



# *Partners for Your Future*

**Pennsylvania Public School Employees' Retirement System**

**Budget Report**

**Fiscal Year 2014-2015**



**HOUSE APPROPRIATIONS COMMITTEE**



COMMONWEALTH OF PENNSYLVANIA  
PUBLIC SCHOOL EMPLOYEES' RETIREMENT BOARD



MELVA S. VOGLER  
Chairman

JAMES M. SANDO  
Vice Chairman

February 7, 2014

Members of the House Appropriations Committee

Dear Members:

On behalf of the Public School Employees' Retirement System (PSERS), I am pleased to present the accompanying report on the financial, actuarial, and investment operations of PSERS and the budgetary recommendations for the 2014/15 fiscal year. Copies of this document and PSERS Comprehensive Annual Financial Report for the fiscal year ended June 30, 2013 (FY2013) are available for download from PSERS website at [www.psers.state.pa.us](http://www.psers.state.pa.us). Hard copies and CDs are also available upon request.

PSERS is responsible for administering a defined benefit pension plan for over 600,000 active, retired, inactive and vested public school employees in the Commonwealth of Pennsylvania. PSERS also administers two post-employment health care programs, the Premium Assistance Program and the Health Options Program (HOP) for its annuitants.

Some key highlights about PSERS follow:

- PSERS participates in an international benchmarking survey evaluating its costs and service performance in comparison to other similar public pension funds. Based on the FY 2012 survey, PSERS had a 28% lower pension administration cost per member than the average cost for its peer group. We expect similar results for 2013 as PSERS continues to be prudent in its use of funds and managing its annual budget.
- PSERS Budget Request for FY2014/15 was \$42,523,000. The Governor's Recommended Budget reduces PSERS' Budget request by \$834,000 to \$41,689,000 and reduces PSERS' staff complement by 12 positions.
- Income from the investment portfolio represents the major source of revenue to PSERS, accounting for nearly 69% of total revenues over the ten-year period from FY2004 to FY2013. PSERS uses both internal staff and external investment managers to minimize investment costs. PSERS benefits from managing over 25% of its assets internally including operating its own equity trading room. In FY2013 PSERS saved approximately \$15.9 million in management fees by utilizing PSERS in-house portfolio managers. The in-house investment professionals also added \$73.0 million in additional investment income to the fund. Collectively PSERS internal investment staffs' value added for the System totaled \$88.9 million.
- For the fiscal year ended June 30, 2013 PSERS' investment portfolio generated a rate of return of 7.96%. PSERS' return exceeded the investment earnings assumption of 7.50% and added nearly \$4.1 billion in net investment income to the Fund. The most recent actuarial valuation reports that PSERS is 63.8% funded and the total plan net assets were \$49.3 billion as of June 30, 2013.
- Since the FY2013 ended, the investment markets continued to improve through December 2013. As a result, PSERS estimated one year return for the year ended December 31, 2013 was 8.45% and total plan net assets increased to \$50.4 billion. We expect to have updated December investment performance by the time of our scheduled hearing.

- Employee (Member) contributions range from 5.25% to 10.30% of payroll depending on the class of membership of the employee and when they joined PSERS. Employees are expected to contribute an average of 7.46% of their salary to help fund their retirement benefit in fiscal year 2014/2015. Employee (member) contributions of approximately \$1.0 billion are expected in fiscal year 2014/2015.
- The average annual pension benefit for PSERS total member population (annuitant, survivor/beneficiaries, and disabled annuitants) as of June 30, 2013 is \$24,603 and the average age is 69.9 years. In FY 2013, PSERS provided over \$6 billion in pension and healthcare benefits to its members. Since over 91% was distributed to Commonwealth residents in calendar year 2013, a substantial portion of PSERS' \$6 billion annual pension disbursements remain in Pennsylvania, thus benefiting the economy of the Commonwealth.

#### **Update on Employer Contribution Rate and Funding Issue**

- Pension reform enacted under Act 120 of 2010 is well underway. As of December 31, 2013 approximately 13% or 35,000 of PSERS active membership is under the new reduced benefit structure of Act 120. The annual benefit cost for new members joining the System is less than 3% and is more in line with employer contribution levels in many private sector retirement plans. As the Act 120 membership grows, the annual savings from the lower Act 120 benefit cost structure will allow an increasing amount of employer contributions to pay down the existing unfunded liability.
- Progress has been made on the pension funding issue as the impact of Act 120 rolls through the System. The rate collars continue to gradually increase the employer contribution rate closer to the actuarially required rate. The employer contribution rate for FY2014-2015, set by the Board in December 2013, is 21.40% or approximately \$2.9 billion. The employer contribution rate would have been 33.83 % if Act 120 of 2010 had not been enacted.
- In addition to the Act 120 highlights noted above, PSERS continues to play an integral part in the ongoing discussion of the pension funding issue. Difficult budgeting challenges remain for the Commonwealth and school employers. Proper funding of the System remains a top concern for PSERS.
- A key point in the pension funding discussion is the understanding that the continued and potential further suppression of the employer contribution rate adds further debt to the System. That debt, incurred by the Commonwealth and school employers, grows at a rate of 7.5% per year from interest charges alone. In FY2013 the interest charge was \$2.2 billion. Currently no principal on the debt is being paid and only a portion of the annual interest is being paid. As a result, based on the current contribution rates, the debt continues to grow.
- On February 4, 2014, Governor Corbett presented his proposed budget. It is PSERS' understanding that he proposed to lower the current pension collars to 2.25% in FY2014-2015 and then increase the collars by 0.5% per year until the collars reach 4.5% or the collared rate is equal to the annual actuarial required contribution rate. His proposed budget also transfers \$225 million of private equity investments and cash reserves from the Tobacco Settlement Fund and the Health Venture Investment Account as partial payment of the employer contribution.

- o As currently proposed the suggested changes would increase PSERS' unfunded liability (debt) by \$2 billion and increase future contributions by the Commonwealth and school employers by \$3 billion.
- o In addition, further reduction of the rate collars will further aggravate PSERS' negative cash flow and could negatively impact PSERS' employers' balance sheets under GASB 67/68 by significantly increasing the unfunded liability.
- PSERS understands the pension funding issue is a significant and difficult appropriation challenge for the Commonwealth. The existing debt remains a cost that must be paid. This challenge, however, will not be solved in the short-term or by further benefit cuts to new members. It will take many years to pay off the existing debt. As we have explained in the past, the employer contribution rates have been intentionally suppressed for many years. Solutions to the funding issue will require rising employer contribution rates.

In closing, PSERS will continue its role as a technical expert on the pension funding issue. We will continue to cooperate and provide accurate fact-based information so effective pension policy decisions can be made by all decision-makers. As in the past, PSERS will remain neutral and will not take a position on any legislation. PSERS looks forward to continuing to work with you on this critical appropriation issue during the current legislative session. Please contact Jeffrey B. Clay, PSERS Executive Director, if you have any questions or would like additional information.

Respectfully,



Chairman of the Board



**Pennsylvania  
Public School Employees' Retirement System**

(A Component Unit of the Commonwealth of Pennsylvania)

5 North 5th Street  
Harrisburg, Pennsylvania 17101-1905

**FY2014/15 Budget Report  
House Appropriations Committee  
February 18, 2014**

**Melva S. Vogler**  
*Chairman*  
*Board of Trustees*

**James M. Sando**  
*Vice Chairman*  
*Board of Trustees*

**Jeffrey B. Clay**  
*Executive Director*

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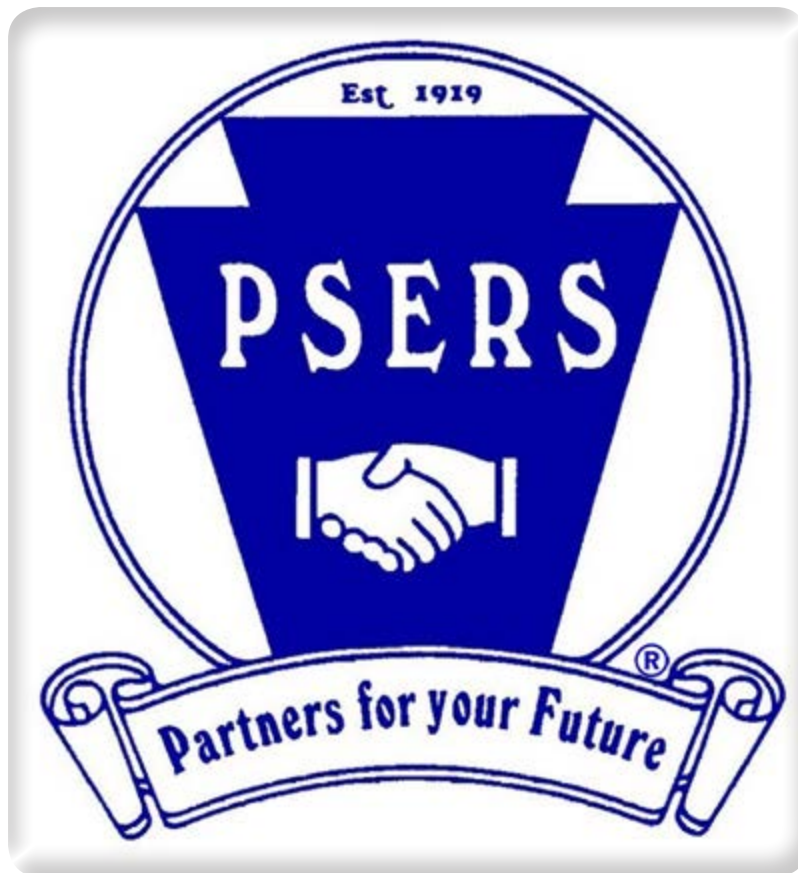
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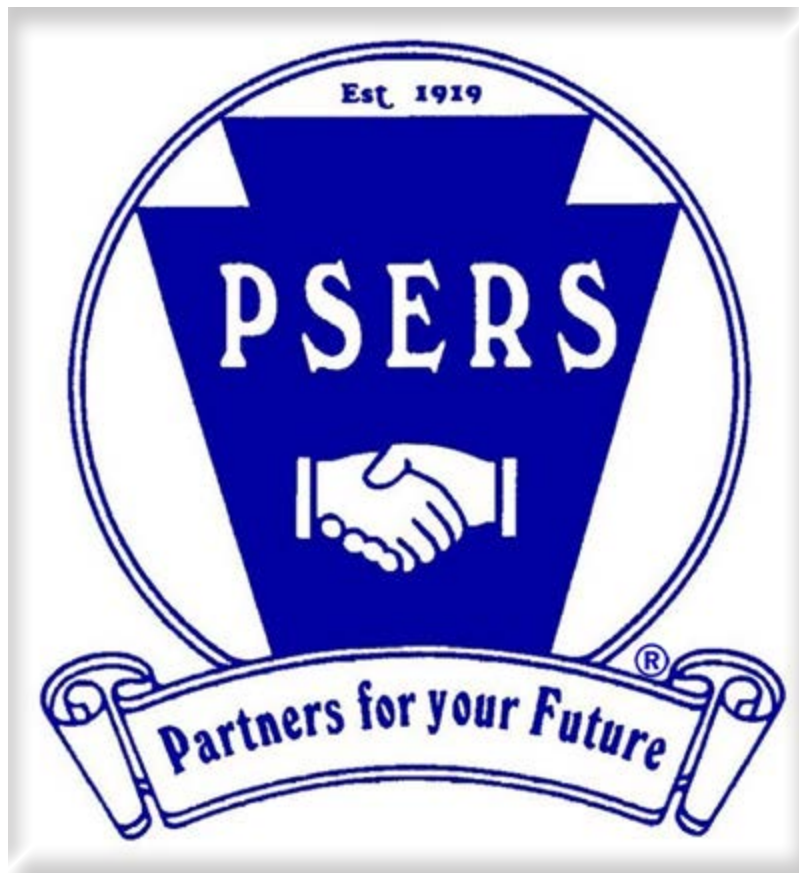
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## Section 1 - PSERS Overview





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### Overview

Established on July 18, 1917, with operations commencing in 1919, the Pennsylvania Public School Employees' Retirement System (PSERS or System) provides retirement benefits to public school employees of the Commonwealth of Pennsylvania.

As of June 30, 2013, the System had approximately 267,000 active members. The annuitant membership was comprised of approximately 209,000 retirees and beneficiaries who received average monthly pension benefit payments of over \$435 million including healthcare premium assistance. The average yearly pension benefit paid to annuitants was \$24,603. PSERS had 797 participating employers on June 30, 2013.

As reported in the latest Pension and Investments survey, published February 3, 2014, PSERS is the 29th largest plan among United States corporate and public pension plans, and the 19th largest state-sponsored defined benefit public pension fund in the nation. PSERS' total plan net assets as of December 31, 2013 were approximately \$50.4 billion.

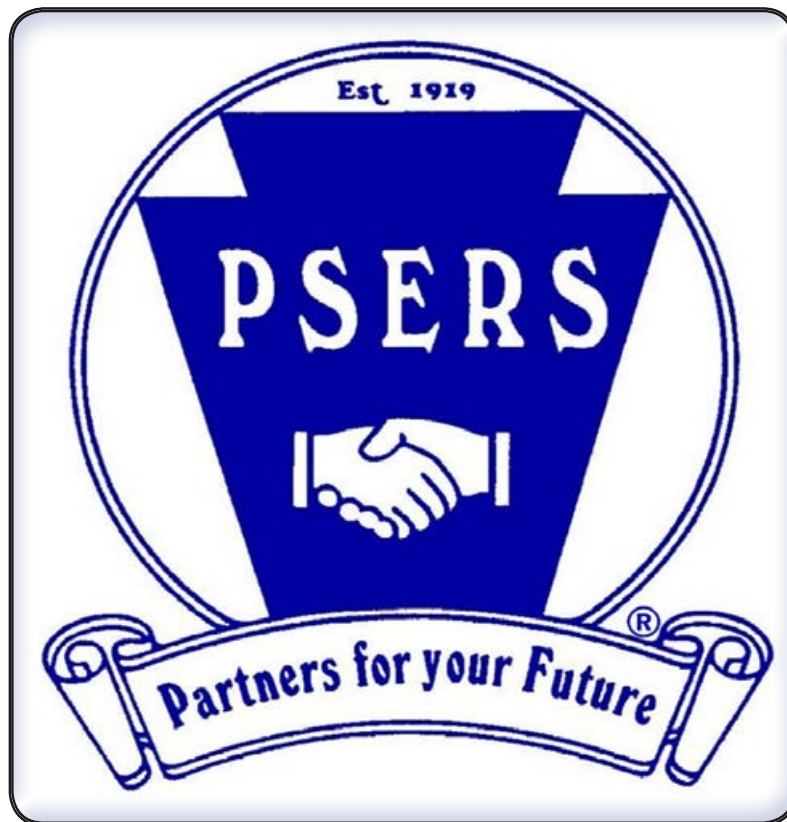
During calendar year 2013 the overall gross distribution of pension and postemployment healthcare benefits including monthly benefits, direct rollovers, survivor benefits and refunds totaled \$6.0 billion. Of this amount, 91% was distributed to Pennsylvania residents representing PSERS' significant impact on the Commonwealth's economy.

### Mission Statement

**The Board of Trustees and the employees of the Public School Employees' Retirement 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.





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## PSERS Board of Trustees

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Deborah J. Beck

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Acting Secretary of Education

Honorable Lawrence M. Farnese  
Senate of Pennsylvania

Honorable Glen R. Grell  
House of Representatives

Susan C. Lemmo

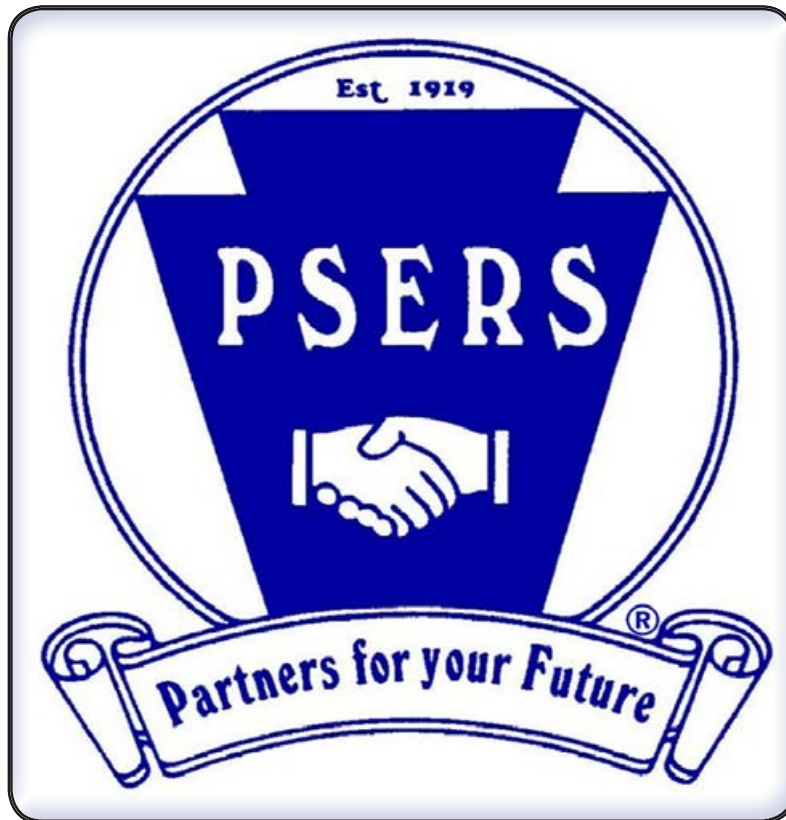
Nathan G. Mains

Honorable Joseph F. Markosek  
House of Representatives

Honorable Robert M. McCord  
Treasurer of Pennsylvania

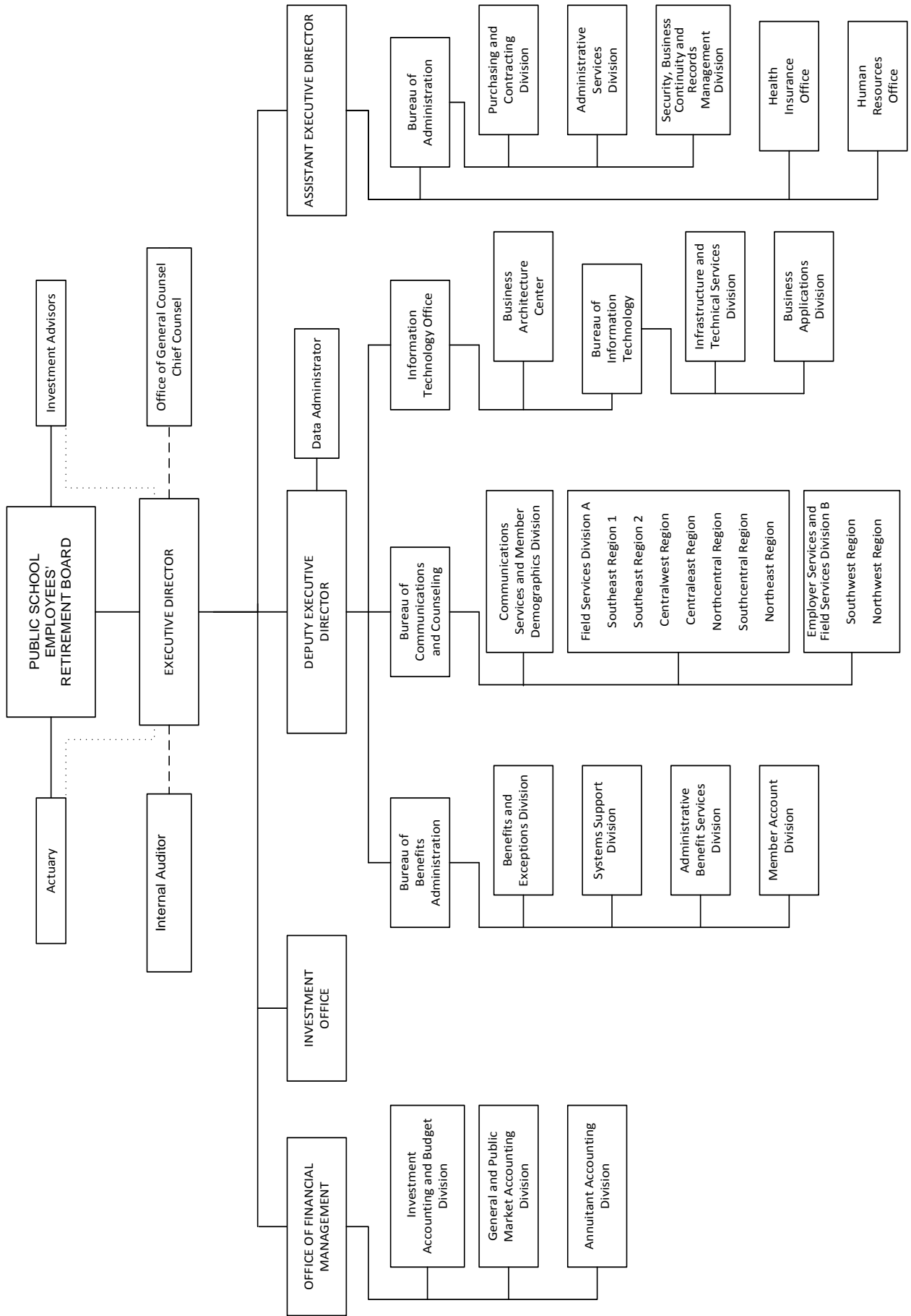
Ambassador Martin J. Silverstein

**PSERS Board Members as of January 23, 2014**



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Organizational Chart of the  
Public School Employees' Retirement System



# Organizational Structure of the Public School Employees' Retirement System

## Executive Office

This office is responsible for the overall management of the Public School Employees' Retirement System (PSERS) to achieve the primary objectives of the Fund as established by the Board of Trustees (Board). Reporting directly to the Executive Director is the Deputy Executive Director, Assistant Executive Director, Chief Investment Officer, Chief Financial Officer, Internal Auditor, Press Secretary, Board Liaison, and Legislative Liaison. The Executive Director serves as chief executive officer responsible for the establishment, installation, and maintenance of modern management techniques to provide an efficient control of funds for and services to the active members and annuitants of the System.

The Executive Office monitors the operation of the investment portfolio and evaluates portfolio performance for consideration by the Board, certifies expenditures of the Fund and measures performance of professional individuals or firms with whom the Board contracts for specialized services. The Executive Office also apprises the Board of any development that will in any way affect the System and its operation.

## Investment Office

This office is responsible for the investment activities of the System. In compliance with the investment policy established by the Board, PSERS' investment assets are allocated to numerous outside professional investment advisors and internal investment professionals.

## Chief Counsel's Office

This office provides legal services through a team of professional personnel under the Governor's Office of General Counsel. The legal staff is responsible for representing the System in all administrative hearings and other litigation matters and providing counsel in a wide variety of matters including the interpretation of the Retirement Code, form and legality of all System contracts, corporate governance issues and the structure and implementation of the System's varied financial investments.

## Internal Auditor's Office

This office performs systematic reviews of the various activities of PSERS, testing for compliance with applicable laws, policies and procedures. The Internal Auditor makes recommendations on the improvement of the System's internal control system.

## Office of Financial Management

This office is directed by the Chief Financial Officer and has responsibility for planning, organizing and directing a complete accounting and financial reporting system in conformance with accounting principles generally accepted in the United States of America. Oversight is provided for new systems development and maintenance of existing systems, and ensuring appropriate accounting controls. The office is the liaison for other state and federal agencies, reporting units, financial consultants, actuaries, and investment advisors for all accounting, treasury operations, taxation, actuarial and budgetary matters. The office is organized into three divisions: General and Public Market Accounting Division, Annuitant Accounting Division, and Investment Accounting and Budget Division.

### General and Public Markets Accounting Division

This division has the responsibility of recording all financial transactions for the pension and health care operations of the System. It maintains PSERS' General Ledger and prepares interim financial statements and is responsive for overseeing the preparation of PSERS Comprehensive Annual Financial Report. It bills and collects contributions due to the Fund from its employers. It provides accounts receivable services to the System for member debts. It also interacts with the other units in the Office of Financial Management to assure that the basic financial statements of the System include all financial activity monitored and controlled by those areas. This division is responsible for directing and administering the Foreign Cash Overdraft and Foreign Tax Reclaim Collection programs as part of PSERS' investment activities. Working with the assistance of a third-party application service provider, it has the responsibility for monitoring the overall internal control structure for public market investments thereby assuring adequate custody of all Public Market investment assets.

### Annuitant Accounting Division

This division is responsible for the mission-critical annuitant payroll and disbursement function. The division also has the responsibility of monitoring and recording post-employment healthcare transactions. It reconciles and monitors the financial activities of the third party administrator of the Health Options Program.

### Investment Accounting and Budget Division

This division serves as intermediary with the custodian bank, the State Treasury Department, brokers, investment managers, the investment evaluator, and investment consultants. The division processes, audits and approves investment expenses, prepares monthly investment financial reports and processes all investment funding allocations. Working with the assistance of a third-party application service provider, it has the responsibility for monitoring the overall internal control structure for investments thereby assuring adequate custody of all non-Public Market investment assets.



**Organizational Structure (continued)**

The division is also responsible for directing and administering the Class Action Revenue Recovery program as part of PSERS’ investment activities. It also supports PSERS’ Investment Office and the Board in achieving investment objectives and monitoring compliance with investment policy. Additionally, the division is responsible for developing and monitoring the System’s annual budget.

**Deputy Executive Director’s Office**

The Deputy Executive Director directly oversees the benefit programs for all active and retired members of the System, the development and implementation of the member and employer communications programs and the member counseling programs, and the maintenance of agency policies, procedures, and benefit related data. Additionally, this position oversees business and information technology strategic planning, policy development, and implementation.

**Bureau of Benefits Administration**

The Bureau of Benefits Administration maintains account data, determines membership and benefits eligibility, and calculates benefits for Pennsylvania public school employees. This bureau provides these functions for all benefits provided by PSERS, except the PSERS Health Options and Premium Assistance Programs.

**Benefits and Exceptions Division**

This division is responsible for the timely and accurate processing of benefits, including all regular and disability retirements, post-retirement adjustments, death benefits, account valuations, domestic relations orders, and worker’s compensation calculations.

**Systems Support Division**

The Systems Support Division provides key analytical services to the bureau and to other bureaus within the organization including specific services such as research, analysis, recommendations for action, and implementation support related to PSERS’ information systems, data, or business or management processes.

**Administrative Benefit Services Division**

This division provides administrative support services to the bureau and manages the first level of the member appeals process. Additionally, the division provides quality assurance for data integrity and benefit calculations.

**Member Account Division**

The Member Account Division ensures that member account data is accurate and complete throughout the entire lifecycle of the member and serves the needs of our members, agency staff, employers, and PSERS actuaries. This critical data is used, among other things, to determine

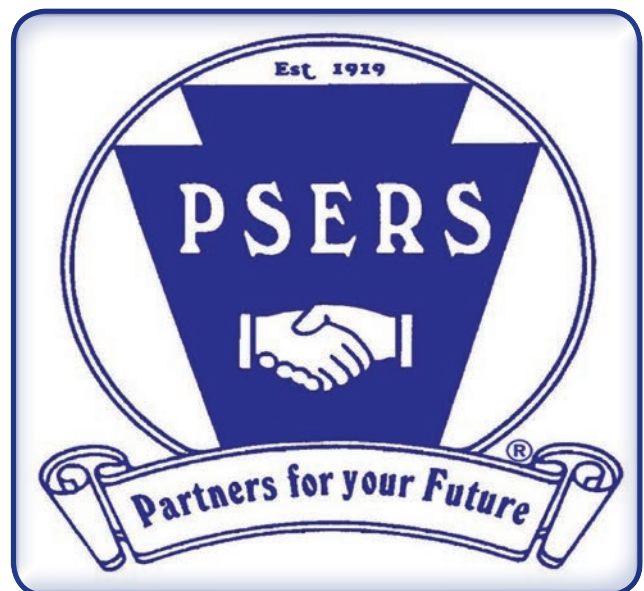
eligibility for, calculate, and pay benefits for PSERS members and as input in the determination of employer contribution rates and actuarial assumptions. As part of maintaining member accounts, in addition to maintaining and verifying the accuracy of account data, this division processes multiple service elections, purchases of service, account adjustments, and refunds of contributions and interest.

**Bureau of Communications and Counseling**

The bureau provides services to educate and inform annuitants, members, employers, staff and the public about the benefit related programs and services provided by PSERS, as well as the rights and duties of employers and members in relation to those benefits. Information communicated spans from very detailed and fact-specific explanations and instructions to more general explanations and educational materials.

**Communications Services and Member Demographics Division**

This division handles general inquiries primarily via telephone and other electronic mediums about the many benefits and processes of PSERS as well as specific inquiries related to a member’s account and the functions related to the initial entry of a member into the retirement system. The division also provides for the production and publication of newsletters, handbooks, pamphlets, mass communications to the membership, and agency websites, and ensures that outgoing member and employer letters are written to ensure ease of comprehension and compliance with agency standards.



