enrolled pension actuary from the Independent Fiscal Office (IFO) providing an estimate of the cost and actuarial effect of the proposed change.

Table 2 - Membership as of June 30, 2018

Active members:	
Vested	173,311
Nonvested	83,051
Total active members	**256,362**
Inactive members:	
Retirees and beneficiaries currently receiving benefits	233,288
Inactive members and vestees entitled to but not receiving benefits	25,117
Total retirees and other members	**258,405**
Total number of members	**514,767**

Based upon criterion of financial accountability as defined by governmental accounting standards, the System is considered a component unit of the Commonwealth of Pennsylvania financial reporting entity and is included in the Comprehensive Annual Financial Report of the Commonwealth of Pennsylvania.

(B) Pension Plan

i. Pension Benefits

Under the provisions of the 1975 revision of the Code by the Pennsylvania General Assembly, members are eligible for monthly retirement benefits upon reaching (a) age 62 with at least 1 year of credited service; (b) age 60 with 30 or more years of credited service; or (c) 35 or more years of service regardless of age. Act 120 of 2010 (Act 120) preserves the benefits of existing members and introduced benefit reductions for individuals who become new members on or after July 1, 2011. Act 120 created two new membership classes, Membership Class T-E (Class T-E) and Membership Class T-F (Class T-F). To qualify for normal retirement, Class T-E and Class T-F members must work until age 65 with a minimum of 3 years of service or attain a total combination of age and service that is equal to or greater than 92 with a minimum of 35 years of service. The Internal Revenue Code (IRC) limitation on the annual benefits for a defined benefit plan was $220,000 for 2018 and $215,000 for 2017.

Benefits are generally equal to 2% or 2.5%, depending upon membership class, of the member's final average salary (as defined in the Code) multiplied by the number of years of credited service. For members whose membership started prior to July 1, 2011, after completion of five years of service, a member's right to the defined benefits is vested and early retirement benefits may be elected. For Class T-E and Class T-F members, the right to benefits is vested after ten years of service. Active members may purchase credit for various types of school and non-school service on a lump-sum, installment purchase basis, or through an actuarially calculated benefit reduction. Class T-E and Class T-F members must purchase Non-Qualifying Part

Notes to Financial Statements (continued)

The contribution rates based on qualified member compensation for virtually all members are presented below:

PSERS members whose membership started prior to July 1, 2011:		
Membership Class T-C	Active Members hired before July 22, 1983	5.25%
Membership Class T-C	Active Members hired on or after July 22, 1983	6.25%
Membership Class T-D	Active Members hired before July 22, 1983	6.50%
Membership Class T-D	Active Members hired on or after July 22, 1983	7.50%
PSERS members whose membership started on or after July 1, 2011 (Act 120 members):		
Membership Class T-E*		7.50%
Membership Class T-F**		10.30%

* Shared risk program could cause future contribution rates to fluctuate between 7.5% and 9.5%
** Shared risk program could cause future contribution rates to fluctuate between 10.3% and 12.3%

Time service and most other types of non-school or non-state service credit at full actuarial cost. Class T-E and Class T-F members must purchase credit for Non-Qualifying Part Time service within 365 days of enrollment in the System.

In addition to regular retirement benefits, the System also provides for disability retirement benefits and death benefits. Participants are eligible for disability retirement benefits after completion of five years of credited service. Such benefits are generally equal to 2% or 2.5%, depending upon membership class, of the member's final average salary (as defined in the Code) multiplied by the number of years of credited service, but not less than one-third of such salary nor greater than the benefit the member would have had at normal retirement age. Members over normal retirement age may apply for disability benefits.

Death benefits are payable upon the death of an active member who has reached age 62 with at least one year of credited service (age 65 with at least three years of credited service for Class T-E and Class T-F members) or who has at least five years of credited service (ten years for Class T-E and Class T-F members). Such benefits are actuarially equivalent to the benefit that would have been effective if the member had retired on the day before death.

Members with credited service in the Commonwealth of Pennsylvania State Employees' Retirement System (SERS) may elect to transfer service to the Public School Employees' Retirement System upon commencement of employment in the public school system. Similarly, a member with credited service in the System may transfer such service to SERS upon becoming a member of that system.

All members are fully vested in their individual balance in the Members' Savings Account which is described in Note 3. All non-vested members may receive a refund of their individual balance of member contributions and interest from the Members' Savings Account upon termination of public school employment. Vested members who enrolled prior to July 1, 2011 may elect to receive a return of their accumulated contributions and interest upon their retirement which results in a reduced monthly annuity. Effective with Act 5 which was enacted on June 12, 2017, vested Class T-E and Class T-F members can now withdraw their accumulated contributions and interest from the Members' Savings Account upon their retirement.

ii. Contributions

The contribution policy is set by the Code and requires contributions by active members, employers, and the Commonwealth. The System's funding policy provides for periodic employer and Commonwealth contributions at actuarially determined rates, expressed as a percentage of annual covered payroll, such that they, along with employee contributions and an actuarially determined rate of investment return, are adequate to accumulate assets to pay retirement benefits when due. Level percentage of payroll employer contribution rates are determined using the entry age normal actuarial funding method. This method determines the amount of contributions necessary to (1) fully fund all current costs, (also known as normal cost), which represents the estimated amount necessary to pay for the benefits earned by the employees during the current service year; and (2) liquidate the prior service cost for service earned prior to the current service year and subsequent benefit increases, which represents the amount necessary to fund accrued liabilities over the appropriate amortization periods.

Contribution rates for active members are set by law (redefined with the provisions of Act 9 of 2001 and Act 120) and are dependent upon membership class. The Internal Revenue Code (IRC) limitation on the annual compensation for a defined benefit plan was $275,000 for 2018 and $270,000 for 2017.

Active members who enrolled between July 1, 2001, the effective date of Act 9, and June 30, 2011 are Membership Class T-D (Class T-D). The contribution rates for all members in Class T-D were effective January 1, 2002. For Act 120 members, all new members automatically become Class T-E members. New members, however, have

Notes to Financial Statements (continued)

a one-time opportunity to elect Class T-F within 45 days of receiving written notification from PSERS. Failure to elect Class T-F at time of original eligibility will make the member ineligible for Class T-F forever. Act 120 introduced a shared risk program that could affect Class T-E and Class T-F members' contribution rates in future fiscal years. With the shared risk program Class T-E and Class T-F members benefit when investments of the fund are doing well and share some of the risk when investments underperform. The member contribution rate will stay within the specified range allotted for Class T-E or Class T-F; but could increase or decrease by 0.5% every three years dependent on investment performance of PSERS. The member contribution rate will never go below the base rate of 7.5% for Class T-E and 10.3% for Class T-F members, or above 9.5% for Class T-E and 12.3% for Class T-F members.

The total contribution rate for the employers and the Commonwealth was 32.57% and 30.03% (31.74% and 29.20% for pension component) of qualified compensation for the years ended June 30, 2018 and 2017, respectively.

Act 120 suppressed the employer contribution rate by using rate caps in future years to keep the rate from rising too high, too fast for budgetary purposes.

The rate caps limit the amount the pension component of the employer contribution rate can increase over the prior year's rate. For FY 2014 and thereafter, the rate can increase no more than 4.5% plus the premium assistance contribution rate.

The rate cap remained at 4.5% until the rate cap no longer applied, i.e., the rise in the employer contribution rate was less than the rate cap in effect at that time. For FY 2017, the actuarially calculated contribution rate exceeded the prior year's rate by less than 4.5%. As a result, the rate caps are no longer in effect. Since the rate caps no longer apply, the employer normal cost is the contribution rate floor.

According to requirements established in Act 29 of 1994, the Commonwealth reimburses school entity employers a portion of the employer contributions paid to the System. All school entity employers are reimbursed by the Commonwealth at least 50% of the total employer contributions based on the total contribution rate. The Commonwealth reimburses certain school entity employers at a rate greater than 50% based upon non-pension criteria which stipulate that the entity must have a Commonwealth Department of Education calculated Market Value / Personal Income Aid Ratio in excess of .5000. School entities remit 100% of total employer contributions directly to the System. The Commonwealth remits 50% of the total employer contributions for employers other than school entities directly to the System. All contributions from employers and the Commonwealth are shown as employer contributions on the Statements of Changes in Fiduciary Net Position.

(C) Postemployment Healthcare Plans

i. Health Insurance Premium Assistance Program

(a) Premium Assistance Benefits

The System provides a Health Insurance Premium Assistance Program (Premium Assistance) for all eligible annuitants who qualify and elect to participate. Under this program, employer contribution rates for Premium Assistance are established to provide reserves in the Health Insurance Account that are sufficient for the payment of Premium Assistance benefits for each succeeding year. Effective January 1, 2002, under the provisions of Act 9 of 2001, participating eligible annuitants are entitled to receive premium assistance payments equal to the lesser of $100 per month or their out-of-pocket monthly health insurance premium. To receive premium assistance, eligible annuitants must have an out-of-pocket premium expense from an approved plan. Plans approved for Premium Assistance are health insurance plans maintained by a Commonwealth School Employer or the PSERS sponsored Health Options Program. As of June 30, 2018, there were no assumed future benefit increases to participating eligible annuitants in the Premium Assistance program. Membership at June 30, 2017, the most recent year for which actual amounts are available, is presented in Table 3.

(b) Contributions

A portion of each employer contribution to the System is set aside for the funding of Premium Assistance. The Premium Assistance contribution rate is set at a level necessary to establish reserves sufficient to provide Premium Assistance payments for all participating eligible members for the subsequent fiscal year. The portion of the total contribution rate for employers used to fund Premium Assistance was 0.83% for the years ended June 30, 2018 and 2017. Members do not contribute to Premium Assistance.

Table 3 - Premium Assistance Membership at June 30, 2018

Retirees and beneficiaries currently receiving benefits	93,400
Inactive members and vestees entitled to but not receiving benefits	422
Total retirees and other inactive members	**93,822**
Total active members	256,362
Total number of members	**350,184**

Notes to Financial Statements (continued)

ii. Health Options Program

The Health Options Program (HOP) is a PSERS-sponsored voluntary health insurance program for the sole benefit of annuitants of PSERS, spouses of annuitants, survivor annuitants and their dependents who participate in HOP. The HOP is funded exclusively by the premiums paid by its participants for the benefit coverage they elect. The PSERS pension fund assets are not available to fund or satisfy obligations of the HOP.

HOP offers several health plans. Participants may select among two self-funded Medicare supplement plans, three Medicare Rx plans, and multiple Medicare Advantage plans for those eligible for Medicare. Participants not eligible for Medicare have a choice between a self-funded high deductible indemnity plan and multiple managed care plans. Medicare Advantage and managed care plans are available to retirees residing in the plan's service area. The Medicare supplements and pre-65 high deductible plan are self-funded and claims are adjudicated by a third party administrator. The Medicare Rx Options and the prescription drug benefit of the pre-65 high deductible plan are also self-funded and claims are adjudicated by a pharmacy benefits manager. The Medicare Advantage and managed care plans are provided by private insurance companies or managed care organizations and benefits are fully insured. HOP also offers dental benefits through a fully insured carrier.

Effective January 1, 2006, PSERS entered into an Employer/Union Entity contract with the Centers for Medicare and Medicaid Services (CMS) to operate a voluntary Medicare Prescription Drug Plan (PDP). The PDP covers over 88,000 participants. CMS provides partial funding of the PDP in the form of monthly per capita payments and reinsurance. An independent actuarial consulting firm sets the rates for the self-funded benefits. The HOP maintains reserves for claims that are Incurred But Not Reported (IBNR) and for claim fluctuation for the self-funded benefit plans. At June 30, 2018 and 2017 PSERS recorded $17,880,000 and $16,239,000, respectively, in IBNR. The IBNR is included in benefits payable.

(D) Defined Contribution Plan

On June 12, 2017, Commonwealth of Pennsylvania Act 5 of 2017 was signed into law. This legislation establishes a new hybrid defined benefit/defined contribution (DC) retirement benefit plan applicable to all school employees who become new members of PSERS on July 1, 2019 and thereafter. The three new plan design options under Act 5 include two hybrid plans consisting of defined benefit and defined contribution components and a stand-alone defined contribution plan. A stand-alone defined benefit plan will no longer be available to new members after June 30, 2019. The financial statements for FY 2018 reflect start-up funding and expenses for the DC plan.

2. Summary of Significant Accounting Policies

(A) Basis of Accounting

The financial statements of the System are prepared on 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 date. Member and employer contributions are recognized in the period for which employees' salaries are reported. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

The accounting and reporting policies of the System conform to accounting principles generally accepted in the United States of America (GAAP). The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions in fiduciary net position during the reporting period. Actual results could differ from those estimates.

(B) Investments

The System's investments are reported at fair value. Fair value is the amount that the System can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller, that is, other than in a forced or liquidation sale. See Note 4(B) for the description of the Fair Value of Investments.

Net appreciation (depreciation) is determined by calculating the change in fair value of investments between the beginning of the year and end of the year, less purchases of investments at cost, plus sales of investments at fair value.

Investment purchases and sales are recorded as of the trade date. Interest income is comprised of dividend, interest, and other investment income. Dividend income is recognized on the ex-dividend date. Interest and other investment income is recognized when earned.

Investment expenses consist of investment manager fees and those administrative expenses directly related to the System's investment operations. Investment proceeds receivable generally includes unsettled investment sales and unsettled investment purchases are included in investment purchases and other liabilities. At June 30, 2017,

Notes to Financial Statements (continued)

investment proceeds receivable also includes $480,771,000 in receivables due to the sale of limited partnership and real estate interests during FY 2015 and FY 2016.

(C) Capital Assets

Capital assets consist primarily of data processing equipment, software, and internally developed computer software recognized as intangible assets. Capital assets are depreciated using the straight-line method over an estimated useful life of five years. Intangible assets are amortized using the straight-line method over an estimated useful life of twenty years for assets purchased prior to July 1, 2012 and up to 10 years for assets purchased after June 30, 2012.

(D) Benefits Payable

Benefits payable identifies the obligations of the System, on an accrual basis, at the end of the fiscal year. It includes the estimated retirement and death benefits payable, federal taxes withheld but not yet due to IRS, premium assistance benefits payable, and the HOP IBNR claims for its participants.

(E) Pensions for Employees of the System

For purposes of measuring the net pension liability, deferred outflows of resources, deferred inflows of resources, and pension expense, information about the fiduciary net position of the Pennsylvania State Employees' Retirement System (SERS) and additions to/deductions from SERS' fiduciary net position have been determined on the same basis as they are reported by SERS. Please refer to Note 8 for additional information regarding SERS. PSERS' net pension liability for its employees to SERS is reported in Other liabilities. Pension expense is reported in administrative expenses and is detailed on the Schedule of Administrative and Investment Expenses Supplementary Schedule.

(F) Postemployment Healthcare Plan for Employees of the System

For purposes of measuring the net OPEB liability, deferred outflows of resources, deferred inflows of resources and OPEB expense, information about the fiduciary net position of the Commonwealth of Pennsylvania Retired Employees Health Program (REHP) and additions to/deductions from REHP fiduciary net position have been determined on the same basis as they are reported by the REHP. Please refer to Note 9 for additional information regarding the REHP. PSERS' net OPEB liability for its employees to the REHP is reported in Other liabilities. OPEB expense is reported in Administrative and Investment Expenses Supplementary Schedule.

(G) Compensated Absences

The System uses the accrual basis of accounting for measuring vacation leave, sick leave, and other compensated absences liabilities. Employees of the System are paid for accumulated vacation leave upon termination or retirement. Retiring employees of the System that meet service, age, or disability requirements are paid between 30% and 100% of sick days available at retirement, up to 161 maximum days paid. At June 30, 2018 and 2017, $4,216,000 and $3,789,000, respectively, were accrued for unused vacation and sick leave for the System's employees and are included in Accounts payable and accrued expenses on the Statements of Fiduciary Net Position.

(H) Participant Premium Advances

Premium advances at June 30, 2018 and 2017 are for HOP premiums related to health care coverage to be provided in July of 2018 and 2017, respectively.

(I) Federal Income Taxes

The Internal Revenue Service (IRS) issued a determination letter dated March 16, 2017 which stated that the plan and its underlying trust qualify under the provisions of Section 501(a) of the IRC and therefore are exempt from federal income taxes.

(J) Risk Management

The System is exposed to various liabilities and risks of loss, including, without limitation, the ordinary risks of investment losses, risks related to theft or destruction of assets, liabilities resulting from injuries to employees, and liabilities resulting from court challenges to fiduciary decisions. As an administrative agency of the Commonwealth of Pennsylvania, the System is accorded sovereign immunity. For claims not shielded by sovereign immunity, the System participates in certain Commonwealth pooled insurance programs and requires asset managers to carry certain insurance coverage for the protection of the System. The System has implemented a self-insurance program for fiduciary and director and officer liability coverage. During the past three fiscal years, insurance settlements did not exceed insurance coverage.

(K) Reclassifications

Certain 2017 amounts have been reclassified in conformity with the 2018 presentation. These reclassifications had no effect on net position restricted for pension benefits or the change in fiduciary net position.

Notes to Financial Statements (continued)

(L) Members Receivables

Members receivables include an amount for members' obligations to the System for the purchase of service credit. Members have a variety of options to remit purchase of service payments:

- Remit a lump sum payment.
- Request an installment plan from one to seven years where the member's employer establishes a payroll deduction process. The member's employer then forwards monthly payments of the withheld amounts to PSERS.
- Accept an actuarial reduction debt through which the amount of the purchase plus accumulated interest will reduce the member's retirement or death benefit.
- Rollover funds from an eligible distribution.

The following is a summary of the members receivables at June 30, 2018 and 2017:

	(Dollar Amounts in Thousands)	
	2018	2017
Pension:		
Member contributions	**$ 85,842**	$ 85,451
Purchase of service	**258,807**	258,799
Other	**3,035**	2,368
Total Members Receivables	**$ 347,684**	$ 346,618

(M) Interfund Transactions and Balances

Interfund transfers of assets take place on a regular recurring basis between Pension and Premium Assistance. The transfers occur upon receipt of employer contributions and payment of benefits or expenses. The interfund receivables and payables related to interfund activity are classified under receivables and liabilities on the financial statements.

(N) Change in Accounting Principle

Due to the implementation of GASB Statement No. 75, the beginning net position restricted for pension, DC and postemployment healthcare benefits has been restated by $(80,076,000). The purpose of the restatement was to record the beginning net OPEB liability of $(82,591,000) and the beginning deferred outflows of resources for contributions subsequent to the measurement date of $1,900,000 to the Commonwealth of Pennsylvania REHP.

(O) Adoption of New Accounting Standards

During the fiscal year ended June 30, 2018 the System adopted GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (OPEB).* GASB 75 addresses financial accounting and reporting for governments that provide or finance OPEB. GASB 75 replaces GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and GASB No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans,* for OPEB.

GASB Statement No. 81, *Irrevocable Split - Interest Agreements*, was issued March 2016. GASB 81 improves accounting and financial reporting for irrevocable split interest agreements. Upon examination, it was determined to have no current impact on the System.

GASB Statement No. 82, *Pension Issues-An Amendment of GASB Statements No. 67, No. 68, and No. 73*, was issued March 2016. GASB 82 addresses certain issues with the presentation of payroll-related measures in required supplementary information, and the classification of payments made by employers to satisfy employee contribution requirements. Upon examination, it was determined that the System is currently presenting information in accordance with the requirements.

GASB Statement No. 83, *Certain Asset Retirement Obligations*, addresses accounting and financial reporting for certain asset retirement obligations, (AROs) and was issued November 2016. This Statement establishes criteria for determining the timing and pattern of recognition of a liability and a corresponding deferred outflow of resources for AROs. The System is evaluating GASB 83 and its potential impact to the financial statements.

GASB Statement No. 84, *Fiduciary Activities*, is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported and was issued January 2017. The System is evaluating GASB 84 and its potential impact to the financial statements.

GASB Statement No. 85, *Omnibus 2017,* addresses practice issues that have been identified during implementation and application of certain GASB statements and was issued March 2017. GASB 85 addresses the timing of the measurement of pension or OPEB liabilities and expenditures recognized in financial statements prepared using the current financial resources measurement focus, and recognizing on-behalf payments for pension or OPEB in employer financial statements. Upon examination, it was determined that the System is currently presenting information in accordance with the requirements.

Notes to Financial Statements (continued)

Table 4 - Account Balance

	(Dollar Amounts in Thousands)	
	2018	2017
Pension:		
State Accumulation Account	$ **(17,236,211)**	$ (19,030,322)
Members' Savings Account	**16,120,538**	15,500,215
Annuity Reserve Account	**57,479,387**	56,685,443
	$ **56,363,714**	$ 53,155,336*
Defined Contribution Plan	$ **6,759**	$ -
Postemployment Healthcare:		
Health Insurance Account	$ **122,734**	$ 123,743
Health Insurance Program Account	$ **235,520**	$ 227,867

*Does not reflect ($80,076) effect of change in accounting principle

GASB Statement No. 86 *Certain Debt Extinguishment Issues* was issued June 2017 and addresses accounting and financial reporting or in substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources, resources other than the proceeds of refunding debt are placed in an irrevocable trust for the sole purpose of extinguishing debt. Upon examination, it was determined to have no current impact on the System.

GASB Statement No. 87, *Leases,* was issued in June 2017, and requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on provisions of the contract. The System is evaluating GASB 87 and its potential impact to the financial statements.

3. Description of Accounts

The Code requires the System to maintain the following accounts which represent reserves held for future and current benefit payments as follows and as illustrated in Table 4.

(A) State Accumulation Account

The State Accumulation Account is credited with contributions from the Commonwealth and the employers. Additionally, interest earnings of the System (after crediting the Members' Savings Account with 4% interest and the reserve for retirement with 5.50% statutory interest) are credited to this account. Each year, the necessary amounts, as determined by the actuary for the payment of retirement, disabilities, and death benefits, are transferred from the State Accumulation Account to the Annuity Reserve Account increasing the reserve credit to the 7.25% valuation assumption rate determined by the actuary. All administrative expenses necessary for the operation of the System, except for Premium Assistance, HOP, and Defined Contribution Plan expenses, are paid from the State Accumulation Account.

(B) Members' Savings Account

The Members' Savings Account is credited with all contributions made by active members of the System. Interest is added to the member's individual account at an annual rate of 4%. Upon death or retirement of a member, the accumulated contributions plus interest are transferred to the Annuity Reserve Account for subsequent payment of benefits.

(C) Annuity Reserve Account

The Annuity Reserve Account represents the amounts transferred from the Members' Savings and State Accumulation Accounts, plus additional contributions made by the Commonwealth and employers for the payment of supplemental annuities and cost-of-living increases. All death, disability, and retirement benefits are paid from this account. Annual interest of 5.50% is credited to the Annuity Reserve Account.

(D) School Employees' Defined Contribution Trust (Defined Contribution Plan)

The School Employees' Defined Contribution Trust accumulates DC member and employer contributions, investment earnings and DC plan expenses of the School Employees Defined Contribution Plan. The trust is comprised of individual investment accounts, all assets in those accounts and any assets held that are not allocated to the individual investment accounts. The assets of the plan are held in trust for the exclusive benefit of the participants and their beneficiaries and may be used for payment of fees, costs and expenses related to the administration and investment of the plan and the trust.

(E) Health Insurance Account

The Health Insurance Account is credited with contributions from the employers for Premium Assistance. Effective January 1, 2002, under the provisions of Act 9 of 2001, participating eligible annuitants are entitled to receive premium assistance payments equal to the lesser of $100 per month or their out-of-pocket monthly health insurance premium. The Health Insurance Account pays all administrative expenses necessary to operate the Premium Assistance.

Notes to Financial Statements (continued)

(F) Health Insurance Program Account

The Health Insurance Program Account is credited with premiums from members of the HOP and from CMS. All benefits related to the HOP (premium payments to the insurance companies and self-funded benefits) are paid from this account. The Health Insurance Program Account pays all administrative expenses necessary to operate the HOP.

4. Investments

(A) Summary of Investments

The Board has the responsibility to invest and reinvest available funds of the System in accordance with the guidelines and limitations set forth in the Code and other applicable state law. The Board accomplishes the daily management of the System's investments through investment advisors who act as agents for the System and through internal investment managers.

The Board invests the funds of the System using the Prudent Investor Standard, as articulated in the Code, which means "the exercise of that degree of judgment, skill and care under the circumstances then prevailing which persons of prudence, discretion, and intelligence who are familiar with such matters exercise in the management of their own affairs not in regard to speculation, but in regard to the permanent disposition of the fund, considering the probable income to be derived therefrom as well as the probable safety of their capital." The Board has adopted its investment policy to formally document investment objectives and responsibilities. This policy, as well as applicable state law, establishes guidelines for permissible investments of the System.

(B) Fair Value of Investments

i. Fair Value Levels

PSERS measures and records its investments using fair value measurement guidelines established by generally accepted accounting principles. These guidelines recognize a three-tiered fair value hierarchy as follows:

- **Level 1 inputs:** Level 1 inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets. A quoted price for an identical asset or liability in an active market (e.g., an equity security traded on a major exchange) provides the most reliable fair value measurement and, if available, should be used to measure fair value in that particular market.

- **Level 2 inputs:** Level 2 inputs are prices that are observable either directly or indirectly. Level 2 inputs may include quoted prices in markets that are not considered active or inputs other than quoted prices that are observable such as interest rates, yield curves, implied volatilities, credit spreads or market-corroborated inputs.

- **Level 3 inputs:** Reporting entities may use unobservable inputs to measure fair value if relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. These unobservable inputs are considered Level 3.

Debt, equity, and derivative instrument securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices and recently published security specific trading levels. Short-term securities are carried at cost, which approximates fair value, unless they have published market prices or quotations from national securities exchanges or securities pricing services, in which case they are valued at the published market price. Fixed income securities and common and preferred stocks are generally valued based on published market prices and quotations from national securities exchanges or securities pricing services. Securities which are not traded on a national securities exchange are valued by the respective fund manager or other third parties based on similar sales.

For alternative investments, which include private equity, special situation (private debt), venture capital and equity real estate investments where no readily ascertainable market value exists, management, in consultation with the general partner and investment advisors, has determined the fair values for the individual investments based upon the partnership's most recent available financial information.

Directly-owned real estate investments are primarily valued based on appraisals performed by independent appraisers and, for properties not appraised, the present value of the projected future net income stream is used. Real estate owned investments are reported net of related debt borrowed against the market value of the property. At June 30, 2018 and 2017, $132,000,000 in open-ended repurchase agreements were netted against the related property valuation and classified as Level 1. The agreements are payable at an interest rate equivalent to 1 month LIBOR plus 40 basis points and are collateralized by certain fixed income investments of the System.

Notes to Financial Statements (continued)

At June 30, 2018, the System had the following recurring fair value measurements.

Investments and Derivative Instruments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2018	Level 1	Level 2	Level 3
Pension investments:				
Investments by fair value level				
Short term:				
PSERS Short-Term Investment Fund	**$ 5,584,103**	$ 5,584,103	$ -	$ -
Other domestic short-term	**229,596**	84,915	144,681	-
International short-term	**24,018**	16,677	7,341	-
	5,837,717	5,685,695	152,022	-
Fixed income:				
Domestic asset-backed and mortgage-backed securities	**1,843,721**	-	1,839,471	4,250
U.S. government and agency obligations	**1,053,358**	1,039,502	13,856	-
Domestic corporate and taxable municipal bonds	**1,985,513**	297,689	1,687,824	-
International fixed income	**353,011**	-	353,011	-
	5,235,603	1,337,191	3,894,162	4,250
Common and preferred stock:				
Domestic common and preferred stock	**7,159,479**	7,159,479	-	-
International common and preferred stock	**5,673,188**	5,673,157	-	31
	12,832,667	12,832,636	-	31
Directly-owned real estate	**602,609**	(132,000)	-	734,609
Total investments by fair value level	**24,508,596**	$ 19,723,522	$ 4,046,184	$ 738,890
Investments measured at the net asset value (NAV)				
Collective trust funds	**14,011,193**			
Equity real estate	**4,436,628**			
Alternative investments:				
Private equity	**5,950,167**			
Special situations (Private debt)	**5,607,778**			
Venture capital	**1,052,030**			
	12,609,975			
Total investments measured at the NAV	**31,057,796**			
Total investments measured at fair value	**$ 55,566,392**			
Investment derivative instruments				
Futures	$ **20,952**	$ 20,952	$ -	$ -
Total return type swaps	**(108,341)**	(108,341)	-	-
Foreign exchange contracts	**68,333**	68,333	-	-
Options	**43,904**	43,904	-	-
Total investment derivative instruments	$ **24,848**	$ 24,848	$ -	$ -

Notes to Financial Statements (continued)

At June 30, 2017, the System had the following recurring fair value measurements.