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### Organizational Structure (continued)

#### Field Services Division A

This division is responsible for the majority of PSERS' regional offices defined as Division A to provide comprehensive services to both active and retired PSERS' members and their associated affiliates in PSERS' regional offices located throughout the Commonwealth of Pennsylvania. This includes the calculation of retirement benefit estimates, benefit counseling sessions with members to explain estimated retirement benefits, retirement options, death and survivor benefits, and other benefits issues, to assist members in understanding their retirement related decisions, and to respond to a variety of requests and inquiries regarding member accounts.

#### Employer Services and Field Services Division B

This division provides comprehensive services to employers, including technical training and workshops on PSERS complex business rules and on the use and operation of the web-based reporting system used by employers to communicate member data to PSERS. The division is also responsible for some PSERS' regional offices defined as Division B to provide comprehensive services to both active and retired PSERS' members and their associated affiliates in PSERS' regional offices located throughout the Commonwealth of Pennsylvania.

#### Information Technology Office

This office oversees the Bureau of Information Technology and the Business Architecture Center. It is responsible for strategic information technology planning and policy development, ensuring that information technology plans, projects and policies are aligned with, in support of, and prioritized according to agency needs and requirements as well as those Commonwealth needs and requirements that are consistent with agency needs, and for communicating such to the agency's IT staff. Large information technology contracts and projects are managed by this office. This bureau is responsible for understanding, analyzing, documenting, and improving PSERS' processes, information systems, and the relationships among these components so that PSERS is able to: conduct its business consistently and according to established rules; understand each component, its relationship to each of the other components and to PSERS' mission, vision, values and goals; fully, yet quickly analyze and understand the impact of potential change to one or more of these components on the others; more effectively identify inefficient, duplicate, or suspect processes, technologies; account for its processes, information systems and technologies.

#### Business Architecture Center

This center serves as the repository for PSERS' business knowledge and makes that knowledge available and understandable to agency processing and technology staff. The center receives and responds to data queries from agency staff and investigates system, data, or process problems. This center includes staff who collect, analyze,

and document PSERS' processes, information systems and data, and perform detailed impact analysis as and when change is proposed. Additionally, staff in this unit coordinate, lead, and track projects and confirm that changes have been applied correctly. They look for opportunities for improvement, lead the development of business requirements, and serve as liaisons between PSERS' end-users and Information Technology staff.

#### Bureau of Information Technology

This bureau is responsible for planning, coordinating, administering, and implementing information technology resources in accordance with the agency's strategic plans, goals, objectives, and priorities as communicated by PSERS' Chief Information Officer, and for providing operational support for those technologies and initiatives.

#### Infrastructure and Technical Services Division

This division is responsible for administering those information technology resources that collectively provide the fundamental hardware, software, security, network components and services required to support PSERS various applications.

#### Business Applications Division

This division provides consultative, technical, and operational support in the planning, design, specification, configuration, development, implementation, interfacing, operation, support, and troubleshooting of PSERS' business applications.

### Assistant Executive Director

This position reports to the Executive Director and may provide assistance to the Executive Director on agency-wide projects. The position administers the Health Options and Premium Assistance Programs in addition to the facilities, human resources, and procurement activities necessary to support, secure and optimize agency operations. Organizational units overseen by the Assistant Executive Director include the Bureau of Administration, the Human Resources Office, and the Health Insurance Office.

#### Bureau of Administration

This bureau provides facilities, purchasing and contracting, policies and procedures, business continuity, records management, automotive, mail, imaging, and other administrative services necessary to support agency functions.

#### Purchasing and Contracting Division

This division procures materials, supplies, and services needed to support organizational goals and develops, monitors, processes and evaluates contract usage in the agency.

#### Administrative Services Division

This division manages building and grounds for the agency both at headquarters and at the regional locations, provides mail, imaging services to the agency, asset management and other administrative services to the agency.

## Section 1 - PSERS Overview

### Organizational Structure (continued)

#### Security, Business Continuity, and Records Management Division

This division develops and implements those policies, programs and procedures necessary to ensure that PSERS' technology, and capital resources are secure and to ensure that PSERS is prepared to quickly recover and continue critical operations in the event of a disaster. The division also maintains office safety and health programs responsibility for managing PSERS' electronic data records, imaged records, paper and film/fiche records.

#### Human Resources Office

This office is responsible for supporting management and staff to facilitate the accomplishment of the agency's mission. It administers all human resources programs and ensures compliance with labor law and Commonwealth regulations. Programs include position classification, labor relations, recruitment and placement, employee benefits, employee compensation and pay, training and

staff development, time and attendance, performance management, organizational development and support, employee transactions, Equal Employment Opportunities and other miscellaneous programs.

#### Health Insurance Office

This office is responsible for all aspects of the PSERS' Health Options Program (HOP) and administering the PSERS annuitant health insurance premium assistance benefits. HOP is a voluntary statewide plan that provides group health insurance coverage for school retirees, their spouses, and eligible dependents.

#### PSERS Regional Offices

There are eight PSERS Regional Offices strategically located throughout the Commonwealth. The offices provide services to both active and retired PSERS members and 797 employers. Among these services are regularly scheduled retirement counseling meetings and other informational presentations on various topics relating to retirement benefits and programs.

Benefits Processed (Major Processes)		
Calendar Year	2012	2013
Initial Retirements (1-Step)	8,715	11,081
Initial Retirements (2-Step)	1,819	1,230
Final Retirements (2 <sup>nd</sup> Step of 2-Step)	2,241	1,308
Purchases of Service and Corrections for Previously Unreported Service and/or Contributions not Withheld	21,938	18,951
Refunds	5,133	4,728
Deaths	9,157	7,890
Account Verification - non retirements	9,356	10,211
<b>TOTAL</b>	<b>58,359</b>	<b>55,399</b>
Percent of Retirement Paid as 1-Step	83%	90%

Other Member Services (Major)		
Calendar Year	2012	2013
Estimates	18,671	25,370
Phone Calls Answered	228,229	267,804
E-mails Received	14,920	16,164
E-mails Sent	12,105	12,298
General Information Sessions	187	201
General Information Attendees	10,604	13,665
Exit Counseling Sessions	874	983
Exit Counseling Attendees	7,498	8,962

**PSERS REGIONAL OFFICES**

*Public School Employees' Retirement System of Pennsylvania*  
**PSERS FIELD SERVICES DIVISION**  
*Serving You in the 21<sup>st</sup> Century*

**NORTHWEST**  
 Suite C, Penn Wood Center  
 464 Allegheny Blvd.  
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 FAX (814) 437-5826  
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 Donald Gregory, Administrator

**NORTHCENTRAL**  
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 Lock Haven, PA 17745-1903  
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 FAX (570) 893-4414  
**Toll Free 1-888-773-7748 ext. 5275**  
 Jeremy Wibbe, Administrator

**NORTHEAST**  
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 417 Lackawanna Avenue  
 Scranton, PA 18503-2013  
 Local (570) 614-0269  
 FAX (570) 614-0278  
**Toll Free 1-888-773-7748 ext. 5375**  
 Sherry L. Hoxie, Administrator

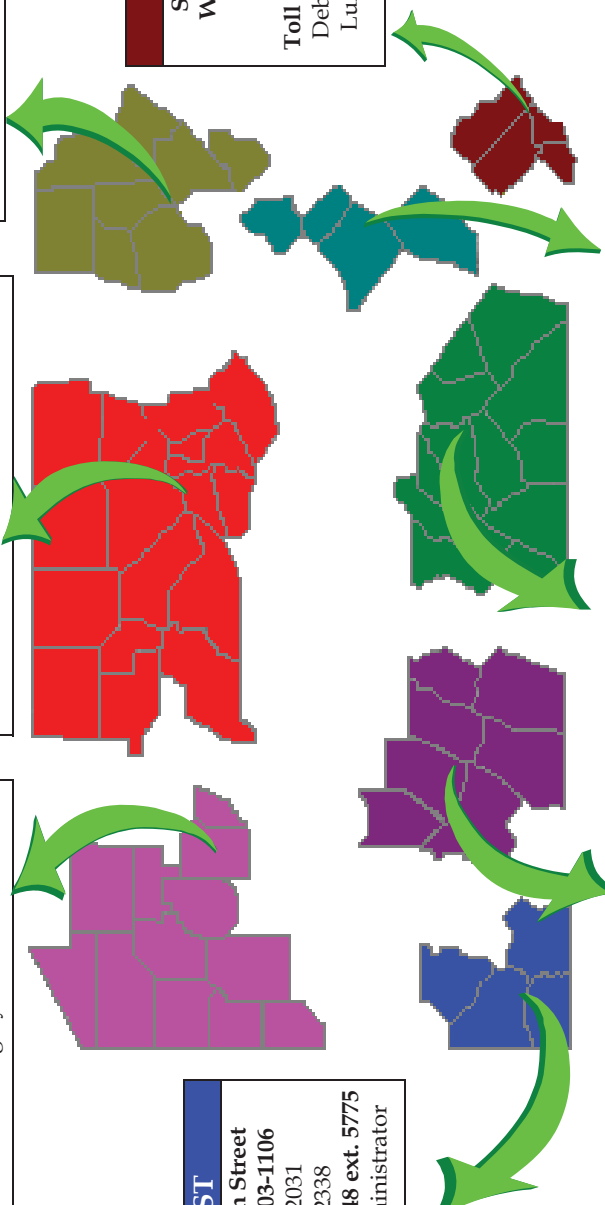
**SOUTHWEST**  
 Suite 208, 900 Sarah Street  
 Pittsburgh, PA 15203-1106  
 Local (412) 488-2031  
 FAX (412) 488-2338  
**Toll Free 1-888-773-7748 ext. 5775**  
 Russell J. Miller, Administrator

**SOUTHEAST**  
 Suite 500, 605 Louis Drive  
 Warminster, PA 18974-2825  
 Local (215) 443-3495  
 FAX (215) 443-3487  
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 Deborah Puskas, Administrator  
 LuAnn Rowan, Administrator

**CENTRALWEST**  
 219 W. High Street  
 Ebensburg, PA 15931-1540  
 Local (814) 419-1180  
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 Lisa A. York, Administrator



## Section 1 - PSERS Overview

### PSERS' Member Demographics and Economic Information

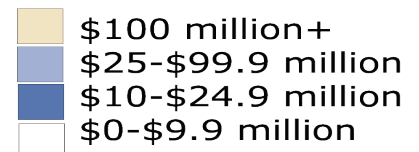
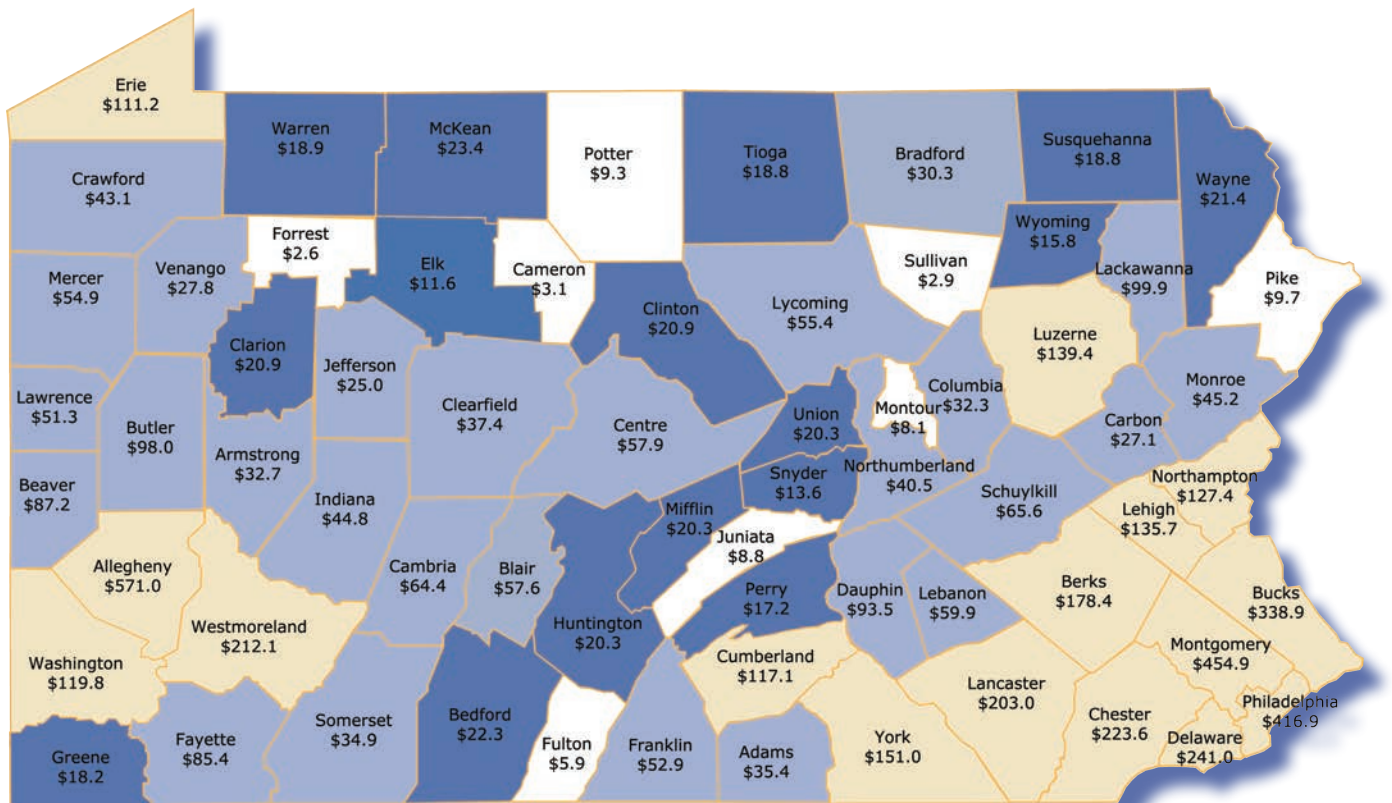
**Economic Impact of Pension Benefits on Pennsylvania**  
 In calendar Year 2013, PSERS pension disbursements to retirees totaled approximately \$6.0 billion. Of this amount, approximately 91%, or \$5.5 billion, went directly into state and local economies. Pension benefits received by retirees are spent in the local community, and support thousands of jobs.

The map below shows PSERS pension benefit disbursements by county for calendar year 2013.

#### Top 10 Counties Based on Amount of Disbursements to Retirees from PSERS (Millions)

<b>Allegheny</b>	<b>\$571.0</b>
<b>Montgomery</b>	<b>\$454.9</b>
<b>Philadelphia</b>	<b>\$416.9</b>
<b>Bucks</b>	<b>\$338.9</b>
<b>Delaware</b>	<b>\$241.0</b>
<b>Chester</b>	<b>\$223.6</b>
<b>Westmoreland</b>	<b>\$212.1</b>
<b>Lancaster</b>	<b>\$203.0</b>
<b>Berks</b>	<b>\$178.4</b>
<b>York</b>	<b>\$151.0</b>

## Public School Employees' Retirement System Total Pension Benefit Disbursement by County for CY 2013 (millions)



## Section 1 - PSERS Overview

### PSERS' Member Demographics and Economic Information (continued)

Fiscal Year ended <u>June 30</u>	Members by Type					Ratio of Active/ Retired	Total Inactive, Active & Survivor Annuity
	Active Members	Inactive Members	Annuitants, Beneficiaries, and Survivor Annuity	Total Active/Retired Members			
2013	267,428	128,650	209,204	476,632	1.28 to 1	605,282	
2012	273,504	122,286	202,015	475,519	1.35	597,805	
2011	279,152	115,102	194,622	473,774	1.43	588,846	
2010	282,041	111,931	184,934	466,975	1.53	578,906	
2009	279,701	103,805	177,963	457,664	1.57	561,469	
2008	272,690	100,803	173,540	446,230	1.57	547,033	
2007	264,023	109,186	168,026	432,049	1.57	541,235	
2006	263,350	94,071	161,813	425,163	1.62	519,234	
2005	255,465	58,720	156,519	411,984	1.63	470,704	
2004	247,901	72,014	151,552	399,453	1.63	471,467	
<b>Average ratio of annuitants to active members (Public Funds)</b>					1.65*		

\*Based on the December 2013 Public Fund Survey prepared by the National Association of State Retirement Administrators (NASRA).

Profile of PSERS' Annuitants, Beneficiaries, and Survivor Annuity				
Type of Member	Number of Members		Average Annual Benefit	
	<u>6/30/2012</u>	<u>6/30/2013</u>	<u>6/30/2012</u>	<u>6/30/2013</u>
Normal/Early Retirees	182,254	189,170	\$25,323	\$25,746
Survivor Annuity	11,455	11,469	\$9,731	\$10,394
Disability Retirees	<u>8,306</u>	<u>8,565</u>	\$17,604	\$18,384
Total	202,015	209,204	\$24,122	\$24,603

Age and Service Profile of All Active Members		
	<u>June 30, 2012</u>	<u>June 30, 2013</u>
Average Age	44.7 years	44.8 years
Average Years of PSERS Service	10.7 years	10.8 years
Average Annual Compensation	\$46,487	\$47,030

Class T-E Members		
	<u>June 30, 2012</u>	<u>June 30, 2013</u>
Number of Members	11,361	22,405
Average Age	35.6 years	35.9 years
Average Years of PSERS Service	0.4 years	0.7 years
Average Annual Compensation	\$21,254	\$22,573

Class T-F Members		
	<u>June 30, 2012</u>	<u>June 30, 2013</u>
Number of Members	1,531	3,496
Average Age	34.7 years	35.3 years
Average Years of PSERS Service	0.5 years	0.9 years
Average Annual Compensation	\$27,572	\$30,532

## Section 1 - PSERS Overview

### PSERS' Member Demographics and Economic Information (continued)

PSERS Pension Plan Changes in Net Assets 10 Year Cumulative Summary (Dollar Amounts in Millions)		
		Cumulative 10 Year Total
		<u>July 1, 2003 - June 30, 2013</u>
<b>Balance of Net Assets (07/01/03)</b>		\$ 42,316
Member Contributions	\$ 8,984	
Employer Contributions	6,783	
Net Investment Income	37,543	
Total Deductions - Benefits & Expenses	(46,612)	
<b>Net Increase</b>		<b>\$ 6,698</b>
<b>Balance of Net Assets (6/30/13)</b>		<b>\$ 49,016</b>

Cash Flow Fiscal Years Ended in June 30 (Dollar Amounts in Millions)				
		--- Projected ---		
		<u>2013</u>	<u>2014</u>	<u>2015</u>
Member Contributions	\$ 991	\$ 979	\$ 1,004	
Employer Contributions	1,446	2,119	2,759	
<b>Total Contributions</b>	<b>\$ 2,437</b>	<b>\$ 3,098</b>	<b>\$ 3,763</b>	
<b>Less:</b>				
Pension Benefits	6,017	6,504	6,915	
<b>Negative Cash Flow</b>	<b>\$ -3,580</b>	<b>\$ -3,406</b>	<b>\$ -3,152</b>	
<b>Beginning of Year Total Assets</b>	<b>\$ 48,534</b>	<b>\$ 49,016</b>	<b>\$ 49,316</b>	
<b>Negative Cash Flow (NCF) as a % of Total Assets</b>	<b>-7.4%</b>	<b>-6.9%</b>	<b>-6.4%</b>	
<b>Average NCF as a % of Total Assets (Public Funds)</b>	<b>-2.9%*</b>			

\*Based on the December 2013 Public Fund Survey prepared by NASRA.

#### Negative Cash Flow (NCF)

Using data from the table at the top of the page, the last 10 years of contributions and benefit payments resulted in a NCF of -\$30.8 billion during that time period. For the fiscal year ended June 2013, PSERS' NCF percentage is -7.4% which is more than twice the public fund average. Due to the projected increase in contributions through FY2014/2015, PSERS' projected NCF percentage declines to -6.4% but still remains over twice the -2.9% average of public funds\*.

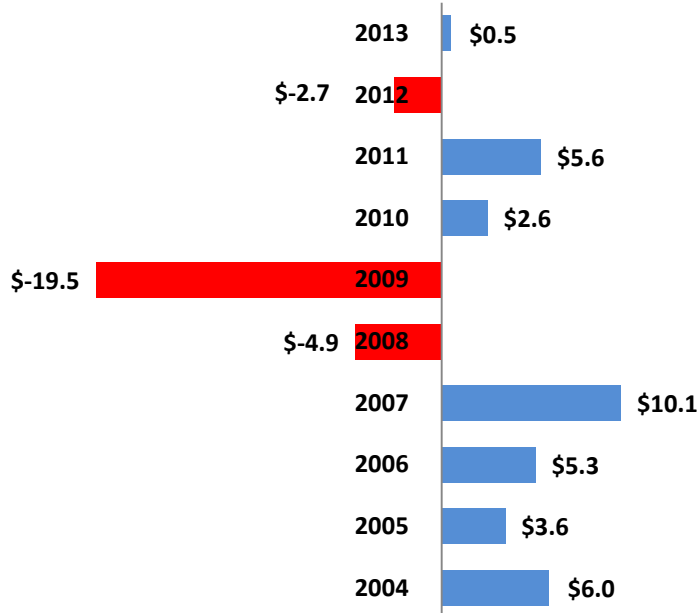
As a result of the large negative cash flow, PSERS has to sell a large portion of its investments each year to fund benefit payments. Consequently, even during years when

PSERS meets its investment return assumption, the Fund's assets will grow very slowly until employer contribution rates increase to the level recommended by PSERS' actuary. Regardless of PSERS's asset growth, the liability for pension benefits continues to grow each year. Without sustained asset growth PSERS unfunded liability will continue to grow until FY2018-2019 when contributions will be sufficient to begin to pay down the unfunded liability.

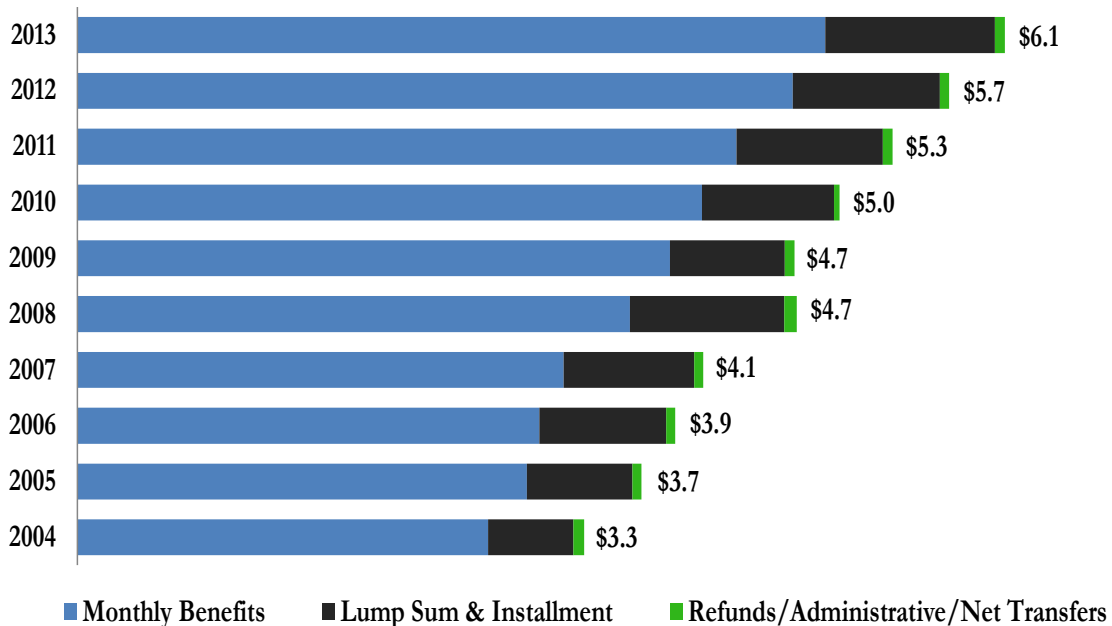
## Section 1 - PSERS Overview

### PSERS' Member Demographics and Economic Information (continued)

**Net Increase/Decrease to Pension Plan Net Assets \***  
**10 Year Trend (Fiscal Year Ended June 30)**  
 (Dollar Amounts in Billions)



**Deductions from Pension Plan Net Assets\***  
**10 Year Trend (Fiscal Year ended June 30)**  
 (Dollar Amounts in Billions)



\*Does not include PSERS Postemployment Healthcare Plan Net Assets.



## The Actuarial Process and Pension Plan Funding

PSERS is a defined benefit plan, meaning benefits are based on members' service and salary history. The following information highlights the actuarial process and funding for PSERS.

### Actuarial Process

The actuarial process presumes that there will be a systematic flow of contributions at a specified level to pay for plan benefits and that the flow of contributions, together with investment earnings, will be sufficient to meet all benefit and expense requirements of the plan. Actuarial cost methods for funding PSERS pension plan are defined in the Public School Employees' Retirement Code. The actuary for the pension plan reviews economic and demographic experience annually and over five-year periods. The actuary's periodic valuations test the validity of the underlying actuarial assumptions versus the actual experience of the plan. That experience is also used as a basis for formulating actuarial assumptions about what will occur in the future with respect to salary growth, investment returns, and demographic factors such as rates of retirement and death.

Effective with the June 30, 2011 actuarial valuation, PSERS adopted several new demographic and economic assumptions as a result of the Five-year Experience Study completed by PSERS' actuary. PSERS' investment rate of return assumption was changed from 8.00% to 7.50%, the Salary Growth Assumption was changed from 6.00% to 5.50%, and new mortality tables were adopted.

### Funding

The plan is funded through three sources: (1) employer contributions; (2) member contributions; and, (3) investment earnings. As depicted in the chart at the bottom of the page, for the ten-year period ended June 30, 2013 investment earnings provided 69% of PSERS' funding followed by 17% from members. Employers contributed 14%, the smallest of the three sources.

### Employer Contributions

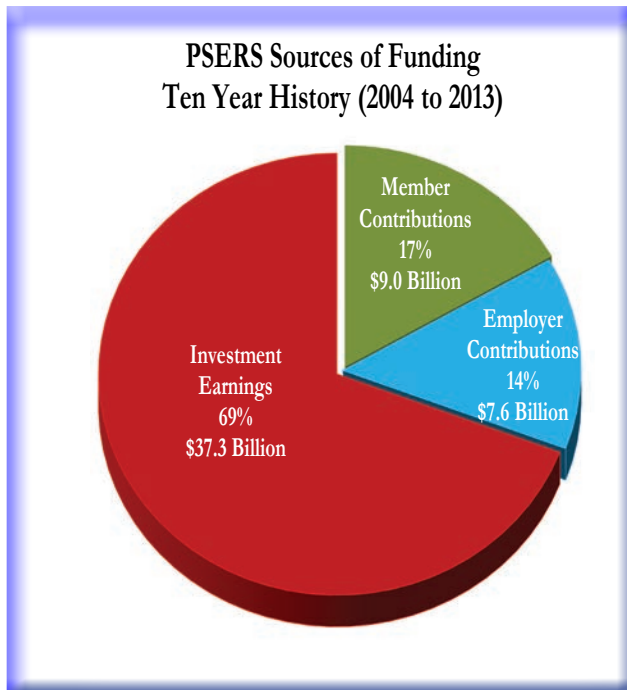
The Retirement Code vests the Board with the authority to establish the employer contribution rate (ECR). The Board, in consultation with the actuary, establishes the employer contribution rate annually, as part of the annual actuarial valuation. The employer contribution rate, which is expressed as a percentage of payroll, is composed of two items: (1) the pension contribution; and, (2) the contribution for health care premium assistance.

The total employer contribution rate for the fiscal year ended June 30, 2013 was 12.36%, including 0.86% for healthcare premium assistance. The total employer contribution rate for the year ending June 30, 2014 is 16.93%. This rate consists of an 16.00% pension rate (FY2012/13 pension rate of 11.50% plus the Act 120 4.50% collar) plus the healthcare premium assistance contribution of 0.93%. The FY2014/15 employer contribution rate is 21.40%. This rate consists of a 20.50% pension rate (FY2013/14 pension rate of 16.00% plus the Act 120 4.50% collar) plus the healthcare premium assistance contribution of 0.90%. The Board of Trustees certified this rate that was calculated in accordance with the provisions of Act 120 of 2010 at their December 2013 meeting. Without the Act 120 collar the employer contribution rate would be 26.87% in FY2014/15.

For the fiscal year ended June 30, 2013, PSERS' employer contributions totaled \$1.555 billion, which includes \$109 million for healthcare premium assistance. For the fiscal year ending June 30, 2014 the employer contribution estimate is \$2.230 billion, reflective of the 16.93% contribution rate. The contribution rate for the fiscal year ending June 30, 2015 is 21.40% which results in an employer contribution estimate of \$2.885 billion.

### Member Contributions

Members of the Public School Employees' Retirement System who, prior to Act 9 of 2001, contributed to the Retirement Fund at the rate of 6.25% of their gross compensation, began contributing 7.50% in January of 2002, if they elected the higher retirement benefits. Members who contributed at the rate of 5.25% began contributing 6.50% if they elected the higher retirement benefits. The average contribution rate payable by the members for the current year (FY2013/14) is 7.43%.



**The Actuarial Process and Pension Plan Funding  
(continued)**

In accordance with Act 120 of 2010, any employee who becomes a member after June 30, 2011 is a Class T-E member or, alternatively, can elect to become a Class T-F member. The base contribution rate for Class T-E members is 7.50% of compensation. The base contribution rate for Class T-F members is 10.30% of compensation. Class T-E and Class T-F members are subject to a “shared risk” employee contribution rate. The member contribution rate will stay within the specified range allotted for Class T-E or Class T-F, but could increase or decrease every three years starting July 1, 2015 depending on investment performance. Members now share a portion of the investment risk of the Fund giving PSERS a defined contribution element.