Investments and Derivative Instruments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2017	Level 1	Level 2	Level 3
Pension investments:				
Investments by fair value level				
Short term:				
PSERS Short-Term Investment Fund	$ 5,565,178	$ 5,565,178	$ -	$ -
Other domestic short-term	105,174	30,832	74,342	-
International short-term	134,000	132,601	1,399	-
	5,804,352	5,728,611	75,741	-
Fixed income:				
Domestic asset-backed and mortgage-backed securities	1,589,887	-	1,585,156	4,731
U.S. government and agency obligations	1,073,883	1,073,883	-	-
Domestic corporate and taxable municipal bonds	1,927,373	554,004	1,373,369	-
International fixed income	370,141	-	370,141	-
	4,961,284	1,627,887	3,328,666	4,731
Common and preferred stock:				
Domestic common and preferred stock	5,649,599	5,609,569	-	40,030
International common and preferred stock	5,688,266	5,688,266	-	-
	11,337,865	11,297,835	-	40,030
Directly-owned real estate	367,078	(132,000)	-	499,078
Total investments by fair value level	22,470,579	$ 18,522,333	$ 3,404,407	$ 543,839
Investments measured at the net asset value (NAV)				
Collective trust funds	12,816,147			
Equity real estate	4,973,477			
Alternative investments:				
Private equity	5,883,902			
Special situations (Private debt)	5,053,043			
Venture capital	985,995			
	11,922,940			
Total investments measured at the NAV	29,712,564			
Total investments measured at fair value	$ 52,183,143			
Investment derivative instruments				
Futures	$ (10,152)	$ (10,152)	$ -	$ -
Total return type swaps	(2,413)	(2,413)	-	-
Foreign exchange contracts	(195,195)	(195,195)	-	-
Options	12,009	12,009	-	-
Total investment derivative instruments	$ (195,751)	$ (195,751)	$ -	$ -

Notes to Financial Statements (continued)

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2018 and 2017 are presented in the following tables.

Investments measured at the NAV
(Dollar Amounts in Thousands)

	June 30, 2018	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Collective trust funds (a)	**$ 14,011,193**	$ -	see note (a)	0 - 90 Days
Equity real estate (b)	**4,436,628**	2,726,771	see note (b)	
Alternative investments:				
Private equity (c)	**5,950,167**	3,514,005	see note (c)	
Special situations (Private debt) (d)	**5,607,778**	3,175,638	see note (d)	
Venture capital (e)	**1,052,030**	538,517	see note (e)	
	12,609,975			
Total investments measured at the NAV	**$ 31,057,796**			

Investments measured at the NAV
(Dollar Amounts in Thousands)

	June 30, 2017	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Collective trust funds (a)	$ 12,816,147	$ -	see note (a)	0 - 90 Days
Equity real estate (b)	4,973,477	2,063,824	see note (b)	
Alternative investments:				
Private equity (c)	5,883,902	2,855,180	see note (c)	
Special situations (Private debt) (d)	5,053,043	2,933,173	see note (d)	
Venture capital (e)	985,995	324,830	see note (e)	
	11,922,940			
Total investments measured at the NAV	$ 29,712,564			

Derivative instruments classified in Level 1 of the fair value hierarchy are valued using observable exchange, dealer, or broker market pricing.

The Premium Assistance investment assets have the following recurring fair value measurements at June 30, 2018 and 2017:

- PSERS Short-Term Investment Fund of $5,565,000 and $62,257,000 at June 30, 2018 and 2017, respectively, is valued using pricing quoted in active markets for those securities (Level 1 inputs).
- Other domestic short-term investments of $86,140,000 and $20,660,000 at June 30, 2018 and 2017, respectively, are valued using a matrix pricing model (Level 2 inputs).

The HOP investment assets have the following recurring fair value measurements at June 30, 2018 and 2017:

- PSERS Short-Term Investment Fund of $91,094,000 and $89,755,000 at June 30, 2018 and 2017, respectively, is valued using pricing quoted in active markets for those securities (Level 1 inputs).
- Other domestic short-term investments of $146,404,000 and $129,996,000 at June 30, 2018 and 2017, respectively, are valued using pricing quoted in active markets for those securities (Level 1 inputs).

Notes to Financial Statements (continued)

The Defined Contribution Plan investment assets have the following fair value measurement at June 30, 2018:

- PSERS Short-Term Investment Fund of $6,735,000 at June 30, 2018 is valued using pricing quoted in active markets for those securities (Level 1 inputs).

ii. Investments at Net Asset Value (NAV)

(a) Collective trust fund investments (CTF) consist primarily of domestic and international institutional funds. The fair value of CTF is based on the reported share value of the respective fund. CTF are managed by state chartered banks for which various state banking departments have regulatory oversight and investment advisors for which regulatory agencies such as the Securities and Exchange Commission have regulatory oversight. Investments that are not subject to this oversight are subject to annual independent audits. Redemption frequency for these assets range from monthly, to quarterly, to annual.

(b) Equity real estate includes real estate funds that invest primarily in U.S., Latin American, European and Asian commercial real estate. Fund investments can be made across the capital structure of each property venture. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. Distributions from each fund may be received as: 1) cash flows from operations or 2) return of capital from dispositions. It is expected that the underlying assets of the funds will be liquidated over the next 7 to 12 years.

(c) Private equity includes U.S. buyout funds and international buyout funds that invest mostly in private companies across a variety of industries (although they may invest in public companies from time to time). The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. The nature of private equity investments is that distributions are received through the liquidation of the underlying assets of the fund. The expected holding period of a private equity portfolio company is 3 to 7 years.

(d) Special situations (Private debt) includes private investment funds that invest across the fixed income capital structure primarily in North America and Western Europe. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. Instead, the nature of the investments in this type is that distributions are received through the orderly liquidation of the underlying assets of the fund throughout the stated term of the fund. It is expected that the underlying assets of the funds will be liquidated over the next 3 to 7 years.

(e) Venture capital includes U.S. based private funds, that finance young, relatively small, rapidly growing companies, typically in either the health care or information technology sectors. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. The nature of venture capital investments is that distributions are received through the liquidation of the underlying assets of the fund. It is expected that the underlying assets of the funds will be liquidated over the next 5 to 10 years.

(C) Deposit and Investment Risk Disclosures

i. Deposits

Custodial credit risk for deposits is the risk that, in the event of a financial institution failure, the System would not be able to recover the value of the deposits. The Commonwealth's Treasury Department is the custodian of the System's funds. Commonwealth Treasury Department deposits must be held in insured depositories approved by the Commonwealth's Board of Finance and Revenue and must be fully collateralized.

The System, through its third party administrator, maintains certain bank deposits for the operation of its voluntary HOP. These deposits are not required to be collateralized by statute or policy. These deposits totaled $146,404,000 and $129,996,000 at June 30, 2018 and 2017, respectively, and are under the custody of M&T Bank which has an A- rating by Standard and Poor's (S&P) and an A3 rating by Moody's Investor Services (Moody's).

Notes to Financial Statements (continued)

For derivatives exposed to credit risk, the table below presents aggregate market value by the least favorable credit rating provided by NRSROs at June 30, 2018 and 2017.

	(Dollar Amounts in Thousands)	
	2018	2017
Quality Rating	**Fair Value**	Fair Value
A A	$ -	$ (804)
A	**(156,006)**	(9,451)
BBB	**47,665**	8,830
BB	-	(988)
Total Swaps-Total Return	$ **(108,341)**	$ (2,413)

ii. Investment Risks

The System's investments, including derivatives and other similar investments, may be subject to various risks. Among these risks are concentration of credit risk, custodial credit risk, credit risk, interest rate risk, and foreign currency risk. The policies addressing each one of these risks, discussed in more detail below, are contained within the Investment Policy Statement, Objectives, and Guidelines reviewed and approved annually by the Board. Due to the level of risk associated with certain investments, it is possible that changes in the values of investments may occur in the near term and that such changes could materially affect the amounts reported in the Statements of Fiduciary Net Position.

(a) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. As of June 30, 2018 and 2017, the System had no single issuer that exceeded 5% of total investments. Investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools, and other pooled investments were excluded.

(b) Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the System would not be able to recover the value of investment or collateral securities that are in the possession of an outside party. In accordance with a contractual relationship between the Commonwealth's Treasury Department and its custodial agent, substantially all investments, where securities are used as evidence of the investment, are held by the custodian in book-entry form in the System's name. Those investments are defined as insured or registered investments for which the securities are held by the System or its agent and, therefore, have a very minimal level of custodial credit risk. The remaining investments, which do not have securities that are used as evidence of the investment, are primarily in collective trust funds and limited partnerships, which include real estate and alternative investments.

The following table discloses aggregate market value by credit quality rating category. Many securities have ratings from more than one NRSRO and sometimes those ratings differ from one NRSRO to another. The data listed below uses the rating (expressed as S&P equivalent) available from Fitch, Moody's and/or S&P that indicates the lowest credit quality at June 30, 2018 and 2017.

	(Dollar Amounts in Thousands)	
	2018	2017
Quality Rating	**Fair Value**	Fair Value
AAA	**$ 532,128**	$ 797,203
AA	**728,428**	210,405
A	**333,381**	414,985
BBB	**1,039,962**	739,916
BB and Below	**392,570**	431,513
NR*	**12,237,183**	11,419,428
Total Exposed to Credit Risk	**15,263,652**	14,013,450
US Government Guaranteed**	**1,698,960**	1,531,272
Total Fixed Income and Short-Term Investments	**$ 16,962,612**	$ 15,544,722

* Not Rated securities include $5,553,354 and $4,476,419 in collective trust funds and $5,687,497 and $5,718,223 in PSERS Short Term Investment Fund assets at June 30, 2018 and 2017, respectively.

** Comprised of U.S. government and agency obligations explicitly guaranteed by the U.S. government and not considered to have credit risk.

(c) Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The credit risk of a debt instrument is measured by nationally recognized statistical rating organizations (NRSRO) such as Fitch Investor Services (Fitch), Moody's, and S&P. Annually, the Board establishes an asset allocation plan. This plan manages the overall credit risk of the fixed income asset class through a clearly defined long-term asset allocation policy. This policy establishes a long-term target allocation of the fixed income asset class at 38.0% of the investment portfolio. Leverage is utilized for 10.0%. The fixed income target allocation consists of:

- An allocation of 8.0% of the portfolio has been made to the U.S. core plus segment of the fixed income asset class benchmarked to the Barclays Capital U.S. Aggregate Index. The U.S. core plus allocation is composed of primarily investment grade, relatively

Notes to Financial Statements (continued)

At June 30, 2018 and 2017, the System's fixed income portfolio had the following option-adjusted durations by fixed income sector:

(Dollar Amounts in Thousands)

	2018		2017	
Investment Type	**Option-Adjusted Duration**	**Fair Value**	Option-Adjusted Duration	Fair Value
Domestic asset-backed and mortgage-backed securities	**2.2**	**$ 1,843,721**	1.7	$ 1,639,886
U.S. government and agency obligations	**8.1**	**1,053,358**	9.6	1,073,883
Domestic corporate and taxable municipal bonds	**1.3**	**1,985,513**	1.8	1,927,373
International fixed income	**1.0**	**353,011**	5.9	370,140
Collective trust funds	**6.6**	**5,553,354**	3.2	4,476,419
PSERS Short-Term Investment Fund	**0.1**	**5,687,497**	0.1	5,718,223
Other Short Term Assets	**0.1**	**486,158**	-	338,798
Total	**3.1***	**$ 16,962,612**	2.1*	$ 15,544,722

* Fixed income investment managers enter into futures contracts to adjust the durations of their portfolios as a whole rather than any particular investment type within the portfolio. In total, the futures contracts have adjusted PSERS' total portfolio duration upward by 0.1 at June 30, 2018 and 2017. The total portfolio option-adjusted duration is calculated by weighting each investment type by fair value.

liquid, public domestic bonds with an overall weighted-average NRSRO credit rating of A or better.

- An allocation of 10.0% of the portfolio has been made to the high yield segment of the fixed income asset class benchmarked to the Barclays Capital U.S. High Yield Index. The high yield allocation is composed of less liquid public non-investment grade fixed income securities with an overall weighted-average NRSRO credit rating of B- or better.

- An allocation of 15.0% of the portfolio has been made to the Treasury Inflation-Protected Securities (TIPS) segment of the fixed income asset class benchmarked to the Barclays Capital World Government Inflation-Linked Bond Index (Hedged to USD) and composed of primarily government issued TIPS with an overall weighted-average NRSRO credit rating of AA or better. The portfolio manager is permitted to leverage the portfolio using TIPS total return swaps up to 3:1.

- An allocation of 1.0% of the portfolio has been made to the non-U.S. developed markets fixed income asset class benchmarked to the Barclays Capital Global Aggregate GDP-weighted Developed Market ex-U.S. (Unhedged) Index composed of primarily investment grade, relatively liquid non-U.S. public bonds with an overall weighted-average NRSRO credit rating of A or better.

- An allocation of 1.0% of the portfolio has been made to the emerging markets fixed income asset class benchmarked to the Barclays Capital EM Local Currency-Government-MV Weighted (Unhedged) -10% Country Cap Index composed of primarily investment grade, relatively liquid non-U.S. public bonds with an overall weighted-average NRSRO credit rating of BB- or better.

- An allocation of 3.0% of the portfolio has been made to cash benchmarked to the Bank of America/Merrill Lynch U.S. Treasury Bill 0-3 Months Index composed of primarily investment grade, relatively liquid U.S. and non-U.S. public bonds with an overall weighted-average NRSRO credit rating of AA or better.

(d) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of a fixed income investment. The System manages its interest rate risk by diversifying the fixed income portfolio and maintaining the fixed income portfolio at a Board-approved effective duration range of the benchmark index.

Duration is a measure of the approximate sensitivity of a bond's value to interest rate changes. The higher the duration, the greater the changes in fair value when interest rates change. For example, a duration of 4.0 would mean that, given a 100-basis point change up/down in rates, a bond's price would move down/up approximately 4.0%. PSERS measures interest rate risk using option-adjusted duration, which recognizes the fact that yield changes may change the expected cash flows due to embedded options.

Notes to Financial Statements (continued)

(e) Foreign Currency Risk

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment. As part of the System's program to manage risk and enhance returns, the System invests in non-U.S. markets. Investment managers in non-U.S. equity and global fixed income may hedge their non-U.S. foreign currency exposure back to U.S. dollars.

(D) Securities Lending

The System participates in a securities lending program with a third party agent. Under this program, the lending agent loans securities (equities, fixed income, and money market instruments) to independent brokers and dealers in exchange for U.S. dollar cash collateral in an amount not less than 102% of the fair value of any securities loaned. Collateral is marked-to-market daily. If the fair value of the collateral held falls below the minimum guidelines for securities loaned, additional collateral is obtained. The lending agent invests the cash collateral in accordance with reinvestment guidelines approved by the System.

As of June 30, 2018 and 2017, the System had no credit risk exposure to borrowers because the amounts the System owed the borrowers exceeded the amounts the borrowers owed the System. Under the securities lending program, the lending agent provides indemnification to the System if a borrower fails to return borrowed securities (and the collateral is inadequate to replace the loaned securities) or fails to pay income distributions on them. The lending agent also provides indemnification to the System if investment of cash collateral results in investment loss. There were no losses during the fiscal years ended June 30, 2018 and 2017 resulting from a default of the borrowers or the lending agent.

All securities loans can be terminated on demand by either the System or the borrower, although the average term of the loan is one day. There were no term loans at June 30, 2018 and 2017.

Cash collateral is invested in a short-term collateral investment pool that is managed by the lending agent, is segregated from all other clients of the lending agent, and is not subject to custodial credit risk. The System's income from securities lending represents its pro-rata share from participating in the program. The weighted-average maturity of the investments in the pool was one day at June 30, 2018 and 2017. During the fiscal years ended June 30, 2018 and 2017, the mismatch between the maturities of the investments made with cash collateral and the maturities of the securities loans may have posed some interest rate risk to the System. In the event of a default, the lending agent may use the collateral to replace the loaned securities.

As of June 30, 2018, the fair value of loaned securities was $2,917,358,000. The fair value of the associated collateral was $2,980,119,000, all of which was cash. As of June 30, 2017, the fair value of loaned securities was $1,972,488,000. The fair value of the associated collateral was $2,016,063,000, all of which was cash.

At June 30, 2018 and 2017, the System had the following foreign currency exposures for its derivatives (except for foreign exchange contracts which are included in Note 5):

	(Dollar Amounts in Thousands)	
	2018	2017
Currency	**Notional Value**	Notional Value
Euro	**$ 196,957**	$ 393,290
Japanese yen	**157,013**	193,886
British pound sterling	**73,117**	140,837
Canadian dollar	**46,428**	43,820
Australian dollar	**42,585**	41,056
Hong Kong dollar	**8,604**	9,177
Total Futures Contracts and Total Return Swaps	**$ 524,704**	$ 822,066

Notes to Financial Statements (continued)

Non-U.S. currency exposures at June 30, 2018 and 2017:

2018

(Dollar Amounts in Thousands)

Currency	Equity	Fixed Income	Alternative Investments & Real Estate	Short-Term*	Currency Hedge	Total Fair Value
Euro	**$ 1,102,053**	**$ 80,144**	**$ 1,590,146**	**$ 6,907**	**$ (1,951,095)**	**$ 828,155**
British pound sterling	**885,533**	**8,291**	**209,662**	**1,158**	**(786,747)**	**317,897**
South Korean won	**161,072**	**-**	**-**	**1,143**	**107**	**162,322**
Taiwan new dollar	**147,945**	**-**	**-**	**438**	**(83)**	**148,300**
South African rand	**84,499**	**9,956**	**-**	**204**	**(383)**	**94,276**
Indian rupee	**70,039**	**-**	**-**	**(32)**	**-**	**70,007**
Brazil real	**54,967**	**2**	**-**	**849**	**(725)**	**55,093**
Danish krone	**126,043**	**275**	**-**	**2,537**	**(69,691)**	**59,164**
Hong Kong dollar	**251,845**	**-**	**-**	**338**	**(198,563)**	**53,620**
Other non-U.S. currencies	**2,398,858**	**135,132**	**7,358**	**20,525**	**(2,459,545)**	**102,328**
Total	**$ 5,282,854**	**$ 233,800**	**$ 1,807,166**	**$ 34,067**	**$ (5,466,725)**	**$ 1,891,162**

2017

(Dollar Amounts in Thousands)

Currency	Equity	Fixed Income	Alternative Investments & Real Estate	Short-Term*	Currency Hedge	Total Fair Value
Euro	$ 1,102,951	$ 59,764	$ 1,649,694	$ 25,326	$ (2,097,348)	$ 740,387
British pound sterling	868,409	11,755	158,464	31,441	(889,499)	180,570
South Korean won	159,331	-	-	(202)	91	159,220
Taiwan new dollar	147,406	-	-	87	(50)	147,443
South African rand	71,882	11,236	-	137	(1,517)	81,738
Indian rupee	72,416	-	-	13	-	72,429
Brazil real	63,652	3,170	-	(2,927)	427	64,322
Danish krone	132,302	259	-	1,776	(73,854)	60,483
Mexican peso	25,532	18,353	-	(2,085)	(4,282)	37,518
Other non-U.S. currencies	2,588,546	119,637	-	67,521	(2,996,129)	(220,425)
Total	$ 5,232,427	$ 224,174	$ 1,808,158	$ 121,087	$ (6,062,161)	$ 1,323,685

* Includes investment receivables and payables

Notes to Financial Statements (continued)

The following table summarizes the System's foreign exchange contracts by currency at June 30, 2018 and 2017:

2018
(Dollar Amounts in Thousands)

Currency	Buys	Unrealized Gain/(Loss)	Sells	Unrealized Gain/(Loss)
Euro	**$ 72,860**	**$ (24)**	**$ 2,023,955**	**$ 15,064**
Japanese yen	**9,165**	**(117)**	**1,095,908**	**13,532**
Swiss franc	**9,006**	**(69)**	**285,786**	**1,005**
Australian dollar	**3,606**	**(85)**	**360,830**	**8,780**
Swedish krona	**3,111**	**(92)**	**118,132**	**3,051**
Canadian dollar	**2,623**	**1**	**479,328**	**11,398**
Singapore dollar	**2,390**	**(46)**	**67,055**	**1,165**
Mexican peso	**1,373**	**65**	**54**	**-**
British pound sterling	**772**	**(6)**	**787,519**	**12,232**
New Zealand dollar	**-**	**-**	**23,392**	**553**
Other non-US currencies	**4,237**	**(35)**	**333,909**	**1,961**
Total	**$ 109,143**	**$ (408)**	**$ 5,575,868**	**$ 68,741**

2017
(Dollar Amounts in Thousands)

Currency	Buys	Unrealized Gain/(Loss)	Sells	Unrealized Gain/(Loss)
Euro	$ 78,103	$ 2,259	$ 2,174,510	$ (130,531)
Japanese yen	21,517	(324)	1,156,315	(137)
Australian dollar	12,038	454	437,390	(1,579)
British pound sterling	8,490	57	894,487	(32,333)
Canadian dollar	7,640	261	540,836	(4,998)
Swiss franc	4,276	138	373,082	(13,447)
Czech koruna	3,921	70	293	(3)
New Zealand dollar	3,272	121	31,661	(855)
Polish zloty	2,832	23	2,676	(123)
Mexican peso	2,540	(11)	6,822	31
Swedish krona	1,250	22	154,593	(7,316)
Turkish lira	897	5	882	(1)
Singapore dollar	611	5	73,296	(2,106)
Other non-US currencies	1,694	4	359,103	(4,881)
Total	$ 149,081	$ 3,084	$ 6,205,946	$ (198,279)

Notes to Financial Statements (continued)

Table 5 - Notional Amounts of Derivatives

The table presented below summarizes the aggregate notional or contractual amounts for the System's derivative financial instruments at June 30, 2018 and 2017.

	(Dollar Amounts in Thousands) 2018	2017
Futures contracts - long:		
Treasury futures	**$ 3,003,525**	$ 2,624,369
U.S. equity futures	**591,676**	856,999
Non-U.S. equity futures	**524,749**	755,187
Commodity futures	**355,009**	314,613
Non-U.S. bond futures	**163,823**	184,169
Futures contracts - short:		
Treasury futures	**39,132**	21,878
Non- U.S. bond futures	**33,706**	4,282
Foreign exchange forward and spot contracts, gross	**5,685,011**	6,355,027
Options - puts purchased	**2,132,285**	899,648
Swaps - total return type	**7,608,586**	8,638,151

5. Derivative and Other Similar Investments

The System enters into a variety of financial contracts, which include options and futures. The System also enters into foreign exchange positions, such as forward and spot contracts to obtain or hedge foreign currency exposure; swap agreements to gain exposure to certain sectors of the equity and fixed income markets; collateralized mortgage obligations (CMOs); other forward contracts; and U.S. Treasury STRIPS. The System is not a dealer, but an end-user of these instruments. The contracts are used primarily to enhance performance and/or reduce the volatility of the portfolio. The System is exposed to credit risk in the event of non-performance by counterparties to financial instruments. The System generally enters into transactions only with high quality institutions. Legal risk is mitigated through selection of executing brokers and review of all documentation. The System is exposed to market risk, the risk that future changes in market conditions may make an instrument less valuable. Exposure to market risk is managed in accordance with risk limits set by senior management, through buying or selling instruments or entering into offsetting positions.

The notional or contractual amounts of derivatives indicate the extent of the System's involvement in the various types and uses of derivative financial instruments and do not measure the System's exposure to credit or market

The fair values of derivative instruments outstanding at June 30, 2018 and 2017 are classified by type and by the changes in fair value of the derivative instrument in the table below.

(Dollar Amounts in Thousands)

	Change in Fair Value Gain/(Loss) FY 2018		**Fair Value at June 30, 2018**	
Investment Derivative Type	**Classification**	**Amount**	**Classification**	**Amount**
Futures	Investment income	**$ 20,952**	Receivable/(Payable)	**$ 20,952**
Total return type swaps	Investment income	**(108,341)**	Receivable/(Payable)	**(108,341)**
Foreign exchange contracts	Investment income	**68,333**	Receivable/(Payable)	**68,333**
Options	Investment income	**(19,224)**	Investment	**43,904**
Total		**$ (38,280)**		**$ 24,848**

	Change in Fair Value Gain/(Loss) FY 2017		Fair Value at June 30, 2017	
Investment Derivative Type	Classification	Amount	Classification	Amount
Futures	Investment income	$ (10,152)	Receivable/(Payable)	$ (10,152)
Total return type swaps	Investment income	(2,413)	Receivable/(Payable)	(2,413)
Foreign exchange contracts	Investment income	(195,195)	Receivable/(Payable)	(195,195)
Options	Investment income	(14,933)	Investment	12,009
Total		$ (222,693)		$ (195,751)

risks and do not necessarily represent amounts exchanged by the parties. The amounts exchanged are determined by reference to the notional amounts and the other terms of the derivatives.

Futures contracts are contracts in which the buyer agrees to purchase and the seller agrees to make delivery of a specific financial instrument at a predetermined date and price. Gains and losses on futures contracts are settled daily based on a notional (underlying) principal value and do not involve an actual transfer of the specific instrument. Futures contracts are standardized and are traded on exchanges. The exchange assumes the risk that a counterparty will not pay and generally requires margin payments to minimize such risk. In addition, the System enters into short sales, sales of securities it does not presently own, to neutralize the market risk of certain equity positions. Initial margin requirements on futures contracts and collateral for short sales are provided by investment securities pledged as collateral and by cash held by various brokers. Although the System has the right to access individual pledged securities, it must maintain the amount pledged by substituting other securities for those accessed. The value of securities pledged and the amount of cash held at June 30, 2018 and 2017 represent a restriction on the amount of assets available at year-end for other purposes.

Option contracts provide the option purchaser with the right, but not the obligation, to buy or sell the underlying security at a set price during a period or at a specified date. The option writer is obligated to buy or sell the underlying security if the option purchaser chooses to exercise the option. The System generally uses exchange listed currency, index, stock, and futures options. During FY 2018 and FY2017, the System purchased over-the-counter put options on the S&P 500 Index. The fair value of these option contracts of $43,904,000 and $12,009,000 at June 30, 2018 and 2017, respectively, is included in the Statements of Fiduciary Net Position.

Foreign exchange contracts involve an agreement to exchange the currency of one country for the currency of another country at an agreed-upon price and settlement date. To reduce the risk of counterparty non-performance, the investment managers generally enter into these contracts with institutions regarded as meeting high standards of credit worthiness. The contracts reported in Table 5 primarily include forwards. The $5,685,011,000 of foreign currency contracts outstanding at June 30, 2018 consist of "buy" contracts, which represent the U.S. dollar equivalents of commitments to purchase foreign currencies of $109,143,000 and "sell" contracts, which represent U.S. dollar equivalents of commitments to sell foreign currencies of $5,575,868,000. The $6,355,027,000 of foreign currency contracts outstanding at June 30, 2017 consist of "buy" contracts of $149,081,000 and "sell" contracts of $6,205,946,000. The unrealized gain/(loss) on contracts of $68,333,000 and $(195,195,000) at June 30, 2018 and 2017, respectively, is included in the Statements of Fiduciary Net Position and represents the fair value of the contracts.

Swap agreements provide for periodic payments at predetermined future dates between parties based on the change in value of underlying securities, indexes, or interest rates. During the years ended June 30, 2018 and 2017, the System entered into total return type swaps. Under the total return type swap arrangements, the System receives the net return of certain equity securities or indexes in exchange for a short-term rate minus a spread or a predetermined fixed charge. The payable on the total return type swap contracts of $(108,341,000) and $(2,413,000) at June 30, 2018 and 2017, respectively, is included in the Statements of Fiduciary Net Position and represents the fair value of the contracts. The contracts have varying maturity dates ranging from July 2, 2018 to June 4, 2019.

The System also invests in mortgage-backed securities (MBS) such as CMOs and MBS forwards to maximize yields. These securities are sensitive to prepayments of mortgages, which may result from a drop in interest rates. The MBS forwards are subject to credit risk in the event of nonperformance by counterparties. The fair value of CMOs at June 30, 2018 and 2017 is $548,512,000 and $517,910,000, respectively.

The System invests in U.S. Treasury STRIPS which essentially act as zero coupon bonds and are subject to market volatility from a rise or drop in interest rates.

Through certain collective trust funds, the System also indirectly holds various derivative financial instruments. The collective trust funds invest in futures and options thereon; forward foreign currency contracts; options; interest rate, currency, equity, index, and total return swaps; interest-only STRIPS; and CMOs, to enhance the performance and/or reduce the volatility of their portfolios.

6. Net Pension Liability of Participating Employers

The components of the net pension liability of the participating employers at June 30, 2018 were as follows:

(Dollar amounts in thousands)

Total pension liability	$	104,368,679
Less: Plan fiduciary net position		56,363,714
Employer net pension liability	$	48,004,965
Plan fiduciary net position as a percentage of the total pension liability		54.00%

Notes to Financial Statements (continued)

Actuarial Assumptions

The total pension liability at June 30, 2018 was determined by rolling forward the System's total pension liability at June 30, 2017 to June 30, 2018 using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 7.25%, includes inflation at 2.75%
- Salary growth - Effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Investments

The long-term expected rate of return on pension plan investments was determined using a building-block method 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 pension plan's policy in regard to the allocation of invested plan assets is established and may be amended by the Board. Plan assets are managed with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension.

For the year ended June 30, 2018, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 9.30%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. Table 6 shows the Board's adopted asset allocation policy and best estimates of geometric real rates of return for each major asset class at June 30, 2018.