PSERS members contributed \$991 million for pension contributions for FY2013. Total member contributions are estimated to be \$979 million for the year ending June 30, 2014 and \$1.006 billion for the fiscal year ending June 30, 2015.

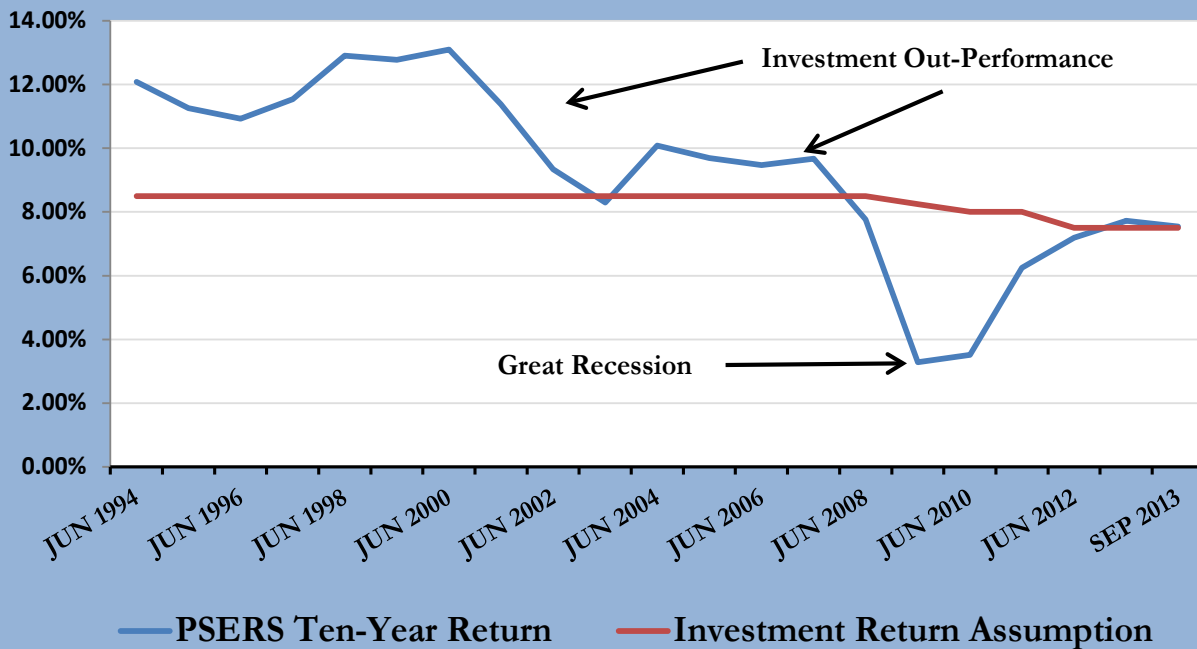
**Investment Returns**

The investment rate of return (net of fees) for the fiscal

years ended June 30, 2013 and June 30, 2012 was 7.96% and 3.43%, respectively. The annualized rates of investment return for the three, five and ten-year periods ended June 30, 2013 were 10.36%, 2.50% and 7.72% respectively. The investment rates of return for the one, three, five and ten-year periods ended September 30, 2013 were 6.99%, 8.94%, 5.53% and 7.54%, respectively. Over the past 25 years ended September 30, 2013 the Fund earned an estimated annualized rate of return of 8.71% which exceeded the Fund’s long term investment rate of return assumption during that time period.

PSERS’ ten-year return as shown in the chart at the bottom of the page has exceeded the actuarial investment rate of return for 15 of the last 20 years. Throughout much of the 1990s and 2000s PSERS investment performance exceeded its investment rate of return assumption. This outstanding investment performance resulted in declining employer contribution rates and/or contribution rates lower than the annual normal cost of benefits for most of those two decades. As a result of negative returns during the Great Recession, PSERS ten-year return dropped below the investment return assumption for several years. As a result of strong performance since the Great Recession, PSERS ten-year return once again exceeds its rate of return assumption.

**PSERS Ten-Year Return From June 1994 Through September 2013 Compared to Investment Rate of Return Assumption**



**The Actuarial Process and Pension Plan Funding  
(continued)**

**Funded Status**

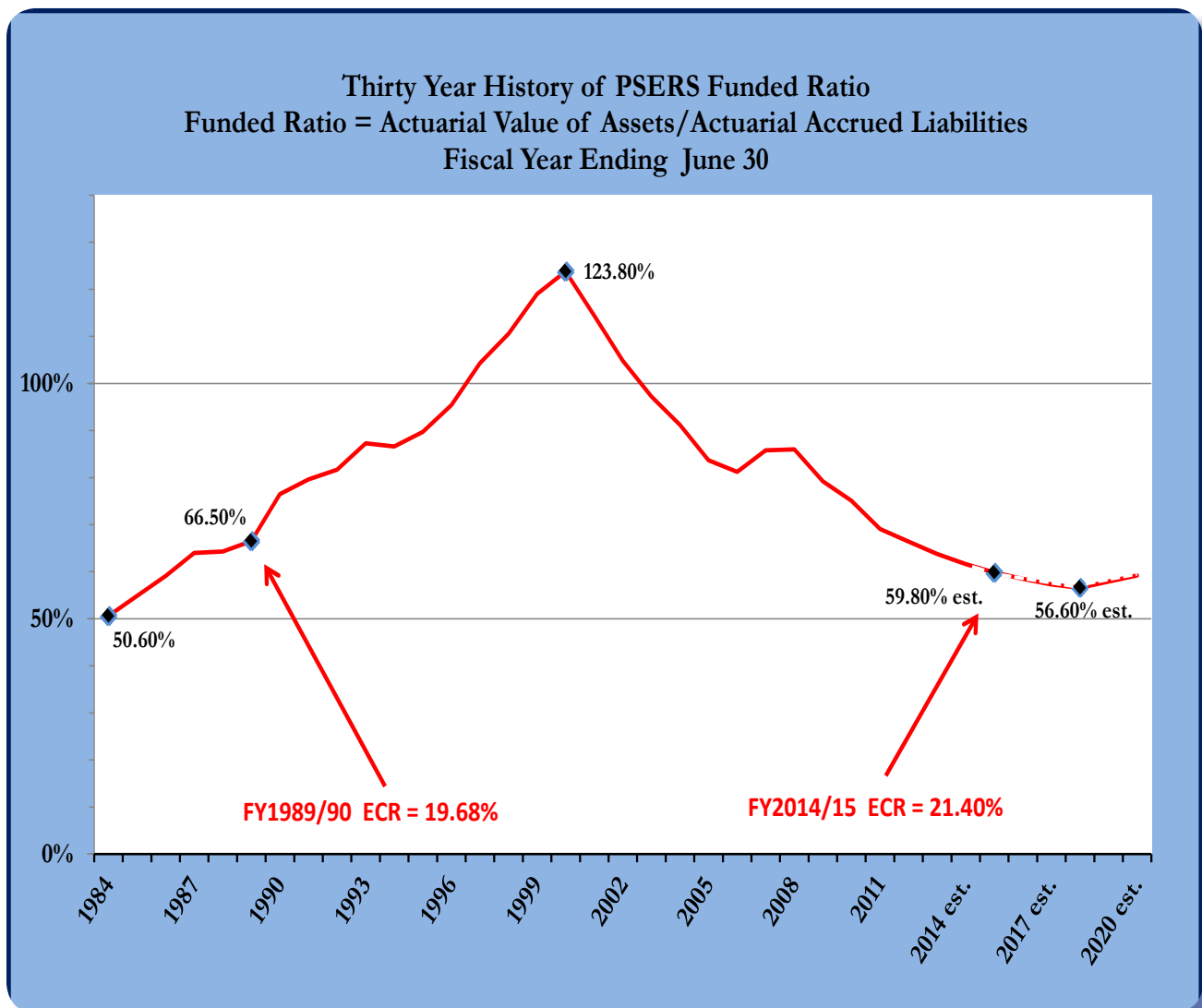
PSERS funded status is measured by comparing the actuarial value of assets with the accrued liability. The accrued liability is the present value of benefits accumulated to date for both active and retired members.

**Key Facts**

- Funded Status: 63.8% as of June 30, 2013
- Funded Status: 66.4% as of June 30, 2012
- The decrease in FY2013 is primarily due to the actuarial value of assets loss that occurred during the year as a result of the 10 year asset smoothing used

for actuarial valuation purposes and the continued underfunding of PSERS by its employers. As a result of Act 120, employers under funded PSERS by \$2.2 billion in FY2013.

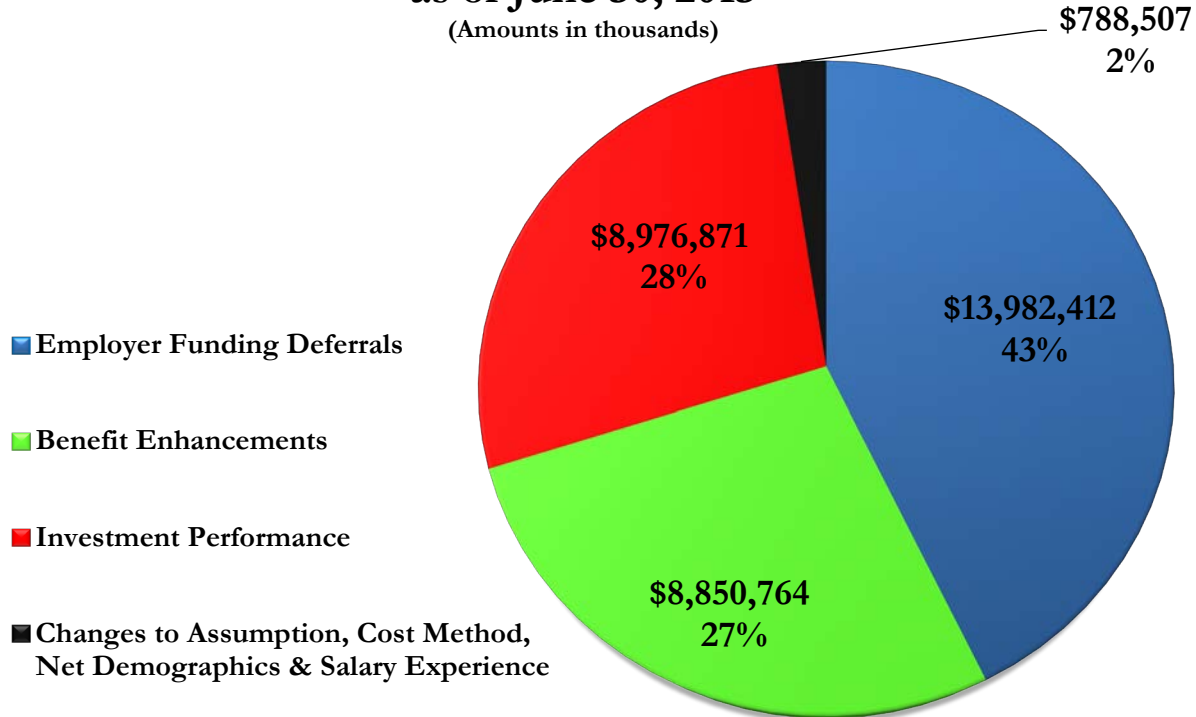
- The decrease in the funded status since 2000 is the result of several factors including: the unfavorable investment markets from FY2001 to FY2003 and FY2008 to FY2009; funding changes enacted in Act 38 of 2002 and Act 40 of 2003 which resulted in employers underfunding PSERS; the adoption of new demographic and economics assumptions in FY2008, FY2009 and FY2011; funding collars in Act 120 of 2010 which have continued the employer underfunding of the system; and, actuarial liability losses.
- A thirty-year history and seven year projection of PSERS' funded status is shown below.



**The Actuarial Process and Pension  
Plan Funding  
(continued)**

**PSERS Sources of Unfunded Liability Total - \$32,598,554  
as of June 30, 2013**

(Amounts in thousands)



**Sources of Unfunded Liability**

The system's total funded ratio (for Pensions and Health Insurance combined) is 63.8% as of June 30, 2013. This funded ratio is based on an actuarial value of assets of \$57.5 billion and an accrued liability of \$90.1 billion which equates to a \$32.6 billion unfunded liability. The chart above depicts the sources of the unfunded liability. The largest sources of unfunded liability in order of magnitude are employer funding deferrals (43%), investment performance (28%), and benefit enhancements (27%), which include Act 9, cost of living increases and early retirement incentives. As a result of the Act 120 contribution rate col-lars, employer funding deferrals will continue to increase the unfunded liability for several years.

For many years PSERS' outstanding investment performance, which exceeded the investment return assumption, compensated for unfunded benefit enhancements and employer funding deferrals. The Great Recession eliminated the previous investment out-performance and reduced PSERS long-term investment performance which, as of

September 30, 2013, is now close to its return assumption. Without the investment out-performance to compensate, the employer funding deferrals and benefit enhancements have significantly increased PSERS unfunded liability. Seventy percent of PSERS June 30, 2013 unfunded liability is due to employer funding deferrals and benefit enhancements.

## The Actuarial Process and Pension Plan Funding (continued)

### GASB Pension Accounting and Financial Reporting Project (Pension Project)

In June 2012, the Governmental Accounting Standards Board (GASB) approved a pair of related Statements that reflect substantial changes to the accounting and financial reporting of pensions by state and local governments and pension plans. Statement No. 67, *Financial Reporting for Pension Plans*, addresses financial reporting for state and local government pension plans. Statement No. 68, *Accounting and Financial Reporting for Pensions*, establishes new accounting and financial reporting requirements for governments that provide their employees with pensions.

Statement No. 67 replaces the requirements of Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, for most public employee pension plans. Statement No. 68 replaces the requirements of Statement No. 27, *Accounting for Pensions by State and Local Governmental Employers*, for most government employers. The new Statements also replace the requirements of Statement No. 50, *Pension Disclosures*, for those governments and pension plans.

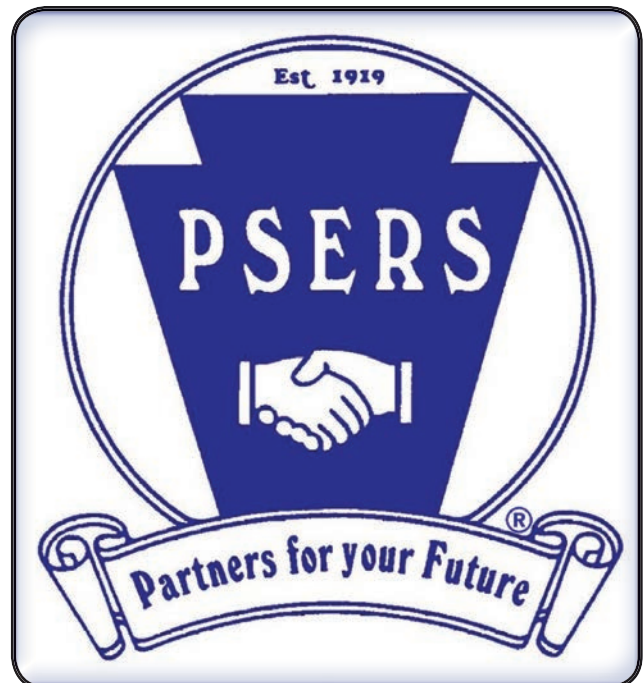
Statement No. 67 provides public employee pension plans such as PSERS guidance for financial reporting. Statement No. 67 will significantly change related financial reporting through note disclosures and new required supplementary information (RSI) schedules. These changes are necessary for government employers to comply with Statement No. 68.

Statement No. 68 will require cost-sharing governments (employers) to report a net pension liability, pension expense, and pension-related deferred inflows and outflows of resources based on their proportionate share of the collective amounts for all the employers in the plan. Additionally, all government employers participating in the plan will be required to include plan information in their note disclosures and RSI schedules.

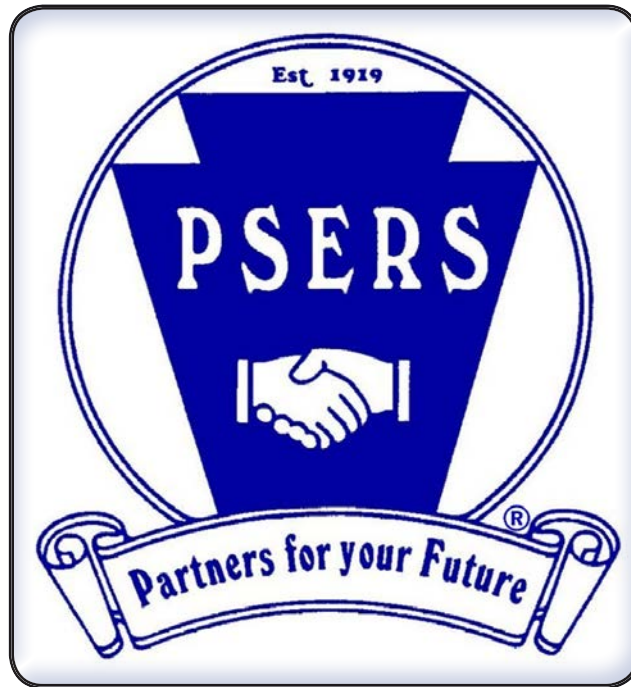
Statement No. 67 took effect for pension plans in fiscal years beginning after June 15, 2013. Statement No. 68 will take effect for employers and governmental nonemployer contributing entities in fiscal years beginning after June 15, 2014. Statements Nos. 67 and 68 are available for download at no cost from the GASB website, [www.gasb.org](http://www.gasb.org). PSERS will implement Statement No. 67 and include Statement No. 68 disclosures for employers in FY2013/14.

### Impact of Reducing Act 120 Rate Collars

The Governor's budget has proposed reducing the rate collars under Act 120 which will lower the employer contribution rate over the next five years. Under Statements No. 67 and 68, any reductions to the Act 120 collars will likely result in an increase to the unfunded accrued liability which must be reported in PSERS' financial statements and recorded as a liability on the balance sheet of PSERS' employers.



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## Employer Contribution Rate

PSERS undergoes an annual independent actuarial valuation to calculate the actuarial assets and liabilities of the pension fund. Based on the actuarial valuation process, the actuary develops the recommended Employer Contribution Rate (ECR) that determines the employer contributions to the pension plan and healthcare premium assistance. The valuation process also measures the progress of the pension system towards funding pensions for its active and retired members.

### Employer Contribution Rate Statistics

- Highest historical ECR (FY1985/86) 20.04%
- Lowest historical ECR (FY2001/02) 1.09%
- Ten yr. avg. ECR (2004/05 to 2013/14) 7.56%
- Twenty yr. avg. ECR (1994/95 to 2013/14) 6.82%
- Thirty yr. avg. ECR (1984/85 to 2013/14) 10.52%
- Adopted ECR (FY2014/15) 21.40%

PSERS' average member rate, employer contribution rate and normal cost for thirty years is presented in the graph on the bottom of the page.

## Act 120 of 2010

### Progress on Funding Issue

PSERS is in the 3rd year of a multi-year phase in of Act 120 of 2010. Act 120 provided historic pension reform and made dramatic progress toward addressing funding issues at PSERS. The legislation included actuarial and funding changes to PSERS and benefit reductions for individuals who become new members of PSERS on or after July 1, 2011. Members hired since the passage of Act 120 now total over 35,000 and account for 13% of the total active membership.

### Impact of Benefit Cuts for New Members on or after July 1, 2011

For school employees who become new members of PSERS on or after July 1, 2011, there are two new classes; Class T-E and T-F.

#### Class T-E

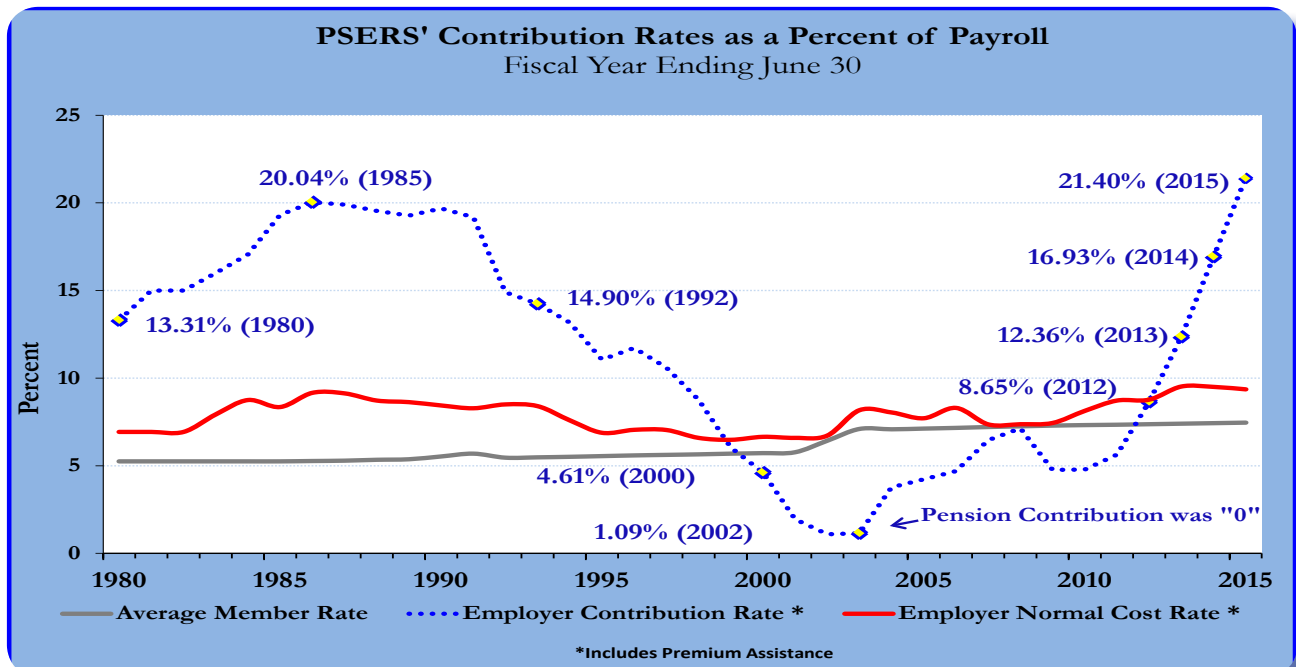
- Pension multiplier is 2%
- Effective July 1, 2011 employee contribution base rate is 7.5% (base rate) with "shared risk" contribution levels between 7.5% and 9.5%

#### Class T-F

- Pension multiplier is 2.5%
- Effective July 1, 2011 employee contribution base rate is 10.3% (base rate) with "shared risk" contribution levels between 10.3% and 12.3%

Class T-E and T-F members benefit when investments in the fund are doing well and share some of the risk when investments underperform. The member contribution rate could increase by .5% every three years starting July 1, 2015, depending on the investment performance of PSERS.

As of December 31, 2013, 4,638 or 13.3% of new members elected class T-F and 30,253 or 86.7% of new members remained in class T-E. As indicated above, Class T-F members maintain the higher 2.5% pension multiplier but contribute at a higher member contribution rate than Class T-E members.



## Section 1 - PSERS Overview

### Employer Contribution Rate

(continued)

#### Funding/Actuarial Changes Summary

##### Funding Changes - Employer Contributions

The legislation also 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 as follows:

- FY2011/12 - not more than 3.0% plus the premium assistance contribution rate
- FY2012/13 - not more than 3.5% plus the premium assistance contribution rate
- FY2013/14 and thereafter - not more than 4.5% plus the premium assistance contribution rate

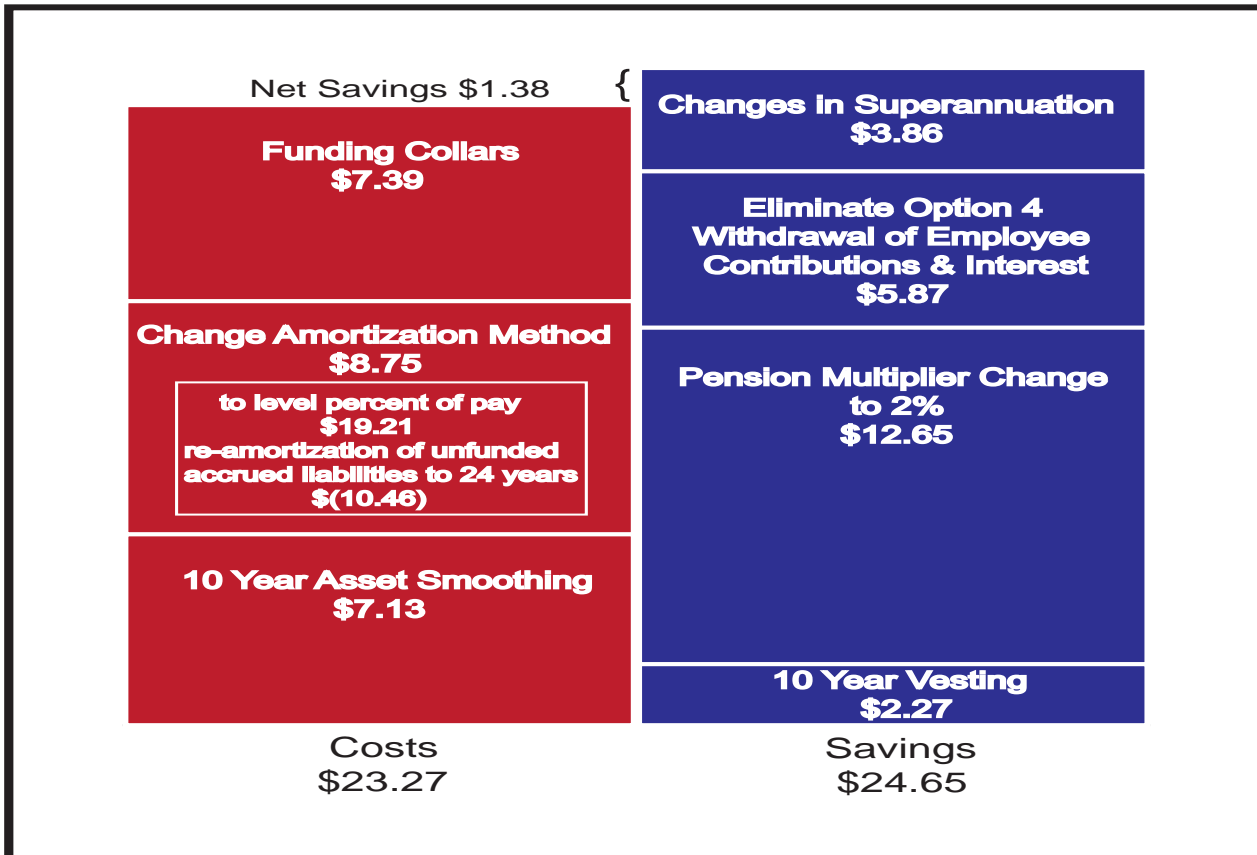
The rate cap remains at 4.5% until the rate cap no longer applies, i.e. the rise in the employer contribution rate is less than the rate cap in effect at that time.

After that, the rate is what is calculated by PSERS actuary and approved by the PSERS Board, subject to a new rate floor or minimum employer contribution rate that is the employer normal cost (currently about 8%), plus the premium assistance contribution rate. The "employer normal cost" is the amount needed from the school employers to fund the benefits earned by the active members for that year.

##### Act 120 Costs and Savings

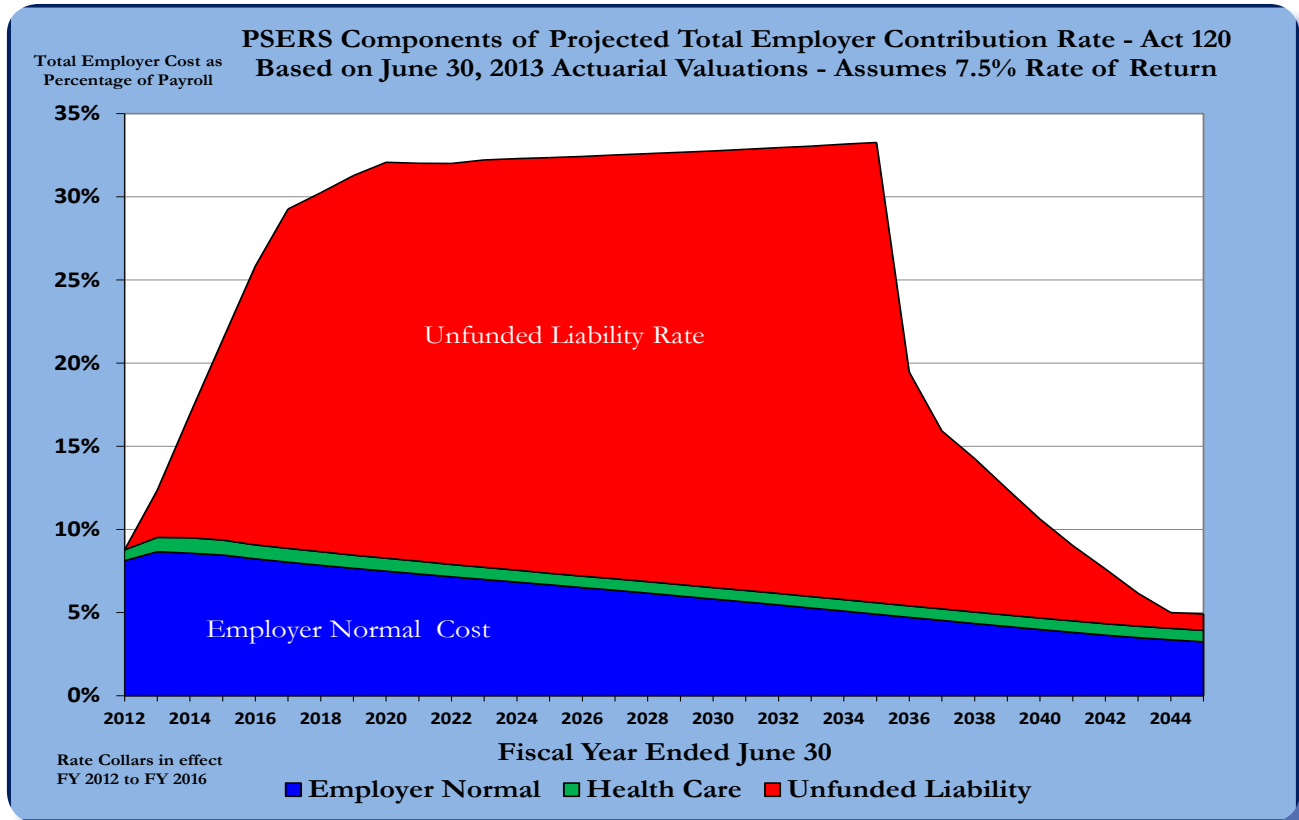
As depicted by the chart below, Act 120 has a projected net savings of \$1.38 billion over 30 years. Act 120 benefit reductions are projected to save \$24.65 billion through FY2043/44. The cost savings from benefit reductions are offset by Act 120 funding and actuarial changes. Those changes defer contributions for budgetary purposes and are projected to cost \$23.27 billion through FY2043/44.

### Act 120 of 2010 Costs and Savings Compared to Prior Law Projected to FY 2043/2044 (*\$ in billions*)





Employer Contribution Rate  
(continued)



**Act 120 Employer Costs**

The cost structure of PSERS’ new members under Act 120 is low and the shared risk provisions shift a portion of the investment risk to active members giving PSERS a defined contribution element. The chart at the top of the page shows the components of the projected total employer contribution rate with unfunded liability, employer normal cost, and health care premium assistance. Essentially, Act 120 provides the members with a defined benefit plan, which is both adequate and secure, and provides the employers with a low cost employee pension benefit funded primarily by the members who have also assumed some of the investment risk. As the chart depicts, the employer normal cost decreases over time as Act 120 members replace retiring pre-Act 120 members. The employer normal cost of Act 120 members is less than 3% of payroll which is over 65% less than the normal cost for pre-Act 120 members. This represents a significant cost reduction for the employers.

Regardless of the benefit structure going forward, as depicted in the chart at the top of this page, the unfunded liability accumulated for service already rendered by active members is significant and represents a much larger cost to employers than the projected normal cost for existing and Act 120 members over the next 25 years.



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## Section 1 - PSERS Overview

### Employer Contribution Rate (continued)

Comparison of Projected Employer Retirement Contributions								
Pre-Act 120 vs. Act 120								
Fiscal Year Ending June 30	(A) Appropriation Payroll (in thousands)	(B) Employer Contribution Rates	(C) Pre-Act 120 Employer Contributions (in thousands)	(D)=(A)*(B) Act 120 Employer Contributions (in thousands)	(E)=(C)-(D) Budgetary Amount Deferred (in thousands)	(E)*56% (56%) State Share of Deferral (in thousands)	(E)*44% (44%) School Share of Deferral (in thousands)	% of GASB's Annual Required Contributions (ARC)
2013	\$12,836,000 *	12.36%	\$3,781,486	\$1,586,530	\$2,194,956	\$1,229,175	\$965,781	46
2014	\$13,174,000 *	16.93%	\$4,257,837	\$2,230,358	\$2,027,479	\$1,135,388	\$892,091	58
2015	\$13,482,000	21.40%	\$4,560,961	\$2,885,148	\$1,675,813	\$938,455	\$737,358	71
2016	\$13,841,530	25.84%	\$4,635,528	\$3,576,651	\$1,058,877	\$592,971	\$465,906	81
2017	\$14,214,689	29.27%	\$4,685,161	\$4,160,639	\$524,522	\$293,732	\$230,790	90
2018	\$14,613,842	30.25%	\$4,714,425	\$4,420,687	\$293,738	\$164,493	\$129,245	91
<b>Cumulative Total Budgetary Deferral</b>					<b>\$7,775,384</b>	<b>\$4,354,215</b>	<b>\$3,421,169</b>	

\* Updated for most recent actual payroll.

#### Act 120 Budgetary Deferral

As indicated previously, the funding and actuarial provisions of Act 120 provided the Commonwealth and school employers a nine year period to appropriate funds for PSERS' unfunded liability. Act 120 will defer a total of \$7.8 billion in employer contributions from FY2012/13 through FY2017/18 as seen in the table at the top of the page. If Act 120 was not in place, the employer contribution rate would have spiked to 33.83% in FY2014/15 under previous law. That is an approximately \$1.7 billion dollar difference between the 33.83% Pre-Act 120 employer rate and the 21.40% employer rate that will go into effect July 1, 2014. The current FY2013/14 employer contribution rate of 16.93% also results in a \$2.0 billion reduction in employer contributions over the Pre-Act 120 contribution rate of 32.32%.

#### PSERS Annual Required Contributions

The schedule of employer contributions below shows historical trend information for the Annual Required Contribution (ARC) for pensions, and the percentage of the ARC contributed to the pension system. In addition, the Comparison of Employer Retirement Contributions table at the top of this page reflects projected ARC percentages through FY2017/18.

Depicted in the table below, as a consequence of the structural deficit in the Commonwealth's budget, the Commonwealth and school employers have not made the required annual payments to PSERS for the past eight years. Taxpayers, as a result, have benefited significantly from employer pension funding deferrals. However, bond rating agencies have already reduced Pennsylvania's bond

Schedule of Employer Contributions					
Year ended June 30	Annual Required Contributions (ARC)		Actual Employer Contributions		ARC Percentage Contributed
	\$	\$	\$	\$	%
2013	\$ 3,110,429	\$ 1,434,815	*		46%
2012	\$ 2,629,244	\$ 1,001,140	*		38%
2011	\$ 2,436,602	\$ 646,560	*		27%
2010	\$ 1,928,278	\$ 527,212	*		27%
2009	\$ 1,761,295	\$ 503,227	*		29%
2008	\$ 1,852,238	\$ 753,532			41%
2007	\$ 1,708,821	\$ 659,545			39%
2006	\$ 1,328,373	\$ 456,878			34%

\* Net of purchase of service contributions.

## Section 1 - PSERS Overview

### Employer Contribution Rate (continued)

rating one time and pension funding was noted as one of the reasons for the decrease. Pennsylvania must continue to increase its contributions to PSERS as provided in Act 120.

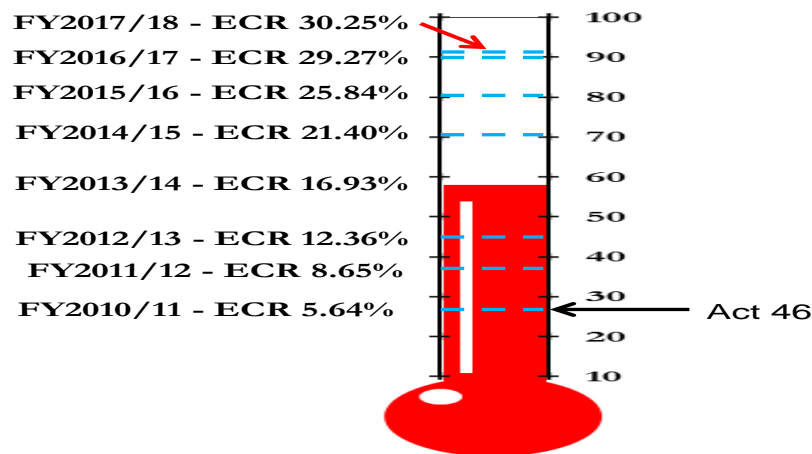
PSERS Board certified an employer contribution rate of 21.40% for FY2014/15 in compliance with Act 120. As a result, PSERS' ARC percentage is projected to increase from 58% in the FY2013/14 to 71% in FY2014/15. PSERS' projected ARC percentage of 58% for FY2013/14 is well below the average ARC percentage of 88% for public funds based on the December 2013 Public Fund Survey prepared by the National Association of State Retirement Administrators (NASRA).

The FY2014/15 contribution rate of 21.40% includes a portion to fund interest on the unfunded liability of the System. This will be the third consecutive year PSERS

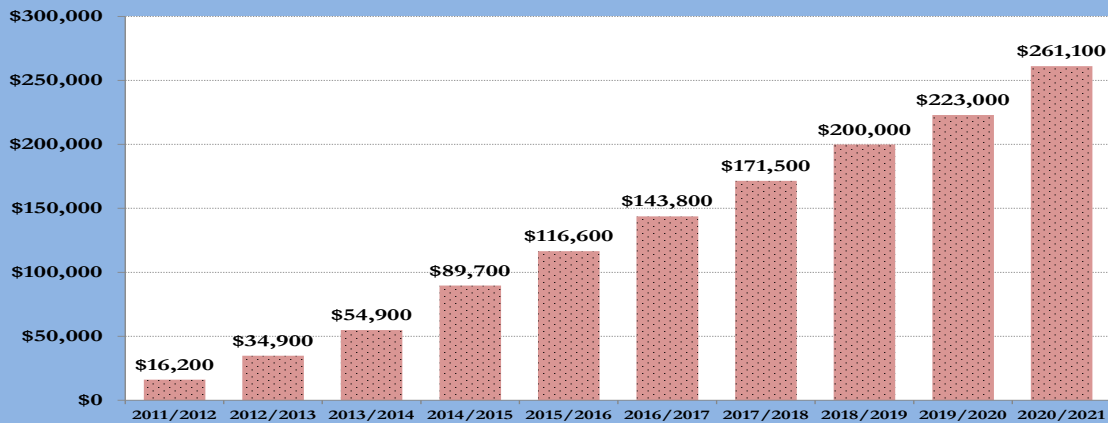
employer contribution rate includes a portion to pay for some of interest costs on the unfunded liability. As depicted in the thermometer chart below, the gradual rate increases under Act 120 are moving PSERS toward the 100% ARC goal. Rate increases implemented so far have moved the ARC from 27% to 58%. The funding provisions of Act 120 are working. Future projected contribution rate increases will raise PSERS' ARC percentage to nearly 90% by FY2016/17 which is slightly above the current average ARC of 88% for major public plans (NASRA).

The total estimated savings of the TE/TF Benefit Tiers is illustrated in the chart at the bottom of the page. As the number of TE/TF members grows, the savings from the low TE/TF cost structures also increases and will allow a bigger portion of employer contributions to go towards paying the unfunded liability.

### ACT 120 Funding Progress PSERS Annual Required Contributions (ARC%)



### Act 120 Total Estimated Annual Savings from TE/TF Benefit Tiers (ooo's omitted)

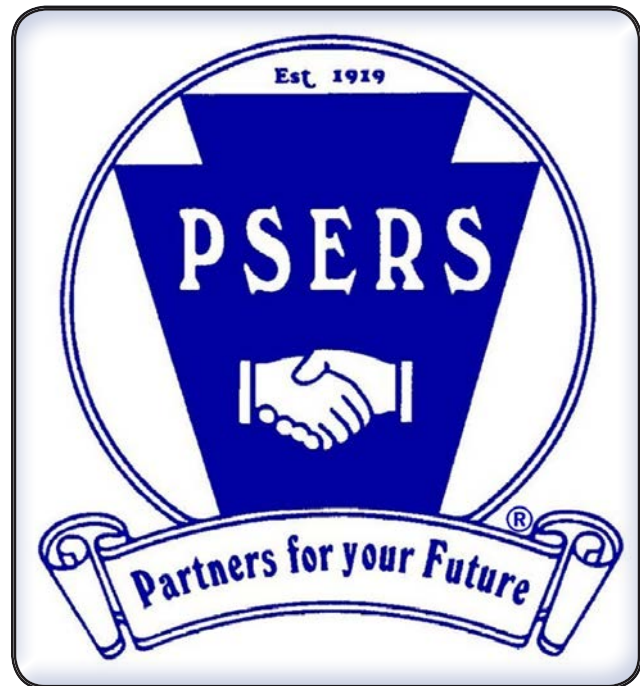


### Next Steps

As noted, the Commonwealth and School employers have benefited over the past 8 plus years due to PSERS' very low ARC. Act 120 has significantly reduced the employer's normal cost for future new members via benefit reductions to new members, but a significant unfunded liability for service already rendered by active members still remains to be paid. As the chart on page 25 shows, even if PSERS only paid the unfunded liability, the employer contribution rate still peaks at over 20% of payroll and remains there for over a decade.

Act 120 has provided both the Commonwealth and the School employers with a nine year time horizon to gradually increase contributions to PSERS in a more budgetarily feasible manner than the contribution rate spike under previous law. The process is now an appropriation challenge to meet the gradual funding increases provided for in Act 120 and bring the ARC percentage to a healthy level and in line with other public pension funds.

On February 4th, 2014 during his budget address, Governor Corbett unveiled his plan for additional pension reform. At the time this Budget document was prepared, cost data for the Governor's proposal was not available. It is PSERS' understanding that this proposal would lower and reset the Act 120 rate caps on the employer contribution rate. As in the past, PSERS remains committed to providing all available assistance to the Governor, General Assembly and School employers to address the appropriation challenges.



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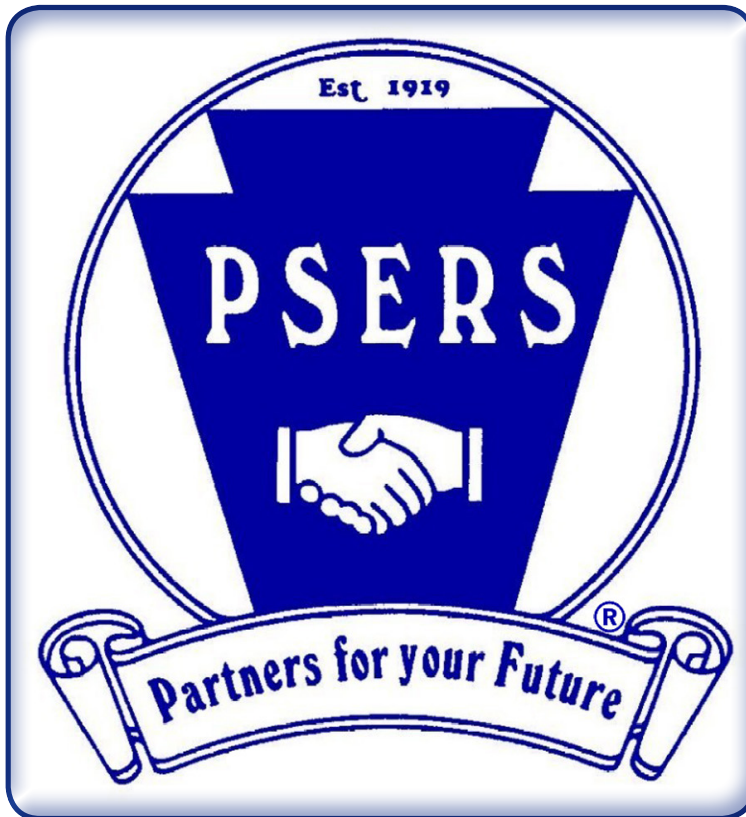
## Section 1 - PSERS Overview

### Consultants' Fees (\$50,000 and Over)

The following benefit, investment, information technology and financial professional service firms were under contract to provide services to PSERS during the fiscal year ended June 30, 2013.

<u>Firm</u>	<u>Services Provided</u>	<u>Consultant Fee</u>
CoreSource, Inc.	Postemployment healthcare benefits administration and claims adjudication	\$ 16,179,136 *
ViTech Systems Group, Inc.	Pension administration system services	\$ 5,205,228 *
Rx Solutions, Inc.	Administration of postemployment healthcare benefits and prescription drug plan	\$ 4,010,219 *
The Segal Company, Inc.	Actuarial services and consulting for the Health Options Program and prescription drug plan	\$ 2,359,018 *
Portfolio Advisors, LLC	Private market consulting	\$ 1,813,297
Aksia LLC	Hedge fund investment consulting	\$ 700,000
Financial Control Systems, Inc.	Investment accounting application service provider	\$ 635,104
Wilshire Associates	General investment consulting	\$ 624,474
Buck Consultants LLC	Pension benefit actuarial services	\$ 475,619 *
Independent Pharmaceutical Consultants, Inc.	Pharmacy benefit consulting services	\$ 391,800 *
Courtland Partners, Ltd.	Real estate investment consulting	\$ 258,750
Cutter Associates, Inc.	Investment processing and systems consulting	\$ 211,011
CliftonLarsonAllen LLP	Financial audit of pension system and postemployment healthcare programs	\$ 120,000 *
Glass, Lewis & Co., LLC	Proxy voting	\$ 92,062

\* Amounts as reported in PSERS' Comprehensive Annual Financial Report.



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**Legislation Information**

**PSERS Related Legislation Enacted during the Year 2013**

**FY 2013-14 BUDGET**

**PSERS ADMINISTRATIVE BUDGET:**      **HB 1278**, P.N. 2000

Appropriation amount \$41,689,000

Enacted by signature of the Governor July 9, 2013

**ACT 2013 – 5A**

**EMPLOYER CONTRIBUTION:**                      **HB 1437**, P.N. 2198

{ General Fund Budget Bill – Department of Education }

Appropriation amount \$1.017 Billion

Enacted by signature of the Governor June 30, 2013

**ACT 2013 – 1A**

**AMENDMENTS TO RETIREMENT CODE PROVISIONS**

**HEART ACT/USERRA** - This legislation was adopted to comply with federal law governing military leaves of absence, conforming PSERS pension law to the federal requirements directed under the Internal Revenue Code and the Uniformed Services Employment and Reemployment Rights Act.

**SB 797**, P.N. 1148 (amended the PSERS Code)

Enacted by signature of the Governor July 1, 2013

**ACT 2013 - 32**

**SB 798**, P.N. 818 (amended the Public School Code)

Enacted by signature of the Governor July 1, 2013

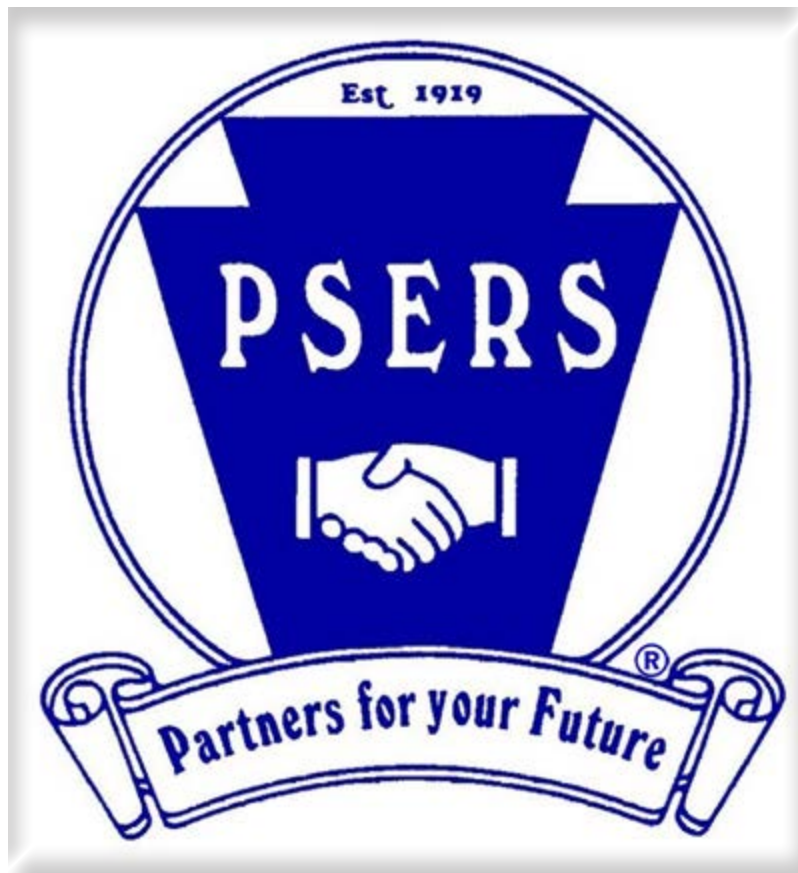
**ACT 2013 - 33**

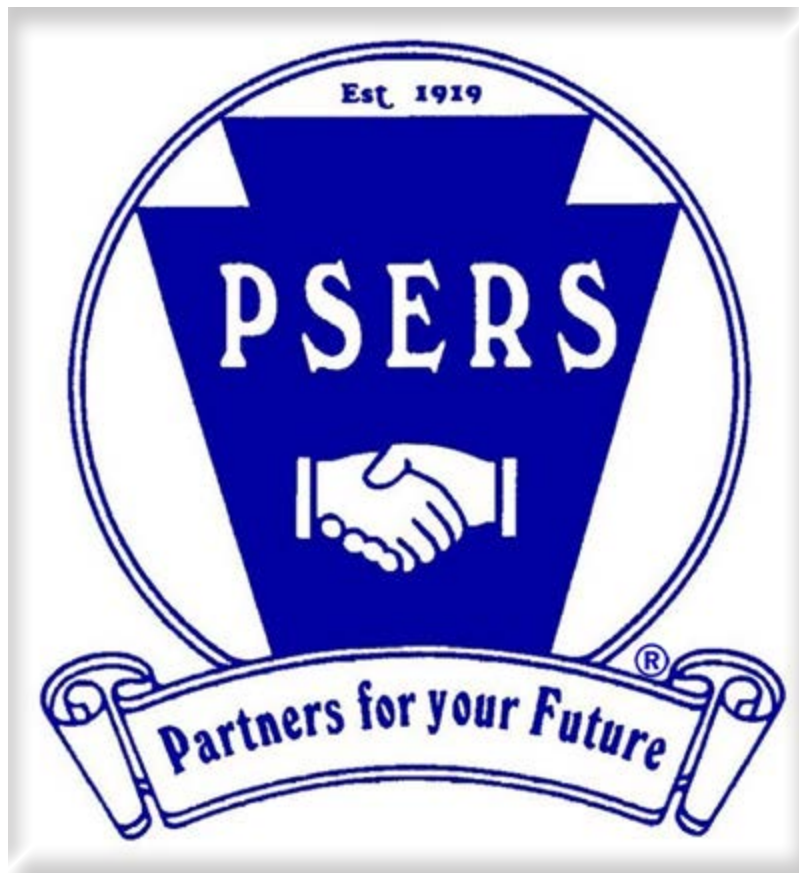


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## Section 2 - PSERS FY2014/15 Budget





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## Section 2 - FY2014/15 Budget

### Public School Employees' Retirement System Fiscal Year 2014/15 Administrative Budget

	<u>Actual</u> <u>2012/2013</u>	<u>Available</u> <u>2013/2014</u>	<u>Governor's</u> <u>Budget</u> <u>Recommendation</u> <u>2014/2015</u>
<b>Total Personnel Services</b>	<b>\$ 26,850,110</b>	<b>\$ 23,613,000</b>	<b>\$ 23,961,000</b>
<b>Operating Expenses</b>			
Travel	\$ 88,891	\$ 133,800	\$ 85,300
Training & Conference Registration	120,014	122,800	115,500
Telecomm - Recurring	437,881	417,000	408,500
Telecomm - Non-Recurring	9,504	11,000	11,000
Telecomm - Voice Hardware less than \$5,000	1,103	2,000	2,000
Electricity	36,244	41,700	44,000
Consultant Services - Non EDP	714,101	722,000	800,600
Consulting Services - (vendor hosted SW)	80,254	-	10,000
Consulting - Maint & Support - (post implementation)	103,836	62,000	63,000
Consulting - Project Management	2,753	-	-
Consulting - General IT Support	152,313	275,500	209,000
Consulting - Outsourced Infrastructure Svcs (DPH)	1,896,810	2,030,000	2,130,000
Legal Services/Fees	-59,222	58,000	48,000
Specialized Services	345,045	420,300	405,200
Other Specialized Services	95,972	249,300	109,400
Advertising	1,750	10,000	10,000
Medical, Mental, & Dental Services	4,803	2,500	4,500
Software Licensing - Maintenance	978,290	1,042,200	1,052,800
Hardware Server - Maintenance	348	1,000	1,000
Hardware Network - Maintenance	18,640	13,000	6,000
Hardware Periph - Maintenance	21,889	20,000	20,000
Hardware Desktop - Maintenance	4,762	4,000	4,000
Contracted Maintenance Non EDP	143,637	188,000	195,300
Telecom Data Services	47,863	60,000	43,000
Contracted Repairs - Non EDP	7,351	11,300	15,500
Real Estate Rental	1,853,732	1,777,000	1,885,400
Vehicle Rental	2,419	2,000	1,700
Office Equipment Rental	267,656	286,400	302,300
Other Rentals	28,759	35,500	25,300
Office Supplies	184,125	216,400	209,000
Educational Supplies (Books)	1,554	11,300	6,000
Medical Supplies	1,280	100	5,300
Software License non-recurring less than \$5,000	41,966	55,250	63,600
Hardware Network	20,453	-	-
Hardware Desktop less than \$5,000	184,459	140,000	201,000
Furniture and Fixtures	19,311	23,300	21,500

## Section 2 - FY2014/15 Budget

### Public School Employees' Retirement System Fiscal Year 2014/15 Administrative Budget (continued)

	Actual 2012/2013	Available 2013/2014	Governor's Budget Recommendation 2014/2015
Other Equipment	5,953	2,600	2,000
Motorized Equipment Supplies	16,610	22,000	13,000
Postage	1,227,843	1,145,600	1,025,000
Freight	5,068	5,800	7,000
Printing	165,543	270,600	246,700
Subscriptions	86,500	97,350	90,300
Membership Dues	36,861	31,900	35,200
Conference Expense	35,710	51,000	31,000
Insurance, Surety & Fidelity Bonds	19,393	24,000	23,000
Other Operational Expenses	<u>1,598,039</u>	<u>1,823,500</u>	<u>1,931,800</u>
<b>Total Operating Expenses</b>	<b>\$ 11,058,067</b>	<b>\$ 11,919,000</b>	<b>\$ 11,919,700</b>
<b>Fixed Assets</b>			
Automobiles	\$ 21,100	\$ -	\$ -
Network Hardware	47,830	-	-
Software License non-recurring greater than \$5,000	30,745	30,000	30,000
Software License recurring greater than \$5,000	3,275,156	6,127,000	5,778,300
Office Equipment	<u>5,900</u>	<u>-</u>	<u>-</u>
<b>Total Fixed Assets</b>	<b>\$ 3,380,731</b>	<b>\$ 6,157,000</b>	<b>\$ 5,808,300</b>
<b>Total Administrative Budget*</b>	<b><u>\$ 41,288,908</u></b>	<b><u>\$ 41,689,000</u></b>	<b><u>\$ 41,689,000</u></b>

\*Investment Related expenditures that were previously included in the Administrative Appropriation are now accounted for as non-budgeted appropriated expenditures and reported in the same manner as other investment expenditures.

PSERS' Budget Request included a modest 2% increase over the prior fiscal year appropriated Administrative fund. In the table below, the differences between PSERS' request and the Governor's Recommended Budget are provided by major object.

	PSERS' Budget Request 2014/2015	Governor's Budget Recommendation 2014/2015	Difference
Personnel Services	\$ 24,579,000	\$ 23,961,000	\$ 618,000
Operating Expenses	12,135,700	11,919,700	216,000
Fixed Assets	<u>5,808,300</u>	<u>5,808,300</u>	<u>-</u>
<b>Total Administrative Budget*</b>	<b><u>\$ 42,523,000</u></b>	<b><u>\$ 41,689,000</u></b>	<b><u>\$ 834,000</u></b>

## Section 2 - FY2014/15 Budget

### Public School Employees' Retirement System Fiscal Year 2014/15 Administrative Budget (continued)

#### 10 Year Trend of PSERS' Administrative Cost per Member (Active, Annuitants and Beneficiaries)



Note: Fiscal Years 2011-2015 exclude non-recurring costs for Act 120 and V3 Browser Conversion.

#### Administrative Cost per Member

PSERS participates in an international benchmarking survey evaluating its costs and service performance in comparison to other similar public pension funds. Based on the FY2011/2012 survey, PSERS had a 28% lower pension administration cost per member than the average cost for its peer group. The System has accomplished this without significantly increasing the size of its staff.

PSERS continues to be prudent in its use of funds and managing the annual budget. In FY2012/2013, PSERS discontinued printing and mailing CAFRs to its 700 plus employers to save costs and now is utilizing its website as the primary method to distribute its CAFR. The Pension Administration System contract was renewed in January 2013, at the same cost, but includes a provision for up to 2,000 additional hours of programming change requests which was not part of the previous contract. Based on a request from PSERS, over 6,000 members recently converted from mailed paper checks to Electronic Funds Transfers (EFT), saving PSERS their postage and Treasury processing fees each month. Going forward, nearly all new retirees will receive their monthly annuities by EFT.