Table 6 - Pension Asset Allocation

Pension - Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global public equity	20.0%	5.2%
Fixed income	36.0%	2.2%
Commodities	8.0%	3.2%
Absolute return	10.0%	3.5%
Risk parity	10.0%	3.9%
Infrastructure/MLPs	8.0%	5.2%
Real estate	10.0%	4.2%
Alternative investments	15.0%	6.7%
Cash	3.0%	0.4%
Financing (LIBOR)	(20.0%)	0.9%
	100.0%	

Discount Rate

The discount rate used to measure the total pension liability was 7.25%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate and that contributions from employers will be made at contractually required rates, actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability

Table 7 presents the net pension liability, calculated using the discount rate of 7.25%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower (6.25%) or 1-percentage point higher (8.25%) than the current rate:

Table 7 - Sensitivity of the Net Pension Liability

(Dollar amounts in thousands)

	1% Decrease 6.25%	Current Discount Rate 7.25%	1% Increase 8.25%
Net pension liability	$ 59,505,689	$ 48,004,965	$ 38,280,768

Notes to Financial Statements (continued)

7. Net Other Postemployment Benefits (OPEB) Liability of Participating Employers

The components of the net OPEB liability of the participating employers at June 30, 2018 for the Premium Assistance Program were as follows:

(Dollar amounts in thousands)

Total OPEB liability	$	2,207,683
Less: Plan fiduciary net position		122,734
Employer net OPEB liability	$	2,084,949
Plan fiduciary net position as a percentage of the total OPEB liability		5.56%

Postemployment Healthcare Plans

PSERS provides a Health Insurance Premium Assistance program funded by employer contributions which makes up the OPEB liability.

HOP is a PSERS sponsored voluntary health insurance program funded exclusively by the premiums paid by its participants for benefit coverage they elect. The HOP is not part of the OPEB liability.

Change in Actuarial Assumptions

The following change in assumption was used in the measurement of the Total OPEB Liability beginning June 30, 2018. The Investment Rate of Return was adjusted from 3.13% to 2.98% which represents the S&P 20 Year Municipal Bond Rate.

Actuarial Assumptions

The total OPEB liability at June 30, 2018 was determined by rolling forward the System's total OPEB liability at June 30, 2017 to June 30, 2018 using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 2.98% - S&P 20 Year Municipal Bond Rate.
- Salary growth - Effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.
- Premium Assistance reimbursement is capped at $1,200 per year.
- Assumed Healthcare cost trends were applied to retirees with less than $1,200 in premium assistance per year.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Investments

The Board has the responsibility to invest and reinvest available funds of the System in accordance with the guidelines and limitations set forth in the Code and other applicable state law. The Board accomplishes the daily management of the System's investments through investment advisors who act as agents for the System and through internal investment managers. Investments consist primarily of short term assets designed to protect the principal of plan assets. Table 8 reflects the Fund's OPEB asset allocation policy and best estimates of geometric real rates of return for each asset class at June 30, 2018.

Under the program, employer contribution rates for Premium Assistance are established to provide reserves in the Health Insurance Account that are sufficient for the payment of Premium Assistance benefits for each succeeding year.

For the year ended June 30, 2018, the annual money-weighted rate of return on OPEB plan investments, net of OPEB plan investment expense, was 1.63%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Table 8 - OPEB Asset Allocation

OPEB - Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Cash	5.9%	0.3%
US Core Fixed Income	92.8%	1.2%
Non-US Developed Fixed	1.3%	0.4%
	100.0%	

Discount Rate

The discount rate used to measure the total OPEB liability was 2.98%. The Health Insurance Premium Assistance Program is funded by employer contributions. Under the plan's funding method, the OPEB plan's fiduciary net position was not projected to be sufficient to meet projected future benefit payments. Therefore, the plan is considered a "pay-as-you-go" plan and a discount rate of 2.98%, which represents the S&P 20 year Municipal Bond Rate at June 30, 2018, was applied to all projected benefit payments to measure the total OPEB liability.

Notes to Financial Statements (continued)

Sensitivity of the Net OPEB Liability

Table 9 presents the net OPEB liability, calculated using the discount rate of 2.98%, as well as what the net OPEB liability would be if it were calculated using a discount rate that is 1-percentage point lower (1.98%) or 1-percentage point higher (3.98%) than the current rate:

Table 9 - Sensitivity of the Net OPEB Liability

(Dollar amounts in thousands)

	1% Decrease 1.98%	Current Discount Rate 2.98%	1% Increase 3.98%
Net OPEB liability	$ 2,371,118	$ 2,084,949	$ 1,847,409

Healthcare Cost Trend Rates

Healthcare cost trends were applied to retirees with less than $1,200 in Premium Assistance per year. Premium Assistance is capped at a maximum of $1,200 per year. At June 30, 2017, there were 93,380 members receiving the maximum amount allowed of $1,200 in Premium Assistance per year and their Premium Assistance benefits are not subject to future healthcare cost increases. At June 30, 2017, there were 1,077 members receiving less than the maximum amount allowed of $1,200 per year. The actual number of retirees receiving less than the $1,200 per year cap is a small percentage of the total population and has a minimal impact from Healthcare Cost Trends, as depicted in Table 10, which discloses the effect of a 1% increase or decrease in the rate.

Table 10 - Sensitivity of the Net OPEB Liability to Change in Healthcare Cost Trend Rates

(Dollar amounts in thousands)

	1% Decrease	Current Trend Rate	1% Increase
Net OPEB liability	$ 2,084,537	$ 2,084,949	$ 2,085,279

8. Pension Plan for Employees of the System

(A) SERS' Plan Description

As an employer, the System contributes to SERS, a cost-sharing multiple-employer defined benefit pension plan established by the Commonwealth to provide pension benefits for employees of state government and certain independent agencies. SERS is a component unit of the Commonwealth and is included in the Commonwealth's financial report as a pension trust fund.

Membership in SERS is mandatory for most state employees. SERS provides retirement, death, and disability benefits. Article II of the Commonwealth's Constitution assigns the authority to establish and amend the benefit provision of the plan to the General Assembly.

(B) SERS' Benefits Provided to Employees of the System

SERS member retirement benefits are generally determined by taking years of credited service times final average salary times 2% or 2.5%, depending on date of hire. The normal retirement age ranges from 50 - 65, depending on the membership class. According to the State Employees' Retirement Code (SERC), all obligations of SERS will be assumed by the Commonwealth should SERS terminate.

(C) Contributions to SERS

The contribution requirements of SERS plan members is mandated by Commonwealth statute. The member contribution rate for the majority of SERS' members is 6.25%. At December 31, 2017 and 2016 the blended employer contribution rates were 30.04% and 26.71%, respectively. Contributions to SERS from PSERS were $7.3 million for the year ended June 30, 2018.

(D) Proportionate Share of Pension Liabilities, Pension Expense, and Deferred Inflows of Resources and Deferred Outflows of Resources

At June 30, 2018, PSERS reported a liability of $60.2 million and $64.1 million at June 30, 2017, for its proportionate share of the net pension liability for the SERS plan in Other liabilities on the Statement of Fiduciary Net Position. The net pension liability was measured at December 31, 2017 and 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation at December 31, 2017 and 2016. PSERS' proportion of the net pension liability was calculated utilizing a projected-contribution method. At December 31, 2017, PSERS' proportion was 0.34849162 percent and 0.33288975 percent at December 31, 2016.

Notes to Financial Statements (continued)

PSERS recognized total pension expense of $9.4 million in FY 2018 on the Statement of Changes in Fiduciary Net Position. Of the $9.4 million of pension expense, $8.7 million was reflected in administrative expenses and $0.7 million was reflected in investment expenses. Deferred inflows of resources of $4.3 million and $2.4 million at June 30, 2018, and June 30, 2017, respectively, are reported in Other liabilities on the Statement of Fiduciary Net Position. Deferred outflows of resources of $12.4 million and $16.7 million at June 30, 2018, and June 30, 2017, respectively, are reported in Miscellaneous assets. Of the $12.4 million of deferred outflows of resources at June 30, 2018, PSERS recorded $3.5 million for contributions subsequent to the measurement date which will be recognized as a reduction of the net pension liability in the year ending June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources will be recognized in pension expense as follows:

Year Ending June 30:	(Dollar amounts in thousands)
2019	$ 2,571
2020	2,141
2021	382
2022	(743)
2023	116

(E) SERS' Pension Plan Fiduciary Net Position

Detailed information about SERS' fiduciary net position is available in SERS' Comprehensive Annual Financial Report which can be found on SERS' website at www.SERS.pa.gov.

9. Postemployment Healthcare Plan for Employees of the System

(A) REHP Plan Description

As an employer, the System participates in the Commonwealth's REHP. The REHP is a single employer plan and provides certain healthcare benefits to qualifying individuals meeting specified age and/or service requirements. The Commonwealth's Office of Administration (OA), in its sole discretion, determines available REHP benefits on an ongoing basis. The Pennsylvania Employees Benefit Trust Fund (PEBTF) is a third-party administrator for the REHP under the provisions of an Administration Agreement between OA and PEBTF.

(B) OPEB Benefits Provided to Employees of the System

The Commonwealth sponsors the REHP for eligible retirees and their dependents to receive subsidized health coverage for the retiree's lifetime.The REHP is provided as part of collective bargaining agreements with most Commonwealth labor unions. All policy decisions, types and levels of benefits for the REHP fall under the purview of the Commonwealth's Executive Board and the Secretary of Administration.

(C) Contributions to the REHP

Employer costs for retiree healthcare benefits are charged as a component of payroll expenditures, on a 'pay as you go' basis. All employing agencies contributed $362 per biweekly pay period for each current REHP eligible active employee during fiscal year ended June 30, 2017 to the REHP Trust. PSERS' contributions to the REHP for FY 2018 were $1.9 million. Plan members who retired after June 30, 2005 contribute to the plan based on a percentage of their final annual gross base salary at the time of retirement. Plan member contribution rates vary based on their REHP enrollment date.

(D) Proportionate Share of OPEB Liabilities, OPEB Expense and Deferred Inflows of Resources and Deferred Outflows of Resources

At June 30, 2018, PSERS reported a liability of $76.3 million for its proportionate share of net OPEB liability for the REHP plan in Other Liabilities on the Statement of Fiduciary Net Position. The current liability portion of the net OPEB liability is $2.0 million. The net OPEB liability was measured at June 30, 2017, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation at June 30, 2017. Since the REHP has insufficient assets to meet next year's projected benefit payments, the discount rate used to measure the total OPEB liability is based on the 20-year tax-exempt general obligation municipal bond index rate which was 3.58% on June 30, 2018. PSERS' proportion of the net OPEB liability was calculated utilizing a contribution method. At June 30, 2017, PSERS' proportion was 0.387675 percent.

Notes to Financial Statements (continued)

PSERS recognized total OPEB expense of $3.2 million in FY 2018 on the Statement of Changes in Fiduciary Net Position. Of the $3.2 million of OPEB expense, $3.0 million was reflected in administrative expenses and $0.2 million was reflected in investment expenses. Deferred outflows of resources of $1.9 million at June 30, 2018 are reported in Miscellaneous assets and represent contributions subsequent to the measurement date which will be recognized as a reduction of the net OPEB liability in the year ending June 30, 2019. Deferred inflows of resources of $7.0 million at June 30, 2018 are reported in Other liabilities on the Statement of Fiduciary Net Position and will be recognized in OPEB expense as follows:

Year Ending June 30:	(Dollar amounts in thousands)
2019	$ (1,492)
2020	(1,492)
2021	(1,492)
2022	(1,492)
2023	(1,048)

(E) REHP Plan Fiduciary Net Position

Detailed information about the REHP fiduciary net position is available in the Commonwealth's Comprehensive Annual Financial Report which can be found at www.budget.pa.gov.

10. Litigation and Contingencies

The System is subject to various threatened and pending lawsuits. These lawsuits include issues related to benefit calculations and eligibility. It is the opinion of management that the ultimate liability arising from such threatened and pending litigation will not have a material effect on the financial position of the System. The System is exposed to various other liabilities and risks related to fiduciary responsibilities of directors and officers.

11. Commitments

At June 30, 2018, PSERS had commitments for the future purchase of investments in alternative investments of $7.2 billion and real estate of $2.7 billion.

Required Supplementary Information

Schedule 1
Schedule of Changes in the Employer Net Pension Liability
(Unaudited – See Accompanying Auditor's Report)
(Dollar Amounts in Thousands)

	2018	2017	2016	2015	2014
Total pension liability					
Service cost	$ **1,890,906**	$ 1,873,844	$ 1,932,401	$ 1,926,539	$ 2,139,037
Interest	**7,334,484**	7,110,987	7,028,292	6,857,497	6,523,484
Changes of benefit terms	-	(449)	-	-	-
Differences between expected and actual experience	**(745,306)**	644,051	(348,429)	(223,437)	-
Changes of assumptions	-	-	2,236,118	-	-
Benefit payments	**(6,655,146)**	(6,473,579)	(6,360,325)	(6,220,601)	(6,053,505)
Net change in total pension liability	**1,824,938**	3,154,854	4,488,057	2,339,998	2,609,016
Total pension liability - beginning	**102,543,741**	99,388,887	94,900,830	92,560,832	89,951,816
Total pension liability - ending (a)	**$ 104,368,679**	$ 102,543,741	$ 99,388,887	$ 94,900,830	$ 92,560,832
Plan fiduciary net position					
Contributions - employer	$ **4,249,611**	$ 3,832,773	$ 3,189,510	$ 2,596,731	$ 1,992,084
Contributions - member	**1,026,375**	1,013,847	989,266	984,634	966,926
Net investment income	**4,714,158**	4,995,362	473,206	1,328,516	7,097,761
Benefit payments	**(6,655,146)**	(6,473,579)	(6,360,325)	(6,220,601)	(6,053,505)
Administrative expense	**(46,544)**	(45,127)	(45,118)	(42,331)	(38,712)
Net Change in plan fiduciary net position	**3,288,454**	3,323,276	(1,753,461)	(1,353,051)	3,964,554
Plan fiduciary net position - beginning	**53,155,336**	49,832,060	51,585,521	52,980,115	49,015,561
Effect of change in accounting principle	**(80,076)**	-	-	(41,543)	-
Plan fiduciary net position - beginning restated	**53,075,260**	-	-	52,938,572	-
Plan fiduciary net position - ending (b)	**$ 56,363,714**	$ 53,155,336	$ 49,832,060	$ 51,585,521	$ 52,980,115
Employer net pension liability - ending (a)-(b)	**$ 48,004,965**	$ 49,388,405	$ 49,556,827	$ 43,315,309	$ 39,580,717

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 2
Schedule of Employer Net Pension Liability
(Unaudited – See Accompanying Auditor's Report)
(Dollar Amounts in Thousands)

	2018	2017	2016	2015	2014
Total pension liability	**$ 104,368,679**	$ 102,543,741	$ 99,388,887	$ 94,900,830	$ 92,560,832
Less: Plan fiduciary net position	**56,363,714**	53,155,336	49,832,060	51,585,521	52,980,115
Employer net pension liability	**$ 48,004,965**	$ 49,388,405	$ 49,556,827	$ 43,315,309	$ 39,580,717
Plan fiduciary net position as a percentage of the total pension lability	**54.00%**	51.84%	50.14%	54.36%	57.24%
Covered payroll	**$ 13,466,526**	$ 13,313,900	$ 12,951,077	$ 12,866,473	$ 12,760,785
Employer net pension liability as a percentage of covered payroll	**356.48%**	370.95%	382.65%	336.65%	310.17%
Employer net pension liability as a percentage of covered payroll	**370.95%**	**370.95%**	382.65%	336.65%	310.17%

Schedule 3
Schedule of Employer Pension Contributions
(Unaudited – See Accompanying Auditor's Report)
(Dollar Amounts in Thousands)

	Pension				
	2018	2017	2016	2015	2014
Actuarially determined contribution	**$ 4,243,328**	$ 3,824,908	$ 3,540,304	$ 3,289,615	$ 2,965,715
Contributions in relation to the actuarially determined contribution[(1) (2)]	**4,243,328**	3,824,908	3,181,438	2,582,114	1,992,084
Contribution deficiency	**$ -**	$ -	$ 358,866	$ 707,501	$ 973,631
Covered payroll	**$ 13,466,526**	$ 13,313,900	$ 12,951,077	$ 12,866,473	$ 12,760,785
Contributions as a percentage of covered payroll	**31.51%**	28.73%	24.57%	20.07%	15.61%

(1) Amounts for 2015-2018 exclude purchase of service contributions.

(2) Same as contractually required contributions.

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 4
Schedule of Changes in the Employer Net OPEB Liability
(Unaudited – See Accompanying Auditor's Report)
(Dollar Amounts in Thousands)

	2018	2017
Total OPEB liability		
Service cost	**$ 37,809**	$ 42,038
Interest	**67,091**	61,404
Differences between expected and actual experience	**15,019**	-
Changes of assumptions	**38,456**	(110,610)
Benefit payments	**(111,847)**	(110,229)
Net change in total OPEB liability	**46,528**	(117,397)
Total OPEB liability - beginning	**2,161,155**	2,278,552
Total OPEB liability - ending (a)	**$ 2,207,683**	$ 2,161,155
Plan fiduciary net position		
Contributions - employer	**$ 111,986**	$ 110,985
Net investment income	**1,455**	663
Benefit payments	**(111,847)**	(110,229)
Administrative expense	**(2,603)**	(2,239)
Net Change in plan fiduciary net position	**(1,009)**	(820)
Plan fiduciary net position - beginning	**123,743**	124,563
Plan fiduciary net position - ending (b)	**$ 122,734**	$ 123,743
Employer net OPEB liability - ending (a) - (b)	**$ 2,084,949**	$ 2,037,412

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 5
Schedule of Employer Net OPEB Liability
(Unaudited – See Accompanying Auditor's Report)
(Dollar Amounts in Thousands)

	2018	2017	2016
Total OPEB liability	**$ 2,207,683**	$ 2,161,155	$ 2,278,552
Less: Plan fiduciary net position	**122,734**	123,743	124,563
Employer net OPEB liability	**$ 2,084,949**	$ 2,037,412	$ 2,153,989
Plan fiduciary net position as a percentage of the total OPEB liability	**5.56%**	5.73%	5.47%
Covered payroll	**$ 13,466,526**	$ 13,313,900	$ 12,951,077
Employer net OPEB liability as a percentage of covered payroll	**15.48%**	15.30%	16.63%

Schedule 6
Schedule of Employer Premium Assistance Contributions
(Unaudited – See Accompanying Auditor's Report)
(Dollar Amounts in Thousands)

OPEB

	2018	2017	2016
Actuarially determined contribution	**$ 134,607**	$ 125,694	$ 129,494
Contributions in relation to the actuarially determined contribution[1] [2]	**111,724**	110,558	112,557
Contribution deficiency	**$ 22,883**	$ 15,136	$ 16,937
Covered payroll	**$ 13,466,526**	$ 13,313,900	$ 12,951,077
Contributions as a percentage of covered payroll	**0.83%**	0.83%	0.87%

[1] Amounts exclude purchase of service contributions.

[2] Same as contractually required contributions.

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 7
Schedule of Investment Returns - Pension and OPEB
(Unaudited – See Accompanying Auditor's Report)

	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense- Pension	**9.30%**	10.15%	1.11%	3.08%	14.98%
Annual money-weighted rate of return, net of investment expense- OPEB	**1.63%**	0.90%	0.65%	0.30%	-

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditor's report and notes to the required supplementary information.

Notes to Required Supplementary Information for the Years Ended June 30, 2014 thru June 30, 2018

Pension

Changes in benefit terms

With the passage of Act 5 class T-E & T-F members are now permitted to elect a lump sum payment of member contributions upon retirement.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2017 & beginning June 30, 2018.

None.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2016

The Investment Rate of Return was adjusted from 7.50% to 7.25%. The inflation assumption was decreased from 3.00% to 2.75%.

Salary growth changed from an effective average of 5.50%, which was comprised of inflation of 3.00%, real wage growth and for merit or seniority increases of 2.50%, to an effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2000 Combined Healthy Annuitant Tables (male and female) with age set back 3 years for both males and females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale. For disabled annuitants the RP-2000 Combined Disabled Tables (male and female) with age set back 7 years for males and 3 years for females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Method and assumptions used in calculations of actuarially determined contributions

The actuarially determined contributions are calculated as of the June 30 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the June 30, 2017 actuarial valuation will be made during the fiscal year ending June 30, 2019. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 7.25%, includes inflation at 2.75% and the real rate of return 4.50%.
- Salary growth - Effective average of 5.00%, which reflects an allowance for inflation of 2.75%, real wage growth and merit or seniority of 2.25%.
- Benefit payments - no postretirement benefit increases assumed in the future.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

10-year reporting requirements

Required Supplementary Schedules 1-3 and 7, as related to pensions, are intended to show information for 10 years. Additional years will be displayed as they become available.

The Accounting Valuation

The GASB 67 accounting valuation can be found on PSERS' website at www.psers.pa.gov.

Notes to Required Supplementary Information for the Years Ended June 30, 2014 thru June 30, 2018

OPEB

Changes in benefit terms
None.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2018
The Discount Rate decreased from 3.13% to 2.98%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2017
The Discount Rate increased from 2.71% to 3.13%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2016
Salary growth changed from an effective average of 5.50%, which was comprised of inflation of 3.00%, real wage growth and for merit or seniority increases of 2.50%, to an effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2000 Combined Healthy Annuitant Tables (male and female) with age set back 3 years for both males and females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale. For disabled annuitants the RP-2000 Combined Disabled Tables (male and female) with age set back 7 years for males and 3 years for females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Method and assumptions used in calculations of actuarially determined contributions
The actuarially determined contributions are calculated as of the June 30 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the June 30, 2017 actuarial valuation will be made during the fiscal year ending June 30, 2019. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 2.98% - 20 year S&P Municipal Bond Rate.
- Salary growth - Effective average of 5.00%, which reflects an allowance for inflation of 2.75%, real wage growth and merit or seniority of 2.25%.
- Benefit payments - no postretirement benefit increases assumed in the future.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.
- Assumed Healthcare cost trends were applied to retirees with less than $1,200 in premium assistance per year.

10-year reporting requirements
Required Supplementary Schedules 4-7, as related to OPEB, are intended to show information for 10 years. Additional years will be displayed as they become available.

The Accounting Valuation
The GASB 74 accounting valuation can be found on PSERS' website at www.psers.pa.gov.

Supplementary Schedule 1
Schedule of Administrative and Investment Expenses
Year Ended June 30, 2018
(Dollar Amounts in Thousands)

	Administrative Expenses				
	Pension	Defined Contribution	Post-employment Healthcare (1)	Investment Expenses (2)	Total
Personnel costs:					
Salaries and wages	$ 15,776	$ 38	$ 1,119	$ 6,803	**$ 23,736**
Employee benefits	10,301	22	767	3,619	**14,709**
Total personnel costs	26,077	60	1,886	10,422	**38,445**
Operating costs:					
Investment managers' fees	-	-	-	447,028	**447,028**
Custodian fees	-	-	-	2,268	**2,268**
Specialized services	517	-	1,842	625	**2,984**
Third party administrator	-	-	27,857	-	**27,857**
Fitness program administrator	-	-	8,544	-	**8,544**
Healthcare project management	-	-	3,358	-	**3,358**
Rental of real estate, electricity	1,968	-	154	251	**2,373**
Consultant and legal fees	2,909	34	637	3,942	**7,522**
Treasury and other Commonwealth services	1,685	-	-	195	**1,880**
Postage	1,110	-	1	-	**1,111**
Contracted maintenance and repair services	1,533	-	-	8	**1,541**
Printing and office supplies	272	-	-	4	**276**
Rental of equipment and software	4,089	-	-	-	**4,089**
Travel and training	186	1	3	50	**240**
Telecommunications	473	-	-	45	**518**
Equipment (non-capital assets)	131	-	-	40	**171**
Subscriptions	597	-	4	1,873	**2,474**
Miscellaneous expenses	730	-	-	76	**806**
Total operating costs	16,200	35	42,400	456,405	**515,040**
Other charges:					
Depreciation	1,867	-	-	-	**1,867**
Total Administrative and Investment Expenses Before Pension & OPEB Expense	44,144	95	44,286	466,827	**555,352**
Pension expense (3)	1,344	-	96	700	**2,140**
OPEB expense (4)	1,056	-	74	185	**1,315**
Total Administrative and Investment Expenses	$ 46,544	$ 95	$ 44,456	$ 467,712	**$ 558,807**

(1) Administrative expenses for Postemployment Healthcare includes $2,603 related to Premium Assistance and $41,853 related to Healthcare Health Options Program for the fiscal year ended June 30, 2018.

(2) Includes investment expenses of $31 related to Postemployment Healthcare Premium Assistance and $28 related to Health Options Program for the fiscal year ended June 30, 2018 and does not include $4,547 in capitalized broker commissions for the fiscal year ended June 30, 2018.

(3) Total GASB 68 pension expense is $9.4 million and is reflected under Employee benefits and Pension expense. Employer contributions of $7.3 million are included as Employee benefits under Personnel costs and $2.1 million is reflected as Pension expense.

(4) Total GASB 75 OPEB expense is $3.2 million and is reflected under Employee benefits and OPEB expense. Employer contributions of $1.9 million are included as Employee benefits under Personnel costs and $1.3 million is reflected as OPEB expense.

Supplementary Schedule 2
Summary of Investment Expenses*
Year Ended June 30, 2018
(Dollar Amounts in Thousands)

	Investment Management			
	Base	**Performance**	**Other Expenses**	**Total**
External management:				
Domestic equity	$ 1,479	$ 572	$ -	**$ 2,051**
International equity	22,220	6,144	-	**28,364**
Fixed income	98,076	12,594	-	**110,670**
Real estate	49,640	-	-	**49,640**
Alternative investments	98,176	-	-	**98,176**
Absolute return	83,243	32,086	-	**115,329**
Commodities	5,534	4,449	-	**9,983**
Master limited partnership	7,887	987	-	**8,874**
Infrastructure	1,707	-	-	**1,707**
Risk parity	20,372	1,862	-	**22,234**
Total external management	388,334	58,694	-	**447,028**
Total internal management	-	-	14,474	**14,474**
Total investment management	388,334	58,694	14,474	**461,502**
Custodian fees	-	-	2,268	**2,268**
Consultant and legal fees	-	-	3,942	**3,942**
Total investment expenses	$ 388,334	$ 58,694	$ 20,684	**$ 467,712**

* External investment management fees classified on an asset allocation basis.

Supplementary Schedule 3
Schedule of Payments to Non-Investment Consultants
Year Ended June 30, 2018
(Dollar Amounts Greater than $100,000)

Consultant	Fees	Services Provided
Coresource, Inc.	$ 28,933,725	Postemployment healthcare benefits administration and claims adjudication
Optum, RX, Inc.	8,142,534	Administration of postemployment healthcare benefits and prescription drug plan
ViTech Systems Group, Inc.	5,168,750	Pension administration system services
The Segal Company	3,095,874	Actuarial services and consulting for HOP and prescription drug plan
Unisys Corporation	1,436,523	Server maintenance
Healthways, Inc.	807,462	Administration of the Silver Sneakers Fitness Program
OST, Inc.	502,341	Information technology training, testing and consulting services
BluePeak Advisors LLC	451,850	Pharmacy benefit consulting services
Conduent HR Services	284,320	Pension benefit actuarial services
Independent Pharmaceutical Consultants, Inc.	243,028	Pharmacy benefit consulting services

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COMMONWEALTH OF PENNSYLVANIA
PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

James H. Grossman Jr., CPA, CFA
Chief Investment Officer

November 7, 2018

Dear Members of The PSERS Board of Trustees:

It is a privilege to present to you the Investment Section of the Comprehensive Annual Financial Report for the fiscal year ended June 30, 2018.

Authority and Fiduciary Standard

The Board has the responsibility to invest funds of the System in accordance with guidelines and limitations set forth in the Code and other applicable state law. As fiduciaries, the members of the Board and professional staff must act solely in the interests of the members of the System and for the exclusive benefit of the System's members. In performance of their duties, the members of the Board and professional staff who have been delegated with investment authority shall be held to the Prudent Investor Standard.

The Prudent Investor Standard, as articulated in the Code, means "the exercise of that degree of judgment, skill, and care under the circumstances then prevailing which persons of prudence, discretion, and intelligence who are familiar with such matters exercise in the management of their own affairs not in regard to speculation, but in regard to the permanent disposition of the fund, considering the probable income to be derived therefrom as well as the probable safety of their capital."

The Prudent Investor Standard requires a trustee to act prudently and with caution, discretion, loyalty, and care but does not restrict the assets in which the Board can invest. Under the Prudent Investor Standard, which recognizes modern portfolio theory, the Board's investment and management decisions with respect to individual assets shall be considered in the context of the portfolio as a whole and as part of an overall investment strategy, and not in isolation. No specific investment or course of action, taken alone, shall be considered inherently prudent or imprudent. This Standard recognizes the trade-off between risk and return.

Policies and Objectives

The Board is responsible for the formulation of investment policies for the System. Professional staff is responsible for the implementation of those investment policies. The overall investment objectives of the System are as follows:

Return Objectives – the System has a return objective of meeting or exceeding the targeted actuarial rate of return of 7.25% over the long-term (i.e. 25 to 30 years). In addition, the Board has the following broad objectives:

1. The assets of the System shall be invested to maximize the returns for the level of risk taken, and
2. The System shall strive to achieve a net of fee return that exceeds the Policy Index (the Policy Index is a custom benchmark, based on the Board-established asset allocation structure that seeks to generate a return that meets the actuarial rate of return assumption).

Risk Objectives

1. The assets of the System shall be diversified to minimize the risk of losses at the portfolio level and within any one asset class, investment type, industry or sector distribution, maturity date, or geographic location. Failure to do so could impair the System's ability to achieve its funding and long-term investment goals and objectives; and,
2. The System's assets shall be invested so that the probability of investment losses (as measured by the Policy Index) in excess of 15% in any one year is no greater than 2.5% (or two standard deviations below the expected return).

To achieve these objectives, the Board meets during the second half of the calendar year to review the overall asset allocation plan and investment policies for the System. Implementation of investment policy decisions involves asset management, and is accomplished through the use of external investment management firms who act as agents for the System and through the use of internal investment managers. The Board also retains various investment consultants to assist with the formulation and implementation of investment policies.

Operations

The Board, via its Investment Committee, provides oversight of investment activities. The Investment Committee generally conducts six meetings per year and may meet more frequently as needed. Investment Office professionals, as well as external investment advisors, Investment Accounting professionals, and Internal Audit professionals, assist the Board in achieving investment objectives and monitoring compliance with investment policies. For the fiscal year ended June 30, 2018, Aon Hewitt Investment Consulting, Inc. (Aon Hewitt) served as the general investment consultant to assist the Board and professional staff in formalizing investment objectives, establishing an asset allocation plan, conducting investment advisor searches, reviewing performance, and commenting on compliance with investment policies. In addition, the Board retained Aksia, LLC as an absolute return consultant, Courtland Partners, Ltd. as a real estate consultant, and Hamilton Lane Advisors, L.L.C. as an alternative investment consultant. Alternative investments generally consist of investments in private debt, private equity, and venture capital limited partnerships. Investment Office professionals implement investment decisions within the guidelines established in the Investment Policy Statement, Objectives and Guidelines regarding asset allocation, manager selection, security selection, and other objectives directed by the Board.

The Board employs both external investment management firms and internal investment managers to manage the investment portfolio of the System. At fiscal year-end, 41 external public market investment management firms were managing $16.8 billion in assets of the System, $21.5 billion in assets were managed by the System's internal investment managers, and the remaining $17.6 billion in assets were managed by numerous alternative investment and real estate investment managers. The performance of each external investment management firm and each internal manager is monitored quarterly against a pre-established benchmark as well as the performance of the manager's peer group.

Asset Allocation

The Board reviews the long-term asset allocation targets of the System annually. The Board consults with its actuary, consultants, Investment Office professionals, and other sources of information it deems appropriate in formulating the asset allocation plan. The level of risk assumed by the System is largely determined by the Board's strategic asset allocation plan. The Board, in determining its long-term asset allocation, takes the following factors into consideration:

- The System's investment time horizon;
- The demographics of the plan participants and beneficiaries;
- The cash flow requirements of the System;
- The actuarial assumptions approved by the Board;
- The funded status of the System;
- The Board's willingness and ability to take risk, and
- The employers' (Commonwealth and school districts) financial strength.

In approving the asset allocation for the System that is recommended by Investment Office professionals and PSERS' general investment consultant, the Board considers capital market expectations for expected return, volatility, and asset class correlations as prepared by its general investment consultant. The current long-term, top-down asset allocation targets of the Board, based on targeted exposures, are discussed in the following paragraphs. Targeted exposures include positions obtained through derivative exposure with minimal capital requirements.

The current target allocation as of June 30, 2018, included an equity target allocation of 34.0% consisting of publicly traded stocks (20.0%) and private markets (14.0%). Specific publicly traded stock targets have been established for U.S. equity (7.8%) and non-U.S. equity (12.2%). Within the U.S. equity target, the portfolios are diversified between large and small capitalization investment mandates. The non-U.S. equity exposure includes both developed and emerging markets portfolios as well as large and small capitalization investment mandates. The non-U.S. developed markets equity exposure is 75% currency-hedged back to the U.S. Dollar. The primary vehicle used to invest funds in private markets is the limited partnership. The partnerships are established by individual management groups that have been selected by the System for the purpose of investing in and managing private equity, venture capital, and debt positions on behalf of PSERS and other limited partners.

The fixed income target allocation of 38.0% consisted of investment grade exposure (9.0%), credit-related exposure (11.0%), inflation-protected exposure (15.0%), and cash (3.0%). Investment grade exposure consisted of U.S. core fixed income (5.0%), U.S. Long-term Treasuries (3.0%), and non-U.S. developed market fixed income (1.0%). Credit-related exposure consisted of high yield (10.0%) and emerging markets fixed income (1.0%). Inflation protected exposure consisted of U.S. and Non-U.S. inflation-linked bonds. Within these categories, all sectors of the fixed income market are represented. The high yield exposure is primarily private debt. The cash allocation consisted of short-duration, high quality government, and investment grade securities. The Board, Investment Office professionals, and Aon Hewitt deemed it prudent to have an allocation to cash given the known and potential cash flow requirements of the System.

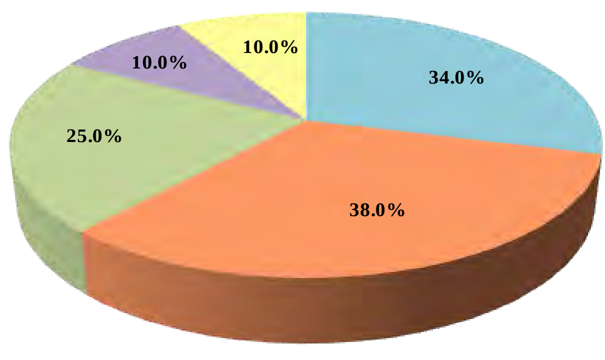
The real asset exposure of 25.0% consisted of real estate (11.0%), master limited partnerships (4.0%), infrastructure (2.0%), and commodities (8.0%, including 3% to gold). The real estate allocation consisted primarily of limited partnerships. The types of partnerships the System invests in include core, value-added, and opportunistic real estate limited partnerships. The commodities allocation consisted primarily of commodity futures, commodity swaps, and commodity-related publicly traded stocks. Commodities are included in the allocation for inflation protection and to diversify the System's total portfolio risk. The Master Limited Partnership (MLP) allocation consisted of publicly traded partnerships that own and operate assets such as pipelines, processing facilities, and storage facilities for natural gas, crude oil, and refined products that are a vital part of the U.S. energy infrastructure. MLPs are included in the allocation due to their attractive current yields, reasonable growth potential, and ability to diversify the System's total portfolio risk. The Infrastructure allocation targets stable, defensive investments primarily within the energy, power, water, and transportation sectors. Infrastructure plays a strategic role within the System by providing steady returns and cash yields, defensive growth, inflation protection, capital preservation, and diversification benefits. The infrastructure allocation consists primarily of publicly-traded companies.

The absolute return target allocation of 10.0% consisted primarily of investment managers retained by the System to generate positive returns over time that are independent of how the equity, fixed income, and commodity markets perform. Strategies implemented to achieve this target include, but are not limited to, global macro, event-driven, and relative value strategies such as insurance-linked securities and long/short credit. The absolute return program is included in the allocation to generate returns equal to or greater than 3-month LIBOR plus 3.5% with low volatility and low correlation to the public financial markets to diversify the System's total portfolio risk.

The risk parity allocation of 10.0% consisted primarily of global equities, global nominal bonds, global inflation-linked securities, and commodities in an allocation that balances risk across these asset classes with structurally offsetting biases to the primary drivers of asset class returns - growth and inflation. Risk parity provides diversification and liquidity to the System.

Leverage was utilized at the asset allocation level to provide additional exposure to diversifying asset classes. The System utilized 17.0% leverage through the use of derivative instruments that allow the System to gain asset class exposure with minimal margin requirements. Leverage is utilized in the fixed income, real asset, and risk parity allocations.

Asset Allocation as of June 30, 2018*



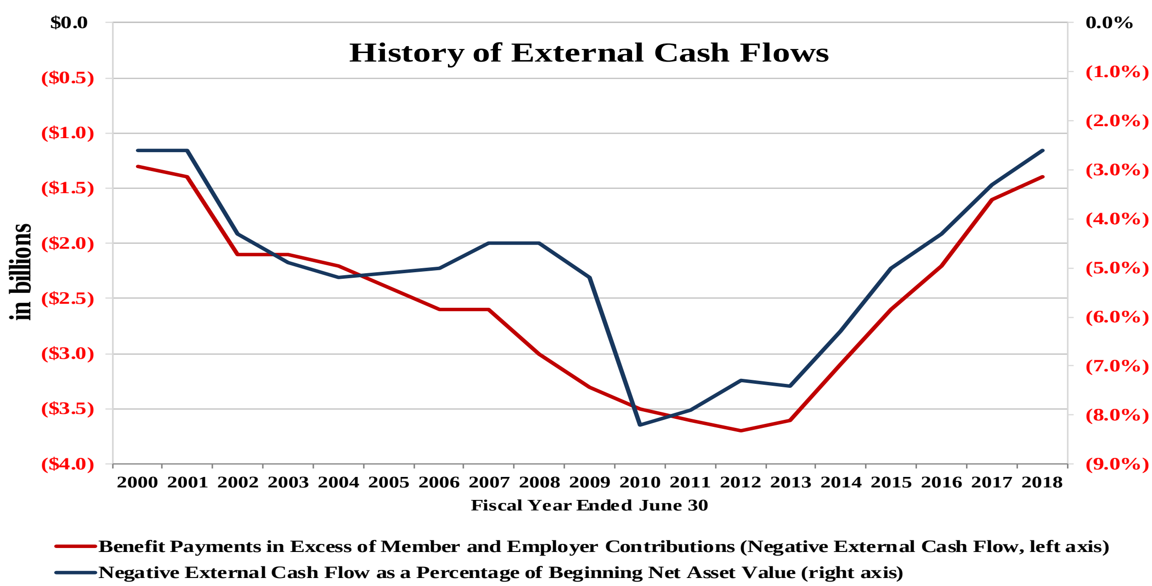
*Financing represents a negative 17% allocation and is not reflected in the pie chart.

The System also participates in a securities lending program administered by Deutsche Bank AG. This program is designed to provide incremental income to the System by lending publicly traded securities in the System's portfolio held by the System's custodial bank, The Bank of New York Mellon, to securities dealers in exchange for cash collateral, which can be reinvested to generate income. This program generated $12.5 million in net income during the year.

Liquidity and Asset Allocation

The System's risk profile is, in part, driven by its liquidity needs. Over the past nineteen fiscal years, the System has paid out $48 billion more in benefits than it has received in member and employer contributions (i.e., the System has experienced negative external cash flow). The average negative external cash flow was approximately $2.7 billion per year during this period. This annual funding deficiency has amounted to 5.44% or more of beginning net assets each year and represents the amount of investment return needed each year to make up the shortfall (i.e., if the System earned 3.0% in a given year with a 3.0% external cash flow shortfall, then the net assets of the System will be unchanged). The large negative annual external cash flow has improved significantly since fiscal year 2012 due to the implementation of Act 120 in 2010 (see the History of External Cash Flows chart below). Act 120 provided for increased employer contributions to the actuarially required contribution levels. The annual external cash flow shortfall has significantly improved due to the employers increasing contributions over each of the past eight years and making the actuarially required contributions over the last two fiscal years. However, external cash flow is still projected to remain negative and necessitates a larger liquidity position and lower risk profile than a retirement system that has smaller liquidity requirements.

Given the significant net external cash outflows, the Board has prudently reduced the risk profile of the System since the financial crisis in 2008. It has done so by decreasing its return dependence on the equity markets and increasing its risk exposures to asset classes that are less correlated to equity markets such as inflation-linked bonds, commodities, and absolute return. The goal of such an allocation is to generate the desired return profile with less volatility. While such an allocation will not provide for a large upside in returns, it is expected to minimize downside risks to the System's assets in the event of a large equity market drawdown as experienced during the financial crisis in 2008.



The Economy During The Past Fiscal Year

The U.S. Economy

The U.S. economy showed improvement this past fiscal year, driven by continued easy monetary conditions and optimism from individual and corporate tax cuts signed into law on December 22, 2017. Monetary conditions in the U.S. tightened this past year as the Federal Reserve increased interest rates three times and announced that it will be shrinking its $4.5 trillion balance sheet at an initial rate of $6 billion per month and culminating at a rate of $30 billon a month after 12 months. The Federal Funds target rate increased by 0.75% during the past fiscal year and has a range of 1.75% to 2.00% as of June 30, 2018. While interest rates increased, they continue to be historically low which have provided a low cost of borrowing so that broad economic conditions can continue to improve. The U.S. real Gross Domestic Product (GDP) increased year-over-year an average of 2.9% per quarter during the past fiscal year with a range of 2.2% to 4.1%. The official unemployment rate (otherwise known as the U3 unemployment rate) fell during the fiscal year from 4.4% as of June 2017 to 4.0% as of June 2018, approaching what the Fed would consider full employment. The more encompassing U6 unemployment rate, which measures not only people without work seeking full-time employment (U3 unemployment rate) but also counts "marginally attached workers and those working part-time for economic reasons" fell to levels last seen in 2001 at 7.8% as of fiscal year end, down from 8.5% at the end of the last fiscal year. However, the U.S. Labor Participation Rate (LPR), which measures the total labor force as a percentage of the working age population, remains depressed relative to historical levels. The LPR modestly increased from 62.8% in June 2017 to 62.9% in June 2018. The LPR was as high as 67.3% in March 2000. If the LPR were at 2000 levels today, the official unemployment rate would probably be significantly higher.

The U.S. economy showed increasing momentum during the fiscal year as measured by the manufacturing Institute of Supply Management (ISM) Purchasing Managers Index (PMI), an indicator of activity in the sector. During the fiscal year, the ISM PMI increased by 3.5 points to 60.2 at June 30, 2018, solidly in expansionary territory (a contraction/expansion is indicated whenever the index is below 50/above 50). Concurrently, U.S. consumer confidence, as measured by the Conference Board's Consumer Confidence Index increased from 117.3 at June 2017 to 127.1 at June 2018.

Inflation in the United States, after years of being below the Fed's target inflation rate of 2.0%, has shown steady year-over-year increases this past fiscal year as low interest rates, tight labor markets, and fiscal expansion in the form of tax cuts have started to have an impact. The past fiscal year saw inflation steadily grind higher, with the U.S. Core Consumer Price Index (CPI) increasing 2.9% year-over-year as of June 2018, an increase from the 1.6% year-over-year increase as of June 2017.

Select Non-U.S. Economies

Significant headwinds affecting many non-U.S. economies include political uncertainty in Europe, specifically the rise of populism as evidenced by the formation of a populist coalition government in Italy and Great Britain's planned exit from the European Union (Brexit), and protectionist policies as evidenced by President Donald Trump's administration pulling the U.S. from the Trans-Pacific Partnership, renegotiating the North American Free Trade Agreement with Canada and Mexico, and the imposition of billions of dollars of tariffs on goods imported into the U.S. from Europe and China. These uncertainties manifested themselves over the past couple of years and are worthy of watching during the next fiscal year, specifically the populist government in Italy and the trade policies of the U.S.

The Euro Area economy continues showing modest growth, similar to last year. As of the second quarter 2018, the Euro Area was growing at a 2.2% annual pace, slightly less than the 2.5% pace one year earlier. The unemployment rate continues to normalize and improved to 8.3% as of June 2018 from 9.2% a year earlier. Inflation, while at the European Central Bank (ECB) target of 2.0%, also significantly improved from a year earlier. Inflation during the past year was 2.0% versus 1.3% in the previous year and only 0.1% at June 2016. While modestly weakening during the past fiscal year, the Euro Area economy is still expanding as evidenced by the Markit Eurozone Manufacturing PMI print of 55.1 (a contraction/expansion is indicated whenever the index is below 50/above 50). Aggressive actions by the ECB have generated improvements in economic growth, employment, and inflation. The ECB has continued its policy of very accommodative overnight interest rates (negative 0.4%) but has slightly tightened monetary conditions by reducing monthly purchases of euro-denominated sovereign and corporate debt from $68 billion last year to $35 billion as of fiscal year end. In addition, the ECB has only committed to quantitative easing through September 2018 which, if ended, would result in a further tightening of monetary conditions.

Japan's economy has slowed during the past fiscal year. As of the second quarter 2018, Japan's real GDP increased by a year-over-year rate of 1.0% versus a 1.6% year-over-year rate as of June 2017. Japan's demographics are poor as the population ages which generally means that robust growth will be difficult to sustain over the long term. However, since the size of the working age population is decreasing, unemployment has been very low and was 2.4% in June 2018, down from 2.8% last year. The inflation rate in Japan was positive 0.7% over the past year, up from 0.4% at the end of last year. Japanese policy makers continue to aggressively attempt to stimulate their economy through a combination of low interest rates (the Bank of Japan policy rate is negative 0.1%), the purchase of higher risk assets by the Bank of Japan, coordinated diversification into higher risk assets by large public investors, and fiscal spending policies to encourage liquidity to move into riskier assets. Economic conditions continue improving as evidenced by the Nikkei Japan Manufacturing PMI increasing 0.6 points from 52.4 at June 2017 to 53.0 at June 2018 (a contraction/expansion is indicated whenever the index is below 50/above 50). Time will tell if the necessary economic and structural reforms can be put in place for a sustained period of economic prosperity.

China had robust growth compared to the other developed regions of the world. China's real GDP increased by 6.7% over the past year, slightly slower than the 6.9% pace for the year-ended June 2017. Inflation in China has remained relatively stable over the past year at 1.9% compared to 1.5% last year. Economic conditions have been relatively stable as evidenced by the China Manufacturing PMI decreasing 0.2 from 51.7 at June 2017 to 51.5 at June 2018 (a contraction/expansion is indicated whenever the index is below 50/above 50). As noted in previous years, China is continuing its struggle to rebalance its economy from an investment-oriented economy to a consumer-oriented economy, while maintaining political stability. The Chinese government is continuing to target economic growth of between 6.5% and 7.0% over the foreseeable future.

Investment Results

Aon Hewitt calculates the total investment return of the System as well as the performance of each external investment management firm and each internal investment manager retained by the Board to invest the System's assets. Performance is calculated using a time-weighted return methodology.

For the one-year period ended June 30, 2018, the System generated a total net of fee return of 9.27%. This return exceeded not only the actuarial required return of 7.25%, but also the total fund Policy Index return of 7.95% by 132 basis points. Annualized total net of fee returns for the three-, five-, and ten-year periods ended June 30, 2018 were 6.84%, 7.62% and 5.03%, respectively. The three-, and five-year returns ended June 30, 2018 exceeded the total fund Policy Index returns by 39, and 32 basis points, respectively.

Significant positive contributors to performance this past fiscal year included:

- U.S. Equity, as represented by the MSCI USA Investible Market Index (IMI), was up by 14.9% and Non-U.S. Equity, as represented by the MSCI All-Country World Indexed ex. U.S. IMI was up 7.8%. Returns in equities were driven by improving growth, improving company earnings, and tax cuts in the U.S.;
- Private Equity, as represented by the Burgiss Total Return Index, a customized benchmark of return from Burgiss Private iQ, was up 15.9%;
- Commodities, as represented by the Bloomberg Commodity Index, were up 7.4%, led by an increase in oil prices, and
- Real Estate, as represented by a blended benchmark consisting of the National Council of Real Estate Investment Fiduciaries (NCREIF) – Open End Diversified Core Equity (ODCE) Index and Burgiss Private iQ (for Value-Added Real Estate and Opportunistic Real Estate), was up 12.8%, as fundamentals were strong and capitalization rates fell driving real estate prices higher.

Significant detractors from performance this past fiscal year included:

- Investment grade bonds, as represented by the Bloomberg Barclays U.S. Aggregate Bond Index, were down 0.4% driven by increasing interest rates;
- U.S. Long-term Treasuries, as represented by the Bloomberg Barclays Capital U.S. Treasury Long Index, were down 0.1%, driven by increasing interest rates;
- Emerging Market bonds, as represented by the Bloomberg Barclays Emerging Market 10% Country Cap Index, were down 1.4%, driven primarily by weakening currencies vs. the U.S. dollar, and
- Master Limited Partnerships, as represented by the S&P MLP Index, were down 1.8%, driven by a confluence of issues both positive (increasing oil volumes) and negative (Federal Energy Regulatory Commission's proposed changes).

The fiscal year can be characterized as a risk-on period where taking concentrated equity risk, specifically U.S. equity risk, paid off as opposed to holding a diversified portfolio of assets. Improving economic fundamentals, improving global growth, low but rising inflation, U.S. tax cuts, and improving corporate profitability were all contributors to strong equity performance. Threats of trade sanctions imposed by the U.S. on imports and rising political uncertainty in Europe weighed on Non-U.S. equity performance vs. U.S. equity performance. Central banks globally remained generally very accommodative with the European Central Bank and the Bank of Japan keeping short-term interest rates in negative territory and the Federal Reserve Bank in the U.S. increasing interest rates at a measured pace.

Diversification is Undeniably Effective

Diversification into asset classes such as investment grade bonds, U.S. Long-term Treasuries, emerging market bonds, and Master Limited Partnerships were a drag on overall performance this past fiscal year. As noted by Ben Hunt in his newsletter Epsilon Theory, "Diversification isn't a pretty bird. Diversification doesn't make my heart skip a beat like a flock of goldfinches in July. Diversification, by design, is going to have winners and losers simultaneously. Diversification, by design, is never going to look pretty doing its job, because if your portfolio is all working in unison, swooping through the market in a beautiful glint of gold…well, you may be making money, but you sure aren't diversified. Diversification is undeniably effective…" Many investment professionals discuss diversification using terms such as standard deviation, correlation, and co-variance. However, at its most basic level, diversification is insurance against bad future outcomes. The System diversifies simply because it doesn't know how actual events in the future will transpire relative to what is priced into the market. Diversification is a very humble approach to investing. If an investor knew with certainty which asset class would perform best the next month, quarter, or year, the investor would simply invest in that one asset class. However, without such perfect foresight, the downside risk of such a strategy could be devastating. As Peter Bernstein, the late American financial historian, economist, and educator once wrote, "Diversification is the only rational deployment of our ignorance."

Accomplishments

The Investment Office received approval to increase its professional complement by seven during the past fiscal year. We were pleased to have all positions filled with very capable investment professionals by the fiscal year end with all but one starting prior to June 30, 2018. The complement increase allowed the Investment Office to support a large increase in assets managed in-house at a significantly lower cost than if those assets were managed externally. Over the past three years, the Investment Office increased the amount of assets managed internally from 30% to 38%, or by $6.9 billion. The estimated savings from managing those assets in-house is over $39 million per year.

Summary

This past fiscal year was solid with a net of fee return of 9.27%. However, pension plans like PSERS are built to generate long-term returns, so one good (or bad) year is not going to make (or break) the Fund. The System focuses on long-term returns. Since the first quarter after the Great Recession (9 years), the Fund's annualized net of fee return was 9.28%, comfortably above the actuarial assumed rate of return of 7.25%. Looking forward, even with cash rates having risen to around 2%, the System still needs to take prudent risks to achieve its long-term goal of 7.25%. The System has built a diversified allocation to allow it to collect risk premiums over the long-term. In the short-term, no one knows what will happen and the System should expect to go through years where returns are below 7.25%, perhaps significantly below. The System continues to believe the best way to achieve its long-term objectives is to maintain a very diversified portfolio which includes all asset classes available to the Fund, such as public and private equities, fixed income, real assets, risk parity and absolute return. In any given year, the System expects some assets to perform well, such as U.S. and non-U.S. equities did this past fiscal year, and some to not do as well, such as Master Limited Partnerships and emerging market bonds this past fiscal year. However, over the long run, the System expects each of its asset classes to generate a positive return commensurate with the risks taken. The future is uncertain, but we believe we are well positioned to accomplish our objectives.

James H. Grossman Jr., CPA, CFA
Chief Investment Officer

The following table provides the System's total time-weighted investment returns for each major asset class and the total portfolio, including, where applicable and available, respective benchmark indexes used by asset class and median performance by asset class:

	Annualized Total Returns (%) Net of Fees Ended June 30, 2018			
	1 Year	3 Years	5 Years	10 Years
PSERS Total Portfolio	9.27	6.84	7.62	5.03
Total Fund Policy Index	7.95	6.45	7.30	5.06
Median Public Defined Benefit Plan (DBP) Fund Universe (Aon Hewitt Database)	8.17	6.55	7.79	6.50
PSERS U.S. Equity Portfolios	14.02	12.19	13.51	10.21
U.S. Equity Policy Index (1)	14.93	11.65	13.34	10.17
PSERS Non-U.S. Equity Portfolios	10.44	7.55	9.91	6.10
Non-U.S. Equity Policy Index (2)	8.48	6.34	9.12	4.76
PSERS Fixed Income Portfolios (10)	6.42	6.07	5.97	7.21
Fixed Income Policy Index (3)	2.18	3.85	3.34	5.35
PSERS Commodity Portfolios (10)	5.36	0.11	-2.10	-5.76
Commodity Policy Index (4)	4.67	-2.22	-4.04	-7.90
PSERS Absolute Return Portfolios	4.85	3.34	4.20	5.01
Absolute Return Policy Index (5)	5.34	4.62	5.02	6.47
PSERS Risk Parity Portfolios (11)	6.76	4.60	6.02	N/A
Risk Parity Policy Index (6)	6.11	5.68	6.40	6.77
PSERS Master Limited Partnership (MLP) Portfolios	0.27	-5.31	0.73	N/A
Standard & Poor's MLP Index	-1.76	-6.32	-3.03	7.20
PSERS Real Estate (7) (10)	13.63	10.26	12.20	2.50
Blended Real Estate Index (8)	12.80	9.69	11.20	6.40
PSERS Alternative Investments (7)	16.26	11.21	10.03	7.48
Burgiss Median, Vintage Year Weighted Index (9)	15.87	11.47	12.41	8.71

1. MSCI USA Investable Market Index effective April 1, 2009; previously was the Dow Jones Wilshire 5000 Index.
2. MSCI ACWI ex USA IMI with DM 75% Hedged to USD (Net) Index effective April 1, 2016. From October 1, 2014 to March 31, 2016, the index was the MSCI ACWI ex USA IMI with DM 100% Hedged to USD (Net) Index. From July 1, 2008 to September 30, 2014, the index was the MSCI All Country World (ACW) ex. USA Investable Market Index. Before July 1, 2008, the MSCI ACW ex. U.S. Index was used. The benchmark was 30% hedged to the U.S. dollar from July 1, 2006 to March 31, 2009.
3. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (17.5%), Barclays Capital Global Aggregate GDP Weighted Dev x U.S. (Unhedged) Index (3.5%), Barclays Capital Emerging Mkt 10% Country Cap Index (7.0%), Barclays Capital U.S. Treasury Long Index (8.8%), Barclays Capital U.S. High Yield Index (21.1%), and Barclays Capital U.S. TIPS Index (42.1%) effective April 1, 2016. Prior to July 1, 2013, the blend was Barclays Capital U.S. Universal Index (24.7%), JP Morgan GBI EM Global Diversified Index (9.4%), Barclays Capital U.S. High Yield Index (28.2%), Barclays Capital Multiverse Index (14.1%), and Blended Policy (Net Levered TIPS) (23.6%).
4. Returns presented are a blend of the Bloomberg Commodity Gold Index (37.5%) and the Bloomberg Commodity Index (62.5%). On July 1, 2014, the indices names were changed from DJ/UBS to Bloomberg. The returns have been adjusted for leverage.
5. Three month LIBOR +3.50% effective July 1, 2014. Previously, it was based on the assumed actuarial rate of return for the Fund which was 8.0% from July 1, 2009 through June 30, 2011. The assumed rate changed to 7.5% on July 1, 2011 and was used as the Absolute Return Policy Index through June 30, 2014.
6. Effective July 1, 2014 returns presented are a blend of MSCI ACW Index ($Net) (50%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (55%); Bloomberg Commodity Index (Total Return) (15%); Bloomberg Gold Subindex (5%); and 3-Month LIBOR (-100%). The weights to these indices have varied in previous quarters. The returns have been adjusted for volatility.
7. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
8. Effective April 1, 2015, comprised of a blended benchmark consisting of the National Council of Real Estate Investment Fiduciaries (NCREIF) – Open End Diversified Core Equity (ODCE) Index and Burgiss Private iQ (for Value-Added Real Estate and Opportunistic Real Estate) reported on a one-quarter lag. For periods between April 1, 2010 and March 31, 2015, the benchmark was comprised of a blended benchmark of NCREIF-ODCE (core) and various private real estate benchmarks for Value-Added and Opportunistic (including NCREIF-Closed-End Value-Added (CEVA), NCREIF/Townsend and NCREIF-NPI) reported on a one-quarter lag. For all prior periods, the benchmark was comprised of a blended benchmark strategically split between public/private using various public REIT indices (FTSE EPRA/NAREIT Global Real Estate, Wilshire Real Estate Securities and Wilshire REIT) and NCREIF-NPI (for all non-core) reported on a one-quarter lag.
9. Burgiss Median, Vintage Year Weighted Index effective January 1, 2011. Previously, the Thompson ONE, Vintage Year Weighted Index was used. Returns reported on a one-quarter lag.
10. Returns are presented on an unleveraged basis for comparability purposes to the Policy Index.
11. Returns are presented on a volatility-adjusted basis for comparability purposes to the Policy Index.