PSERS is also making an investment in technology to continue to improve the efficiency of its operations in the future. This represents a multi-year effort to upgrade the System's pension administration system to enable improved customer service through many enhancements such as member self-service features. PSERS is excited to see the many benefits that the V3 Browser Conversion has to offer and looks forward to its full implementation.



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**Directed Commissions  
Recapture Program  
(unaudited)**

Directed Commissions Recapture is a program whereby a portion of commissions incurred by PSERS through investment trading activity is returned to PSERS. These funds, which are held in a restricted revenue account at Treasury, can be used for the administration of the Fund or can be reinvested back into the asset allocation through a transfer to the PSERS Retirement Account. Expenditures paid from the Directed Commissions Recapture Program Budget have the same PSERS' internal approval process as any other expenditure made by the Fund.

**Directed Commissions Recapture Program -  
Directed Commissions Apropriation #6012700000**

	<u>Actual Expenditures FY2012/13</u>	<u>Available FY2013/14</u>	<u>PSERS' Budget 2014/2015</u>
Budgetary Reserve	-	\$2,000,000	\$2,000,000
Total	-	\$2,000,000	\$2,000,000



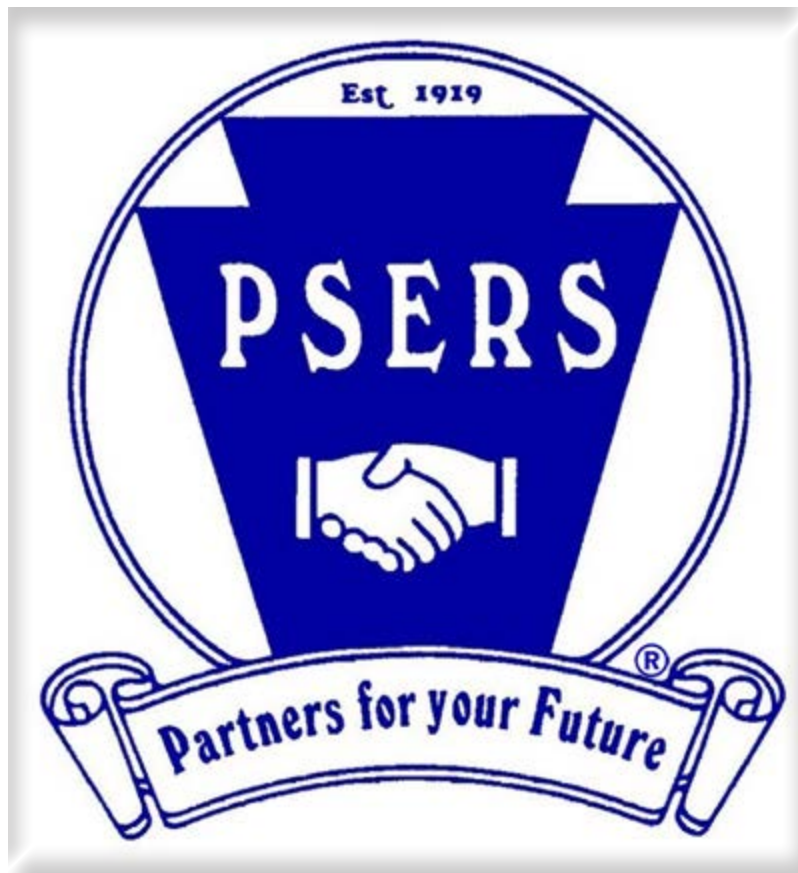
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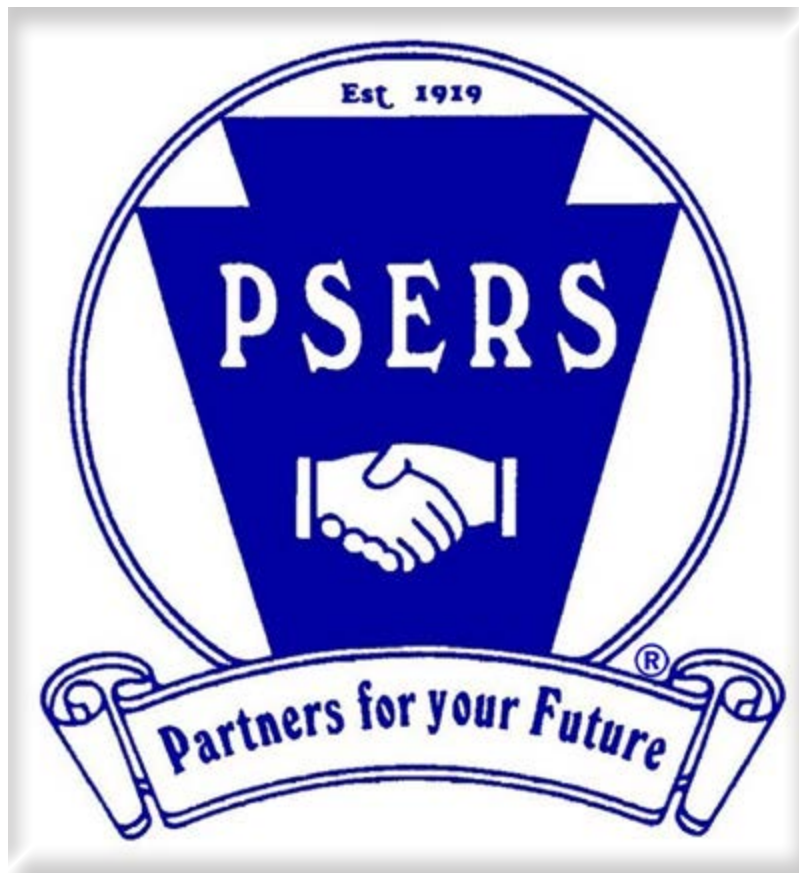


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## Section 3 - Investment Information





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### Investment Policy

The Public School Employees' Retirement Board of Trustees (the Board) is responsible for, among other things, the formulation of an Investment Policy (the Policy) for the Public School Employees' Retirement System (the System). As articulated in the Public School Employees' Retirement Code 24 Pa. C.S. §8521(a), the Board and PSERS' Staff delegated with investment authority must act in a manner consistent with the Prudent Investor Standard, which requires "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 recognizes modern portfolio theory and guides investment and management decisions respecting individual assets so that the trade-offs between risk and return for each asset are considered in the context of an overall investment strategy.

The System's Investment Policy Statement, Objectives, and Guidelines (the Policy), which is available at [www.psers.state.pa.us](http://www.psers.state.pa.us), reflects the many implications of the Prudent Person Standard. The Board reviews the Policy at least annually, and may make more frequent changes as necessary. The Policy establishes clear criteria for the management of the assets by or on behalf of the Board. For example:

- The Board, PSERS' staff, investment consultants, and investment managers are assigned appropriate responsibilities and made to clearly understand the objectives and policies of the Board and the System;
- Allocation plans are prepared to guide the investment of the System's assets;
- Guidelines are established for each investment category so that asset quality, diversification, and return can be monitored;
- Investment managers are given guidance and limitations on the investment of the System's assets; and,
- The Board has created a meaningful basis for evaluating the investment performance of individual investment managers, as well as for evaluating overall success in meeting its objectives.

### General Investment Objectives

The System seeks to provide benefits to its members through a carefully planned and well-executed investment program. The System has a return objective of meeting or exceeding the targeted actuarial rate of return of 7.5% over the long-term. The Policy also identifies the following general investment objectives and constraints:

#### Return Objectives

- The System has an overall return objective of meeting or exceeding the actuarial rate (currently 7.5%) over the long term;
- The assets of the System shall be invested to maximize the returns for the level of risk taken; and
- The System shall strive to achieve a return that exceeds the Policy Index.

#### Risk Objectives

- The assets of the System shall be diversified to minimize the risk of losses within any one asset class, investment type, industry or sector distribution, maturity date, or geographic location; and
- 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).

#### Constraints

- The System shall maintain adequate liquidity to meet required benefit payments to the System's beneficiaries;
- The System's assets shall be invested in a manner that is consistent with the System's long-term investment horizon; and,
- As a tax-exempt investor, the System's assets may be invested without distinction between returns generated from income and returns generated from capital gains.

## Section 3 - Investment Information

### Investment Performance

#### Net of Fees

(for the period ended June 30, 2013) Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<b><i>PSERS U.S. Equities</i></b>	<b>21.89</b>	<b>18.78</b>	<b>7.01</b>	<b>7.72</b>
U.S. Equity Policy Index (1)	20.56	18.03	6.84	7.78
<b><i>PSERS Non-U.S. Equities</i></b>	<b>16.08</b>	<b>9.56</b>	<b>2.42</b>	<b>10.43</b>
Non-U.S. Equity Policy Index (2)	13.90	8.13	0.57	9.18
<b><i>PSERS U.S. Fixed Income</i></b>	<b>2.56</b>	<b>8.17</b>	<b>8.75</b>	<b>6.91</b>
U.S. Fixed Income Policy Index (3)	-0.50	6.03	7.87	6.05
<b><i>PSERS Non-U.S. Developed Markets Fixed Income</i></b>	<b>-0.61</b>	<b>3.79</b>	<b>5.19</b>	<b>5.48</b>
Barclays Global Aggregate GDP Weighted Index	-0.53	3.82	3.90	4.96
<b><i>PSERS Emerging Markets Fixed Income</i></b>	<b>4.24</b>	<b>6.96</b>	<b>N/A</b>	<b>N/A</b>
Barclays Emerging Markets 10% Country Cap Index	2.70	6.29	N/A	N/A
<b><i>PSERS Commodities</i></b>	<b>-11.35</b>	<b>0.41</b>	<b>-10.05</b>	<b>N/A</b>
Dow Jones-UBS Commodity Index	-8.00	-0.25	-11.61	N/A
<b><i>PSERS Real Estate (4)</i></b>	<b>8.53</b>	<b>12.09</b>	<b>-6.36</b>	<b>6.66</b>
Blended Real Estate Index (5)	9.74	12.37	2.72	8.75
<b><i>PSERS Private Markets (4)</i></b>	<b>10.34</b>	<b>12.71</b>	<b>4.98</b>	<b>14.32</b>
Thomson ONE Median Return, Vintage Year Weighted	5.66	7.69	3.22	6.11
<b><i>PSERS Absolute Return</i></b>	<b>4.01</b>	<b>6.54</b>	<b>N/A</b>	<b>N/A</b>
Absolute Return Policy Index (6)	7.50	7.67	N/A	N/A
<b><i>PSERS Master Limited Partnerships</i></b>	<b>37.08</b>	<b>27.84</b>	<b>N/A</b>	<b>N/A</b>
S&P MLP Index	29.49	21.38	N/A	N/A
<b><i>PSERS Risk Parity</i></b>	<b>-4.26</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Risk Parity Policy Index (7)	-2.68	N/A	N/A	N/A
<b><i>PSERS Cash</i></b>	<b>0.22</b>	<b>0.26</b>	<b>N/A</b>	<b>N/A</b>
Merrill Lynch U.S. Treasury Bill 0 - 3 Months Index	0.08	0.08	N/A	N/A
<b><i>PSERS Total Fund (8)</i></b>	<b>7.96</b>	<b>10.36</b>	<b>2.50</b>	<b>7.72</b>
Policy Index	5.68	8.13	1.99	6.33

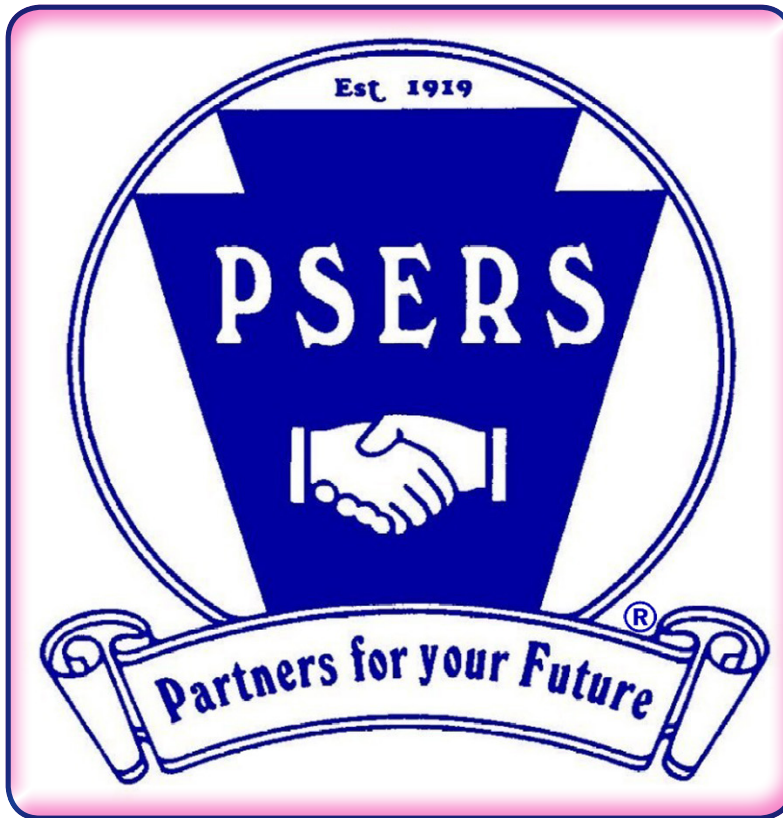
1. MSCI USA Investable Market Index effective April 1, 2009; previously was the Dow Jones Wilshire 5000 Index.
2. MSCI All Country World (ACW) ex. USA Investable Market Index effective July 1, 2008; previously was the MSCI ACW ex. U.S. Index. The benchmark was 30% hedged to the U.S. dollar from July 1, 2006 to March 31, 2009; otherwise, the benchmark is unhedged.
3. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (32.3%), Barclays Capital U.S. TIPS Index (Series -L) (30.8%), and Barclays Capital U.S. High Yield Index (36.9%) effective January 1, 2012. The weights to these indexes have varied in previous quarters. Prior to January 1, 2012, the Barclays Capital U.S. Universal Index was used in place of the Barclays Capital U.S. Aggregate Index.
4. Returns reported on a one-quarter lag, except for publicly traded real estate investments.
5. NTFI Index effective July 1, 2010. The NTFI Index is reported on a one-quarter lag. Between April 1, 2010 and June 30, 2010, the NCREIF Index was used. Previously, returns presented were a blend of the FTSE EPRA/NAREIT Global Real Estate Index and the NCREIF Index. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
6. Absolute Return started April 1, 2009. The assumed actuarial rate of return for the fund was 8.0% from July 1, 2009 through June 30, 2011. The rate changed to 7.5% beginning July 1, 2011.
7. Returns presented are a blend of the MSCI ACWI (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); Dow Jones-UBS Commodity Index (Total Return) (15%); Dow Jones-UBS Gold Index (5%); and 3-Month LIBOR (-150%).
8. Over the past 25 years ended June 30, 2013, the Fund earned an annualized rate of return of 8.65 percent which remained above the Fund's assumed actuarial rate of return during that time period.

## Section 3 - Investment Information

### Investment Performance Net of Fees (for the period ended September 30, 2013)      Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<b><i>PSERS U.S. Equities</i></b>	<b>22.09</b>	<b>16.93</b>	<b>11.03</b>	<b>7.95</b>
U.S. Equity Policy Index (1)	20.58	16.10	10.10	8.03
<b><i>PSERS Non-U.S. Equities</i></b>	<b>16.39</b>	<b>6.74</b>	<b>8.76</b>	<b>10.29</b>
Non-U.S. Equity Policy Index (2)	16.90	6.11	7.31	9.35
<b><i>PSERS U.S. Fixed Income</i></b>	<b>-0.45</b>	<b>6.74</b>	<b>10.01</b>	<b>6.94</b>
U.S. Fixed Income Policy Index (3)	-1.87	4.98	9.00	6.22
<b><i>PSERS Non-U.S. Developed Markets Fixed Income</i></b>	<b>-1.61</b>	<b>2.21</b>	<b>6.98</b>	<b>5.68</b>
Barclays Global Aggregate GDP Weighted Index	-0.72	2.81	5.63	5.23
<b><i>PSERS Emerging Markets Fixed Income</i></b>	<b>-0.56</b>	<b>4.59</b>	<b>N/A</b>	<b>N/A</b>
Barclays Emerging Markets 10% Country Cap Index	-0.83	2.70	N/A	N/A
<b><i>PSERS Commodities</i></b>	<b>-15.98</b>	<b>-1.78</b>	<b>-2.67</b>	<b>N/A</b>
Commodities Policy Index (4)	-12.63	-2.52	-4.91	N/A
<b><i>PSERS Real Estate (5)</i></b>	<b>9.47</b>	<b>11.72</b>	<b>-5.11</b>	<b>6.25</b>
Blended Real Estate Index (6)	10.71	12.40	3.59	8.73
<b><i>PSERS Private Markets (5)</i></b>	<b>11.16</b>	<b>12.82</b>	<b>5.15</b>	<b>13.95</b>
Thomson ONE Median Return, Vintage Year Weighted	7.44	8.37	3.57	6.21
<b><i>PSERS Absolute Return</i></b>	<b>3.25</b>	<b>5.68</b>	<b>N/A</b>	<b>N/A</b>
Absolute Return Policy Index (7)	7.50	7.62	N/A	N/A
<b><i>PSERS Master Limited Partnerships</i></b>	<b>26.87</b>	<b>23.74</b>	<b>27.09</b>	<b>N/A</b>
S&P MLP Index	18.42	16.92	23.02	N/A
<b><i>PSERS Risk Parity</i></b>	<b>-5.99</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Risk Parity Policy Index (8)	-3.20	N/A	N/A	N/A
<b><i>PSERS Cash</i></b>	<b>0.23</b>	<b>0.25</b>	<b>N/A</b>	<b>N/A</b>
Merrill Lynch U.S. Treasury Bill 0 - 3 Months Index	0.06	0.07	N/A	N/A
<b><i>PSERS Total Fund (9)</i></b>	<b>6.99</b>	<b>8.94</b>	<b>5.53</b>	<b>7.54</b>
Policy Index	5.55	7.00	4.79	6.29

1. MSCI USA Investable Market Index effective April 1, 2009; previously was the Dow Jones Wilshire 5000 Index.
2. MSCI All Country World (ACW) ex. USA Investable Market Index effective July 1, 2008; previously was the MSCI ACW ex. U.S. Index. The benchmark was 30% hedged to the U.S. dollar from July 1, 2006 to March 31, 2009; otherwise, the benchmark is unhedged.
3. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (32.3%), Barclays Capital U.S. TIPS Index (Series -L) (30.8%), and Barclays Capital U.S. High Yield Index (36.9%) effective January 1, 2012. The weights to these indexes have varied in previous quarters. Prior to January 1, 2012, the Barclays Capital U.S. Universal Index was used in place of the Barclays Capital U.S. Aggregate Index.
4. Returns presented are a blend of the DJ/UBS Commodity Gold Index (33.3%) and the DJ/UBS Commodity Index (66.7%).
5. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
6. NTFI Index effective July 1, 2010. The NTFI Index is reported on a one-quarter lag. Between April 1, 2010 and June 30, 2010, the NCREIF Index was used. Previously, returns presented were a blend of the FTSE EPRA/NAREIT Global Real Estate Index and the NCREIF Index.
7. Absolute Return started April 1, 2009. The assumed actuarial rate of return for the fund was 8.0% from July 1, 2009 through June 30, 2011. The rate changed to 7.5% beginning July 1, 2011.
8. Returns presented are a blend of the MSCI ACWI (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); Dow Jones-UBS Commodity Index (Total Return) (15%); Dow Jones-UBS Gold Index (5%); and 3-Month LIBOR (-150%).
9. Over the past 25 years ended September 30, 2013, the Fund earned an estimated annualized rate of return of 8.71 percent which remained above the Fund's assumed actuarial rate of return during that time period.



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## Section 3 - Investment Information

### Asset Allocation (as of December 31, 2013)

tion it deems appropriate in formulating this allocation. The purpose of the asset allocation is to meet the long-term financial needs and investment objectives of the System.

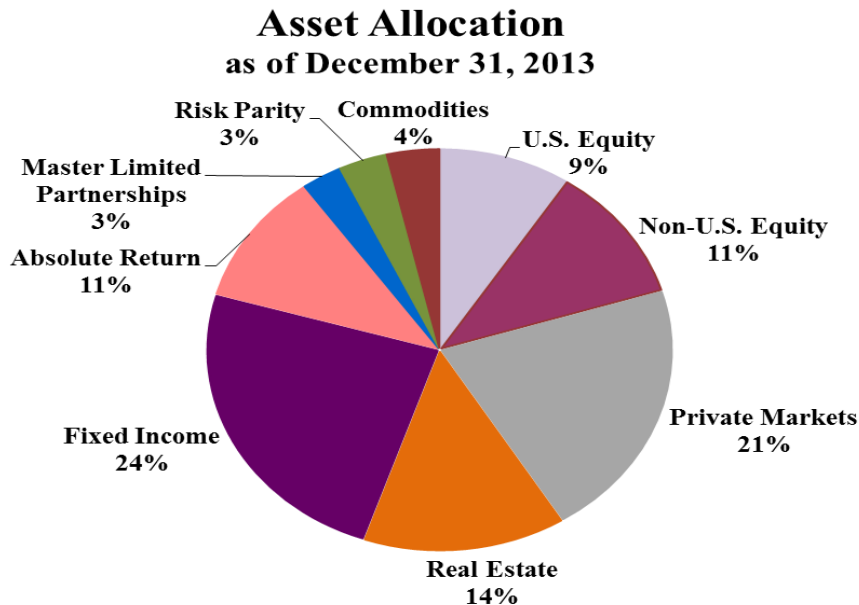
The Board reviews the long-term asset allocation targets of the System at least annually. In establishing the asset allocation plan, the Board will consult with its actuary, consultants, investment staff, and other sources of informa-

The following represents PSERS' asset allocation as of December 31, 2013 (unaudited):

Asset Class	Market Value (in millions)	Percentage of Total	Target Allocation %	Target Allocation Range
Global:				
U.S. Equity	\$ 4,554.7	9.2%	9.0%	± 5%
Non-U.S. Equity**	5,468.1	11.0	8.0	± 5
Private Markets	10,365.9	20.9	21.0	-
Real Estate	6,996.5	14.1	14.0	-
Fixed Income**	11,971.7 *	24.2	26.0	± 10
Absolute Return	5,288.2	10.7	10.0	± 4
Risk Parity**	1,397.8	2.8	4.0	± 4
Master Limited Partnerships	1,673.8	3.4	3.0	± 3
Commodities**	<u>1,822.2</u>	<u>3.7</u>	<u>5.0</u>	± 4
<b>Totals</b>	<b>\$ 49,538.9</b>	<b>100.0%</b>	<b>100.0%</b>	

\* Cash is included in the Fixed Income asset class. Cash represents the total short-term investment fund (STIF) managed by PSERS in the PSERS Proprietary Fund. Cash is unitized and the managers in the various asset classes are allocated units of STIF. For purposes of this schedule, units of STIF are not included in the various asset classes. For example, a U.S. Equity manager may manage \$200 million, but if that manager has \$10 million in STIF, \$190 million would be included in U.S. Equity and \$10 million would be included in Cash.

\*\*PSERS uses financing to achieve increased economic exposure to diversifying asset classes to manage the overall portfolio risk while maintaining an allocation designed to achieve the long-term return goals of the System. Increased economic exposure is generally achieved through the use of either derivative positions or higher volatility funds. As of December 31, 2013, PSERS had increased economic exposure of \$5.3 billion related to the following asset classes: Fixed Income (\$3.9 billion); Risk Parity (\$0.5 billion); Non-U.S. Equities (\$0.3 billion) and Commodities (\$0.6 billion). The target allocation to financing was netted against the following target allocations: Fixed Income (6%), Risk Parity (1%), Commodities (1%) and Non-U.S. Equities (1%).



## Section 3 - Investment Information

### Asset Allocation (as of December 31, 2013) (continued)

#### Number of Investment Managers and Portfolios

##### Public Market Asset Classes (ex. Real Estate)

PSERS' public market asset classes, excluding Real Estate, used 69 external investment managers who were responsible for 80 portfolios, and 10 internal portfolio managers who were responsible for 12 portfolios. There were 4 external public market investment managers with portfolios in multiple asset classes. A further breakdown of the external and internal portfolio managers is shown in the table below.

##### Private Markets and Real Estate

PSERS' private markets and real estate (public and private markets) asset classes used 121 active external general partners to invest in 268 limited partnership interests of various private market real estate, private debt, private equity, and venture capital funds. Additionally, PSERS internal staff manages a portfolio of privately-placed co-investment and secondary investments consisting of both private equity and real estate. PSERS has 2 internal real estate investment managers who are responsible for 1 public market real estate portfolio. Finally, PSERS had 5 external real estate asset managers who oversee the direct management of 5 separate real estate accounts.

### Public Market Asset Classes (excluding Public Market Real Estate)

	Portfolio Managers	Portfolios/Accounts
<b><i>U.S. Equity Investments:</i></b>		
External*	5	5
Internal	1	3
<b><i>Non-U.S. Equity Investments:</i></b>		
External*	12	13
Internal	3	3
<b><i>Fixed Income Investments:</i></b>		
External*	26	34
Internal**	3	3
<b><i>Commodities:</i></b>		
External	5	5
Internal	1	1
<b><i>Master Limited Partnerships:</i></b>		
External	3	3
<b><i>Risk Parity:</i></b>		
External	2	2
Internal	1	1
<b><i>Absolute Return:</i></b>		
External*	15	16
<b><i>Cash:</i></b>		
Internal**	1	1
<b><i>Securities Lending:</i></b>		
External	1	2
<b><i>Total</i></b>	<b>79</b>	<b>92</b>
<b><i>Total External*</i></b>	<b>69</b>	<b>80</b>
<b><i>Total Internal</i></b>	<b>10</b>	<b>12</b>

\*The Public Market Emerging Investment Manager Program consisted of 8 portfolio managers each managing a single portfolio.

There were 3 U.S. Equity, 2 Non-U.S. Equity, 2 Fixed Income portfolios, and 1 Absolute Return portfolio in the Program.

\*\*PSERS managed \$241.5 million for the System's healthcare account.



**Summary of PSERS’  
Equity Investments  
(as of December 31, 2013)**

Public Market Global Equity Exposure is one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS’ investment plan diversifies equity investments and balances equity management styles. PSERS contracts with external investment managers and hires internal portfolio managers to manage equity portfolios.

**Policy**

Equities are utilized by the Fund primarily because their expected large return premiums versus inflation will, if realized, help preserve and enhance the real value of the Fund over long periods of time. The Public Market Global Equity Exposure asset class is to be managed on a total return basis.

Equity investments shall consist almost entirely of publicly-traded securities listed on major world-wide stock exchanges or derivatives such as swaps or listed futures that replicate the performance of equity indexes such as the S&P 500 Index. Swaps and futures are employed by PSERS to equitize cash and portable alpha portfolios.

PSERS’ Asset Allocation targets an eventual allocation of 17.0% of assets to Public Market Global Equity Exposure.

**Market Value as of December 31, 2013:**

- U.S.: \$4,554.7 million, or 9.2% of the Fund’s total market value.
- Non-U.S.: \$5,468.1 million, or 11.0% of the Fund’s total market value.
- Total: \$10,022.8 million, or 20.2% of the Fund’s total market value.

**Number of External Investment Managers:** PSERS had contracts with five external investment managers responsible for various U.S. Equity portfolios (including three Public Market Emerging Manager Program managers), and contracts with 12 external investment managers responsible for various Non-U.S. Equity portfolios (including two Public Market Emerging Investment Manager Program managers).

**Number of Internal Portfolio Managers:**

- U.S.: PSERS had one employees managing various U.S. Equity portfolios.
- Non-U.S.: PSERS had three employees managing two Non-U.S. Equity portfolios.

**Types of Investment Portfolios at December 31, 2013:**

- U.S.: 80.0% large capitalization stock strategies, 18.5% medium/small capitalization stock strategies, and 1.5% in micro capitalization stock strategies.
- 90.7% passively-managed portfolios and 9.3% actively-managed stock selection portfolios.
- 90.7% was managed by internal portfolio managers and 9.3% is managed by external investment managers.
- Non-U.S.: 75.7% large capitalization stock strategies, 13.9% small capitalization strategies, and 10.4% emerging market stock strategies.
- 47.3% passively-managed portfolios (managed internally) and 52.7% actively-managed portfolios (managed externally).

### Section 3 - Investment Information

## Summary of PSERS' U.S. Equity Portfolios (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of U. S. Equities	% of Total Fund
<b><i>Passively Managed Portfolios</i></b>			
PSERS S&P 400 Index Fund	\$ 230.6	5.1%	0.5%
PSERS S&P 500 Index Fund	3,641.5	80.0%	7.3%
PSERS S&P 600 Index Fund	252.3	5.5%	0.5%
Other	\$ 4.4	0.1%	0.0%
<b>Total Passively Managed U.S. Equity</b>	<b>\$ 4,128.8</b>	<b>90.7%</b>	<b>8.3%</b>
<b><i>Actively Managed Mid and Small Cap Portfolios</i></b>			
A.H. Lisanti Capital Growth, LLC	\$ 71.5	1.6%	0.2%
Conestoga Capital Advisors	74.6	1.6%	0.2%
First Pacific Advisors, Inc.	146.5	3.2%	0.3%
Opus Capital Management	63.8	1.4%	0.1%
<b>Total Actively Managed Mid and Small Cap U.S. Equity</b>	<b>\$ 356.4</b>	<b>7.8%</b>	<b>0.8%</b>
<b><i>Actively Managed MicroCap Portfolio</i></b>			
NorthPointe Capital, LLC	\$ 69.5	1.5%	0.1%
<b>Total U.S. Equity</b>	<b>\$ 4,554.7</b>	<b>100.0%</b>	<b>9.2%</b>

Numbers may not add due to rounding.

## Section 3 - Investment Information

### Summary of PSERS' Non-U.S. Equity Portfolios (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of Non-U. S. Equities	% of Total Fund
<b><u>Passively Managed Portfolios</u></b>			
PSERS ACWI x-US Index Fund	\$ 2,410.0	44.1%	4.8%
PSERS Emerging Markets Equity Index	176.5	<u>3.2%</u>	<u>0.4%</u>
<b>Total Passively Managed Non-U.S. Equity</b>	<b>\$ 2,586.5</b>	<b><u>47.3%</u></b>	<b><u>5.2%</u></b>
<b><u>Actively Managed Developed Large Cap Portfolios</u></b>			
Baillie Gifford Overseas Ltd.	\$ 549.2	10.0%	1.1%
BlackRock Financial Management, Inc.	512.6	9.4%	1.0%
John Hsu Capital Group, Inc.	71.8	1.3%	0.2%
Marathon Asset Management Limited	581.7	10.7%	1.2%
Pareto Investment Management, Ltd.	10.8 a	0.2%	0.0%
Other	<u>1.0</u>	<u>0.0%</u>	<u>0.0%</u>
<b>Total Actively Managed Developed Large Cap Non-U.S. Equity</b>	<b>\$ 1,727.1</b>	<b><u>31.6%</u></b>	<b><u>3.5%</u></b>
<b><u>Actively Managed Emerging Market Portfolios</u></b>			
Glovista Investments	\$ 31.4	0.6%	0.1%
Wasatch Advisors, Inc.	289.4	5.3%	0.6%
Westwood Global Investments	<u>74.4</u>	<u>1.3%</u>	<u>0.1%</u>
<b>Total Actively Managed Emerging Market Non-U.S. Equity</b>	<b>\$ 395.2</b>	<b><u>7.2%</u></b>	<b><u>0.8%</u></b>
<b><u>Actively Managed Developed Small Cap Portfolios</u></b>			
Acadian Asset Management	\$ 186.0	3.4%	0.3%
Batterymarch Financial Mgmt., Inc.	74.9	1.4%	0.2%
Oberweis Asset Management, Inc.	140.8	2.6%	0.3%
Pyramis Global Advisors	136.6	2.5%	0.3%
Wasatch Advisors, Inc.	<u>221.0</u>	<u>4.0%</u>	<u>0.4%</u>
<b>Total Actively Managed Developed Small Cap Non-U.S. Equity</b>	<b>\$ 759.3</b>	<b><u>13.9%</u></b>	<b><u>1.5%</u></b>
<b>Total Non-U.S. Equity</b>	<b>\$ 5,468.1</b>	<b><u>100.0%</u></b>	<b><u>11.0%</u></b>

a - The Market Value represents the cumulative net gain on unsettled foreign exchange contracts.

Numbers may not add due to rounding.

### Summary of PSERS' Private Market Investments (as of December 31, 2013)

Private Market investments represent one of nine asset classes that PSERS uses to diversify the investments of the Fund. The primary vehicle used to invest funds in this asset class is the limited partnership. Individual management groups selected by PSERS form these partnerships for the purpose of investing in and managing private equity and unlisted-subordinated debt positions on behalf of PSERS and other limited partners. PSERS' Asset Allocation currently targets an allocation of 21.0% to Private Market investments. Private Market Investment sub-asset class explanations are as follows:

**Private Equity** involves investments in private companies which normally do not have technology risk associated with traditional venture capital investments. It has evolved to include the financing of more mature, profitable companies that do not have access to, or qualify for, public equity and debt funding. Private Equity strategies include:

- **Buyouts** - Investment strategy is to acquire the assets of a publicly or privately held company. A subset of this category is the leveraged buyout, where financing enables companies to be acquired through the use of borrowed funds. Typically, the assets of target companies serve as collateral for loans originated in the transaction.
- **Secondary Partnerships** - An investment strategy to acquire interests in established limited partnerships. Secondary investing can often be lucrative due to the fact that the partnerships are purchased at significant discounts to net asset value and the timing of the purchase frequently occurs as the acquired partnerships begin to realize profits.

**Venture Capital** is considered the financing of young, relatively small, rapidly growing companies. In traditional venture capital investments, companies have a 5-10 year investment horizon and develop technology for a particular market, such as pharmaceuticals, software, medical products, etc. Venture capital strategies are typically classified as follows:

- **Seed** - An investment strategy that involves companies that are still in the conceptual stage of growth. Seed stage investing involves product viability risk.
- **Early Stage** - An investment strategy involving financing portfolio companies for product development and initial marketing, manufacturing and sales activities. Typically, early stage

companies have been formed, but revenues have not been realized. Early stage investment involves risks associated with defining competitive markets, developing production and marketing channels.

- **Later Stage** - An investment strategy involving financing portfolio companies for rapid expansion. Risk at this stage revolves around capturing market share while increasing production and delivery capabilities and building sales volume.
- **Balanced** - An investment strategy including a variety of portfolio company development stages (Seed, Early, Later, etc.).

**Private Debt** involves investments in the secured and/or unsecured debt obligations of private and/or public companies. This debt is typically acquired through directly negotiated or competitively bid transactions. Owners of these debt instruments typically take either an active or passive role in the management of the firm. Private Debt strategies are typically classified as follows:

- **Mezzanine** - Investments in unsecured or junior debt securities with equity enhancements such as warrants or nominally priced equity.
- **Distressed Debt** - Investments in the debt obligations of under-performing companies that are in need of operating or financial restructuring, and are either in or out of bankruptcy.
- **Structured Products** - Investments in the debt tranche of a security that is generally leveraged and backed by a diversified pool of assets. Assets include bank debt, investment grade debt, non-investment grade debt, or mortgages.

**PSERS Private Market Internal Program** consists of co-investments made alongside of General Partners with whom PSERS has a strong relationship. These relationships aid in the generation of deal flow for investments and also serves as additional due diligence for the evaluation of General Partners. The investments have the potential for higher returns as they have low or no fees and no carry. This program also provides PSERS with the ability to buy secondary interests in funds from other Limited Partners usually at a discount to net asset value.

#### **Policy**

For the Private Market investments program, PSERS' long-term investment objective is to achieve a risk-adjusted total return, net of fees, that exceeds market returns for similar investments, or benchmark returns furnished by Thomson ONE on a vintage year weighted basis.

**Summary of  
PSERS' Private Market Investments  
(as of December 31, 2013)  
(continued)**

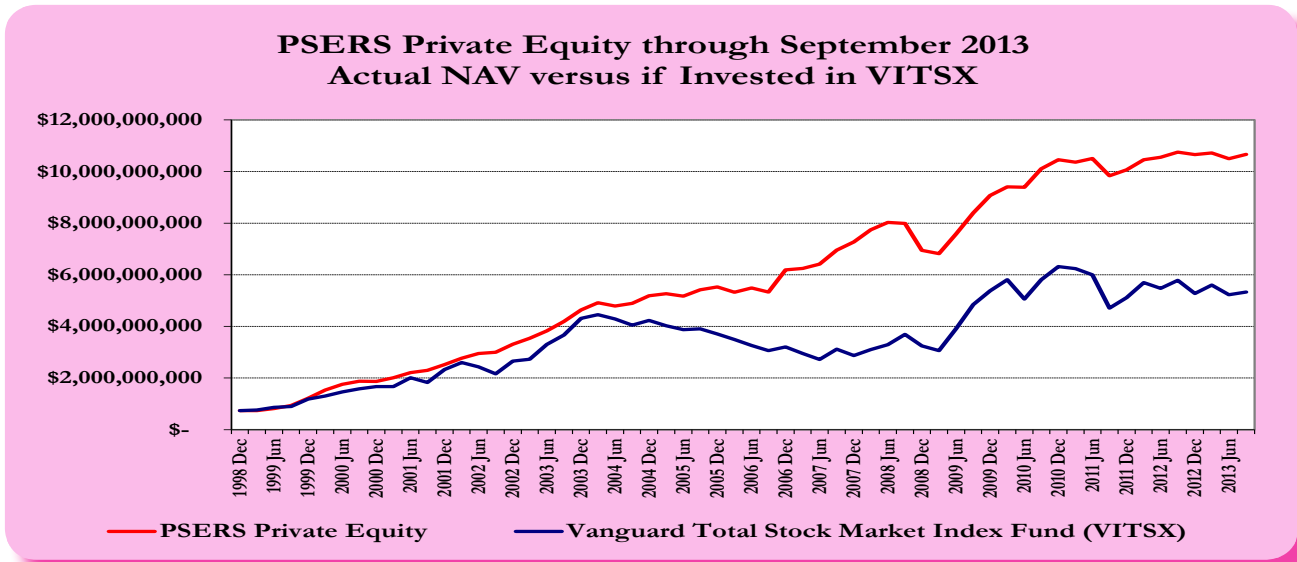
**Public Equity vs. Private Equity**

Arguments have been made that Private Equity is just an expensive form of investing in public equities and can be replicated by passively managed public equity indexes. While disagreeing with that statement, PSERS would strongly agree that Private Equity is not an asset class for individuals or smaller institutional investors. Individuals and small institutional investors typically lack the expertise, ability to diversify managers, and, most importantly, access to top quartile managers. A lack of access means that returns relative to passively managed public market indexes will most likely not justify the incremental costs associated with investing in this asset class. PSERS has enjoyed success in Private Equity due to having a strong, internal management team, excellent consulting relationships, and, most importantly, access to top quartile managers.

Why is Private Equity an area where potentially attractive excess returns can be achieved? The answer in a word is inefficiency. Private markets provide the opportunity to

negotiate and set a price between the owner of a business and the buyer/investor in a private fashion. There is a very large private economy that exists that is in need of operating expertise, capital to grow their business, an exit out of the family business where the next generation does not want to be involved, etc. In public market equities, there are thousands of buyers and sellers setting the prices of these securities every day with a significant amount of disclosure into the finances of these companies. No such mechanism exists in the private markets. Thus, private markets provide fertile grounds for investing.

PSERS has been investing in Private Equity since the mid 1980's. While this is an expensive asset class in which to invest, PSERS has had significant success. To measure this success, PSERS modeled what the returns would have been if, instead of investing in Private Equity, the cash that flows into/out of Private Equity investments were made into/out of a very low cost mutual fund that seeks to replicate the U.S. equity market. PSERS chose the Vanguard Total Stock Market Index Fund (VITSX) due to its low cost (currently 0.02%) and its success at closely matching the returns of the overall U.S. stock market. Below is a chart of the performance of PSERS Private Equity program versus the performance of the Vanguard Total Stock Market Index Fund from December 1998 through September 2013:



As illustrated above, PSERS has been able to generate in excess of \$5 billion in incremental value versus the passive, low cost index approach to equity investing.

Below are the more recent total returns for the past 10 years (through September 30, 2013) for PSERS Private Equity

Program, the Vanguard Total Stock Market Index Fund (VITSX), the Vanguard 500 Index Fund Admiral Shares (VFIAX), and PSERS Internally-Managed S&P 500 Index Portfolio (PSERS 500) (VITSX, VFIAX, and PSERS 500 with dividends reinvested):

	<b>10 Year, Net of Fee Return</b>
PSERS Private Equity Program	<b>13.95%</b>
Vanguard Total Stock Market Index (VITSX)	<b>8.38%</b>
Vanguard 500 Index Fund Admiral Shares (VFIAX)	<b>7.55%</b>
PSERS Internally-Managed S&P 500 Index Fund	<b>7.89%</b>

## Section 3 - Investment Information

### Summary of PSERS' Private Market Investments (as of December 31, 2013) (continued)

**Market Value as of December 31, 2013:** \$10,365.9 million, or 20.9% of the Fund's total market value. Sub-asset class market values (unaudited) and fund percentages were as follows:

	<b>Total Commitment (in millions)</b>	<b>Market Value (in millions)</b>	<b>Percent Allocation to Total Fund</b>
<b>Private Equity</b>	\$ 17,587.7	\$ 8,221.9	16.6%
<b>Venture Capital</b>	2,299.4	856.0	1.7
<b>Private Debt</b>	<u>4,370.8</u>	<u>1,288.0</u>	<u>2.6</u>
<b>Totals</b>	<b>\$ <u>24,257.9</u></b>	<b>\$ <u>10,365.9</u></b>	<b><u>20.9%</u></b>

An objective of PSERS' Private Market Investments Program is to maintain investment diversification by industry, geographic location, and investment strategy. Diversification levels as of December 31, 2013 are as follows:

#### Industry Diversification (by number of companies in each industry)

Secondary Funds	35.6%
Services	12.2%
Industrial	10.7%
Computer	8.1%
Financial	7.9%
Medical	6.9%
Communication	4.9%
Consumer	4.7%
Energy	3.5%
Transportation	2.8%
Real Estate	2.0%
Other	0.7%

**Number of External Investment Managers:** PSERS' Private Equity program has committed a total of \$17.6 billion to 112 partnerships through December 31, 2013. Seven of these partnerships are located in Pennsylvania. 33 of the 38 international investment partnerships are included within the private equity sector. The international investments serve to increase the diversification of this asset class while providing the opportunity of increasing total returns.

#### Geographical Diversity (by percentage of companies located in each state)

International	29.1%
New York	17.9%
California	12.5%
Texas	5.2%
Massachusetts	4.6%
Pennsylvania	3.6%
Illinois	2.6%
Connecticut	2.4%
New Jersey	2.2%
Florida	2.1%
North Carolina	1.6%
Virginia	1.4%
Maryland	1.4%
Ohio	1.3%
Other	12.1%

PSERS' Venture Capital program consists of 37 partnerships with committed capital totaling \$2.3 billion through December 31, 2013. A significant number of the venture capital partnerships, 17 out of 37, are located in Pennsylvania. One of the 38 international partnerships is included within the venture capital sector.

PSERS Private Debt program has committed \$4.4 billion to 27 partnerships through December 31, 2013. The Private Debt program was initiated in 2000 by re-allocating \$1.0 billion from the Fixed Income allocation to take advantage of the attractive market conditions within the mezzanine and distressed debt sectors. Three partnerships are located in Pennsylvania, and four of the 38 international partnerships are included within the private debt sector.

**Number of In-House Co-Investments:** PSERS' Private Market Internal Program consists of 11 investments with committed capital totaling \$142 million through December 31, 2013. PSERS's Private Market Internal Program was initiated in 2012 and consists of co-investments and secondary fund investments where PSERS is already a Limited Partner. One investment is located in Pennsylvania and five of the 11 investments are international.

**Number of Internal Portfolio Managers:** PSERS had three employees managing Private Market portfolios.

## Section 3 - Investment Information

### Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013)

Partnership Name Private Equity:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
ABS Capital Partners II	1996	\$ 40,000,000	\$ 39,291,287	\$ 45,555,324
Actis Emerging Markets 3, L.P.	2007	200,000,000	211,119,441	35,303,366
Actis Global 4, L.P.	2012	100,000,000	11,064,098	-
Allegheny New Mountain Partners, L.P.	2004	100,000,000	83,655,669	125,832,942
Apax Europe VII, L.P.	2007	275,780,000	284,114,792	71,664,745
Bain Capital Asia Fund II, L.P.	2012	100,000,000	28,500,000	-
Bain Capital Fund XI, L.P.	2013	100,000,000	-	-
Baring Asia Private Equity Fund III, L.P.	2005	122,500,000	139,970,425	270,221,946
Baring Asia Private Equity Fund IV, L.P.	2007	300,000,000	291,337,269	120,174,628
Baring Asia Private Equity Fund V, L.P.	2011	200,000,000	109,550,608	-
Blue Point Capital Partners (B), L.P.	2001	103,750,000	91,059,964	116,869,919
Blue Point Capital Partners II (B), L.P.	2007	100,000,000	92,083,252	82,695,172
Bridgepoint Capital II (Secondary)	1998	84,714,906	81,276,971	165,495,935
Bridgepoint Europe I	1998	79,622,624	75,089,014	134,601,685
Bridgepoint Europe II	2001	413,670,000	312,831,931	605,119,344
Bridgepoint Europe III A, L.P.	2005	275,780,000	249,204,188	140,160,786
Bridgepoint Europe IV, L.P.	2008	413,670,000	330,490,603	73,101,733
Capital International Private Equity Fund V L.P.	2007	200,000,000	196,590,136	117,613,976
Capital International Private Equity Fund VI, L.P.	2011	100,000,000	42,362,477	449,064
Catterton Growth Partners II, L.P.	2013	75,000,000	12,757,858	-
Catterton Growth Partners, L.P.	2008	75,000,000	79,917,702	34,411,211
Catterton Partners V, L.P.	2004	100,000,000	101,386,111	91,234,269
Catterton Partners VI, L.P.	2006	130,000,000	139,972,037	127,888,304
Catterton Partners VII, L.P.	2012	100,000,000	16,463,376	-
Cinven Fund (Fifth), L.P.	2011	137,890,000	27,265,685	1,007,065
Cinven Fund (Fourth), L.P.	2006	206,835,000	201,084,969	110,820,567
Clarity Partners L.P.	2000	203,590,000	204,759,024	113,660,697
Clarity PSERS II, L.P.	2008	17,386,250	12,113,244	562,500
Coller International Partners VI, L.P.	2011	100,000,000	35,395,470	687,836
Credit Suisse Equity Partners, L.P.	1998	137,172,500	114,692,730	27,777,502
Credit Suisse Int'l Equity Partners, L.P.	1997	83,000,000	76,663,757	95,804,666
Crestview Partners II (PF) LP	2008	200,000,000	193,449,741	76,429,352
Crestview Partners III, L.P.	2013	150,000,000	-	-
Crestview Partners, L.P.	2005	150,000,000	151,694,262	83,933,996
CVC Capital Partners Asia Pacific III, L.P.	2008	300,000,000	289,614,299	173,967,436
CVC European Equity Partners V (A), L.P.	2008	413,670,000	355,043,448	189,989,891
DCPF VI Oil and Gas Co-Investment Fund, L.P.	2013	25,000,000	1,108,122	-
Denham Commodity Partners Fund VI, L.P.	2011	75,000,000	20,933,703	-
DLJ Merchant Banking Partners III, L.P.	2000	300,000,000	309,320,130	603,077,209

\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

### Section 3 - Investment Information

## Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Dubin Clark Fund II, L.P.	2000	\$ 24,083,333	\$ 23,706,041	\$ 15,338,534
Edgewater Growth Capital Partners, L.P.	2001	59,196,500	59,196,500	71,788,545
Edgewater Private Equity Fund III, L.P.	1998	39,000,000	39,000,000	20,890,951
Evergreen Pacific Partners II, L.P.	2008	80,954,545	33,954,986	12,543,800
Evergreen Pacific Partners, L.P.	2005	50,000,000	36,648,066	5,000,213
First Reserve Fund XI, L.P.	2006	200,000,000	213,209,232	110,032,235
First Reserve Fund XII, L.P.	2008	250,000,000	239,499,020	48,570,446
Furman Selz Investors III L.P.	2000	100,000,000	95,025,051	202,950,790
GoldPoint Partners Co-Investment V, L.P.	2013	50,000,000	-	-
Graham Partners	1999	56,671,214	61,592,604	54,565,915
Greenwich Street Capital Partners II	1998	200,000,000	214,950,879	211,091,576
Halifax Capital Partners	1999	50,000,000	39,967,488	61,790,763
Headland Private Equity Fund 6 L.P., The	2008	200,000,000	159,329,053	30,893,705
HgCapital 7, L.P.	2013	124,245,000	10,805,064	-
Incline Equity Partners III (PSERS), L.P.	2011	65,000,000	12,141,452	985,244
Irving Place Capital Partners II L.P.	2000	300,000,000	282,383,236	452,646,924
Irving Place Capital Partners III L.P.	2006	150,000,000	135,664,278	33,831,266
Jefferies Capital Partners IV, L.P.	2005	100,000,000	95,120,543	101,617,044
KKR 2006 Fund L.P.	2006	300,000,000	287,765,330	186,440,153
KRG Capital Fund II (PA) L.P.	2001	100,000,000	79,647,554	115,274,688
KRG Capital Fund III, (PA) L.P.	2005	88,000,000	88,003,630	36,691,857
KRG Capital Fund IV L.P.	2007	300,000,000	265,059,119	117,304,394
Landmark Equity Partners III, L.P.	1993	27,085,010	27,085,010	76,288,593
Landmark Equity Partners IV, L.P.	1994	10,533,687	10,254,032	15,353,655
Landmark Equity Partners XIII, L.P.	2006	100,000,000	94,253,790	68,329,616
Landmark Equity Partners XIV, L.P.	2008	150,000,000	116,100,746	52,714,390
Landmark Mezzanine Partners	1995	75,000,000	59,171,340	106,589,453
Lexington Capital Partners I, L.P.	1996	50,000,000	49,613,120	62,882,209
Lindsay Goldberg & Bessemer L.P.	2002	300,000,000	312,768,185	699,748,264
Milestone Partners II, L.P.	2004	29,890,000	27,844,247	40,340,828
Milestone Partners III, L.P.	2008	60,000,000	54,001,300	15,437,447
Milestone Partners IV, L.P.	2011	70,000,000	23,975,493	373,792
Morgan Stanley Dean Witter Cap Ptrs IV, L.P.	1998	300,000,000	236,925,618	477,261,395
Morgan Stanley PE Asia Fund IV, L.P.	2013	100,000,000	12,722,464	-
Navis Asia Fund V, L.P.	2007	100,000,000	119,315,968	51,341,437
New Mountain Partners III L.P.	2007	300,000,000	289,418,861	100,041,347
New Mountain Partners IV, L.P.	2013	100,000,000	-	-
New Mountain Partners. L.P.	2000	192,509,033	161,036,343	224,742,581
New York Life Capital Partners I, L.P.	1999	200,000,000	204,822,623	223,323,031

\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.



### Section 3 - Investment Information

## Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
New York Life Capital Partners II, L.P.	2001	\$ 200,000,000	\$ 194,476,197	\$ 500,363,284
New York Life Capital Partners III-A, L.P.	2005	200,000,000	206,973,107	68,051,165
New York Life Capital Partners IV-A, L.P.	2008	100,000,000	104,528,661	53,142,249
NGP Natural Resources X, L.P.	2012	100,000,000	45,960,018	689,818
Nordic Capital VII Beta L.P.	2008	206,835,000	189,261,003	32,085,091
Orchid Asia V, L.P.	2011	40,000,000	23,508,790	7,660,456
PAI Europe III, L.P.	2001	413,670,000	334,978,803	1,111,366,194
PAI Europe IV-B2, L.P.	2005	137,890,000	130,887,795	139,306,421
PAI Europe V, L.P.	2007	137,890,000	128,193,291	22,752,133
PAI Europe VI, L.P.	2013	137,890,000	-	-
Palladium Equity Partners II-A, L.P.	2000	57,750,000	62,275,148	73,347,939
Partners Group Secondary 2008, L.P.	2007	206,835,000	178,083,194	83,046,301
Partners Group Secondary 2011 (USD), L.P. Inc.	2011	100,000,000	23,505,829	1,126,000
Permira IV, L.P.	2006	172,362,500	160,992,055	83,988,427
Platinum Equity Capital Partners-A II, L.P.	2007	300,000,000	275,363,883	235,891,822
Platinum Equity Capital Partners-A III, L.P.	2012	200,000,000	42,776,951	21,899,316
Platinum Equity Capital Partners-A, L.P.	2004	125,000,000	97,387,205	234,322,699
PNC Equity Partners II, L.P.	2006	68,065,386	58,423,009	38,588,044
PNC Equity Partners, L.P.	2001	43,154,458	39,743,735	72,716,701
Providence Equity Partners VI, L.P.	2006	300,000,000	306,575,110	103,318,512
PSERS Private Market Internal Program	2012	56,293,106	35,656,913	8,356,887
PSERS Private Market Internal Program	2013	85,323,412	56,407,237	979,190
Quadrangle Capital Partners II, L.P.	2005	250,000,000	220,606,857	133,908,585
Quadrangle Capital Partners, L.P.	2001	270,422,415	225,388,018	344,814,578
StepStone International Investors III L.P.	2007	137,890,000	132,975,929	61,354,101
Sterling Capital Partners, L.P.	2002	75,000,000	84,218,317	145,571,890
Strategic Feeder, L.P.	2001	200,000,000	193,081,558	298,330,639
Strategic Partners Fund II, L.P.	2003	300,000,000	263,240,142	456,538,381
Strategic Partners Fund III-B, L.P.	2005	200,000,000	216,135,843	190,715,349
Strategic Partners Fund IV, L.P.	2008	100,000,000	92,160,070	78,231,120
Strategic Partners Fund V, L.P.	2011	150,000,000	91,066,635	28,167,459
TPG Partners V, L.P.	2006	250,000,000	261,401,532	103,800,894
TPG Partners VI, L.P.	2008	360,000,000	316,042,478	111,628,376
Trilantic Capital Partners IV L.P.	2007	76,752,676	75,297,192	62,674,485
Trilantic Capital Partners V (North America), L.P.	2013	100,000,000	17,558,434	53,344
U.S. Equity Partners II	2001	300,000,000	222,212,175	205,818,087
Wicks Communications and Media Partners, L.P.	1999	87,500,000	88,962,098	106,348,232
<b>Total Private Equity</b>		<b>\$17,587,723,555</b>	<b>\$14,481,511,271</b>	<b>\$13,162,084,316</b>

\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

### Section 3 - Investment Information

## Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

Partnership Name Venture Capital:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Adams Capital Management, L.P.	1997	\$ 12,500,000	\$ 12,500,000	\$ 22,671,838
Aisling Capital II L.P.	2006	50,000,000	53,114,907	18,437,273
Aisling Capital III, L.P.	2008	50,000,000	35,282,257	14,068,657
Co-Investment 2000 Fund, L.P.	2000	135,000,000	135,000,000	159,041,375
Co-Investment Fund II, L.P.	2006	135,000,000	128,925,000	9,410,651
Cross Atlantic Technology Fund II	2001	21,119,734	21,119,734	12,114,382
Cross Atlantic Technology Fund, L.P.	1999	30,141,666	30,357,584	35,781,536
Jefferson Partners Fund IV (PA) L.P.	2003	27,452,588	24,583,511	200,204
KBL Partnership, L.P.	1999	13,743,333	13,711,864	6,563,009
Landmark Equity Partners II, L.P.	1992	25,000,000	25,000,000	39,039,687
Landmark Equity Partners V, L.P.	1995	49,060,283	48,481,948	58,703,795
LLR Equity Partners II, L.P.	2004	75,000,000	74,986,212	103,783,175
LLR Equity Partners III, L.P.	2008	187,500,000	160,820,481	82,003,514
LLR Equity Partners IV, L.P.	2013	200,000,000	-	-
LLR Equity Partners, L.P.	1999	62,500,000	61,278,857	131,247,393
NEPA Venture Fund II	1992	5,000,000	5,000,000	23,252,576
Novitas Capital , L.P.	1998	30,000,000	29,952,000	34,419,298
Novitas Capital II, L.P.	2000	75,000,000	74,775,000	15,910,651
Perseus-Soros BioPharmaceutical Fund	2001	112,206,666	123,791,149	190,468,490
Psilos Group Partners III-C, L.P.	2007	62,500,000	57,744,925	30,420,581
Quaker BioVentures II, L.P.	2007	100,000,000	81,153,932	20,998,932
Quaker Bio-Ventures, L.P.	2003	69,350,000	69,458,692	13,821,323
SCP Private Equity Partners I, L.P.	1996	62,500,000	63,285,918	43,172,864
SCP Private Equity Partners II, L.P.	2000	125,000,000	129,614,995	27,862,005
StarVest Partners , L.P.	1999	67,500,000	65,659,367	101,373,175
StarVest Partners II (Parallel), L.P.	2007	50,000,000	39,306,448	-
Sterling Venture Partners, L.P.	2000	33,986,000	36,115,022	31,203,448
Strategic Partners Fund III VC, L.P.	2005	50,000,000	54,752,975	45,090,752
Strategic Partners Fund IV VC, L.P.	2008	50,000,000	55,643,378	34,355,407
Summit Partners Growth Equity Fund VIII, L.P.	2012	100,000,000	27,500,000	-
Summit Partners Venture Capital Fund III, L.P.	2012	25,000,000	11,125,000	-
TDH III, L.P.	1993	7,350,750	7,350,750	4,874,316
Tenaya Capital IV-P, L.P.	2003	75,000,000	72,679,657	75,850,647
Tenaya Capital VI, L.P.	2012	50,000,000	20,726,212	-
Tenaya Capital V-P, L.P.	2007	75,000,000	65,173,379	55,894,136
<b>Total Venture Capital</b>		<b>\$ 2,299,411,020</b>	<b>\$ 1,915,971,154</b>	<b>\$ 1,442,035,090</b>

\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

### Section 3 - Investment Information

## Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

Partnership Name Private Debt:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Apollo Investment Fund VIII, L.P.	2013	\$ 250,000,000	\$ -	\$ -
Avenue Asia Special Situations Fund II, L.P.	2001	220,000,000	220,000,000	413,014,083
Avenue Asia Special Situations Fund III, L.P.	2003	100,000,000	76,344,737	114,220,428
Avenue Asia Special Situations Fund IV, LP	2006	300,000,000	225,056,480	160,211,233
Avenue Europe Special Situations Fund, L.P.	2008	275,780,000	259,698,044	351,705,292
Avenue Special Situations Fund IV, L.P.	2005	115,000,000	144,782,669	187,322,079
Avenue Special Situations Fund V, L.P.	2007	300,000,000	301,095,120	392,739,125
Avenue Special Situations Fund VI, L.P.	2010	75,000,000	76,892,726	3,367,165
Cerberus Institutional Partners V, L.P.	2012	200,000,000	104,950,369	19,212,678
Cerberus Institutional Partners, L.P. (Series 2)	2001	200,000,000	173,047,901	472,168,754
Cerberus Institutional Partners, L.P. (Series 3)	2003	100,000,000	81,055,777	119,102,169
Cerberus Institutional Partners, L.P. (Series 4)	2006	400,000,000	369,661,873	230,872,360
Gleacher Mezzanine Fund II, L.P.	2006	100,000,000	91,122,173	63,991,900
Gleacher Mezzanine Fund, L.P.	2001	75,000,000	63,450,304	95,938,829
Gold Hill Venture Lending 03-A, L.P.	2004	50,000,000	50,000,000	68,424,799
GSC Partners CDO Investors IV, L.P.	2003	80,000,000	80,000,000	91,000,000
GSC Recovery II, L.P.	2000	280,000,000	279,170,771	385,766,529
GSC Recovery III (Parallel Fund), L.P.	2005	200,000,000	201,394,130	171,881,608
NYLIM Mezzanine Partners (Parallel Fund) L.P.	2003	75,000,000	68,801,820	85,011,915
NYLIM Mezzanine Partners II (Parallel Fund) LP	2006	150,000,000	163,722,994	172,130,472
OCM Opportunities Fund VII L.P.	2007	75,000,000	75,000,000	85,212,949
OCM Opportunities Fund VII-b L.P.	2008	225,000,000	202,500,000	303,335,695
Versa Capital Fund I, L.P.	2005	75,000,000	88,545,177	61,512,768
Versa Capital Fund II, L.P.	2008	150,000,000	130,533,012	42,646,691
Versa Capital Fund III, L.P.	2013	150,000,000	-	-
Windjammer Senior Equity Fund III, L.P.	2006	50,000,000	45,223,847	39,496,800
Windjammer Senior Equity Fund IV, L.P.	2012	100,000,000	27,151,418	-
<b>Total Private Debt</b>		<b>\$ 4,370,780,000</b>	<b>\$ 3,599,201,342</b>	<b>\$ 4,130,286,321</b>
<b>Grand Total</b>		<b><u>\$24,257,914,575</u></b>	<b><u>\$19,996,683,767</u></b>	<b><u>\$18,734,405,727</u></b>

\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.