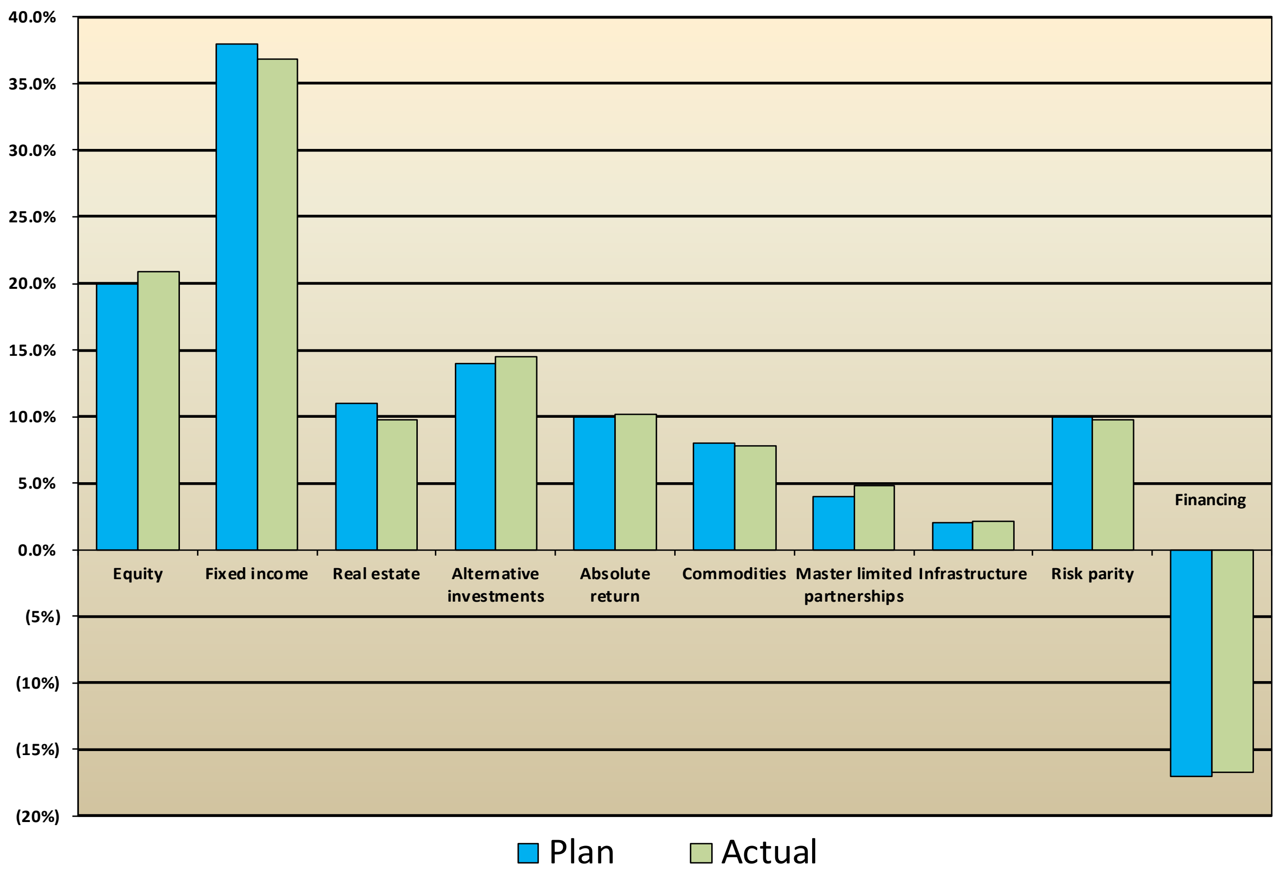
Portfolio Summary Statistics
Asset Allocation
As of June 30, 2018
(Dollar Amounts in Thousands)

Pension investments		**Fair Value**	**% Fair Value**
Common and preferred stock (Equity):			
Large and mid cap stocks	$	4,888,001	8.8
Small cap stocks		748,191	1.3
Emerging markets stocks		1,228,073	2.2
Total Non-U.S. equity		**6,864,265**	**12.3**
Large cap stocks		3,366,331	6.1
Mid, small, and microcap stocks		1,323,292	2.5
Total U.S. equity		**4,689,623**	**8.6**
Total Common and preferred stock - Asset Allocation Basis		**11,553,888**	**20.9**
Fixed income:			
Investment grade fixed income		8,025,795	14.6
High yield fixed income		5,024,047	9.0
Total U.S. Fixed income		**13,049,842**	**23.4**
Non-U.S. developed markets fixed income		4,755,377	8.5
Emerging markets fixed income		343,507	0.6
Total Non-U.S. Fixed income		**5,098,884**	**9.1**
Cash and cash equivalents		**2,371,532**	**4.3**
Total Fixed income - Asset Allocation Basis		**20,520,258**	**36.8**
Real estate		**5,431,068**	**9.8**
Alternative investments:			
Private equity		5,941,215	10.7
Special situations (Private debt)		1,102,225	2.0
Venture capital		1,050,797	1.8
Total Alternative investments - Asset Allocation Basis		**8,094,237**	**14.5**
Absolute return		**5,677,710**	**10.2**
Commodities		**4,316,005**	**7.8**
Master limited partnerships		**2,639,291**	**4.8**
Infrastructure		**1,143,607**	**2.1**
Risk parity		**5,438,446**	**9.8**
Financing		**(9,263,777)**	**(16.7)**
Total Pension investments - Asset Allocation Basis		**55,550,733**	**100.0**
Net Asset Allocation Adjustment*		15,659	
Pension investments per Statement of Fiduciary Net Position		**55,566,392**	
Postemployment Healthcare investments	**$**	**329,203**	**100.0**
Defined Contribution plan investments	**$**	**6,735**	**100.0**

* Includes reclassifications of certain investments between asset classes and investment receivables/payables to adjust the Statement of Fiduciary Net Position classification to the basis used to measure Asset Allocation. See the table and graph which follow.

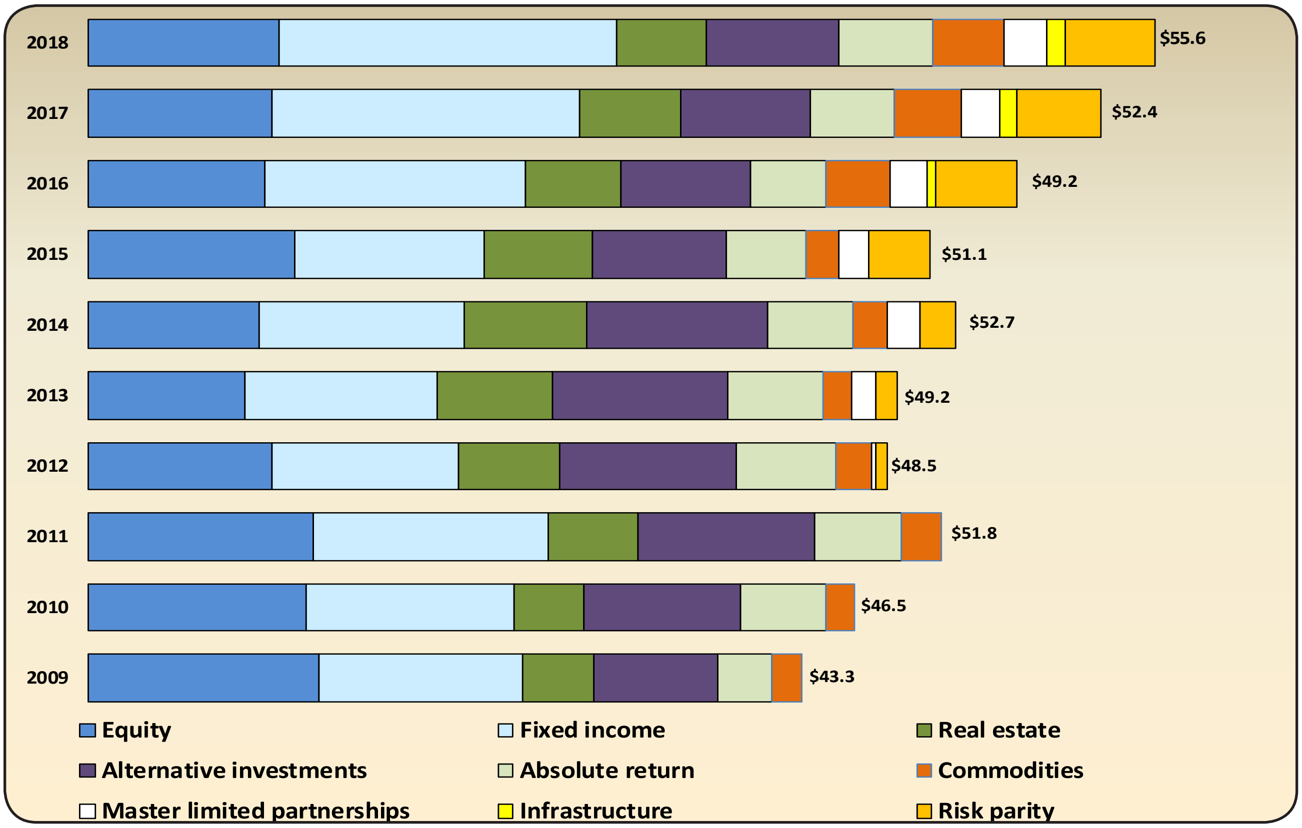
Comparison of Actual Portfolio Distribution to Asset Allocation Plan As of June 30, 2018

Asset Category	Plan	Actual
Common and preferred stock (Equity)	20.0%	20.9%
Fixed income	38.0	36.8
Real estate	11.0	9.8
Alternative investments	14.0	14.5
Absolute return	10.0	10.2
Commodities	8.0	7.8
Master limited partnerships	4.0	4.8
Infrastructure	2.0	2.1
Risk parity	10.0	9.8
Financing	(17.0)	(16.7)
Total	**100.0%**	**100.0%**



Portfolio Capital Distribution 10 Year Trend*

(Fair Value - Dollar Amounts in Billions)



*Financing is not reflected in the Portfolio Capital Distribution 10 Year Trend Chart.

The following lists of portfolio detail statistics present the ten largest holdings by descending order of fair value for the largest public market asset classes. Information on the complete holdings of the System can be downloaded from the PSERS website at www.psers.pa.gov.

Common and Preferred Stock - Non-U.S. Equity

10 Largest Holdings in Descending Order by Fair Value

As of June 30, 2018

(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
BlackRock Emerging Markets Alpha Advantage Fund Ltd.- Class D	319	$ 471,783
BlackRock Emerging Markets Alpha Advantage Fund Ltd.- Class P	35	155,998
iShares MSCI ETF	2,884	151,428
Taiwan Semiconductor Manufacturing Company	14,330	99,846
Nestle SA	767	59,386
The Children’s Investment Fund LP	50,000	57,725
Samsung Electronics Co., Ltd	1,146	47,984
SAP SE	408	47,148
Rio Tinto PLC	779	43,220
Naspers Ltd.	163	41,324
Total of 10 Largest Holdings		**$ 1,175,842**

Common and Preferred Stock - U.S. Equity

10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2018
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
SPDR Trust Unit Series 1	1,800	$ 488,420
Enterprise Products Partners, L.P.	12,068	333,913
Energy Transfer Partners, L.P.	12,644	240,750
Energy Transfer Equity, L.P.	13,278	229,053
Williams Partners, L.P.	5,213	211,609
Altaba Inc.	2,860	209,414
Security Capital Preferred Growth	13,039	190,767
Plains All American Pipeline, L.P.	7,599	179,640
MPLX, L.P.	150	175,694
Magellan Midstream Partners, L.P.	1,731	119,556
Total of 10 Largest Holdings		**$ 2,378,816**

Fixed Income

10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2018
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
Bridgewater International Inflation-Linked Bond Fund	389	$ 1,461,226
BlackRock US Extended Core Global Alpha Bond Fund Ltd.	448	945,196
Bridgewater Pure Alpha Fund II Ltd.	138	631,025
PIMCO Multi-Sector Strategy Fund Ltd.	346	415,411
Bain Capital Credit Managed Account, L.P.	N/A	387,595
TAO Partners Parallel Fund, L.P.	N/A	334,088
Garda Inflation Opportunity Fund Class B	323	305,766
iShares TIPS Bond ETF	2,625	296,306
Bridgewater Short Term Investment Fund	200	288,996
Brigade Structured Credit Offshore Fund Ltd.	200	273,357
Total of 10 Largest Holdings		**$ 5,338,966**

Absolute Return
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2018
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
Bridgewater Pure Alpha Fund II, Ltd.	240	$ 961,032
Capula Global Relative Value Fund, Ltd.	3,000	439,359
Garda Fixed Income Relative Value Opportunity Fund Ltd.	291	413,025
Capula Tail Risk Fund Ltd.	4,466	359,205
Aeolus Property Catastrophe Keystone PF Fund, L.P.	367	340,918
Brigade Leveraged Capital Structures Offshore Ltd.	170	316,558
BlackRock Capital Structure Investments Offshore Fund Ltd.	198	302,997
PIMCO Global Credit Opportunity Offshore Fund Ltd.	280	295,730
Oceanwood Opportunities Fund	1,998	242,615
PIMCO Multi-Asset Volatility Offshore Fund	235	231,584
Total of 10 Largest Holdings		**$ 3,903,023**

Postemployment Healthcare Investments
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2018
(Dollar Amounts in Thousands)

Description	Maturity Date	Interest Rate (%)	Par Value	Fair Value
Wilmington US Government MM	N/A	Various	$ 116,418	$ 116,418
PSERS Short-Term Investment Fund	Various	Various	96,659	96,659
Dell Equipment Financial	06/24/19	2.45%	5,000	5,000
Fifth Third Auto Trust	04/15/20	1.59%	4,225	4,212
World Omni Auto	12/15/20	1.49%	3,820	3,807
Valet 2018	07/22/19	2.42%	3,750	3,750
Ford Credit Floor Plan	08/15/20	1.77%	3,435	3,432
Ford Credit Auto Lease	05/15/19	2.30%	3,076	3,076
CarMax Auto Owner Trust	05/15/19	2.30%	2,875	2,875
GM Financial	03/16/20	1.51%	2,636	2,629
Total of 10 Largest Holdings				**$ 241,858**

Comparison of Investment Activity Income
Fiscal Years Ended June 30, 2018 and 2017
(Dollar Amounts in Thousands)

Investment Activity	2018	2017
Net appreciation in fair value of investments	**$ 3,710,567**	$ 4,204,248
Short-term	**88,600**	69,422
Fixed income	**193,759**	156,837
Common and preferred stock	**321,547**	295,427
Collective trust funds	**5,166**	3,379
Real estate	**367,526**	236,650
Alternative investments	**485,718**	493,426
Total investment activity income	**$ 5,172,883**	$ 5,459,389

Brokers' fees on equity investment transactions for the fiscal year ended June 30, 2018 were $4.5 million. The System has commission recapture contracts with several brokers. These contracts generally stipulate that the brokers rebate a percentage of commissions earned on investment transactions directly to the System. During the fiscal year ended June 30, 2018, the System earned $45,000 from the commissions recapture program. A list of the brokers receiving fees in excess of $100,000 during the fiscal year follows:

Summary Schedule of Brokers' Fees
(Cumulative Fiscal Year Amounts Exceeding $100,000)
Fiscal Year Ended June 30, 2018

Broker Name	Fees Paid	Broker Name	Fees Paid
Citigroup Inc.	$ 350,763	Macquarie Bank Ltd	$ 154,317
Instinet Corporation	334,699	FBR Capital Markets	144,911
UBS Securities	227,825	FBN Securities	137,692
Fimat USA	222,426	Credit Suisse	130,680
Liquidnet Inc.	219,310	Bloomberg Tradebook LLC	119,233
Morgan Stanley & Company	185,179	Jones Trading	117,050
Daiwa Securities	166,018	JP Morgan Chase & Company	114,980
Bank of America Merrill Lynch	156,424		

Professional Consultants
External Investment Advisors
As of June 30, 2018

Absolute Return Managers
- Aeolus Capital Management, Ltd.
- BlackRock Financial Management, Inc.
- Bridgewater Associates, Inc.
- Brigade Capital Management
- Capula Investment Management, LLP
- Caspian Capital, LP
- Garda Asset Management, LLC
- HS Group Sponsor Fund II, Ltd.
- Independence Reinsurance Partners, LP
- Nephila Capital, Ltd.
- Nimbus Weather Fund
- Oceanwood Capital Management, Ltd.
- One William Street Capital Management, LP
- Pacific Investment Management Company
- Perry Capital, LLC
- Sciens Aviation Special Opportunities Investment Fund II, III & IV, LP
- Two Sigma Risk Premia Enhanced Fund
- Venor Capital Offshore Fund

Publicly-Traded Real Estate Securities Manager
- Security Capital Research & Management, Inc.

Non-U.S. Equity Managers
- Acadian Asset Management, Inc.
- Baillie Gifford Overseas, Ltd.
- BlackRock Financial Management, Inc.
- Marathon Asset Management, LLP
- Oberweis Asset Management, Inc.
- QS Investors, LLC
- The Children's Investment Fund
- Wasatch Advisors, Inc.

Commodity Managers
- Gresham Investment Management, LLC
- Pacific Investment Management Company
- Wellington Management Company, LLP

U.S. Core Plus Fixed Income Managers
- BlackRock Financial Management, Inc.
- Pugh Capital Management, Inc.
- SEI Investment Management Corporation

High Yield Fixed Income Managers
- Apollo Management International, LLP
- Avenue Capital Group
- BlackRock Financial Management, Inc.
- Brigade Capital Management
- Cerberus Institutional Partners, LP
- Galton Onshore Mortgage Recovery Fund III & IV, LP
- Haymarket Financial, LLP
- Intermediate Capital Group, PLC
- International Infrastructure Finance Company Fund, LP
- Latitude Real Estate Investors, Inc.
- LBC Credit Partners
- Mariner Investment Group, LLC
- Oaktree Capital Management, LP
- Park Square Capital, LLP
- Radcliffe Capital Management, LP
- Sankaty Advisors, LLC
- Summit Partners
- The Carlyle Group
- TOP NPL (A), LP
- TPG Partners, LP
- Varde Partners

Non-U.S. Developed Markets Fixed Income Manager
- AllianceBernstein, LP

Emerging Markets Debt Manager
- Franklin Templeton Investments

Multi-Sector Fixed Income Manager
- Pacific Investment Management Company

Global Treasury Inflation - Protected Securities Managers
- Bridgewater Associates, Inc.
- Garda Asset Management, LLC

Passive Currency Hedging Overlay Program Manager
- Pareto Investment Management, Ltd.

Risk Parity Managers
- BlackRock Financial Management, Inc.
- Bridgewater Associates, Inc.
- D.E. Shaw Investment Management, LLC

Master Limited Partnership Advisors
- Atlantic Trust Private Wealth Management
- Harvest Fund Advisors, LLC
- Salient Capital Advisors, LLC

Real Estate Advisors
- Charter Oak Advisors, Inc.
- GF Management, Inc.
- Keystone Orlando LLC
- Keystone Parkland LLC
- Keystone Miramar LLC
- L&B Realty Advisors, LLP

Real Estate Partnerships
- AG Core Plus Realty Fund III, & VI LP
- Almanac Realty Securities V, VI, & VII LP

Professional Consultants (Continued)

- Apollo Real Estate Finance Corp.
- Ares European Real Estate Fund III, LP
- Ares U.S. Real Estate Fund VII, LP
- Avenue Real Estate Fund, LP
- Bell Institutional Fund IV, V, & VI, LP
- BlackRock Asia Property Fund III, LP
- BlackRock Europe Property Fund III, LP
- Blackstone Real Estate Debt Strategies II, & III LP
- Blackstone Real Estate Partners V, VI, & VII, LP
- Blackstone Real Estate Partners Europe III & IV, LP
- BPG/PSERS Co-Investment Fund, LP
- Brookfield Strategic Real Estate Partners I & II, LP
- Cabot Industrial Core Fund, L.P.
- Cabot Industrial Value Fund IV LP
- Carlyle Realty Partners III, IV, V, VI, & VII LP
- Centerline High Yield CMBS III - Loan/Stock
- DRA Growth and Income Fund VI, VII, VIII, & IX LLC
- Exeter Core Industrial Club Fund II, LP
- Exeter Industrial Value Fund II, III & IV, LP
- Fortress Investment Fund I, IV, & V, LP
- JP Morgan Strategic Property Fund
- LAI Real Estate Investors, LLC
- Latitude Management Real Estate Capital III, Inc.
- Legg Mason Real Estate Capital I & II, Inc.
- LEM Multifamily Senior Equity IV, LP
- LEM Real Estate High Yield Debt and Preferred Equity Fund III, LP
- LEM Real Estate Mezzanine Fund II, LP
- Paramount Group, Inc.
- Pramerica Real Estate Capital VI, LP
- PRISA
- Prudential Agricultural Group
- RCG Longview Debt Fund IV, V, & VI, LP
- RCG Longview Equity Fund, LP
- Senior Housing Partnership Fund IV, & V LP
- Silverpeak Legacy Partners I, LP
- Stockbridge Real Estate Fund II, & III, LP
- Strategic Partners II, III, & IV RE, LP
- UBS (US) Trumbull Property Fund, LP

Farmland Advisor

- Prudential Agricultural Group

Private Equity/Venture Capital Partnerships

- ABS Capital Partners II, LP
- Actis Emerging Markets 3, LP
- Actis Global 4, LP
- Adams Capital Management, LP
- Aisling Capital Partners II, III & IV, LP
- Allegheny New Mountain Partners, LP
- Apax Europe VII, LP
- Bain Capital Asia Fund II & III, LP
- Bain Capital Fund XI, LP
- Baring Asia Private Equity Fund III, IV, V, & VI, LP
- Blue Point Capital Partners I, II, & III, LP
- Bridgepoint Capital II, LP
- Bridgepoint Europe I, II, III, IV & V, LP
- Capital International Private Equity Fund V & VI, LP
- Catterton Growth Partners I, II & III, LP
- Catterton Partners V, VI, & VII, LP
- Co-Investment Fund 2000, LP
- Co-Investment Fund II, LP
- Coller International Partners VI & VII, LP
- Crestview Partners I & II, LP
- Cross Atlantic Technology Fund I & II, LP
- CVC Capital Partners Asia Pacific III, LP
- CVC European Equity Partners V, LP
- DCPF VI Oil and Gas Co-Investment Fund, LP
- Denham Commodity Partners VI, LP
- Equistone Partners Europe Fund VE, LP
- Evergreen Pacific Partners I & II, LP
- First Reserve Fund XI & XII, LP
- Goldpoint Partners Co-Investment Fund V, LP
- HgCapital 7, LP
- HGGC Fund II
- Incline Equity Partners III, LP
- Irving Place Capital Partners II & III, LP
- KBL Healthcare Ventures, LP
- Landmark Equity Partners V, XIII, & XIV, LP
- Lexington Capital Partners I, LP
- Lindsay, Goldberg & Bessemer, LP
- LLR Equity Partners I, II, III, & IV, LP
- Milestone Partners II, III, & IV, LP
- Morgan Stanley Dean Witter Capital Partners IV, LP
- North Haven Private Equity Asia Fund IV, LP
- NEPA Venture Fund II, LP
- New Mountain Partners I & III, LP
- New York Life Capital Partners I, II, III, & IV, LP
- NGP Natural Resources X, & XI, LP
- Novitas Capital I & II, LP
- Odyssey Investment Partners, LLC
- Orchid Asia V, LP
- PAI Europe IV & V, LP
- Palladium Equity Partners II-A & IV, LP
- Partners Group Secondary 2008, 2011 & 2015, LP
- Permira IV, LP
- Perseus-Soros Bio-Pharmaceutical Fund, LP
- Platinum Equity Capital Partners I, II, III, & IV, LP
- PNC Equity Partners I & II, LP
- Psilos Group Partners III, LP
- Quaker BioVentures I & II, LP
- SCP Private Equity Partners I & II, LP
- StarVest Partners I & II, LP
- StepStone International Investors III, LP
- Sterling Capital Partners, LP
- Sterling Venture Partners, LP
- Strategic Partners II, III, III-B, & III-VC, IV, IV-VC, V, VI, & VII, LP
- Summit Partners Growth Equity Fund VIII & IX, LP
- Summit Partners Venture Capital Fund III & IV, LP

Professional Consultants (Continued)

- Tenaya Capital IV-P , V-P, & VI, LP
- The Energy & Minerals Group
- The Fifth Cinven Fund No. 1, LP
- The Fourth Cinven Fund
- The Sixth Cinven Fund
- Trilantic Capital Partners IV, LP
- Trilantic Capital Partners V (North America), LP

Special Situations (Private Debt) Partnerships

- Apollo Investment Fund VIII, LP
- Avenue Asia Special Situations Fund II, III, & IV, LP
- Avenue Special Situations Fund IV, V, & VI, LP
- Cerberus Institutional Partners, II, III, IV, V & VI, LP
- Clearlake Capital Partners IV, LP
- Gleacher Mezzanine Fund I & II
- Gold Hill Venture Lending, LP
- GSC Recovery III, LP
- New York Life Investment Management Mezzanine Partners I & II, LP
- OCM Opportunities Fund VII & VII-B, LP
- Searchlight Capital II, LP
- Venor Special Situations Fund II, LP
- Versa Capital Fund I, II & III, LP
- Windjammer Senior Equity Fund III & IV, LP

Alternative Investment Consultant

- Hamilton Lane Advisors LLC

Custodian Bank

- The Bank of New York Mellon Corporation

Securities Lending Agent

- Deutsche Bank AG

Absolute Return Consultant

- Aksia, LLC

Investment Accounting Application Service Provider

- STP Investment Services, LLC

Investment Evaluator and General Investment Consultant

- Aon Hewitt Investment Consulting, Inc.

Proxy Voting Agent

- Glass, Lewis & Co., LLC

Real Estate Investment Consultant

- Courtland Partners, Ltd.

ACTUARIAL SECTION

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Buck 500 Plaza Drive
Secaucus, New Jersey 07096-1533

May 23, 2018

Board of Trustees
Pennsylvania Public School Employees' Retirement System
5 North 5th Street
Harrisburg, Pennsylvania 17101-1905

Re: Actuary's Certification Letter

Members of the Board:

An actuarial valuation of the Pennsylvania Public School Employees' Retirement System (Retirement System or PSERS) is performed annually to measure the ongoing costs and progress towards the funding goals of the Retirement System over time. The most recent actuarial valuation was completed as of June 30, 2017. The financing objective of the Retirement System is to:

- Fully fund all current costs based on the normal contribution rate determined under the funding method, and
- Liquidate the unfunded accrued liability based on level percentage of pay amortization schedules required by the Public School Employees' Retirement Code, 24 Pa. C.S. §8101 et. seq. (Retirement Code) as amended by Act 2010-120, which requires amortization over 24 years of the unfunded accrued liability as of June 30, 2010, and of each change in the unfunded accrued liability due to actuarial experience after the June 30, 2010 valuation. Any increases in the unfunded liability arising from legislation enacted after June 30, 2010, are to be amortized over 10 years.

The contribution policy of the Retirement System is set by statute. The Commonwealth's General Assembly has the authority to amend the benefit terms and funding policy for the System by passing bills in the Senate and House of Representatives and sending them to the Governor for approval.

Based on the June 30, 2017 actuarial valuation, a total contribution rate of 33.43% (32.60% Pension plus 0.83% Premium Assistance) of payroll payable by employers for FY2018/2019, when taken together with the contributions payable by the members, current assets, and expected future asset returns, is sufficient to achieve the financing objective. The Act 120 minimum employer pension rate is the employer pension normal cost rate of 7.59%.

As required by the Retirement Code, the valuation takes into account all of the promised benefits to which members are entitled as of June 30, 2017, including pension and survivor benefits, as the basis for the contribution rate for fiscal year 2018/2019.

Act 5 of 2017 was passed in June of 2017. Under this legislation, effective immediately, Class TE and Class TF members became eligible to elect a cost neutral Option 4 lump sum distribution of all or a portion of the member's accumulated contributions at retirement.

Act 5 of 2017 restricted the actuarial value of assets to be no less than 70% and no more than 130% of the market value of assets. This modification had no effect on the System's unfunded accrued liability developed in the June 30, 2017 valuation.

There were no other legislative or administrative changes made to the benefits payable by PSERS since the prior valuation.

PSERS staff updated the data as of June 30, 2017 for 5,089 retired members who elected a Joint and Survivor optional form of payment at retirement and whose contingent beneficiaries have subsequently predeceased the members.

Buck

As required under Section 8502(j) of the Retirement Code, experience studies are performed for PSERS every five years, the most recent having been made as of June 30, 2015. This valuation was prepared on the basis of the demographic and economic assumptions that were recommended on the basis of the July 1, 2010 – June 30, 2015 Experience Review and approved by the Board of Trustees at its June 10, 2016 meeting, which includes a 7.25% per annum rate of investment return.

In our opinion, the actuarial assumptions used for funding purposes are reasonably related to the experience of the System and to reasonable long-term expectations. These assumptions were selected in accordance with applicable Actuarial Standards of Practice published by the Actuarial Standards Board.

The actuarial assumptions and methods used by PSERS for financial reporting meet the requirements set forth in Governmental Accounting Standards Board (GASB) Statement No. 67. The Health Insurance funding provisions of the Retirement Code differ from the GASB 74 disclosure requirements. For funding purposes, the actuarial liability equals the assets in the health insurance account, and a contribution is determined to provide for solvency of the account through the third fiscal year following the valuation date. For GASB 74 purposes the Health Insurance actuarial liability and normal cost requirements are determined under the entry age actuarial cost method. The entry age actuarial cost method meets the GASB 74 requirements for determining actuarial liability and normal cost and is the cost method specified by the Retirement Code for the PSERS pension plan.

The Retirement System reported the individual data for members of the Retirement System as of the valuation date to the actuaries. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Retirement System. The accuracy of the results presented in this report is dependent on the accuracy of the data.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of future results is beyond the scope of this valuation.

In our opinion, the attached schedules of valuation results fairly represent the status of the Public School Employees' Retirement System and present an accurate view of historical data. The underlying assumptions and methods used for both funding and GASB disclosure purposes are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the Retirement System.

The following supporting schedules in the Actuarial Section were prepared by Buck Global, LLC (Buck) formerly Conduent HR Consulting, LLC (Conduent) as of the date of the issuance of the June 30, 2017 valuation report:

- Summary of Results of Actuarial Valuation as of June 30, 2017
- History and Projection of Contribution Rates and Funded Ratios
- Summary of Actuarial Assumptions and Methods
- Schedule of Active Member Valuation Data
- Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- Solvency Test for Pensions
- Schedule of Funding Progress for Pensions
- Analysis of Past Financial Experience - Reconciliation of Employer Contribution Rates

Buck

In addition, Buck prepared the “Schedule of Changes in the Employer Net Pension Liability,” “Schedule of Employer Net Pension Liability,” “Schedule of Employer Pension Contributions,” “Schedule of Changes in the Employer Net OPEB Liability,” “Schedule of Employer Net OPEB Liability,” and the “Schedule of Employer Premium Assistance Contributions” in the Financial Section.

This report was prepared solely for the Pennsylvania Public School Employees’ Retirement System for the purposes herein stated and may not be appropriate to use for other purposes. Buck does not intend to benefit and assumes no duty or liability to other parties who receive this work. Use of this report for any other purposes or by anyone other than PSERS and its auditors may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. The attached pages should not be provided without a copy of this cover letter. Buck should be asked to review any statement to be made on basis of the results contained in this report. Buck will accept no liability for any such statement made without prior review by Buck.

David L. Driscoll is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. Edward Quinn and Salvador Nakar are Members of the American Academy of Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions concerning it.

Respectfully submitted,

David L. Driscoll, FSA, MAAA, EA
Principal, Consulting Actuary

Edward A. Quinn, MAAA, EA
Director, Retirement Actuary

Salvador Nakar, MAAA, EA
Senior Consultant

SUMMARY OF RESULTS OF ACTUARIAL VALUATION
AS OF JUNE 30, 2017
($ Amounts in Thousands)

	Item	June 30, 2017	June 30, 2016
	Member Data		
1.	Number of Members		
	a) Active Members	255,945	257,080
	b) Vestees[1]	24,515	23,437
	c) Annuitants, Beneficiaries and Survivor Annuitants[2]	230,014	224,828
	d) Total	510,474	505,345
2.	Annualized Salaries[3]	$ 13,033,919	$ 12,851,289
3.	Annual Annuities	$ 5,816,388	$ 5,666,392
	Valuation Results		
4.	Present Value of Future Pension Benefits		
	a) Active Members	$ 62,725,773	$ 61,864,737
	b) Inactive Members and Vestees	1,944,846	1,829,457
	c) Annuitants, Beneficiaries and Survivor Annuitants	56,184,146	55,314,858
	d) Total	$ 120,854,765	$ 119,009,052
5.	Present Value of Future Pension Normal Cost		
	a) Active Members	$ 9,849,017	$ 9,737,924
	b) Employer	9,156,931	9,281,727
	c) Total	$ 19,005,948	$ 19,019,651
6.	Pension Accrued Liability		
	a) Active Members (4a) – (5c)	$ 43,719,825	$ 42,845,086
	b) Inactive Members and Vestees	1,944,846	1,829,457
	c) Annuitants, Beneficiaries and Survivor Annuitants	56,184,146	55,314,858
	d) Total	$ 101,848,817	$ 99,989,401
7.	Health Insurance Assets for Premium Assistance	$ 123,743	$ 124,563
8.	Total Accrued Liability for Funding (6) + (7)	$ 101,972,560	$ 100,113,964
9.	Actuarial Value of Assets	$ 57,460,599	$ 57,390,069
10.	Funded Status (9) / (8)	56.3%	57.3%
11.	Unfunded Accrued Liability (8) – (9)	$ 44,511,961	$ 42,723,895
12.	Total Normal Cost Rate	15.16%	15.24%
13.	Member Contribution Rate	7.57%	7.54%
14.	Employer Normal Cost Rate (12) – (13)	7.59%	7.70%
	Employer Annual Funding Requirement	**Fiscal 2018/2019**	**Fiscal 2017/2018**
15.	Employer Contribution Rate Calculated by Actuary		
	a) Normal	7.59%	7.70%
	b) Unfunded Accrued Liability	25.01	24.04
	c) Preliminary Pension Rate	32.60%	31.74%
	d) Health Insurance	0.83	0.83
	e) Total Rate[4] = (15)(c) + (15)(d)	33.43%	32.57%

1. Excludes 123,574 and 120,083 inactive members and non-members as of June 30, 2017 and June 30, 2016, respectively, who are no longer participating and are valued for their accumulated deductions only.
2. Excludes 2,141 and 1,181 beneficiaries as of June 30, 2017 and June 30, 2016, respectively, who are only entitled to a pending lump sum distribution.
3. The salaries shown represent an annual rate of pay for members who were in active service on the valuation date.
4. The Act 120 minimum pension rate for the June 30, 2017 valuation is 7.59% and for the June 30, 2016 valuation is 7.70%.

HISTORY OF CONTRIBUTION RATES AND FUNDED RATIOS

Fiscal Year Ending June	Appropriation Payroll (thousands)	Contribution Rates[1]							
		Employee	Employer Normal Cost	Employer Unfunded Liability	Preliminary Employer Pension	Final Employer Pension[4]	Employer Health Insurance	Total Employer	Funded Ratio
2008	$ 12,881,244	7.25%	6.68%	(0.24)%	6.44%	6.44%	0.69%	7.13%	86.0%
2009	12,500,000	7.29	6.68	(3.37)	3.31	4.00	0.76	4.76	79.2
2010[2]	12,899,000	7.32	7.35	(3.72)	3.63	4.00	0.78	4.78	75.1
2011[2,3]	13,510,000	7.34	8.08	(0.50)	7.58	5.00	0.64	5.64	69.1
2012	14,112,000	7.37	8.12	10.15	18.27	8.00	0.65	8.65	66.4
2013[5]	14,297,000	7.40	8.66	12.99	21.65	11.50	0.86	12.36	63.8
2014	13,720,000	7.43	8.57	15.25	23.82	16.00	0.93	16.93	62.0
2015	13,482,000	7.46	8.46	17.51	25.97	20.50	0.90	21.40	60.6
2016	13,375,000	7.49	8.38	19.44	27.82	25.00	0.84	25.84	57.3
2017	13,549,000	7.52	8.31	20.89	29.20	29.20	0.83	30.03	56.3
2018[6]	13,449,000	7.54	7.70	24.04	31.74	31.74	0.83	32.57	*
2019	13,775,000	7.57	7.59	25.01	32.60	32.60	0.83	33.43	*

1. In general, the Preliminary Employer Pension Rate equals the sum of the rates for the Employer Normal Cost and the Unfunded Liability; and the Final Employer Pension Rate is the greater of the Preliminary Pension Rate and any Pension Rate Floor or Collar stated in the Retirement Code. The Total Employer Rate is the sum of the Final Employer Pension Rate and the Employer Health Insurance Rate.
2. At its January 2009 meeting, the Board voted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% for subsequent valuations.
3. Act 2010-46 recertified the fiscal year ended June 30, 2011 pension rate from 7.58% to 5.00%.
4. The Final Employer Pension rate is limited by the Act 2010-120 pension rate collars for fiscal years 2012 through 2016.
5. Revised actuarial assumptions based on a five-year experience review ended June 30, 2010 were used to determine the contributions for the fiscal year ending June 30, 2013 and thereafter, which include an interest rate of 7.50%.
6. Revised actuarial assumptions based on a five-year experience review ended June 30, 2015 were used to determine the contributions for the fiscal year ending June 30, 2018 and thereafter, which include an interest rate of 7.25%.

* Not Available

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

ASSUMPTIONS

Investment Rate of Return: 7.25% per annum, compounded annually (adopted as of June 30, 2016). The components are 2.75% for inflation and 4.50% for the real rate of return. Actuarial equivalent benefits are determined based on an interest rate of 4% per year (since 1960) except, in accordance with Act 5-2017, an interest rate of 7.25% per year is used for Class T-E and Class T-F members' Option 4 partial withdrawal of accumulated member contributions.

Discount Rate for GASB 67 Accounting: 7.25% as of June 30, 2016 and June 30, 2017. Rates were determined in accordance with the methods prescribed in GASB Statement No. 67.

Discount Rate for GASB 74 Accounting: 2.71% as of June 30, 2016 and 3.13% as of June 30, 2017. This rate represents the S&P 20-Year Municipal Bond Rate. Rates were determined in accordance with the methods prescribed in GASB Statement No. 74.

Separation from Service: Illustrative rates of assumed separation from service are shown in the following table (adopted as of June 30, 2016).

	Annual Rate of:						
		Withdrawal					
Age	Non-Vested Withdrawal	Less Than 10 Years of Service	10 or More Years of Service	Death[1]	Disability	Early Retirement[2]	Superannuation Retirement
MALES							
25	14.85%	5.70%	2.57%	0.041%	0.020%		
30	12.74	3.37	2.57	0.039	0.020		
35	13.39	3.21	1.50	0.044	0.058		
40	14.49	3.97	1.34	0.050	0.116		
45	14.42	4.53	1.37	0.084	0.160		19.16%
50	14.31	4.45	1.92	0.138	0.284		19.16
55	12.17	4.43	3.38	0.233	0.442	18.57%	26.59
60	12.43	5.58	5.57	0.379	0.582	14.42	30.87
65				0.700	0.087		21.39
69				1.067	0.135		19.34
FEMALES							
25	13.41%	7.47%	5.02%	0.013%	0.018%		
30	13.81	6.05	4.02	0.017	0.023		
35	14.22	5.53	2.85	0.024	0.055		
40	11.79	4.87	1.60	0.032	0.096		
45	11.54	4.51	1.65	0.051	0.135		15.00%
50	11.66	4.43	2.06	0.088	0.229		15.00
55	11.75	4.38	3.11	0.133	0.368	18.59%	10.02
60	12.25	5.97	6.40	0.196	0.360	17.05	35.77
65				0.327	0.082		22.23
69				0.443	0.115		22.79

1. These base mortality tables will then be projected on a generational basis using the Buck Modified 2015 projection scale to the valuation date and thereafter.
2. Early Retirement – Age 55 with 25 years of service, but not eligible for Superannuation retirement.

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

Death after Retirement:
Male annuitants: RP-2014 male mortality table adjusted backward to 2006 with the MP-2014 improvement scale and projected to the valuation date with the Buck Modified 2015 projection scale.

Female Annuitants: RP-2014 female mortality table adjusted backward to 2006 with the MP-2014 mortality improvement scale, projected to 2013 with the Buck Modified 2015 projection scale adjusted for credibility. This base mortality table will then be projected on a generational basis using the Buck Modified 2015 projection scale to the valuation date.

Disabled annuitants: RP-2014 male and female disabled mortality tables adjusted backward to 2006 with the MP-2014 mortality improvement scale and projected to the valuation date with the Buck Modified 2015 projection scale.

These base mortality tables will then be projected on a generational basis using the Buck Modified 2015 projection scale from the valuation date.

For determination of actuarial equivalence, a unisex table based on the above base tables, with weightings of 25% of male and 75% of female mortality probabilities, is utilized. This table is then projected on a generational basis to 2020 using the Buck Modified 2015 projection scale.

Salary Increase: Effective average of 5.00% per annum, compounded annually (adopted as of June 30, 2016). The components are 2.75% for inflation, 2.25% for real wage growth and merit or seniority increases. Representative values are as follows:

Age	Annual Rate of Salary Increase
20	10.25%
30	7.75
40	5.75
50	3.75
55	3.25
60	3.25
65	3.25
70	3.25

Payroll Growth: A 3.50% per annum payroll growth assumption is used to liquidate the unfunded accrued liability based on level-percent-of-pay amortization schedules required by the Retirement Code as amended by Act 2010-120 and Act 2017-5, i.e., a schedule of 24 years for the unfunded accrued liability as of June 30, 2010 and each change in the unfunded accrued liability due to actuarial experience after the June 30, 2010 valuation. Any legislation after June 30, 2010 that increases the liability due to benefit enhancements will be funded over 10 years based on level-percent-of-pay amortization.

MISCELLANEOUS

Annuity Optional Forms Assumption for Retiring Active Members:

- 50% will elect Maximum Straight Life Annuity (MSLA)
- 20% will elect OPTION 1 (Straight life annuity with guaranteed payments equal to present value of MSLA)
- 20% will elect OPTION 2 (100% Joint and Survivor with males 3 years older than females)
- 10% will elect OPTION 3 (50% Joint and Survivor with males 3 years older than females)
- 0% will elect OPTION 4 annuity

Option 4 Lump Sum Elections: 80% of Class T-C, Class T-D, Class T-E and Class T-F members are assumed to elect a refund of contributions and a reduced annuity.

Withdrawal Annuity: 90% of members are assumed to commence payment immediately and 10% are assumed to defer payment to superannuation age.

Health Insurance:
Elections: 63% of eligible retirees are assumed to elect premium assistance.

Administrative Expenses: Assumed equal to 2% of contributions made during the year.

Summary of Changes since the June 30, 2016 Valuation:
Effectively immediately, Act 5-2017 allowed Class T-E and Class T-F members partial withdrawals of their accumulated member contributions upon retirement. An interest rate of 7.25% per year is used as the basis for actuarial equivalence for this purpose.

METHODS

Calculations: 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 reasonable based on the actual experience of the System.

Asset Valuation Method: A ten-year moving market average (five-year moving market average prior to June 30, 2010) value of assets that recognizes the 7.25% (7.50% prior to June 30, 2016, 8.25% prior to June 30, 2009, and 8.50% prior to June 30, 2008) actuarial expected investment return immediately and spreads the

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

difference between the actual return on the market value of assets and the expected return on the actuarial value of assets over a period of ten years. The averaging period is being phased-in from fiscal year 2007/2008. The actuarial value of assets can be no less than 70% and no more than 130% of the market value of assets.

Actuarial Cost Method for Pension Funding: Entry Age Normal Cost Method (modified slightly as of June 30, 2005 to use a pay-weighted average normal contribution rate). The results of each June 30 valuation normally determine the employer contribution rate for the second succeeding fiscal year. Act 120 revised the funding method effective with the June 30, 2010 valuation. Act 120 mandated that the outstanding balance of the unfunded accrued liability as of June 30, 2010, including changes in the unfunded accrued liability due to the funding reforms of Act 120, be amortized over a 24-year period, as a level percent of pay, beginning July 1, 2011. Future valuation gains and losses, and changes in the unfunded accrued liability resulting from changes in actuarial assumptions and methods, are amortized over a 24-year period, as a level percent of pay. Future increases in the unfunded accrued liability due to legislation will be amortized over a 10-year period, as a level percent of pay. Act 120 also modified the employer pension contribution requirements by imposing collars on the rate at which employer contributions may rise from year to year. For the fiscal years ending June 30, 2012, June 30, 2013, and on or after June 30, 2014 the pension contribution rate can be no more than 3%, 3.5% and 4.5%, respectively, of total compensation of all active members, greater than the prior year's final contribution rate. Beginning with fiscal year ending June 30, 2017, the actuarially required contribution rate is less than the collared rate and the final contribution rate is the actuarially determined contribution rate. However, as provided by Act 120 of 2010, the final contribution rate cannot be less than the employer normal contribution rate.

Actuarial Cost Method for Health Insurance Funding: The actuarial liability equals the assets in the health insurance account, and the results of the June 30 valuation determine the contribution rate for the second succeeding fiscal year. The rate so determined is the rate necessary to establish reserves sufficient to cover administrative expenses and provide premium assistance payments for all participating eligible annuitants during the third fiscal year that follows the valuation date.

Actuarial Cost Method for GASB 74 Accounting for Health Insurance: The actuarial liability and service cost are determined under the entry age actuarial cost method.

Summary of Changes since the June 30, 2016 Valuation: Act 5-2017 imposed a restriction on the actuarial value of assets to be no less than 70% and no more than 130% of the market value of assets.

DATA

Census and Assets: The valuation was based on members of the Retirement System as of June 30, 2017 and does not take into account future members. All census data was supplied by the Retirement System and was subject to reasonable consistency checks. The actuaries adjust the data to account for service and pay earned by members on or before the valuation that is not reported by the Retirement System until after the actuarial valuation is performed. Asset data was supplied by the Retirement System.

SCHEDULE OF ACTIVE MEMBERS
VALUATION DATA

Valuation as of June 30	Number of Participating Employers	Number of Active Members	Annual Compensation (Thousands)	Average Compensation	% Increase in Average
2017	775	255,945	$ 13,033,919	$ 50,924	1.87%
2016	781	257,080	12,851,289	49,989	2.46
2015	784	259,868	12,678,213	48,787	1.79
2014	784	263,312	12,620,862	47,931	1.92
2013	782	267,428	12,577,105	47,030	1.17
2012	773	273,504	12,714,371	46,487	0.52
2011	747	279,152	12,910,043	46,247	1.99
2010	747	282,041	12,788,847	45,344	1.26
2009	742	279,701	12,524,593	44,779	2.43
2008	739	272,690	11,921,469	43,718	1.16

SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS

Valuation Date as of June 30	Added to Rolls		Removed from Rolls		Rolls at End of Year		% Increase in Annual Allowance	Average Annual Allowance
	Number	Annual Allowance (Millions)	Number	Annual Allowance (Millions)	Number	Annual Allowance[1] (Millions)		
2017	12,876	$ 274.2	7,690	$ 102.1	230,014	$ 5,816.4	2.65 %	$ 25,287
2016	12,686	267.1	7,633	93.5	224,828	5,666.4	2.64	25,203
2015	15,017	297.3	9,142	91.7	219,775	5,520.6	3.39	25,119
2014	15,225	300.5	8,878	84.9	213,900	5,339.5	3.74	24,962
2013	16,404	377.6	10,866	83.7	207,553	5,147.1	5.63	24,800
2012	14,579	332.7	7,186	66.6	202,015	4,872.9	4.78	24,122
2011	16,228	453.7	6,540	76.4	194,622	4,650.8	7.17	23,897
2010	12,649	372.8	5,678	77.6	184,934	4,339.6	8.59	23,466
2009	9,651	314.9	5,228	74.4	177,963	3,996.3	4.85	22,456
2008	10,911	345.3	5,397	73.9	173,540	3,811.5	8.18	21,963

1. Reflects changes in annuities for continuing payees due to finalization of benefit calculations and due to the commencement of supplemental annuity payments.

POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS SCHEDULE OF RETIRED MEMBERS ADDED TO AND REMOVED FROM ROLLS

Valuation Date as of June 30	Added to Rolls		Removed from Rolls		Rolls at End of Year		% Increase in Annual Premium Assistance	Average Annual Premium Assistance
	Number[2]	Annual Premium Assistance (Millions)	Number[2]	Annual Premium Assistance (Millions)	Number[2]	Annual Premium Assistance (Millions)		
2017	5,821	$ 4.4	3,806	$ 2.9	147,511	$ 111.5	1.36%	$ 1,200
2016	5,758	4.4	3,516	2.7	145,496	110.0	0.00	1,200
2015	6,516	5.0	3,635	2.8	143,254	110.0	0.46	1,200
2014	4,969	3.9	2,289	1.8	140,373	109.5	0.37	1,200
2013	6,759	5.4	2,364	1.9	137,693	109.1	3.31	1,200
2012	5,751	4.6	1,372	1.1	133,298	105.6	3.43	1,200
2011	8,185	6.5	2,074	1.6	128,919	102.1	4.93	1,200
2010	6,709	5.3	2,323	1.8	122,808	97.3	3.73	1,200
2009	6,285	5.0	3,079	2.4	118,422	93.8	2.74	1,200
2008	8,792	7.0	6,050	4.8	115,216	91.3	2.47	1,200

2. Number of retired members eligible to participate in the Health Insurance Premium Assistance; 63% of eligible retirees are assumed to elect premium assistance as of June 30, 2016 to June 30, 2017; 64% of eligible retirees are assumed to elect premium assistance as of June 30, 2015; 65% of eligible retirees are assumed to elect premium assistance as of June 30, 2014; 66% of eligible retirees are assumed to elect premium assistance for the periods June 30, 2007 to June 30, 2013.

SOLVENCY TEST FOR PENSIONS
COMPARATIVE SUMMARY OF ACCRUED LIABILITY AND ACTUARIAL VALUE OF ASSETS
($ Amounts in Thousands)

Valuation as of June 30	Accrued Liabilities for (1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets (1)	(2)	(3)
2017	$ 15,500,215	$ 56,184,146	$ 30,164,456	$ 57,336,856	100%	74%	0%
2016	14,907,731	55,314,858	29,766,812	57,265,506	100	77	0
2015	14,079,658	52,739,489	27,757,563	57,240,946	100	82	0
2014	13,554,229	51,425,295	27,373,459	57,231,799	100	85	0
2013	13,089,342	49,979,444	26,883,030	57,353,262	100	89	0
2012	12,535,442	47,511,912	27,713,306	58,227,622	100	96	0
2011	12,242,308	45,648,780	27,749,295	59,141,131	100	100	5
2010	11,850,031	40,284,383	26,871,014	59,306,848	100	100	27
2009	11,087,345	37,112,318	27,321,073	59,781,575	100	100	42
2008	10,532,683	34,617,953	25,695,001	60,922,157	100	100	61

SCHEDULE OF FUNDING PROGRESS FOR PENSIONS[1]
($ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2017	$ 57,336,856	$ 101,848,817	$ 44,511,961	56.3%	$ 13,033,919	341.5%
2016	57,265,506	99,989,401	42,723,895	57.3	12,851,289	332.4
2015	57,240,946	94,576,710	37,335,764	60.5	12,678,213	294.5
2014	57,231,799	92,352,983	35,121,184	62.0	12,620,862	278.3
2013	57,353,262	89,951,816	32,598,554	63.8	12,577,105	259.2
2012	58,227,622	87,760,660	29,533,038	66.3	12,714,371	232.3
2011	59,141,131	85,640,383	26,499,252	69.1	12,910,043	205.3
2010	59,306,848	79,005,428	19,698,580	75.1	12,788,847	154.0
2009	59,781,575	75,520,736	15,739,161	79.2	12,524,593	125.7
2008	60,922,157	70,845,637	9,923,480	86.0	11,921,469	83.2

1. The amounts reported above include assets and liabilities for Pensions.

ANALYSIS OF PAST FINANCIAL EXPERIENCE
RECONCILIATION OF EMPLOYER CONTRIBUTION RATES

Fiscal Year Ending June 30	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Effective Prior Year Contribution Rate	32.57%	30.03%	25.84%	21.40%	16.93%	12.36%	8.65%	5.64%	4.78%	4.76%
Prior Year Adjustment for Legislation	N/A	N/A	2.82	5.47	7.82	10.15	10.27	2.58	(0.37)	(0.69)
Net Change Due to:										
Change in Normal Rate	(0.11)	(0.23)	(0.07)	(0.08)	(0.11)	(0.09)	(0.22)	0.04	0.00	(0.02)
Payroll Growth and Liability Experience	(0.17)	0.96	0.14	0.58	0.68	0.72	(0.21)	0.40	(0.03)	0.33
Investment Loss/(Gain)	1.22	1.08	0.83	0.66	0.81	0.78	0.59	1.94	2.04	(1.71)
Health Insurance Contribution Change	0.00	0.01	(0.01)	(0.06)	(0.03)	0.07	0.21	0.01	(0.14)	0.02
Assumption/Method Change	(0.08)	0.44	N/A	N/A	N/A	N/A	3.04	N/A	1.94	1.72
Act 40 4.00% Floor[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.37
Act 120 Funding Reforms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.31	N/A	N/A
Act 5 Benefit and Funding Reforms	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Amortization of Prior Legislation Deferrals	0.00	0.28	0.48	0.69	0.77	0.76	0.18	N/A	N/A	N/A
Legislation Deferrals:										
Act 46 Rate Cap[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(2.58)	N/A
Act 120 Collar[3]	N/A	N/A	N/A	(2.82)	(5.47)	(7.82)	(10.15)	(10.27)	N/A	N/A
Actual Contribution Rate:	33.43%	32.57%	30.03%	25.84%	21.40%	16.93%	12.36%	8.65%	5.64%	4.78%

1. Act 2003-40 amended the Retirement Code to increase the Employer Pension Rate Floor from 1% to 4%.
2. Act 2010-46 recertified the fiscal year ending June 30, 2011 pension rate from 7.58% to 5.00%.
3. The Final Employer Pension rate is limited by the Act 2010-120 pension rate collar. For the fiscal years ending June 30, 2012, June 30, 2013, and on or after June 30, 2014 the pension contribution rate can be no more than 3%, 3.5%, and 4.5%, respectively, of total compensation of all active members, greater than the prior year's final contribution rate. Beginning with the fiscal year 2017, the actuarially required contribution rate is less than the collared rate and the final contribution rate is the actuarially determined contribution rate, provided that the final contribution rate is not less than the employer normal contribution rate.

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Statistical Section Narrative

To assist readers in the assessment of the System's economic condition, the Statistical Section of this Comprehensive Annual Financial Report presents information to add historical perspective, context, and detail to the financial statements, notes to financial statements, and required supplementary information presented in the preceding sections. To provide historical perspective and a sense of trend, the exhibits in this Section are presented in multiple-year formats. The information is categorized into three topical groups: *Financial Trends, Demographic and Economic Information, and Operating Information.*

Financial Trends

The Financial Trend Schedules and Graphs provide detailed information to present how PSERS' financial position has changed over time.

The following Financial Trend Schedules are presented:

- Schedule of Trend Data
- Total Changes in Fiduciary Net Position - Pension
- Total Changes in Fiduciary Net Position - Postemployment Healthcare Plans

The following Financial Trend Graphs are presented:

- Additions to Fiduciary Net Position - Pension
- Additions to Fiduciary Net Position - Postemployment Healthcare Plans
- Deductions from Fiduciary Net Position - Pension
- Deductions from Fiduciary Net Position - Postemployment Healthcare Plans

Demographic and Economic Information

Some of the following schedules listed are dependent upon an actuarial valuation. For those schedules, the most recent information is presented as of the year ended June 30, 2017, the date of PSERS' most current actuarial valuation completed at the time of publication.

- Summary Membership Data
- Summary Annuity Data
- Pension Benefit and Refund Deductions from Fiduciary Net Position
- Average Monthly Pension Benefit Payments
- Average Monthly Pension Benefit Payments and Average Final Average Salary
- Average Monthly Premium Assistance Benefit Payments and Average Final Average Salary

Operating Information

- Ten Largest Employers
- Schedule of Employers

Schedule of Trend Data
10 Year
(Dollar Amounts in Thousands)*

For years ended June 30	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Contribution Rates:										
Total Pension %	31.74	29.20	25.00	20.50	16.00	11.50	8.00	5.00	4.00	4.00
Health Care Insurance Premium Assistance %	.83	.83	.84	.90	.93	.86	.65	.64	.78	.76
Total Employer %	32.57	30.03	25.84	21.40	16.93	12.36	8.65	5.64	4.78	4.76
Average Member %	7.54	7.52	7.49	7.46	7.43	7.40	7.37	7.34	7.32	7.29
Total Employer Contributions $	4,361,597	3,943,758	3,302,817	2,713,539	2,109,952	1,555,078	1,085,927	747,753	638,034	608,372
Market Value of Assets $***	56,486,000	53,279,000	49,957,000	51,706,000	53,092,000	49,116,000	48,628,000	51,311,000	45,715,000	43,101,000
Actuarial Value of Assets $	**	57,461,000	57,390,000	57,362,000	57,344,000	57,454,000	58,321,000	59,252,000	59,424,000	59,887,000
Accrued Actuarial Liability $	**	101,973,000	100,114,000	95,945,000	92,465,000	90,052,000	87,854,000	85,752,000	79,122,000	75,626,000
Actuarial Funded Ratio %	**	56.3	57.3	60.6	62.0	63.8	66.4	69.1	75.1	79.2
Total Benefits & Refunds $	7,143,341	6,923,904	6,779,577	6,614,154	6,417,455	6,373,363	5,992,979	5,617,247	5,269,175	4,931,854
Average Pension $ *	25,405	25,287	25,203	25,119	24,962	24,799	24,122	23,897	23,466	22,456
Annuitants & Beneficiaries	233,288	230,014	224,828	219,775	213,900	207,553	202,015	194,622	184,934	177,963
Average Annual Member Compensation $ *	52,188	50,925	49,989	48,787	47,931	47,030	46,487	46,247	45,344	44,779
Active Members	256,362	255,945	257,080	259,868	263,312	267,428	273,504	279,152	282,041	279,701
Retirements	9,840	9,479	10,135	10,813	9,888	12,468	12,228	11,546	9,255	8,753

* All dollar amounts are in thousands, except Average Annual Member Compensation and Average Pension.