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**Summary of  
PSERS' Real Estate Investments  
(as of December 31, 2013)**

Private Real Estate Exposure is one of nine asset classes that PSERS uses to diversify the investments of the Fund. The primary objective of the real estate program is to invest in real property directly or indirectly through global publicly-traded real estate securities (PTRES), direct investments, commingled fund investments, limited partnerships, and direct private placements. This is done in a prudent manner to create a diversified real estate portfolio of high quality investments which will enhance PSERS' overall long-term investment performance, diversify the asset base, and reduce the volatility of returns of the total investment portfolio.

	<b>Total Commitment (Millions)</b>	<b>Market Value (Millions)</b>	<b>Percent Allocation to Total Fund</b>
<b>Separate Accounts</b>	\$ 448.3	\$ 264.0	0.5%
<b>PTRES</b>	202.4	192.6	0.4%
<b>Core Real Estate</b>	500.0	339.6	0.7%
<b>Opportunistic Real Estate</b>	8,870.0	4,682.4	9.4%
<b>Value Added Real Estate</b>	<u>3,867.4</u>	<u>1,517.9</u>	<u>3.1%</u>
<b>Totals</b>	<b><u>\$ 13,888.1</u></b>	<b><u>\$ 6,996.5</u></b>	<b><u>14.1%</u></b>

**Policy**

The real estate program is designed to create the highest possible risk-adjusted returns in a controlled, coordinated, and comprehensive manner. Recognizing that real estate market conditions and PSERS' objectives for real estate may change over time, the program is reviewed periodically and updated as needed. The existing target allocation is 14.0% of total assets.

Investments are made through global PTRES, direct investments, commingled fund investments, limited partnerships, and direct private placements. It is PSERS' intent to liquidate any investment at the point in time when its value has been maximized. PSERS seeks to diversify its real estate portfolio by investing in a mix of Opportunistic (25%), Value Added (50%) and Core (25%) real estate investments.

Opportunistic real estate investing is the financing, acquisition or investment in real estate assets, real estate companies, portfolios of real estate assets, private and public REIT's that do not have access to traditional public equity or debt financing. Opportunistic real estate

consists of investment strategies that seek to exploit market inefficiencies with an emphasis on total return. Opportunistic investments require specialized expertise and the flexibility to respond quickly to market imbalances or changing market conditions. Investments may include non-traditional property types and/or assets that involve development, re-development, or leasing risks.

Value Added real estate investing typically focuses on both income growth and appreciation potential, where opportunities created by dislocations and inefficiencies between and within segments of the real estate capital markets are capitalized upon to enhance returns. Investments can include high-yield equity and debt investments and undervalued or impaired properties in need of repositioning, re-development or leasing.

Core real estate investing is the financing, acquisition or investment in real estate assets, real estate companies, portfolios of real estate assets, and private REITs that are broadly diversified by property type and location, focused primarily on completed, well-leased properties with modest levels of leasing risk, using relatively low leverage, and investing mainly in institutional property types and qualities allowing for relative ease of resale.

**Market Value as of December 31, 2013:** \$6,996.5 million or 14.1% of the Fund's total market value. This market value represents the combination of December 31, 2013 and September 30, 2013 market values adjusted for cash flows that occurred during the fourth quarter of 2013.

**Number of External Investment Managers:** PSERS had contracts with five external directly managed real estate asset managers and 41 external general partners to manage the real estate separate account, public securities, and pool fund portfolios.

**Number of Internal Portfolio Managers:** PSERS had two employees managing real estate portfolios.

**Types of Investment Portfolios at December 31, 2013:**

- 3.7% Separate Account Portfolios
- 2.8% Public Securities Portfolios
- 4.9% Core Real Estate Portfolios
- 66.9% Opportunistic Real Estate Portfolios
- 21.7% Value Added Real Estate Portfolios

### Section 3 - Investment Information

## Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
<b>Separate Accounts:</b>				
Charter Oak Advisors, Inc.	1993	\$ 133,179,000	\$ 135,530,423	\$ 238,546,497
GF Management, Inc.	1987	131,991,000	132,318,035	141,968,556
Grosvenor Fund Management U.S., Inc.	1986	10,859,844	11,121,816	11,689,816
L&B Realty Advisors, LLP	1993	150,403,000	151,746,926	245,242,040
Prudential Agriculture Group	n/a	<u>21,821,000</u>	<u>22,522,567</u>	<u>52,308,754</u>
<b>Total Separate Accounts</b>		<b>\$ 448,253,844</b>	<b>\$ 453,239,767</b>	<b>\$ 689,755,662</b>
<b>Public Securities:</b>				
Security Capital Research & Management, Inc. - Preferred Growth	1997	<b>\$ 202,393,803</b>	<b>\$ 202,393,803</b>	<b>\$ 74,308,516</b>
<b>Core Real Estate:</b>				
JPMCB Strategic Property Fund	2007	\$ 100,000,000	\$ 25,000,000	\$ 4,004,818
PRISA	2006	100,000,000	100,000,000	26,647,910
ProLogis North American Industrial Fund, L.P.	2006	200,000,000	196,687,767	47,162,119
UBS (US) Trumbull Property Fund, L.P.	2006	<u>100,000,000</u>	<u>75,000,000</u>	<u>15,677,703</u>
<b>Total Core Real Estate</b>		<b>\$ 500,000,000</b>	<b>\$ 396,687,767</b>	<b>\$ 93,492,551</b>
<b>Opportunistic Real Estate:</b>				
Ares European Real Estate Fund III, L.P.	2007	137,890,000	135,255,446	31,518,161
Avenue Real Estate Fund (Parallel) L.P.	2006	100,000,000	94,193,695	-
BlackRock Asia Property Fund III, L.P.	2007	200,000,000	134,983,698	-
BlackRock Europe Property Fund III, L.P.	2007	137,890,000	122,036,575	5,113,090
Blackstone Real Estate Partners Europe III, L.P.	2009	275,780,000	243,816,554	33,600,842
Blackstone Real Estate Partners V, L.P.	2006	200,000,000	213,361,603	112,801,427
Blackstone Real Estate Partners VI, L.P.	2007	400,000,000	423,260,011	132,330,219
Blackstone Real Estate Partners VII, L.P.	2011	300,000,000	208,958,690	49,973,926
Brookfield Strategic Real Estate Partners, L.P.	2012	200,000,000	77,470,604	-
Carlyle Europe Real Estate Partners III, L.P.	2007	275,780,000	273,904,332	29,460,690
Carlyle Realty Partners III, L.P.	2000	141,016,667	114,754,550	227,206,170
Carlyle Realty Partners IV, L.P.	2005	130,000,000	182,254,665	62,275,945
Carlyle Realty Partners V, L.P.	2007	300,000,000	358,039,141	337,788,147
Carlyle Realty Partners VI, L.P.	2011	200,000,000	99,237,997	16,220,017
DLJ Real Estate Capital Partners III, L.P.	2005	150,000,000	164,704,060	63,733,983
DLJ Real Estate Capital Partners IV, L.P.	2007	250,000,000	270,045,774	80,565,452
DLJ Real Estate Partners II, L.P.	1999	200,000,000	185,654,834	289,723,580
Fortress Investment Fund IV LP	2006	100,000,000	100,976,805	15,674,699
Fortress Investment Fund LLC	2000	200,000,000	195,446,950	526,219,417

\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

### Section 3 - Investment Information

## Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
<b>Opportunistic Real Estate (continued):</b>				
Fortress Investment Fund V (Fund A) L.P.	2007	\$ 200,000,000	\$ 195,531,972	\$ 22,774,940
LF Strategic Realty Investors, L.P.	1996	150,000,000	150,000,000	266,939,860
Lubert-Adler Real Estate Fund II	1998	50,000,000	50,389,205	74,591,477
Lubert-Adler Real Estate Fund III	2000	150,000,000	150,018,382	224,904,699
Lubert-Adler Real Estate Fund IV	2004	100,000,000	106,021,148	49,047,648
Lubert-Adler Real Estate Fund V	2006	100,000,000	102,117,852	9,754,354
Lubert-Adler Real Estate Fund VI	2007	150,000,000	137,924,761	39,065,148
Morgan Stanley Real Estate Fund II	1995	150,000,000	156,162,032	358,909,948
Morgan Stanley Real Estate Fund IV Spec Dom	2002	100,000,000	113,856,598	118,465,924
Morgan Stanley Real Estate Fund IV Spec Intl	2001	200,000,000	215,769,018	447,697,623
Morgan Stanley Real Estate Fund V Spec Intl	2005	200,000,000	231,122,788	238,060,971
Morgan Stanley Real Estate Fund V U.S.	2006	150,000,000	189,792,649	28,042,961
Morgan Stanley Real Estate Fund VI Spec Intl	2006	400,000,000	462,597,993	28,942,705
Morgan Stanley Real Estate Fund VII Global, L.P.	2007	309,636,000	279,825,643	89,678,026
O'Connor North American Property Partners II L.P.	2007	132,142,857	131,804,303	28,383,646
O'Connor North American Property Partners, L.P.	2004	100,000,000	111,003,553	20,459,052
Paladin Realty Latin America Investors III, L.P.	2008	113,583,333	112,286,119	17,531,683
Peabody Global Real Estate Partners	1998	100,000,000	89,031,934	157,153,927
PSERS Real Estate Internal Program	2013	30,000,000	28,178,490	895,474
Silverpeak Legacy Pension Partners II, L.P.	2005	200,000,000	206,995,782	119,906,586
Silverpeak Legacy Pension Partners III, L.P.	2007	300,000,000	136,696,279	4,672,504
Silverpeak Legacy/PSERS, L.P.	2000	300,000,000	139,508,708	278,513,106
Stockbridge RE Fund III Co-Investment	2013	49,870,000	49,870,000	251,042
Stockbridge Real Estate Fund II - Senior Note	2010	20,312,500	20,312,500	5,362,500
Stockbridge Real Estate Fund II, LP	2005	162,500,000	162,500,000	-
Stockbridge Real Estate Fund III, LP	2007	180,000,000	175,235,642	-
Stockbridge Real Estate Fund, L.P.	2000	408,465,517	492,133,134	576,573,475
Strategic Partners Fund II RE, L.P.	2003	75,000,000	67,614,719	94,974,059
Strategic Partners Fund III RE, L.P.	2005	75,000,000	78,890,915	5,307,813
Strategic Partners Fund IV RE, L.P.	2008	75,000,000	75,382,462	23,854,266
Westbrook Real Estate Fund I	1995	63,500,000	69,295,047	149,276,101
Whitehall Street VII & VIII	1996	100,000,000	96,092,963	154,492,457
William E Simon & Sons	2001	<u>76,662,500</u>	<u>74,788,678</u>	<u>59,042,379</u>
<b>Total Opportunistic Real Estate</b>		<b>\$ 8,870,029,374</b>	<b>\$ 8,457,107,255</b>	<b>\$ 5,707,732,117</b>

\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

### Section 3 - Investment Information

## Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
<b>Value Added Real Estate:</b>				
AG Core Plus Realty Fund III, L.P.	2011	\$ 75,000,000	\$ 43,291,517	\$ 2,250,000
Almanac Realty Securities V, L.P.	2007	100,000,000	98,725,324	44,504,364
Almanac Realty Securities VI, L.P.	2012	100,000,000	28,502,580	1,395,052
Apollo Real Estate Finance Corp	2006	150,000,000	150,183,055	87,808,782
AREFIN Co-Invest Corporation	2008	83,000,000	69,192,000	86,255,401
Ares U.S. Real Estate Fund VII, L.P.	2008	150,000,000	147,283,793	57,280,355
Ares U.S. Real Estate Fund VIII, L.P.	2013	75,000,000	-	-
AvalonBay Value Added Fund II, L.P.	2009	100,000,000	89,100,000	13,250,000
AvalonBay Value Added Fund, L.P.	2004	75,000,000	75,000,000	69,227,272
Beacon Capital Strategic Partners V, L.P.	2007	200,000,000	172,000,000	37,425,743
Bell Institutional Fund IV, LLC	2011	75,000,000	72,321,806	3,085,959
Blackstone Real Estate Debt Strategies II, L.P.	2013	100,000,000	27,444,186	626,857
BPG Investment Partnership V, L.P.	1999	50,000,000	47,112,231	73,557,677
BPG Investment Partnership VI, L.P.	2002	87,500,000	84,251,339	106,248,762
BPG/PSERS Co-Investment Fund	2001	100,000,000	65,703,742	160,760,674
Broadway Partners Real Estate Fund II, L.P.	2006	125,000,000	124,057,276	10,528,306
Broadway Partners Real Estate Fund III, L.P.	2007	166,182,500	167,153,228	3,875,000
Cabot Industrial Value Fund III, L.P.	2008	100,000,000	81,671,500	121,260,937
Cabot Industrial Value Fund IV, L.P.	2013	75,000,000	-	-
Centerline High Yield CMBS III - Loan/Stock	2008	90,000,000	90,000,000	41,308,056
DRA Growth and Income Fund VI, L.P.	2007	148,200,000	96,898,540	45,851,548
DRA Growth and Income Fund VII, L.P.	2011	100,000,000	83,560,000	7,092,454
Exeter Industrial Value Fund II, L.P.	2011	75,000,000	60,200,941	8,902,439
Fillmore West Fund, L.P.	2008	100,000,000	97,807,786	37,492,482
Hines U.S. Office Value Added Fund, L.P.	2004	100,000,000	104,250,470	150,775,996
Latitude Management Real Estate Capital III, Inc.	2012	75,000,000	29,679,329	668,539
LCCG R E Special Situations Mortgage Fund	2006	133,875,000	133,627,886	29,228,262
Legg Mason Real Estate Capital	2002	57,640,625	56,928,569	57,567,092
Legg Mason Real Estate Capital II	2005	100,000,000	97,941,148	44,247,456
LEM RE High Yield Debt & Pfd Equity Fund III, L.P.	2012	75,000,000	15,000,000	980,509
LEM Real Estate Mezzanine Fund II, L.P.	2006	75,000,000	60,000,000	39,498,254
Madison Marquette Retail Enhancement Fund LP	2007	100,000,000	91,634,174	5,897,408
Paramount Group Real Estate Fund VII, L.P.	2013	100,000,000	-	-
PSERS Real Estate Internal Program	2013	21,000,000	21,000,000	8,256,975
RCG Longview Debt Fund IV, L.P.	2007	175,000,000	199,627,182	142,827,544
RCG Longview Debt Fund V, L.P.	2013	75,000,000	37,348,916	393,988
RCG Longview Equity Fund, L.P.	2006	125,000,000	90,517,020	55,539,458

\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.



**Section 3 - Investment Information**

**Summary of PSERS' Real Estate Investments Committed,  
Drawn, and Distributed (unaudited)  
(as of December 31, 2013)  
(continued)**

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
<b>Value Added Real Estate (continued):</b>				
Senior Housing Partnership Fund IV, L.P.	2011	\$ 100,000,000	\$ 45,098,453	\$ 6,693,961
Strategic Partners Value Enhancement Fund LP	2005	55,000,000	54,978,609	13,321,000
<b>Total Value Added Real Estate</b>		<b>3,867,398,125</b>	<b>3,009,092,599</b>	<b>1,575,884,563</b>
<b>Grand Total</b>		<b><u>\$ 13,888,075,146</u></b>	<b><u>\$ 12,518,521,191</u></b>	<b><u>\$ 8,141,173,409</u></b>

*\*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.  
Numbers may not add due to rounding.*



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## Summary of PSERS' Fixed Income Investments (as of December 31, 2013)

Fixed Income Exposure is one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies Fixed Income investments and balances Fixed Income management styles. PSERS contracts with external investment managers and hires internal portfolio managers to manage portfolios.

### Policy

Fixed Income investments are utilized by the Fund to help diversify the overall Fund and for a variety of purposes as follows:

- Nominal bonds are used for their ability to serve as a hedge against disinflation and/or deflation, their general ability to produce current income in the form of periodic interest payments, and their ability to provide sufficient liquidity to meet the Fund's obligations to pay member benefits and support other investment commitments;
- Inflation-linked bonds are used for their ability to serve as a hedge against inflation, their general ability to produce current income in the form of periodic interest payments, and their ability to provide sufficient liquidity to meet the Fund's obligations to pay member benefits and support other investment commitments; and

- High yield securities and emerging market bonds are used for their ability to generate high current income in the form of periodic interest payments as well as offering greater total return opportunities than high grade debt.

PSERS' Asset Allocation targets an eventual allocation of 26.0% of assets to Fixed Income, 8.0% of which is designated to Global Fixed Income (includes Core/Core Plus and Global strategies), 3.0% of which is designated to U.S. Long Treasuries, 6.0% of which is designated to TIPS strategies, 6.0% of which is designated to High Yield strategies, and 3.0% designated to Cash.

**Market Value as of December 31, 2013:** \$11,971.7 million, or 24.2% of the Fund's total market value.

**Number of External Investment Managers:** : PSERS had contracts with 26 external investment managers responsible for various Fixed Income portfolios (including two Public Market Emerging Investment Manager Program managers).

**Number of Internal Portfolio Managers:** PSERS had three employees managing various Fixed Income portfolios.

### Types of Investment Portfolios at December 31, 2013:

- 10.8% Global strategy portfolios
- 19.6% Core/Core Plus strategies portfolios
- 24.4% TIPS strategies portfolios
- 23.2% High Yield and Credit Opportunities portfolios
- 1.3% U.S. Long Treasuries
- 20.7% Cash.
- 40.3% was managed by internal portfolio managers and 59.7% was managed by external investment managers



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### Section 3 - Investment Information

## Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<b><u>Actively Managed U.S. Core/Core Plus Fixed</u></b>			
<b><u>Income Portfolios</u></b>			
BlackRock U.S. Extended Core Global Alpha Fund	\$ 699.0	5.8%	1.4%
Pacific Investment Mgmt. Co. (PIMCO)	224.7	1.9%	0.5%
Piedmont Investment Advisors	50.7	0.4%	0.1%
PSERS Active Aggregate	1,100.9	9.2%	2.2%
Pugh Capital Management, Inc.	86.5	0.7%	0.2%
Other	<u>184.1</u>	<u>1.6%</u>	<u>0.4%</u>
<b>Total Actively Managed U.S. Core/Core Plus Fixed Income</b>	<b>\$ <u>2,345.9</u></b>	<b><u>19.6%</u></b>	<b><u>4.8%</u></b>
<b><u>Actively Managed Treasury Inflation-Protected</u></b>			
<b><u>Securities (TIPS) Portfolios</u></b>			
Black River Asset Management, LLC	\$ 254.1	2.1%	0.5%
Bridgewater Associates, Inc.	1,453.5	12.1%	2.9%
PSERS TIPS Portfolio	<u>1,216.1</u>	<u>10.2%</u>	<u>2.5%</u>
<b>Total Actively Managed Treasury Inflation- Protected Securities (TIPS)</b>	<b>\$ <u>2,923.7</u></b>	<b><u>24.4%</u></b>	<b><u>5.9%</u></b>
<b><u>Actively Managed U.S. Long Treasury Portfolios</u></b>			
PSERS U.S. Long Treasuries	\$ 23.0	0.2%	0.0%
Pacific Investment Mgmt. Co. (PIMCO)	<u>138.3</u>	<u>1.1%</u>	<u>0.3%</u>
<b>Total Actively Managed U.S. Long Treasury Portfolios</b>	<b>\$ <u>161.3</u></b>	<b><u>1.3%</u></b>	<b><u>0.3%</u></b>
<b><u>Actively Managed High Yield Fixed Income Portfolio</u></b>			
MacKay-Shields Financial Corporation	\$ <u>198.1</u>	<u>1.7%</u>	<u>0.4%</u>

Numbers may not add due to rounding.

### Section 3 - Investment Information

## Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2013) (continued)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<b><i>Actively Managed Credit Opportunity Portfolios</i></b>			
Apollo European Principal Finance Fund II, LP	\$ 62.5	0.5%	0.1%
BlackRock Mortgage (Offshore) Investors	7.0	0.1%	0.0%
Brevan Howard CMBS Fund	90.1	0.7%	0.2%
Brigade Distressed Value Offshore Fund	123.6	1.0%	0.2%
Carlyle Energy Mezzanine Opportunity Fund, LP	91.1	0.8%	0.2%
Cerberus Levered Loan Opportunities Fund, LP	102.6	0.9%	0.2%
Cerberus Levered Loan Opportunities Fund II, LP	128.8	1.1%	0.3%
Galton Onshore Mortgage Revcovery Fund III, LP	25.0	0.2%	0.1%
Hayfin Special Opportunities Credit Fund, LP	89.5	0.7%	0.2%
ICG Europe Fund V, LP	91.0	0.8%	0.2%
International Infrastructure Finance Company Fund, LP	20.3	0.2%	0.0%
LBC Credit Partners II, LP	135.0	1.1%	0.3%
LBC Credit Partners III, LP	69.4	0.6%	0.1%
Mariner Investment Group	170.2	1.4%	0.3%
Oaktree Loan Fund	15.5	0.1%	0.0%
Pacific Investment Mgmt. Co. (PIMCO)	362.9	3.0%	0.7%
Sankaty Advisors LLC - Bank Loans	398.5	3.3%	0.8%
Sankaty Credit Opportunities Fund IV, LP	162.0	1.4%	0.3%
Sankaty Credit Opportunities Fund V-A, LP	93.4	0.8%	0.2%
Sankaty Middle Market Opportunities Fund, LP	168.0	1.4%	0.3%
Sankaty Middle Market Opportunities Fund II, LP	10.0	0.1%	0.1%
TOP NPL (A), LP	72.8	0.6%	0.1%
TPG Opportunities Parnters II, LP	<u>78.0</u>	<u>0.7%</u>	<u>0.2%</u>
<b>Total Actively Managed Credit Opportunity</b>			
<b>Fixed Income</b>	<b>\$ <u>2,567.2</u></b>	<b><u>21.5%</u></b>	<b><u>5.2%</u></b>
<b>Total Actively Managed U.S.</b>			
<b>Fixed Income</b>	<b>\$ <u>8,196.2</u></b>	<b><u>68.5%</u></b>	<b><u>16.6%</u></b>

Numbers may not add due to rounding.

### Section 3 - Investment Information

#### Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2013) (continued)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<b><u>Actively Managed Non-U.S. Developed Markets</u></b>			
<b><u>Fixed Income Portfolios</u></b>			
Alliance Bernstein	\$ 288.5	2.4%	0.6%
Pacific Investment Mgmt. Co. (PIMCO)	43.2	0.4%	0.1%
Strategic Fixed Income	<u>130.8</u>	<u>1.1%</u>	<u>0.2%</u>
<b>Total Actively Managed Non-U.S. Developed Markets</b>			
<b>Fixed Income</b>	<b>\$ <u>462.5</u></b>	<b><u>3.9%</u></b>	<b><u>0.9%</u></b>
<b><u>Actively Managed Global Emerging Markets Fixed</u></b>			
<b><u>Income Portfolios</u></b>			
Franklin Templeton	\$ 378.1	3.2%	0.8%
Pacific Investment Mgmt. Co. (PIMCO)	95.1	0.8%	0.2%
Stone Harbor Investment Partners	<u>351.8</u>	<u>2.9%</u>	<u>0.7%</u>
<b>Total Actively Managed Global Emerging Markets</b>			
<b>Fixed Income</b>	<b>\$ <u>825.0</u></b>	<b><u>6.9%</u></b>	<b><u>1.7%</u></b>
<b><u>Internally Managed Cash Portfolio</u></b>			
PSERS Proprietary Fund	\$ <u>2,488.0</u>	<u>20.7%</u>	<u>5.0%</u>
<b>Total Fixed Income</b>	<b>\$ <u>11,971.7</u></b>	<b><u>100.0%</u></b>	<b><u>24.2%</u></b>

Numbers may not add due to rounding.

## Section 3 - Investment Information

### Summary of PSERS' Absolute Return Investments (as of December 31, 2013)

Absolute Return Exposure is one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS contracts with external investment managers to manage absolute return portfolios.

#### Policy

Absolute Return investments are utilized by the Fund primarily to generate returns that are uncorrelated with other asset classes or investments and help diversify the overall Fund. The benchmark for PSERS' Absolute Return investments is an absolute return of 7.5% annualized with risk of 7.5% or lower at the program level over a full market cycle.

Absolute Return investments shall be in a variety of unique, non-directional investment strategies, including global macro, relative value, event driven, capital structure arbitrage, reinsurance, volatility and other strategies. The Fund shall diversify this program by manager and style.

PSERS' Asset Allocation currently targets an allocation of 10.0% of assets in Absolute Return investments.

**Market Value as of December 31, 2013:** \$5,288.2 million, or 10.7% of the Fund's total market value.

**Number of External Investment Managers:** PSERS had contracts with 15 external investment managers responsible for the various Absolute Return portfolios (including one Public Market Emerging Investment Manager Program manager).

**Number of Internal Investment Managers:** None.

### Summary of PSERS' Absolute Return Portfolios (unaudited) (as of December 31, 2013)

	<u>Market Value</u> <u>(in millions)</u>	<u>% of Total</u> <u>Absolute Return</u>	<u>% of</u> <u>Total Fund</u>
<b><u>Actively Managed Absolute Return Portfolios</u></b>			
Aeolus Capital Management Ltd.	\$ 256.2	4.8%	0.5%
Black River Asset Management, LLC	282.2	5.3%	0.6%
BlackRock Capital Structure Investments Fund	279.3	5.3%	0.6%
BlueCrest Capital Management LLP	216.7	4.1%	0.4%
Brevan Howard Fund, Ltd.	415.3	7.9%	0.8%
Bridgewater Associates, Inc.	917.7	17.4%	1.9%
Brigade Capital Management	548.8	10.4%	1.1%
Capula Global Relative Value Fund	231.9	4.4%	0.5%
Capula Tail Risk Fund	340.7	6.4%	0.7%
Caspian Capital Advisors, LLC	233.4	4.4%	0.5%
Ellis Lake Domestic Fund 2012	105.3	2.0%	0.2%
Nephila Capital, Ltd.	269.7	5.1%	0.5%
Pacific Investment Mgmt. Co. (PIMCO)	687.4	13.0%	1.4%
Perry Partners, Inc.	200.0	3.8%	0.4%
Robeco Investment Management, Inc.	197.3	3.7%	0.4%
Sciens Aviation Special Opportunities Fund II, LP	92.1	1.7%	0.2%
Other	<u>14.2</u>	0.3%	0.0%
<b>Total Absolute Return</b>	<b>\$ <u>5,288.2</u></b>	<b><u>100.0%</u></b>	<b><u>10.7%</u></b>

Numbers may not add due to rounding.