** Data for these categories relate to the actuarial valuation for fiscal year ended June 30, 2018. Results for this valuation were not available at publication date.

*** Excludes Health Options Program.

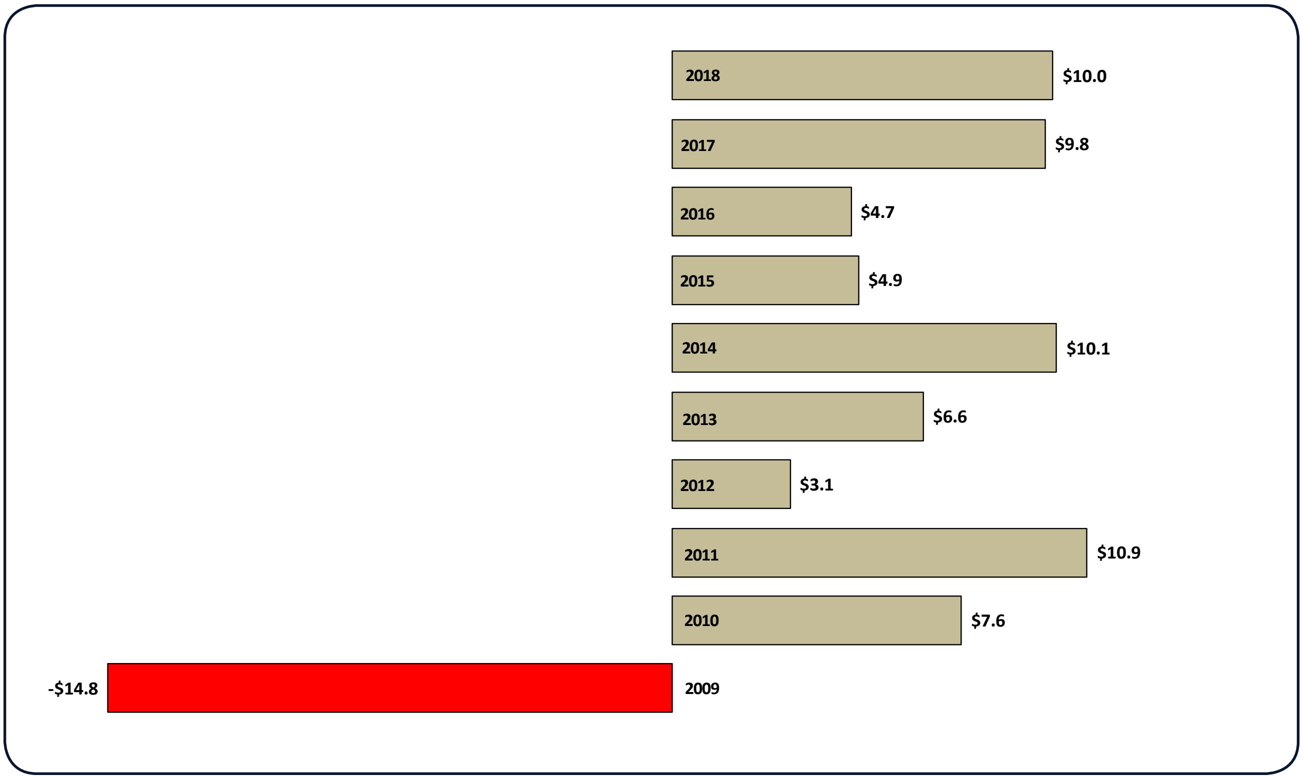
Total Changes in Fiduciary Net Position - Pension
10 Year Trend
(Dollar Amounts in Thousands)

	Additions to Fiduciary Net Position				Deductions from Fiduciary Net Position						
					Benefit Payments						
Year Ended June 30	Member Contributions	Employer Contributions	Net Investment Income	Total Additions	Annuities	Lump-Sums	Refunds of Contributions	Administrative*	Net Transfers**	Total Deductions	Net Increase / (Decrease)
2018	$ 1,026,375	$ 4,249,611	$ 4,714,158	$ 9,990,144	$ 5,813,139	$ 814,384	$ 19,881	$ 46,544	$ 7,742	$ 6,701,690	$ 3,288,454
2017	1,013,847	3,832,773	4,995,362	9,841,982	5,673,309	780,015	20,928	45,127	(673)	6,518,706	3,323,276
2016	989,266	3,189,510	473,206	4,651,982	5,522,662	815,131	20,069	45,118	2,463	6,405,443	(1,753,461)
2015	984,634	2,596,731	1,328,516	4,909,881	5,356,085	840,167	20,920	42,331	3,429	6,262,932	(1,353,051)
2014	966,926	1,992,084	7,097,761	10,056,771	5,166,777	862,018	22,823	38,712	1,887	6,092,217	3,964,554
2013	991,087	1,446,402	4,126,002	6,563,491	4,905,200	1,111,692	24,461	37,480	2,893	6,081,726	481,765
2012	952,887	1,004,584	1,093,319	3,050,790	4,691,250	964,056	24,675	34,242	2,765	5,716,988	(2,666,198)
2011	1,042,707	658,511	9,246,091	10,947,309	4,322,520	958,703	17,695	37,028	9,844	5,345,790	5,601,519
2010	952,047	535,331	6,113,679	7,601,057	4,095,334	866,888	16,720	12,105	7,015	4,998,062	2,602,995
2009	911,118	515,889	(16,201,701)	(14,774,694)	3,885,286	754,011	20,369	35,639	7,947	4,703,252	(19,477,946)

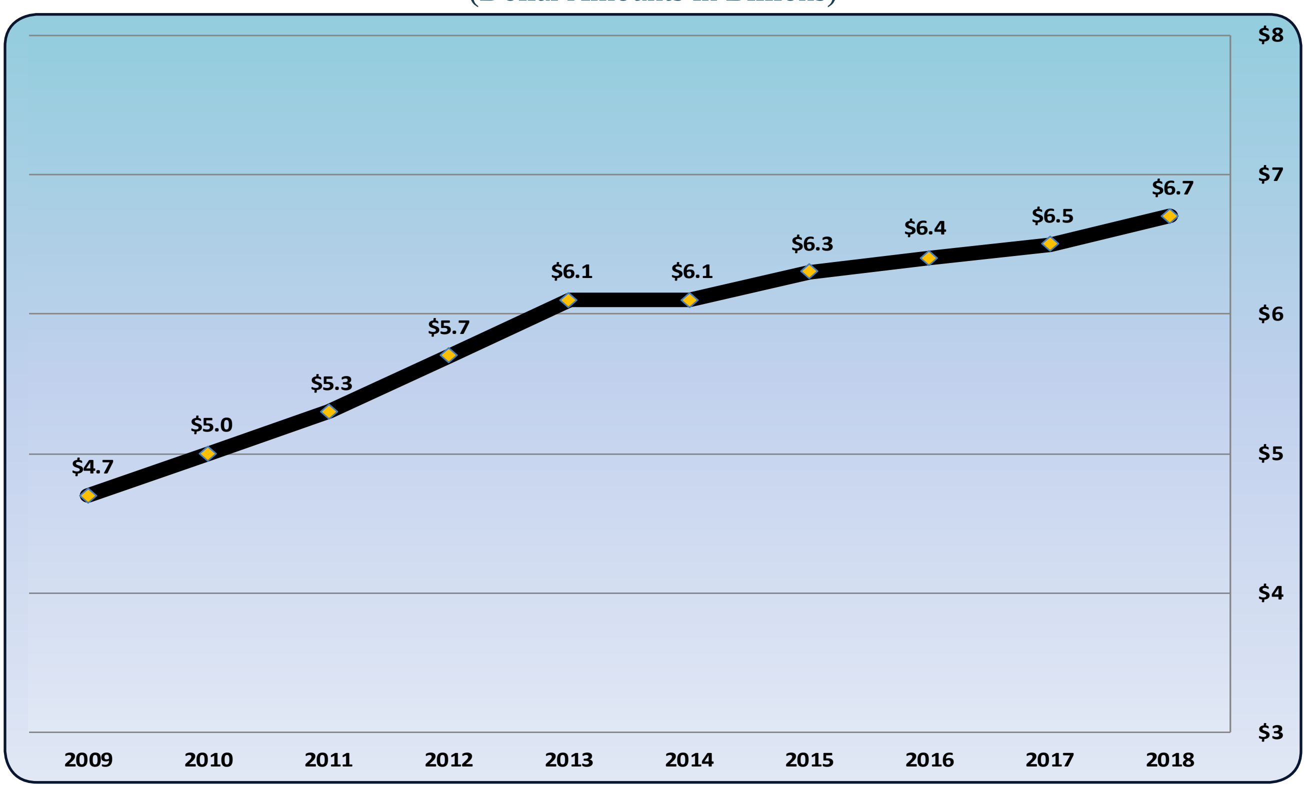
* Reporting of administrative expenses for fiscal year ended June 30, 2010 includes effects of the capitalization of intangible assets as a result of PSERS' implementation of GASB Statement No. 51 *Accounting and Financial Reporting for Intangible Assets.*

** Net transfers to the Commonwealth of Pennsylvania State Employees' Retirement System.

Additions to Fiduciary Net Position - Pension
10 Year Trend
(Dollar Amounts in Billions)



Deductions from Fiduciary Net Position - Pension
10 Year Trend
(Dollar Amounts in Billions)



Total Changes in Fiduciary Net Position - Postemployment Healthcare Plans
10 Year Trend
(Dollar Amounts in Thousands)

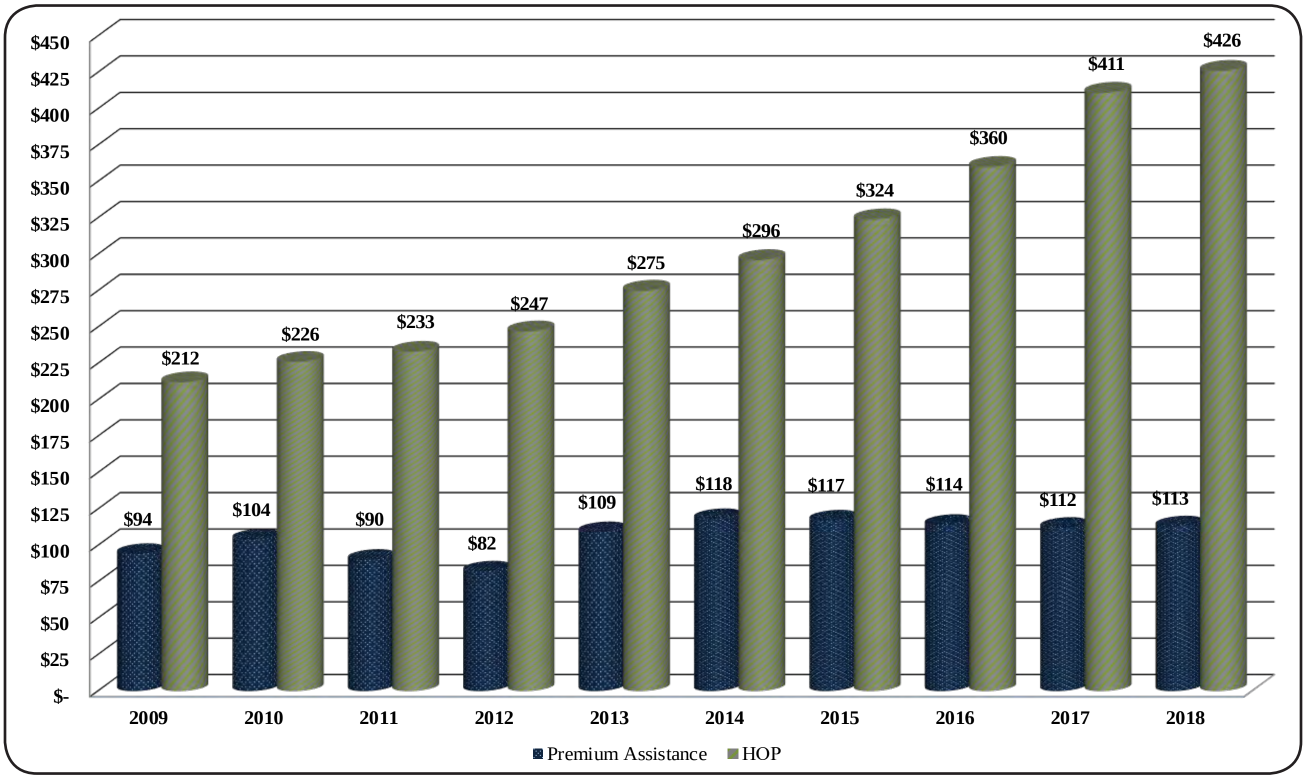
Premium Assistance

Year Ended June 30	Additions to Fiduciary Net Position: Employer Contributions	Net Investment Income	Total Additions	Deductions from Fiduciary Net Position: Benefits	Administrative	Total Deductions	Net Increase / (Decrease)
2018	$ 111,986	$ 1,455	$ 113,441	$ 111,847	$ 2,603	$ 114,450	$ (1,009)
2017	110,985	663	111,648	110,229	2,239	112,468	(820)
2016	113,307	542	113,849	108,273	1,656	109,929	3,920
2015	116,808	215	117,023	106,298	2,142	108,440	8,583
2014	117,868	70	117,938	104,197	2,030	106,227	11,711
2013	108,676	110	108,786	100,078	2,112	102,190	6,596
2012	81,343	423	81,766	97,206	2,065	99,271	(17,505)
2011	89,242	691	89,933	93,518	1,988	95,506	(5,573)
2010	102,703	869	103,572	89,911	1,944	91,855	11,717
2009	92,493	1,861	94,354	83,206	1,819	85,025	9,329

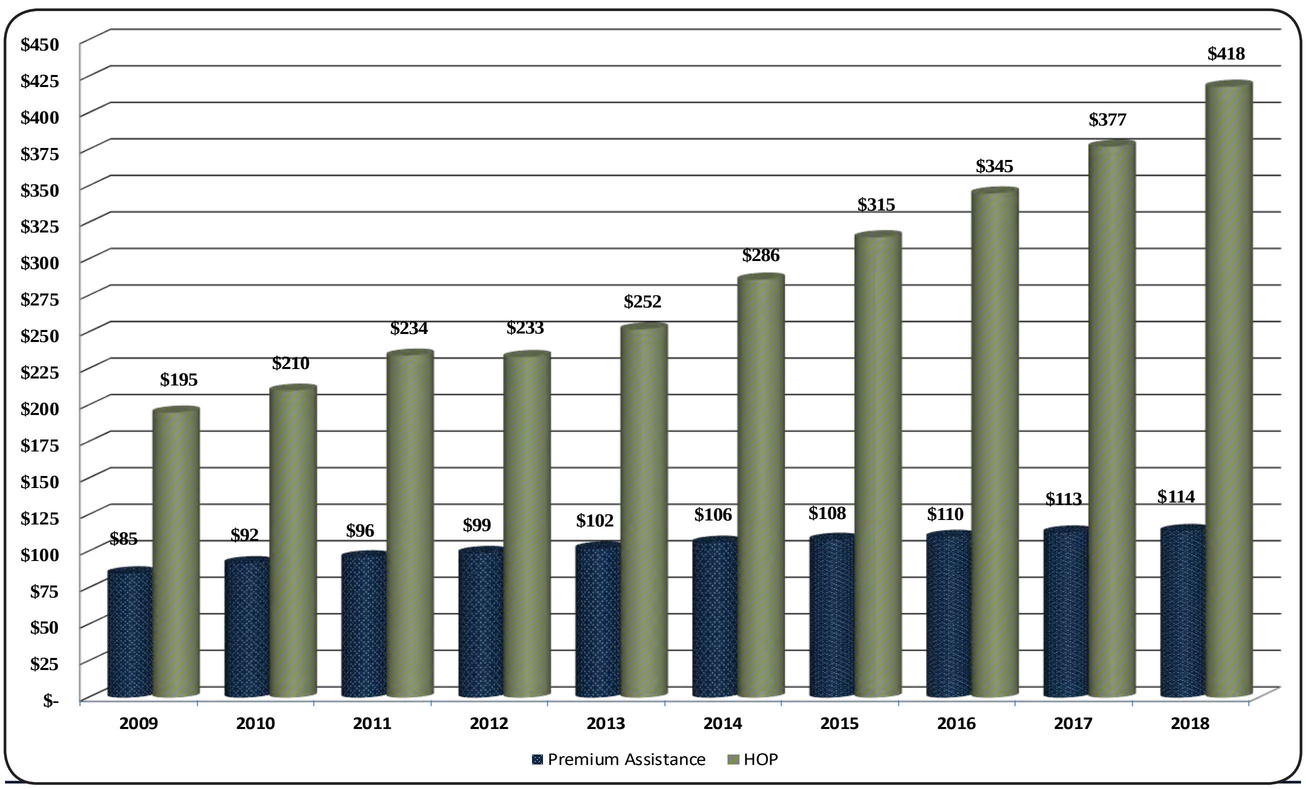
Health Options Program

Year Ended June 30	Additions to Fiduciary Net Position: Participant Premiums	CMS Contributions	Net Investment Income	Total Additions	Deductions from Fiduciary Net Position: Benefits	Administrative	Total Deductions	Net Increase / (Decrease)
2018	$ 359,896	$ 63,998	$ 1,960	$ 425,854	$ 376,348	$ 41,853	$ 418,201	$ 7,653
2017	336,646	73,771	678	411,095	340,096	37,071	377,167	33,928
2016	308,132	51,034	299	359,465	310,979	33,457	344,436	15,029
2015	281,855	42,436	152	324,443	287,255	28,027	315,282	9,161
2014	257,740	37,759	191	295,690	259,753	25,975	285,728	9,962
2013	234,516	40,698	226	275,440	229,039	22,644	251,683	23,757
2012	213,642	33,462	237	247,341	213,027	20,213	233,240	14,101
2011	201,014	32,080	310	233,404	214,967	18,729	233,696	(292)
2010	191,184	33,901	440	225,525	193,307	16,443	209,750	15,775
2009	178,801	31,556	1,528	211,885	181,035	13,817	194,852	17,033

Additions to Fiduciary Net Position - Postemployment Healthcare Plans
10 Year Trend
(Dollar Amounts in Millions)



Deductions from Fiduciary Net Position - Postemployment Healthcare Plans
10 Year Trend
(Dollar Amounts in Millions)



Summary Membership Data
10 Year Trend *

For year ended June 30	Male			Female			Total Number of Active Members
	Average Age	Average Service	Average Annual Salaries	Average Age	Average Service	Average Annual Salaries	
2017	45.0	11.7	$ 56,369	45.3	11.3	$ 48,879	255,945
2016	44.8	11.6	55,518	45.2	11.1	47,912	257,080
2015	44.6	11.5	54,269	45.0	11.0	46,720	259,868
2014	44.5	11.2	53,248	45.0	10.9	45,918	263,312
2013	44.4	11.1	52,413	44.9	10.7	45,005	267,428
2012	44.3	10.9	51,751	44.9	10.6	44,513	273,504
2011	44.1	10.8	51,678	44.6	10.3	44,209	279,152
2010	44.2	10.9	50,770	44.6	10.3	43,306	282,041
2009	44.4	11.2	50,613	44.7	10.3	42,606	279,701
2008	44.5	11.4	49,818	44.7	10.4	41,440	272,690

* Actuarial Valuation for year ended June 30, 2017 is most current valuation completed at publication date.

Summary Annuity Data
10 Year Trend

For year ended June 30	Number of Annuitants & Beneficiaries	Total Annual Annuities (In Thousands)	Average Annual Annuity
2018	233,288	$ 5,926,658	$ 25,405
2017	230,014	5,816,388	25,287
2016	224,828	5,666,392	25,203
2015	219,775	5,520,620	25,119
2014	213,900	5,339,477	24,962
2013	209,204	5,147,060	24,603
2012	202,015	4,872,918	24,122
2011	194,622	4,650,798	23,897
2010	184,934	4,339,639	23,466
2009	177,963	3,996,000	22,456

Pension Benefit and Refund Deductions from Fiduciary Net Position
10 Year Trend
(Dollar Amounts in Thousands)

For year ended June 30	Retirements: Normal	Early	Disability	Pension Lump Sum Benefits	Survivor and Beneficiary	Net Transfers*	Total Pension Benefits Deductions	Refunds	Total Pension Benefits and Refund Deductions
2018	$ 3,357,416	$ 2,114,708	$ 191,527	$ 734,989	$ 228,883	$ 7,742	$ 6,635,265	$ 19,881	$ 6,655,146
2017	3,292,906	2,040,966	186,674	678,736	254,042	(673)	6,452,651	20,928	6,473,579
2016	3,203,542	2,007,372	182,320	686,988	257,571	2,463	6,340,256	20,069	6,360,325
2015	3,088,036	1,986,684	177,693	709,240	234,599	3,429	6,199,681	20,920	6,220,601
2014	2,953,187	1,928,614	167,676	741,386	237,932	1,887	6,030,682	22,823	6,053,505
2013	2,811,906	1,845,269	161,995	933,049	264,673	2,893	6,019,785	24,461	6,044,246
2012	2,629,151	1,758,581	149,000	887,244	231,330	2,765	5,658,071	24,675	5,682,746
2011	2,420,883	1,664,903	141,273	847,482	206,682	9,844	5,291,067	17,695	5,308,762
2010	2,273,819	1,600,435	136,174	733,333	218,461	7,015	4,969,237	16,720	4,985,957
2009	2,110,018	1,538,421	130,820	666,827	193,211	7,947	4,647,244	20,369	4,667,613

* Net transfers to the Commonwealth of Pennsylvania State Employees' Retirement System.

Average Monthly Pension Benefit Payments *
Total Annuitants Grouped by Years of Credited Service
10 Year Trend

	Years of Credited Service									
	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total
Fiscal year ended June 30, 2017										
Normal and Early	4,551	20,325	26,499	22,224	21,935	25,706	46,402	36,537	5,536	**209,715**
	$ 94	$ 194	$ 387	$ 830	$ 1,424	$ 2,248	$ 3,278	$ 4,283	$ 4,681	**$ 2,177**
Disability	-	1,794	2,159	1,747	1,565	1,332	550	16	9	**9,171**
	$ -	$ 793	$ 1,023	$ 1,384	$ 2,039	$ 2,846	$ 3,614	$ 3,210	$ 2,540	**$ 1,645**
Beneficiary and Survivor	-	6,733	528	546	558	565	949	943	402	**11,128**
	$ -	$ 1,256	$ 278	$ 421	$ 613	$ 902	$ 1,233	$ 1,452	$ 1,508	**$ 1,168**
Fiscal year ended June 30, 2016										
Normal and Early	4,437	19,030	25,603	21,411	21,273	25,037	46,029	36,489	5,534	**204,843**
	$ 93	$ 189	$ 373	$ 798	$ 1,383	$ 2,200	$ 3,247	$ 4,250	$ 4,616	**$ 2,173**
Disability	-	1,829	2,149	1,714	1,567	1,337	554	17	9	**9,176**
	$ -	$ 777	$ 1,001	$ 1,342	$ 1,985	$ 2,807	$ 3,588	$ 3,078	$ 2,353	**$ 1,613**
Beneficiary and Survivor	-	6,100	580	574	593	609	1,008	943	402	**10,809**
	$ -	$ 1,256	$ 278	$ 421	$ 613	$ 902	$ 1,233	$ 1,452	$ 1,508	**$ 1,129**
Fiscal year ended June 30, 2015										
Normal and Early	4,360	17,744	24,820	20,719	20,682	24,379	45,677	36,248	5,532	**200,161**
	$ 94	$ 186	$ 359	$ 772	$ 1,344	$ 2,153	$ 3,218	$ 4,222	$ 4,564	**$ 2,169**
Disability	-	1,841	2,134	1,686	1,534	1,332	550	19	9	**9,105**
	$ -	$ 762	$ 980	$ 1,306	$ 1,937	$ 2,773	$ 3,602	$ 3,235	$ 2,353	**$ 1,584**
Beneficiary and Survivor	-	5,481	619	621	628	648	1,067	1,018	427	**10,509**
	$ -	$ 1,219	$ 271	$ 399	$ 611	$ 883	$ 1,221	$ 1,420	$ 1,497	**$ 1,089**
Fiscal year ended June 30, 2014										
Normal and Early	4,232	16,238	24,007	20,109	20,068	23,694	45,272	35,798	5,468	**194,886**
	$ 94	$ 183	$ 346	$ 743	$ 1,292	$ 2,097	$ 3,186	$ 4,181	$ 4,448	**$ 2,157**
Disability	-	1,812	2,038	1,624	1,495	1,316	557	20	8	**8,870**
	$ -	$ 752	$ 954	$ 1,266	$ 1,888	$ 2,712	$ 3,598	$ 3,216	$ 2,240	**$ 1,560**
Beneficiary and Survivor	-	4,733	672	674	678	697	1,124	1,100	466	**10,144**
	$ -	$ 1,192	$ 256	$ 397	$ 606	$ 875	$ 1,213	$ 1,392	$ 1,455	**$ 1,052**
Fiscal year ended June 30, 2013										
Normal and Early	4,051	14,757	23,095	19,499	19,506	22,897	44,704	35,277	5,384	**189,170**
	$ 93	$ 179	$ 331	$ 708	$ 1,243	$ 2,041	$ 3,151	$ 4,142	$ 4,354	**$ 2,146**
Disability	-	1,749	1,950	1,554	1,455	1,283	547	17	10	**8,565**
	$ -	$ 729	$ 925	$ 1,249	$ 1,843	$ 2,654	$ 3,546	$ 3,163	$ 2,311	**$ 1,532**
Beneficiary and Survivor	-	5,659	724	729	728	745	1,191	1,190	503	**11,469**
	$ -	$ 814	$ 254	$ 387	$ 620	$ 854	$ 1,195	$ 1,368	$ 1,442	**$ 866**

* Actuarial valuation for year ended June 30, 2017 is the most current valuation completed at the publication date.

Average Monthly Pension Benefit Payments *
Total Annuitants Grouped by Years of Credited Service
10 Year Trend (Continued)

	Years of Credited Service									
	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total
Fiscal year ended June 30, 2012										
Normal and Early	3,881	13,459	22,313	18,971	18,919	21,855	43,662	34,024	5,170	**182,254**
	$ 111	$ 176	$ 317	$ 680	$ 1,202	$ 1,972	$ 3,105	$ 4,078	$ 4,196	**$ 2,110**
Disability	-	1,698	1,882	1,517	1,397	1,257	531	15	9	**8,306**
	$ -	$ 694	$ 875	$ 1,166	$ 1,748	$ 2,583	$ 3,465	$ 2,917	$ 2,147	**$ 1,467**
Beneficiary and Survivor	-	5,234	772	784	780	797	1,261	1,281	546	**11,455**
	$ -	$ 702	$ 245	$ 390	$ 603	$ 850	$ 1,175	$ 1,341	$ 1,412	**$ 811**
Fiscal year ended June 30, 2011										
Normal and Early	3,695	12,263	21,497	18,343	18,199	21,042	42,507	33,045	5,045	**175,636**
	$ 114	$ 174	$ 305	$ 656	$ 1,158	$ 1,921	$ 3,064	$ 4,041	$ 4,133	**$ 2,091**
Disability	-	1,629	1,798	1,473	1,366	1,216	523	15	9	**8,029**
	$ -	$ 680	$ 839	$ 1,136	$ 1,686	$ 2,548	$ 3,476	$ 2,878	$ 2,147	**$ 1,441**
Beneficiary and Survivor	-	4,389	817	819	804	842	1,322	1,362	602	**10,957**
	$ -	$ 652	$ 239	$ 372	$ 583	$ 842	$ 1,170	$ 1,322	$ 1,383	**$ 796**
Fiscal year ended June 30, 2010										
Normal and Early	4,695	11,529	20,812	17,777	17,356	19,973	40,625	30,716	4,755	**168,238**
	$ 1,023	$ 349	$ 287	$ 613	$ 1,093	$ 1,839	$ 3,004	$ 3,933	$ 3,896	**$ 2,037**
Disability	-	1,633	1,761	1,453	1,352	1,227	517	18	11	**7,972**
	$ -	$ 694	$ 819	$ 1,098	$ 1,654	$ 2,513	$ 3,475	$ 2,563	$ 1,958	**$ 1,424**
Beneficiary and Survivor	-	2,604	772	735	755	773	1,192	1,280	613	**8,724**
	$ -	$ 1,008	$ 217	$ 336	$ 525	$ 770	$ 1,075	$ 1,200	$ 1,241	**$ 872**
Fiscal year ended June 30, 2009										
Normal and Early	4,395	10,474	20,503	17,544	17,134	19,821	39,700	28,187	4,448	**162,206**
	$ 376	$ 178	$ 279	$ 602	$ 1,090	$ 1,828	$ 2,966	$ 3,780	$ 3,720	**$ 1,945**
Disability	-	1,566	1,713	1,417	1,313	1,205	485	12	2	**7,713**
	$ -	$ 661	$ 802	$ 1,103	$ 1,658	$ 2,507	$ 3,461	$ 3,318	$ 2,348	**$ 1,412**
Beneficiary and Survivor	-	1,824	788	744	767	786	1,207	1,304	624	**8,044**
	$ -	$ 838	$ 218	$ 336	$ 524	$ 770	$ 1,070	$ 1,201	$ 1,248	**$ 820**
Fiscal year ended June 30, 2008										
Normal and Early	4,054	9,541	20,539	17,450	16,748	19,166	38,331	27,318	4,509	**157,656**
	$ 355	$ 165	$ 270	$ 584	$ 1,032	$ 1,733	$ 2,904	$ 3,732	$ 3,629	**$ 1,896**
Disability	-	1,468	1,664	1,364	1,280	1,178	466	14	1	**7,435**
	$ -	$ 876	$ 949	$ 1,205	$ 1,854	$ 2,714	$ 3,707	$ 3,681	$ 4,550	**$ 1,595**
Beneficiary and Survivor	789	402	964	874	879	917	1,381	1,522	721	**8,449**
	$ 1,127	$ 121	$ 223	$ 347	$ 533	$ 783	$ 1,083	$ 1,223	$ 1,255	**$ 817**

* Actuarial valuation for year ended June 30, 2017 is the most current valuation completed at the publication date.

Average Monthly Pension
Benefit Payments and Average Final Average Salary *
New Annuitants Grouped by Years of Credited Service
10 Year Trend

	Years of Credited Service								
	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+
Fiscal year ended June 30, 2017									
Number of retired members	276	1,602	1,418	1,443	1,155	1,283	1,151	712	161
Final Average Salary	$ 21,558	$ 30,823	$ 37,355	$ 39,186	$ 56,301	$ 67,595	$ 76,665	$ 78,606	$ 85,339
Monthly Benefit	$ 150	$ 267	$ 634	$ 1,215	$ 1,980	$ 2,880	$ 3,905	$ 4,734	$ 5,917
Fiscal year ended June 30, 2016									
Number of retired members	373	1,865	1,576	1,443	1,334	1,352	1,160	775	181
Final Average Salary	$ 18,335	$ 31,100	$ 37,355	$ 48,242	$ 56,310	$ 68,557	$ 75,449	$ 79,529	$ 78,836
Monthly Benefit	$ 129	$ 269	$ 634	$ 1,302	$ 1,964	$ 2,958	$ 3,890	$ 4,845	$ 5,464
Fiscal year ended June 30, 2015									
Number of retired members	393	2,099	1,649	1,469	1,381	1,412	1,286	961	234
Final Average Salary	$ 17,942	$ 30,693	$ 37,628	$ 47,743	$ 57,560	$ 67,961	$ 76,491	$ 80,236	$ 79,194
Monthly Benefit	$ 113	$ 264	$ 637	$ 1,274	$ 2,031	$ 2,929	$ 3,995	$ 4,884	$ 5,402
Fiscal year ended June 30, 2014									
Number of retired members	426	1,957	1,442	1,195	1,098	1,191	1,209	894	187
Final Average Salary	$ 18,745	$ 31,795	$ 35,935	$ 45,981	$ 56,674	$ 64,895	$ 74,770	$ 78,322	$ 82,919
Monthly Benefit	$ 126	$ 267	$ 605	$ 1,242	$ 2,043	$ 2,795	$ 3,973	$ 4,811	$ 5,835
Fiscal year ended June 30, 2013									
Number of retired members	404	1,967	1,662	1,386	1,471	1,680	2,013	1,517	298
Final Average Salary	$ 22,052	$ 30,966	$ 36,735	$ 46,773	$ 55,331	$ 67,805	$ 77,241	$ 83,353	$ 85,981
Monthly Benefit	$ 156	$ 280	$ 658	$ 1,265	$ 1,988	$ 2,956	$ 4,161	$ 5,200	$ 6,066
Fiscal year ended June 30, 2012									
Number of retired members	384	1,716	1,395	1,226	1,373	1,440	1,998	1,704	319
Final Average Salary	$ 19,074	$ 30,273	$ 35,706	$ 44,534	$ 54,305	$ 64,007	$ 74,534	$ 80,285	$ 80,899
Monthly Benefit	$ 126	$ 286	$ 635	$ 1,216	$ 1,977	$ 2,815	$ 4,097	$ 5,033	$ 5,630
Fiscal year ended June 30, 2011									
Number of retired members	380	1,591	1,323	1,131	1,247	1,418	2,309	2,023	281
Final Average Salary	$ 17,212	$ 30,174	$ 34,363	$ 44,577	$ 52,788	$ 64,398	$ 73,905	$ 79,420	$ 79,799
Monthly Benefit	$ 98	$ 315	$ 645	$ 1,238	$ 1,908	$ 2,893	$ 4,031	$ 4,981	$ 5,491
Fiscal year ended June 30, 2010									
Number of retired members	312	1,294	989	826	947	1,035	1,992	1,731	218
Final Average Salary	$ 21,528	$ 28,957	$ 34,500	$ 42,207	$ 52,104	$ 63,290	$ 72,258	$ 79,239	$ 80,405
Monthly Benefit	$ 312	$ 269	$ 634	$ 1,140	$ 1,906	$ 2,833	$ 3,979	$ 4,963	$ 5,550
Fiscal year ended June 30, 2009									
Number of retired members	259	1,213	857	753	835	902	1,959	1,757	165
Final Average Salary	$ 18,802	$ 27,718	$ 31,600	$ 39,456	$ 48,973	$ 61,459	$ 71,256	$ 76,947	$ 77,351
Monthly Benefit	$ 106	$ 230	$ 556	$ 1,063	$ 1,726	$ 2,764	$ 3,915	$ 4,834	$ 5,343
Fiscal year ended June 30, 2008									
Number of retired members	253	1,304	903	857	798	1,038	2,318	1,936	139
Final Average Salary	$ 18,146	$ 26,404	$ 31,479	$ 38,271	$ 47,220	$ 57,595	$ 70,232	$ 75,942	$ 75,041
Monthly Benefit	$ 104	$ 210	$ 556	$ 1,010	$ 1,647	$ 2,551	$ 3,863	$ 4,775	$ 5,164

* Actuarial valuation for year ended June 30, 2017 is the most current valuation completed at the publication date.

Average Monthly Premium Assistance Benefit Payments and Average Final Average Salary * New Annuitants Grouped by Years of Credited Service 10 Year Trend

	Years of Credited Service								
	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+
Fiscal year ended June 30, 2017									
Number of retired members		7	15	429	570	739	710	436	111
Final Average Salary		$ 38,464	$ 44,824	$ 52,644	$ 62,179	$ 70,573	$ 77,573	$ 80,265	$ 88,128
Monthly Benefit		$ 99	$ 95	$ 99	$ 99	$ 98	$ 98	$ 98	$ 100
Fiscal year ended June 30, 2016									
Number of retired members		11	18	364	490	751	679	477	119
Final Average Salary		$ 49,259	$ 54,492	$ 55,542	$ 61,110	$ 71,925	$ 76,944	$ 82,180	$ 80,265
Monthly Benefit		$ 100	$ 98	$ 99	$ 99	$ 99	$ 99	$ 99	$ 99
Fiscal year ended June 30, 2015									
Number of retired members		9	23	375	505	779	729	632	154
Final Average Salary		$ 43,082	$ 49,673	$ 55,760	$ 61,127	$ 71,418	$ 79,086	$ 80,931	$ 78,375
Monthly Benefit		$ 98	$ 100	$ 100	$ 98	$ 99	$ 99	$ 98	$ 99
Fiscal year ended June 30, 2014									
Number of retired members		20	24	279	402	628	723	549	127
Final Average Salary		$ 44,134	$ 45,734	$ 50,908	$ 61,032	$ 67,662	$ 74,376	$ 80,928	$ 85,627
Monthly Benefit		$ 99	$ 100	$ 99	$ 99	$ 98	$ 99	$ 98	$ 100
Fiscal year ended June 30, 2013									
Number of retired members		10	29	345	521	945	1,169	937	191
Final Average Salary		$ 39,856	$ 61,571	$ 51,758	$ 57,669	$ 69,854	$ 76,812	$ 83,780	$ 84,225
Monthly Benefit		$ 99	$ 100	$ 99	$ 100	$ 98	$ 98	$ 98	$ 100
Fiscal year ended June 30, 2012									
Number of retired members		8	18	259	342	594	819	666	128
Final Average Salary		$ 33,448	$ 38,655	$ 45,382	$ 54,454	$ 64,728	$ 74,849	$ 79,041	$ 77,220
Monthly Benefit		$ 100	$ 69	$ 100	$ 100	$ 99	$ 98	$ 97	$ 99
Fiscal year ended June 30, 2011									
Number of retired members		24	39	325	475	853	1,543	1,402	207
Final Average Salary		$ 41,609	$ 51,763	$ 48,062	$ 54,261	$ 67,086	$ 74,658	$ 79,436	$ 77,751
Monthly Benefit		$ 100	$ 100	$ 98	$ 99	$ 97	$ 96	$ 97	$ 98
Fiscal year ended June 30, 2010									
Number of retired members		20	21	227	381	597	1,371	1,253	165
Final Average Salary		$ 36,052	$ 48,277	$ 45,245	$ 55,323	$ 65,244	$ 73,207	$ 80,413	$ 80,328
Monthly Benefit		$ 100	$ 100	$ 98	$ 98	$ 98	$ 97	$ 97	$ 100
Fiscal year ended June 30, 2009									
Number of retired members		32	33	202	353	555	1,324	1,273	129
Final Average Salary		$ 30,120	$ 44,926	$ 44,889	$ 49,416	$ 62,449	$ 72,314	$ 76,742	$ 79,676
Monthly Benefit		$ 100	$ 96	$ 99	$ 98	$ 97	$ 95	$ 96	$ 97
Fiscal year ended June 30, 2008									
Number of retired members		32	36	242	336	609	1,686	1,435	114
Final Average Salary		$ 31,419	$ 41,391	$ 41,714	$ 49,709	$ 59,708	$ 70,486	$ 75,903	$ 72,718
Monthly Benefit		$ 97	$ 100	$ 99	$ 99	$ 97	$ 95	$ 95	$ 96

* Actuarial valuation for year ended June 30, 2017 is the most current valuation completed at the publication date.

Ten Largest Employers *
Current Year
(Based on number of reported members)

As of June 30, 2018

	Employer	Number of Reported Members	Percentage of Total
1.	Philadelphia City School District	17,919	6.99%
2.	Pittsburgh School District	4,284	1.67%
3.	Central Bucks School District	2,922	1.14%
4.	Allentown City School District	2,250	0.88%
5.	North Penn School District	2,047	0.80%
6.	Reading School District	1,902	0.74%
7.	Bethlehem Area School District	1,844	0.72%
8.	Downingtown Area School District	1,659	0.65%
9.	Pennsbury School District	1,636	0.64%
10.	Lower Merion School District	1,633	0.63%

* The Ten Largest Employers Schedule is intended to show information for current year and nine years prior. June 30, 2009 information was not available. As additional years become available they will be displayed.

Schedule of Employers
for FY 2018
School Districts

A

Abington
Abington Heights
Albert Gallatin
Aliquippa
Allegheny Valley
Allegheny-Clarion Valley
Allentown City
Altoona Area
Ambridge Area
Annville-Cleona
Antietam
Apollo-Ridge
Armstrong
Athens Area
Austin Area
Avella Area
Avon Grove
Avonworth

B

Bald Eagle Area
Baldwin-Whitehall
Bangor Area
Beaver Area
Bedford Area
Belle Vernon Area
Bellefonte Area
Bellwood-Antis
Bensalem Township
Benton Area
Bentworth
Berlin Brothersvalley
Bermudian Springs
Berwick Area
Bethel Park
Bethlehem Area
Bethlehem-Center
Big Beaver Falls Area
Big Spring
Blackhawk
Blacklick Valley
Blairsville-Saltsburg
Bloomsburg Area
Blue Mountain
Blue Ridge
Boyertown Area
Bradford Area
Brandywine Heights Area
Brentwood Borough
Bristol Borough
Bristol Township
Brockway Area
Brookville Area
Brownsville Area
Burgettstown Area
Burrell
Butler Area

C

California Area
Cambria Heights
Cameron County
Camp Hill
Canon-McMillan
Canton Area
Carbondale Area
Carlisle Area
Carlynton
Carmichaels Area
Catasauqua Area
Centennial
Central Bucks
Central Cambria
Central Columbia
Central Dauphin
Central Fulton
Central Greene
Central Valley
Central York
Chambersburg Area
Charleroi Area
Chartiers Houston
Chartiers Valley
Cheltenham Township
Chester-Upland
Chestnut Ridge
Chichester
Clairton City
Clarion Area
Clarion-Limestone Area
Claysburg-Kimmel
Clearfield Area
Coatesville Area
Cocalico
Colonial
Columbia Borough
Commodore Perry
Conemaugh Township Area
Conemaugh Valley
Conestoga Valley
Conewago Valley
Conneaut
Connellsville Area
Conrad Weiser Area
Cornell
Cornwall-Lebanon
Corry Area
Coudersport Area
Council Rock
Cranberry Area
Crawford Central
Crestwood
Cumberland Valley
Curwensville Area

D

Dallas
Dallastown Area
Daniel Boone Area
Danville Area
Deer Lakes
Delaware Valley
Derry Area
Derry Township
Donegal
Dover Area
Downingtown Area
Dubois Area
Dunmore
Duquesne City

E

East Allegheny
East Lycoming
East Penn
East Pennsboro Area
East Stroudsburg Area
Eastern Lancaster County
Eastern Lebanon County
Eastern York
Easton Area
Elizabeth Forward
Elizabethtown Area
Elk Lake
Ellwood City Area
Ephrata Area
Erie City
Everett Area
Exeter Township

F

Fairfield Area
Fairview
Fannett Metal
Farrell Area

Schedule of Employers (Continued)

Ferndale Area
Fleetwood Area
Forbes Road
Forest Area
Forest City Regional
Forest Hills
Fort Cherry
Fort LeBoeuf
Fox Chapel Area
Franklin Area
Franklin Regional
Frazier
Freedom Area
Freeport Area

G

Galeton Area
Garnet Valley
Gateway
General McLane
Gettysburg Area
Girard
Glendale
Governor Mifflin
Great Valley
Greater Johnstown
Greater Latrobe
Greater Nanticoke Area
Greencastle-Antrim
Greensburg Salem
Greenville Area
Greenwood
Grove City Area

H

Halifax Area
Hamburg Area
Hampton Township
Hanover Area
Hanover Public
Harbor Creek
Harmony Area
Harrisburg City
Hatboro-Horsham
Haverford Township
Hazleton Area
Hempfield
Hempfield Area
Hermitage
Highlands
Hollidaysburg Area
Homer-Center
Hopewell Area
Huntingdon Area

I

Indiana Area
Interboro
Iroquois

J

Jamestown Area
Jeannette City
Jefferson-Morgan
Jenkintown
Jersey Shore Area
Jim Thorpe Area
Johnsonburg Area
Juniata County
Juniata Valley

K

Kane Area
Karns City Area
Kennett Consolidated
Keystone
Keystone Central
Keystone Oaks
Kiski Area
Kutztown Area

L

Lackawanna Trail
Lakeland
Lake-Lehman
Lakeview
Lampeter-Strasburg
Lancaster
Laurel
Laurel Highlands
Lebanon
Leechburg Area
Lehighton Area
Lewisburg Area
Ligonier Valley
Line Mountain
Littlestown Area
Lower Dauphin
Lower Merion
Lower Moreland Township
Loyalsock Township

M

Mahanoy Area
Manheim Central
Manheim Township
Marion Center Area
Marple Newtown
Mars Area
McGuffey
McKeesport Area
Mechanicsburg Area
Mercer Area
Methacton
Meyersdale Area
Mid Valley
Middletown Area
Midd-West
Midland Borough
Mifflin County
Mifflinburg Area
Millcreek Township
Millersburg Area
Millville Area
Milton Area
Minersville Area
Mohawk Area
Monessen
Moniteau
Montgomery Area
Montour
Montoursville Area
Montrose Area
Moon Area
Morrisville Borough
Moshannon Valley
Mount Carmel Area
Mount Pleasant Area
Mount Union Area
Mountain View
Mt. Lebanon
Muhlenberg
Muncy

N

Nazareth Area
Neshaminy
Neshannock Township
New Brighton Area
New Castle Area
New Hope-Solebury
New Kensington-Arnold
Newport
Norristown Area
North Allegheny
North Clarion County
North East
North Hills
North Penn
North Pocono
North Schuylkill
North Star
Northampton Area

Schedule of Employers (Continued)

Northeast Bradford
Northeastern York
Northern Bedford County
Northern Cambria
Northern Lebanon
Northern Lehigh
Northern Potter
Northern Tioga
Northern York County
Northgate
Northwest Area
Northwestern
Northwestern Lehigh
Norwin

O

Octorara Area
Oil City Area
Old Forge
Oley Valley
Oswayo Valley
Otto-Eldred
Owen J. Roberts
Oxford Area

P

Palisades
Palmerton Area
Palmyra Area
Panther Valley
Parkland
Pen Argyl Area
Penn Cambria
Penn Hills
Penn Manor
Penncrest
Penn-Delco
Pennridge
Penns Manor
Penns Valley Area
Pennsbury
Penn-Trafford
Pequea Valley
Perkiomen Valley
Peters Township
Philadelphia City
Philipsburg-Osceola Area
Phoenixville Area
Pine Grove Area
Pine-Richland
Pittsburgh
Pittston Area
Pleasant Valley
Plum Borough
Pocono Mountain
Port Allegany
Portage Area
Pottsgrove
Pottstown
Pottsville Area
Punxsutawney Area
Purchase Line

Q

Quaker Valley
Quakertown Community

R

Radnor Township
Reading
Red Lion Area
Redbank Valley
Reynolds
Richland
Ridgway Area
Ridley
Ringgold
Riverside
Riverside Beaver County
Riverview
Rochester Area
Rockwood Area
Rose Tree Media

S

Saint Clair Area
Saint Marys Area
Salisbury Township
Salisbury-Elk Lick
Saucon Valley
Sayre Area
Schuylkill Haven Area
Schuylkill Valley
Scranton
Selinsgrove Area
Seneca Valley
Shade Central City
Shaler Area
Shamokin Area
Shanksville-Stonycreek
Sharon City
Sharpsville Area
Shenandoah Valley
Shenango Area
Shikellamy
Shippensburg Area
Slippery Rock Area
Smethport Area
Solanco
Somerset Area
Souderton Area
South Allegheny
South Butler County
South Eastern
South Fayette Township
South Middleton
South Park
South Side Area
South Western
South Williamsport Area
Southeast Delco
Southeastern Greene
Southern Columbia Area
Southern Fulton
Southern Huntingdon County
Southern Lehigh
Southern Tioga
Southern York County
Southmoreland
Spring Cove
Spring Grove Area
Springfield
Springfield Township
Spring-Ford Area
State College Area
Steel Valley
Steelton-Highspire
Sto-Rox
Stroudsburg Area
Sullivan County
Susquehanna Community
Susquehanna Township
Susquenita

T

Tamaqua Area
Titusville Area
Towanda Area
Tredyffrin-Easttown
Trinity Area
Tri-Valley
Troy Area
Tulpehocken Area
Tunkhannock Area
Turkeyfoot Valley Area
Tuscarora
Tussey Mountain
Twin Valley
Tyrone Area

Schedule of Employers (Continued)

U
Union
Union Area
Union City Area
Uniontown Area
Unionville-Chadds Ford
United
Upper Adams
Upper Darby
Upper Dauphin Area
Upper Dublin
Upper Merion Area
Upper Moreland Township
Upper Perkiomen
Upper Saint Clair

V
Valley Grove
Valley View

W
Wallenpaupack Area
Wallingford-Swarthmore
Warren County
Warrior Run
Warwick
Washington
Wattsburg Area
Wayne Highlands
Waynesboro Area
Weatherly Area
Wellsboro Area
West Allegheny
West Branch Area
West Chester Area
West Greene
West Jefferson Hills
West Middlesex Area
West Mifflin Area
West Perry
West Shore
West York Area
Western Beaver County
Western Wayne
Westmont Hilltop
Whitehall-Coplay
Wilkes-Barre Area
Wilkinsburg Borough
William Penn
Williams Valley
Williamsburg Community
Williamsport Area
Wilmington Area
Wilson
Wilson Area
Windber Area
Wissahickon
Woodland Hills
Wyalusing Area
Wyoming Area
Wyoming Valley West
Wyomissing Area

Y
York City
York Suburban
Yough

Area Vocational Technical Schools

A. W. Beattie Career Center
Admiral Peary AVTS
Beaver County AVTS
Bedford County Technical Center
Berks CTC
Bethlehem AVTS
Bucks County Technical High School
Butler County AVTS
Carbon Career & Technical Institute
Career Institute of Technology
Central Montco Technical High School
Central PA Institute of Science & Technology
Central Westmoreland CTC
Clarion County Career Center
Clearfield County CTC
Columbia-Montour AVTS
Crawford County CTC
CTC of Lackawanna County
Cumberland-Perry AVTS
Dauphin County Technical School
Delaware County AVTS
Eastern Center for Arts & Technology
Eastern Westmoreland CTC
Erie County Technical School
Fayette County AVTS
Forbes Road CTC
Franklin County CTC
Fulton County AVTS
Greater Altoona CTC
Greater Johnstown AVTS
Greene County CTC
Huntingdon County CTC
Indiana County Technology Center
Jefferson County-DuBois AVTS
Lancaster County CTC
Lawrence County CTC
Lebanon County CTC
Lehigh Career & Technical Institute
Lenape Tech
Lycoming CTC
Mercer County Career Center
Middle Bucks Institute of Technology
Mifflin County Academy of Science & Technology
Mon Valley CTC
Monroe Career & Tech Institute
North Montco Technical Career Center
Northern Tier Career Center
Northern Westmoreland CTC
Northumberland County AVTS
Parkway West CTC
Reading-Muhlenberg CTC
Schuylkill Technology Center
Somerset County Technology Center
Steel Center AVTS
SUN Area Technical Institute
Susquehanna County CTC
Upper Bucks County AVTS
Venango Technology Center
West Side AVTS
Western Area CTC
Western Center for Technical Studies
Wilkes-Barre Area CTC
York County School of Technology

Schedule of Employers (Continued)

Intermediate Units

Allegheny #3
Appalachia #8
Arin #28
Beaver Valley #27
Berks County #14
BLaST #17
Bucks County #22
Capital Area #15
Carbon-Lehigh #21
Central #10
Central Susquehanna #16
Chester County #24
Colonial #20
Delaware County #25
Intermediate Unit #1
Lancaster-Lebanon #13
Lincoln #12
Luzerne #18
Midwestern #4
Montgomery County #23
Northeastern Educational #19
Northwest Tri-County #5
Pittsburgh-Mt. Oliver #2
Riverview #6
Schuylkill #29
Seneca Highlands #9
Tuscarora #11
Westmoreland #7

Colleges / Universities

State System of Higher Education

- Bloomsburg University
- California University
- Cheyney University
- Clarion University of Pennsylvania
- East Stroudsburg University
- Edinboro University
- Indiana University
- Kutztown University
- Lock Haven University
- Mansfield University
- Millersville University
- Shippensburg University
- Slippery Rock University
- West Chester University

Bucks County Community College
Butler County Community College
Community College of Allegheny County
Community College of Beaver County
Community College of Philadelphia
Delaware County Community College
Harrisburg Area Community College
Lehigh Carbon Community College
Luzerne County Community College
Montgomery County Community College
Northampton County Community College
Penn State University
Pennsylvania College of Technology
Pennsylvania Highlands Community College
Reading Area Community College
Westmoreland County Community College

Other

Berks County Earned Income Tax Bureau
Department of Education - Commonwealth of Pennsylvania
Lancaster County Academy
Overbrook School for the Blind
Pennsylvania School Boards Association
Pennsylvania School for the Deaf
Thaddeus Stevens College of Technology
Western Pennsylvania School for Blind Children
Western Pennsylvania School for the Deaf
York Adams Academy

Charter Schools (C S)

21st Century Cyber C S
Achievement House C S
Act Academy Cyber C S
Ad Prima C S
Agora Cyber C S
Alliance For Progress C S
Antonia Pantoja C S
Architecture and Design Charter High School
Arts Academy C S
Aspira Bilingual Cyber C S
Avon Grove C S
Baden Academy C S
Bear Creek Community C S
Belmont C S
Boys' Latin of Philadelphia C S
Bucks County Montessori C S
Casa C S
Center for Student Learning Charter School at Pennsbury
Central Pennsylvania Digital Learning Foundation C S
Centre Learning Community C S
Chester County Family Academy C S
Christopher Columbus C S
Circle of Seasons C S
City Charter High School
Collegium C S
Commonwealth Connections Academy C S
Community Academy of Philadelphia C S
Crispus Attucks Youthbuild C S
Discovery C S
Dr. Robert Ketterer C S
Eastern University Academy C S
Environmental Charter School at Frick Park
Erie Rise Leadership Academy C S
Esperanza Academy C S

Schedule of Employers (Continued)

Esperanza Cyber C S
Eugenio Maria de Hostos Community Bilingual C S
Evergreen Community C S
Fell C S
First Philadelphia Charter School for Literacy
Folk Arts - Cultural Treasures C S
Franklin Towne Charter Elementary School
Franklin Towne Charter High School
Freire C S
Frederick Douglas Mastery C S
Gettysburg Montessori C S
Gillingham C S
Global Leadership Academy C S
Global Leadership Academy C S- Huey
Green Woods C S
Hardy Williams Academy C S
Helen Thackston C S
Hill House Passport Academy C S
Hope for Hyndman C S
Howard Gardner Multiple Intelligence C S
I-Lead C S
IMHOTEP Institute C S
Independence C S
Infinity C S
Inquiry C S
Insight PA Cyber CS
John B Stetson C S
Keystone Academy C S
Keystone Education Center C S
Khepera C S
Kipp Academy C S
Kipp West Philadelphia Preparatory C S
La Academia: The Partnership C S
Laboratory C S
Lehigh Valley Academy Regional C S
Lehigh Valley Charter School for the Performing Arts
Lehigh Valley Dual Language C S
Lincoln C S
Lincoln Leadership Academy C S
Lincoln Park Performing Arts C S
Lindley Academy CS
Manchester Academic C S
Mariana Bracetti Academy C S
Maritime Academy C S
Mastery Charter High School
Mastery Charter School - Cleveland Elementary
Mastery Charter School - Clymer Elementary
Mastery Charter School - Francis D Pastorius Elementary
Mastery Charter School - Harrity Elementary
Mastery Charter School - John Wister Elementary
Mastery Charter School - Mann Elementary
Mastery Charter School - Pickett Campus
Mastery Charter School - Shoemaker Campus
Mastery Charter School - Simon Gratz
Mastery Charter School - Smedley Elementary
Mastery Charter School - Thomas Campus
Math Civics and Sciences C S
Mathematics, Science & Technology Community C S
Medical Academy C S
Memphis Street Academy C S - J.P. Jones
Montessori Regional C S
Multi-Cultural Academy C S
New Day C S
New Foundations C S
Nittany Valley C S
Northwood Academy C S
Olney Charter High School
Pan American Academy C S
Penn Hills C S for Entrepreneurship
Pennsylvania Cyber C S
Pennsylvania Distance Learning C S
Pennsylvania Leadership C S
Pennsylvania Virtual C S
People for People C S
Perseus House Charter School of Excellence
Philadelphia Academy C S
Philadelphia Charter School for Arts & Sciences at H.R. Edmunds
Philadelphia Electrical & Technology Charter High School
Philadelphia Harambee Institute of Science and Technology C S
Philadelphia Montessori C S
Philadelphia Performing Arts C S
Premier Arts & Science C S
Preparatory Charter School of Mathematics, Science, Technology & Careers
Propel - East C S
Propel - Northside
Propel Charter School - Braddock Hills
Propel Charter School - Hazelwood
Propel Charter School - Homestead
Propel Charter School - McKeesport
Propel Charter School - Montour
Propel Charter School - Pitcairn
Renaissance Academy - Edison C S
Richard Allen Preparatory C S
Robert Benjamin Wiley Community C S
Roberto Clemente C S
Russell Byers C S
Sankofa Freedom Academy C S
School Lane C S
Seven Generations C S
Souderton Charter School Collaborative
Spectrum C S
Stone Valley Community C S
Sugar Valley Rural C S
SusQ - Cyber C S
Sylvan Heights Science C S
Tacony Academy C S
Tidioute Community C S
Universal Alcorn C S
Universal Audenried C S
Universal Bluford C S
Universal Creighton C S
Universal Daroff C S
Universal Institute C S
Universal Vare C S
Urban League of Pittsburgh C S
Urban Pathways 6-12 CS
Urban Pathways K - 5 College C S
Vida C S
West Oak Lane C S
West Philadelphia Achievement Charter Elementary School
Wissahickon C S
Wonderland C S
York Academy Regional C S
Young Scholars C S
Young Scholars of Central Pennsylvania C S
Young Scholars of Western Pennsylvania C S