## Section 3 - Investment Information

### Summary of PSERS' Risk Parity Portfolios (as of December 31, 2013)

Risk Parity Exposure represents one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies Risk Parity investments and balances Risk Parity investment philosophies. PSERS contracts with external investment managers to manage Risk Parity portfolios.

#### Policy

Risk Parity investments benefit the System due to their focus on the allocation of risk rather than the allocation of capital. Inclusion of this asset class is expected to reduce the portfolio's overall risk exposure over long-time horizons because it is designed to be more resistant to market downturns than traditional investment strategies, and further enhances the System's diversification due to the wide range of assets typically employed.

The Fund benchmarks its Risk Parity investments to a custom benchmark: MSCI ACWI (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); DJ/UBS Commodity Index (Total Return) (15%); DJ/UBS Gold Index (5%); and 3-Month LIBOR (-150%).

PSERS' Asset Allocation currently targets an allocation of 5.0% of assets to Risk Parity investments. The Risk Parity investments are targeted to be 100.0% actively managed.

**Market Value of December 31, 2013:** \$1,397.8 million, or 2.8% of the Fund's total market value.

**Number of External Investment Managers:** PSERS had contracts with two external investment managers to manage Risk Parity portfolios.

**Number of Internal Investment Managers:** PSERS had one employee managing a Risk Parity portfolio.

### Summary of PSERS' Risk Parity Portfolios (unaudited) (as of December 31, 2013)

	<b>Market Value (in millions)</b>	<b>% of Total Risk Parity</b>	<b>% of Total Fund</b>
<b><u>Risk Parity Portfolios</u></b>			
AQR GRP EL 20 Offshore Fund, Ltd.	\$ 298.6	21.4%	0.6%
Bridgewater All Weather @ 15% Fund	1,050.6	75.2%	2.1%
PSERS Optimal Liquid Beta	48.6	3.4%	0.1%
<b>Total Risk Parity</b>	<b>\$ 1,397.8</b>	<b>100.0%</b>	<b>2.8%</b>

*Numbers may not add due to rounding.*

## Section 3 - Investment Information

### Summary of PSERS' Master Limited Partnerships (as of December 31, 2013)

Master Limited Partnership Exposure (MLPs) represents one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies MLP investments and balances MLP management styles. PSERS contracts with external investment managers to manage MLP portfolios.

#### **Policy**

MLP securities, which are publicly traded on a securities exchange, avoid federal and state income taxes by meeting specific qualifications of the IRS related to the production, processing or transportation of oil, natural gas, and coal. MLP securities are utilized by the System due to their attractively low funding costs and low correlation to stock and bond returns, attractive growth characteristics, and their ability to produce current income in the form of periodic distributions.

The Fund benchmarks its MLP investments to the S&P MLP Total Return Index.

PSERS' Asset Allocation currently targets an allocation of 3.0% of assets to MLP investments and are targeted to be 100.0% actively managed.

**Market Value of December 31, 2013:** \$1,673.8 million, or 3.4% of the Fund's total market value.

**Number of External Investment Managers:** PSERS had contracts with three external investment managers to manage MLP portfolios.

**Number of Internal Investment Managers:** None.

### Summary of PSERS' Master Limited Partnerships (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of Total MLPs	% of Total Fund
<b><u>Master Limited Partnership Portfolios</u></b>			
Atlantic Trust Private Wealth Management	\$ 482.6	28.8%	1.0%
Harvest Fund Advisors, LLC	665.1	39.8%	1.3%
Salient Capital Advisors, LLC	<u>526.1</u>	<u>31.4%</u>	<u>1.1%</u>
<b>Total Master Limited Partnerships</b>	<b>\$ <u>1,673.8</u></b>	<b><u>100.0%</u></b>	<b><u>3.4%</u></b>

*Numbers may not add due to rounding.*



**Summary of  
PSERS' Commodity Investments  
(as of December 31, 2013)**

Commodity Exposure represents one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies Commodity investments and balances Commodity management styles. PSERS contracts with external investment managers to manage commodity portfolios.

**Policy**

Commodity investments are utilized by the Fund for diversification within the portfolio and to act as a hedge against unanticipated inflation. The prices of commodities are determined primarily by near-term events in global supply and demand conditions and are positively related with both the level of inflation and the changes in the rate of inflation. However, stock and bond valuations are based on longer-term expectations and react negatively to inflation. Therefore, commodity returns have had a historically

negative correlation to stock and bond returns. As such, commodities, when combined with stocks and bonds, lower the risk of a portfolio.

The Fund benchmarks its Commodity investments to the Dow Jones-UBS Commodity Index (DJ UBS). The DJ UBS is a broadly diversified basket of 20 commodities from 4 sectors (energy, industrial metals, precious metals, and agriculture).

PSERS' Asset Allocation currently targets an allocation of 5.0% of assets to Commodity investments and are targeted to be 100.0% actively managed.

**Market Value of December 31, 2013:** \$1,822.2 million, or 3.7% of the Fund's total market value.

**Number of External Investment Managers:** PSERS had contracts with five external investment managers to manage Commodity portfolios.

**Number of Internal Investment Managers:** PSERS had one employee managing a commodity portfolio.

**Summary of PSERS' Commodity Portfolios (unaudited)  
(as of December 31, 2013)**

	<b>Market Value (in millions)</b>	<b>% of Total Commodities</b>	<b>% of Total Fund</b>
<b><u>Full Discretion Commodity Portfolio</u></b>			
Wellington Management Company, LLP	\$ 537.9	29.5%	1.1%
<b><u>Core/Enhanced Commodity Portfolios</u></b>			
Credit Suisse Asset Management	\$ 269.0	14.8%	0.5%
Black River Global Agricultural Absolute Return Fund	145.1	8.0%	0.3%
Gresham, LLC	454.5	24.9%	0.9%
PSERS Gold Fund	(14.2) a	(0.8)%	0.0%
Schroders Investment Management	429.9	23.6%	0.9%
<b>Total Core/Enhanced Commodities</b>	<b>\$ 1,284.3</b>	<b>70.5%</b>	<b>2.6%</b>
<b>Total Commodities</b>	<b>\$ 1,822.2</b>	<b>100.0%</b>	<b>3.7%</b>

a - The Market Value represents the net payable on swap contracts.  
Numbers may not add due to rounding.



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### Investment Advisory Fees

#### Active vs. Passive Investment Management

PSERS Board sets the asset allocation plan annually with input from staff and the general investment consultant. Upon approval of the Policy allocation, staff then works with the Board to implement the asset allocation plan. One of the first steps is to determine whether active, passive, or a combination of both strategies will be used to execute that plan.

Passive investment strategies form the basis that the Fund uses to attain market exposure in many public market asset classes. Adding additional value through active management is a rapidly evolving and increasingly difficult endeavor. An example of this continual evolution is how U.S. equities were materially affected in 2000 by the passing of Regulation Fair Disclosure (FD) by the Securities and Exchange Commission. Regulation FD leveled the playing field in U.S. equity active management by prohibiting selective disclosure of material information to large institutional investors. As such, information is equally disseminated to the investing public and few have “an edge” to generate adequate risk adjusted returns to justify the higher fees of active management. The advantage of passive strategies is that they are generally very inexpensive to implement. If solely using passive strategies, performance will be limited to what the market provides.

The Fund evaluates and selects active managers on a manager by manager basis with strong emphasis on understanding the manager’s sustainable investment edge. If the investment staff and consultants have conviction that the manager’s process will generate attractive and uncorrelated risk-adjusted net returns in excess of the most competitive passive benchmarks, the active manager will be considered. Active strategies are also used by the Fund in asset classes when passive strategies are not available, such as Private Equity. Private Equity covers a large part of the global economy which is comprised of companies that are not publicly traded and where deep research and due diligence can add value.

The advantage of active strategies is that they endeavor to generate net of fee returns in excess of the passive alternatives, if available, and/or provide diversification benefits which help manage total portfolio risk. The disadvantages of active strategies include being more expensive to implement than passive strategies and they may underperform passive strategies.

In selecting active managers, PSERS strives to hire managers that meet the following criteria:

- Have a unique insight or process
- Have the ability to add consistent excess returns above passive alternatives, net of fees

- Process is sustainable and timeless
- Have adequate capacity to execute the strategy
- Add diversification to our existing investment structure
- Do not exhibit style drift
- Exhibit a high level of ethical behavior

PSERS measures the performance of active strategies relative to the passive alternatives. In cases where the Fund is not getting value for the fees incurred, capital is redeployed to either other active strategies or to passive strategies. Where PSERS’ finds that the active managers are not providing value as a group, the Fund would endeavor to exit active strategies altogether and move to a passive implementation.

PSERS’ active management process has generated and continues to generate significant excess risk-adjusted, net of fee returns relative to the passive benchmarks. During each of the past four years, PSERS has averaged excess returns from active management in excess of \$1 billion per year. This means that the managers, both internal and external, beat the passive, Board approved asset allocation benchmarks, net of all fees and costs, by \$1 billion per year over the last four years. This added value would have been lost to the Fund by implementing a strictly low cost, passive approach.

While active management is more expensive than passive management, it is important to recognize that PSERS staff negotiates all fees to get the most favorable fee structure for the Fund. In addition, all investment management contracts contain what is known as a “Most Favored Nations” clause. This clause requires the investment manager to provide PSERS the best fee available at the time the contract is negotiated and allow us to have similar terms if another party investing the same or smaller dollar amount enters a contract in the same product in the future.

### Section 3 - Investment Information

## Summary of Investment Advisory Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands)

	<u>Fees</u>	<u>Basis Points</u>
<b>External Management</b>		
U.S. Equity	\$ 2,287	52
Non - U.S. Equity	27,941	62
Fixed Income	118,293	116
Real Estate	75,006	96
Alternative Investments	137,211	98
Absolute Return	149,764	235
Commodities	17,409	95
Master Limited Partnerships	4,966	49
Risk Parity	5,150	41
<b>Total External Management</b>	538,027	113
<b>Total Internal Management</b>	<u>14,634</u>	13
<b>Total Investment Management</b>	\$ 552,661	94
Custodian Fees	496	
Consultant and Legal Fees	<u>4,432</u>	
<b>Total Investment Expenses</b>	\$ <u>557,589</u>	95

### Investment Advisory Fees History

<u>Fiscal Year</u>	<u>Actual Investment Expenses*</u>	<u>Policy Benchmark Net Return</u>	<u>Actual Net Return</u>	<u>Investment Outperformance Net of Investment Expenses*</u>
2013	\$ 558	5.68%	7.96%	\$ 1,115
2012	481	1.98%	3.43%	701
2011	515	17.56%	20.37%	1,375
2010	522	10.87%	14.59%	1,706
2009	478	(20.67)%	(26.54)%	(2,793)
2008	399	(1.84)%	(2.82)%	(646)
2007	314	18.48%	22.93%	2,756
2006	211	11.96%	15.26%	1,824
2005	193	10.54%	12.87%	1,163
2004	191	16.34%	19.67%	1,550
<b>Total</b>	<u>\$ 3,862</u>			<u>\$ 8,752</u>

\* Dollar amounts in millions.

### Section 3 - Investment Information

## Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands)

External Management fees are treated as a reduction of the investment revenue of the Fund rather than as a budgeted administrative expense.

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>U.S. Equity</u></b>			
AH Lisanti Capital Growth, LLC	New York	NY	\$ 217
Conestoga Capital Advisors, Inc.	Radnor	PA	225
First Pacific Advisors, Inc.	Los Angeles	CA	993
Hellman, Jordan Management Company, Inc.	Boston	MA	120
NorthPointe Capital, LLC	Troy	MI	573
Opus Capital Management, Inc.	Cincinnati	OH	159
<b>Total - U.S. Equity</b>			<b>2,287</b>
<b><u>Non - U.S. Equity</u></b>			
Acadian Asset Management	Boston	MA	763
Baillie Gifford Overseas Ltd.	Edinburgh	UK	2,095
Batterymarch Financial Management, Inc.	Boston	MA	603
BlackRock Financial Management, Inc.	New York	NY	14,271
Glovista Investments LLC	Jersey City	NJ	36
John Hsu Capital Group, Inc.	New York	NY	248
Marathon Asset Management Limited	London	UK	1,600
Oberweis Asset Management, Inc.	North Aurora	IL	951
Pareto Investment Management, Ltd.	New York	NY	1,620
Pyramis Global Advisors	Boston	MA	945
Shah Capital Management, Inc.	Raleigh	NC	283
Wasatch Advisors, Inc.	Salt Lake City	UT	3,776
Wellington Management Company, L.L.P.	Boston	MA	136
Westwood Global Investments, LLC	Boston	MA	614
<b>Total - Non - U.S. Equity</b>			<b>27,941</b>
<b><u>Fixed Income</u></b>			
AllianceBernstein L.P.	White Plains	NY	833
Apollo European Principal Finance Fund II(Dollar A), L.P.	New York	NY	4,066
BlackRock Financial Management, Inc.	New York	NY	11,995
BlackRock Mortgage (Offshore) Investors, L.P.	New York	NY	5,000
Brevan Howard US, LLC	New York	NY	10,557
Bridgewater Associates, Inc.	Westport	CT	17,117
Brigade Capital Management, LLC	New York	NY	2,384
Cargill Financial Services Corporation	Hopkins	MN	3,824
Carlyle Energy Mezzanine Opportunities Fund, LP	Washington	DC	7,047
Cerberus Levered Loan Opportunities Fund I, L.P.	New York	NY	1,147
Cerberus Levered Loan Opportunities Fund II, L.P.	New York	NY	3,356

### Section 3 - Investment Information

## Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>Fixed Income (continued)</u></b>			
Franklin Templeton Investments	Nassau	Bahamas	\$ 2,225
Hayfin Special Opportunities Credit Fund, L.P.	George Town	Cayman Islands	1,579
ICG Europe Fund V, L.P.	St. Helier	Guernsey	3,062
LBC Credit Partners II, L.P.	Philadelphia	PA	5,775
LBC Credit Partners III, L.P.	Philadelphia	PA	1,250
MacKay-Shields Financial Corporation	New York	NY	1,272
Mariner Investment Group	Harrison	NY	11,963
Oaktree Loan Fund, L.P.	Los Angeles	CA	569
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	3,627
Piedmont Investment Advisors	Durham	NC	130
Pugh Capital Management, Inc.	Seattle	WA	174
Sankaty Advisors LLC Bank Loans	Wilmington	DE	1,917
Sankaty Credit Opportunities IV, L.P.	Wilmington	DE	11,097
Sankaty Credit Opportunities V, L.P.	Wilmington	DE	222
Sankaty Middle Market Opportunities Fund	Wilmington	DE	1,361
Stone Harbor Investment Partners, L.P.	New York	NY	2,666
Strategic Fixed Income, LLC	Arlington	VA	303
TOP NPL (A), L.P.	Fort Worth	TX	153
TPG Opportunities Partners II (A), L.P.	Fort Worth	TX	1,090
Western Asset Management Company	Pasadena	CA	532
<b>Total - Fixed Income</b>			<b>118,293</b>
<b><u>Real Estate-Direct Ownership</u></b>			
Charter Oak Advisors, Inc.	King of Prussia	PA	890
GF Management, Inc.	Philadelphia	PA	131
Grosvenor Investment Management U.S., Inc.	Philadelphia	PA	56
L & B Realty Advisors, L.L.P.	Dallas	TX	52
<b>Subtotal - Real Estate-Direct Ownership</b>			<b>1,129</b>

## Section 3 - Investment Information

### Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>Real Estate-Partnerships/Funds</u></b>			
AG Core Plus Realty Fund III, L.P.	New York	NY	\$ 186
Almanac Realty Securities V, L.P.	New York	NY	1,012
Almanac Realty Securities VI, L.P.	New York	NY	116
Apollo European Real Estate Fund III, L.P.	Purchase	NY	1,329
Apollo Real Estate Finance Corporation	New York	NY	1,152
Apollo Value Enhancement Fund VII, L.P.	Purchase	NY	1,765
AREFIN Co-Invest Corporation	New York	NY	140
AvalonBay Value Added Fund, L.P.	Alexandria	VA	590
AvalonBay Value Added Fund II, L.P.	Alexandria	VA	965
Avenue Real Estate Fund Parallel, L.P.	New York	NY	1,138
Beacon Capital Strategic Partners V, L.P.	Boston	MA	726
Bell Institutional Fund IV, LLC	Wilmington	DE	184
Blackstone Real Estate Partners Europe III, L.P.	New York	NY	3,284
Blackstone Real Estate Partners V.TE.1, L.P.	New York	NY	1,945
Blackstone Real Estate Partners VI.TE.1, L.P.	New York	NY	4,071
Blackstone Real Estate Partners VII.TE.1, L.P.	New York	NY	3,717
BPG Investment Partnership V, L.P.	Philadelphia	PA	67
BPG Investment Partnership VI, L.P.	Philadelphia	PA	227
Broadway Partners Parallel Fund P II, L.P.	New York	NY	484
Broadway Partners Parallel Fund P III, L.P.	New York	NY	250
Brookfield Strategic Real Estate Partners, LP	New York	NY	1,940
Cabot Industrial Value Fund III, L.P.	Boston	MA	1,236
Carlyle Europe Real Estate Partners III-A, L.P.	Washington	DC	1,977
Carlyle Realty Partners III, L.P.	Washington	DC	82
Carlyle Realty Partners IV, L.P.	Washington	DC	1,102
Carlyle Realty Partners V, L.P.	Washington	DC	2,137
Carlyle Realty Partners VI, L.P.	Washington	DC	751
CS Strategic Partners IV RE, L.P.	New York	NY	353
CSFB Strategic Partners II RE, L.P.	New York	NY	111
CSFB Strategic Partners III RE, L.P.	New York	NY	330
DLJ Real Estate Capital Partners II, L.P.	New York	NY	142
DLJ Real Estate Capital Partners III, L.P.	New York	NY	1,008
DLJ Real Estate Capital Partners IV, L.P.	New York	NY	2,170
DRA Growth and Income Fund VI, L.P.	New York	NY	1,994
DRA Growth and Income Fund VII, L.P.	New York	NY	1,289

## Section 3 - Investment Information

### Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>Real Estate-Partnerships/Funds (continued)</u></b>			
Exeter Industrial Value Fund II, L.P.	Plymouth Meeting	PA	\$ 803
Fillmore West Fund, L.P.	San Francisco	CA	693
Fortress Investment Fund IV, L.P.	New York	NY	837
Fortress Investment Fund V (Fund A), L.P.	New York	NY	1,343
Hines U.S. Office Value Added Fund, L.P.	Houston	TX	182
JPMCB Strategic Property Fund	New York	NY	207
LCCG RE Special Situations Mortgage Fund, LLC	Irving	TX	109
Latitude Management Real Estate Capital III, Inc.	Providence	RI	248
Legg Mason Real Estate Capital, Inc.	Los Angeles	CA	55
Legg Mason Real Estate Capital II, Inc.	Los Angeles	CA	1,253
LEM RE High Yield Debt & Preferred Equity Fund III, LP	Philadelphia	PA	749
LEM Real Estate Mezzanine Fund II, L.P.	Philadelphia	PA	526
LF Strategic Realty Investors II, LLC	New York	NY	69
Lubert-Adler Real Estate Fund IV, L.P.	Philadelphia	PA	132
Lubert-Adler Real Estate Fund V, L.P.	Philadelphia	PA	378
Lubert-Adler Real Estate Fund VI, L.P.	Philadelphia	PA	1,341
Madison Marquette Retail Enhancement Fund, L.P.	Washington	DC	954
MGPA Asia Fund III, L.P.	Hamilton	Bermuda	1,139
MGPA Europe Fund III, L.P.	London	UK	1,309
Morgan Stanley Real Estate Fund IV Special Dom., L.P.	New York	NY	48
Morgan Stanley Real Estate Fund IV Special Int'l, L.P.	New York	NY	210
Morgan Stanley Real Estate Fund V Special Int'l, L.P.	New York	NY	575
Morgan Stanley Real Estate Fund V Special U.S., L.P.	New York	NY	147
Morgan Stanley Real Estate Fund VI Special Int'l, L.P.	New York	NY	765
Morgan Stanley Real Estate Fund VII Global, L.P.	New York	NY	1,395
O' Connor North American Property Partners, L.P.	New York	NY	931
O' Connor North American Property Partners II, L.P.	New York	NY	1,099
Paladin Realty Latin America Investors III, L.P.	Los Angeles	CA	1,598
Peabody Global Real Estate Partners, L.P.	New York	NY	25
PRISA	Parsippany	NJ	689
ProLogis North American Industrial Fund, L.P.	Denver	CO	1,681
RCG Longview Debt Fund IV, L.P.	New York	NY	1,889
RCG Longview Debt Fund V, LP	New York	NY	557
RCG Longview Equity Fund, L.P.	New York	NY	506
Senior Housing Partnership Fund IV, L.P.	Parsippany	NJ	277
Silverpeak Legacy Pension Partners II, L.P.	New York	NY	1,221



## Section 3 - Investment Information

### Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>Real Estate-Partnerships/Funds (continued)</u></b>			
Silverpeak Legacy Pension Partners III, L.P.	New York	NY	\$ 1,142
Silverpeak/PSERS Real Estate, L.P.	New York	NY	66
Stockbridge Real Estate Fund, L.P.	New York	NY	2,166
Stockbridge Real Estate Fund II, L.P.	New York	NY	946
Stockbridge Real Estate Fund III, L.P.	New York	NY	1,787
Strategic Partners Value Enhancement Fund, L.P.	Los Angeles	CA	660
UBS (US) Trumbull Property Fund, L.P.	Hartford	CT	782
Whitehall Street Real Estate L.P. VII & VIII	New York	NY	4
<b>Subtotal - Real Estate-Partnerships/Funds</b>			<b>73,463</b>
<b><u>Real Estate-Farmland</u></b>			
Prudential Agricultural Group	Lisle	IL	414
<b>Subtotal - Real Estate-Farmland</b>			<b>414</b>
<b>Total Real Estate</b>			<b>75,006</b>
<b><u>Private Equity</u></b>			
ABS Capital Partners II, L.P.	Baltimore	MD	3
Actis Emerging Markets 3, L.P.	London	UK	2,585
Actis Global 4 L.P.	London	UK	1,800
Apax Europe VII-B, L.P.	St. Peter Port	Guernsey	2,089
Bain Capital Asia Fund II, L.P.	George Town	Cayman Islands	2,000
Baring Asia Private Equity Fund III, L.P.	Hong Kong	China	1,069
Baring Asia Private Equity Fund IV, L.P.	Hong Kong	China	6,000
Baring Asia Private Equity Fund V, L.P.	Hong Kong	China	4,000
Blue Point Capital Partners II (B), L.P.	Cleveland	OH	291
Bridgepoint Europe III-A, L.P.	London	UK	1,780
Bridgepoint Europe IV, L.P.	London	UK	5,440
Capital International Private Equity Fund V, L.P.	San Francisco	CA	1,425
Capital International Private Equity Fund VI, L.P.	San Francisco	CA	1,483
Catterton Growth Partners, L.P.	Greenwich	CT	1,274
Catterton Partners V, L.P.	Greenwich	CT	555
Catterton Partners VI, L.P.	Greenwich	CT	2,004
Catterton Partners VII, L.P.	Greenwich	CT	1,022
Cinven Fund (Fourth), L.P. (The)	London	UK	1,478
Cinven Fund (Fifth), L.P. (The)	London	UK	1,929
Clarity Partners, L.P.	Beverly Hills	CA	905

### Section 3 - Investment Information

## Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>Private Equity (continued)</u></b>			
Clarity Partners II, L.P.	Beverly Hills	CA	\$ 108
Coller International Partners VI, L.P.	London	UK	1,498
Crestview Capital Partners, L.P.	New York	NY	1,681
Crestview Partners II (PF), L.P.	New York	NY	2,344
CS Strategic Partners IV, L.P.	New York	NY	658
CS Strategic Partners V, L.P.	New York	NY	1,125
CSFB Strategic Partners II, L.P.	New York	NY	572
CSFB Strategic Partners III-B, L.P.	New York	NY	500
CVC Capital Partners Asia III Pacific, L.P.	George Town	Cayman Islands	3,742
CVC European Equity Partners V (A), L.P.	George Town	Cayman Islands	3,722
Denham Commodity Partners Fund VI, L.P.	Boston	MA	1,031
DLJ Merchant Banking Partners III, L.P.	New York	NY	176
DLJ Strategic Partners, L.P.	New York	NY	500
Evergreen Pacific Partners, L.P.	Seattle	WA	169
Evergreen Pacific Partners II, L.P.	Seattle	WA	1,252
First Reserve Fund XI, L.P.	Greenwich	CT	1,455
First Reserve Fund XII, L.P.	Greenwich	CT	3,103
Graham Partners Investments (B), L.P.	Newtown Square	PA	108
Greenpark International Investors III, L.P.	London	UK	1,017
Greenwich Street Capital Partners II, L.P.	New York	NY	33
Headland Private Equity Fund 6, L.P.	George Town	Cayman Islands	3,241
Incline Equity Partners III, L.P.	Pittsburgh	PA	518
Irving Place Capital Partners III, L.P.	New York	NY	1,973
Jefferies Capital Partners IV, L.P.	New York	NY	363
KKR 2006 Fund, L.P.	New York	NY	31
Landmark Equity Partners XIII, L.P.	Simsbury	CT	1,000
Landmark Equity Partners XIV, L.P.	Simsbury	CT	1,500
Lindsay Goldberg & Bessemer, L.P.	New York	NY	373
Milestone Partners III, L.P.	Rosemont	PA	587
Milestone Partners IV, L.P.	Rosemont	PA	1,518
Navis Asia Fund V, L.P.	Kuala Lumpur	Malaysia	1,560
New Mountain Partners III, L.P.	New York	NY	2,756
New York Life Capital Partners II, L.P.	New York	NY	148
New York Life Capital Partners III, L.P.	New York	NY	766
New York Life Capital Partners IV, L.P.	New York	NY	836
NGP Natural Resources X, L.P.	Irving	TX	1,427
Nordic Capital VII Beta, L.P.	St. Helier	Guernsey	2,119

### Section 3 - Investment Information

## Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>Private Equity (continued)</u></b>			
Orchid Asia V, L.P.	Grand Cayman	Cayman Islands	\$ 800
PAI Europe III, L.P.	Paris	France	378
PAI Europe IV, L.P.	Paris	France	1,020
PAI Europe V, L.P.	St. Peter Port	Guernsey	1,919
Partners Group Secondary 2008, L.P.	St. Peter Port	Guernsey	2,433
Partners Group Secondary 2011, L.P.	St. Peter Port	Guernsey	1,110
Permira IV, L.P.	London	UK	1,459
PNC Equity Partners, L.P.	Pittsburgh	PA	7
Providence Equity Partners VI, L.P.	Providence	RI	1,675
Quadrangle Capital Partners II, L.P.	New York	NY	1,695
Sterling Capital Partners, L.P.	Northbrook	IL	484
TPG Partners V, L.P.	Fort Worth	TX	897
TPG Partners VI, L.P.	Fort Worth	TX	3,048
Trilantic Capital Partners IV, L.P.	New York	NY	585
Trilantic Capital Partners V, L.P.	New York	NY	1,375
<b>Subtotal - Private Equity</b>			<b>103,527</b>
<b><u>Private Debt</u></b>			
Avenue Asia Special Situations Fund III, L.P.	New York	NY	1
Avenue Asia Special Situations Fund IV, L.P.	New York	NY	1,722
Avenue Special Situations Fund VI, L.P.	New York	NY	858
Cerberus Institutional Partners, L.P. (Series Two)	New York	NY	232
Cerberus Institutional Partners, L.P. (Series Three)	New York	NY	469
Cerberus Institutional Partners, L.P. (Series Four)	New York	NY	2,556
Cerberus Institutional Partners V, L.P.	New York	NY	2,836
Gleacher Mezzanine Fund II, L.P.	New York	NY	616
Gold Hill Venture Lending 03-A, L.P.	Santa Clara	CA	40
GSC Partners CDO Investors IV, L.P.	New York	NY	247
GSC Recovery III, L.P.	New York	NY	816
NYLIM Mezzanine Partners Parallel Fund, L.P.	New York	NY	180
NYLIM Mezzanine Partners Parallel Fund II, L.P.	New York	NY	698
OCM Opportunities Fund VII, L.P.	Los Angeles	CA	586
OCM Opportunities Fund VII-B, L.P.	Los Angeles	CA	1,633
Versa Capital Fund, L.P.	Philadelphia	PA	875
Windjammer Senior Equity Fund III, L.P.	Newport Beach	CA	46
Windjammer Senior Equity Fund IV, L.P.	Newport Beach	CA	1,625
<b>Subtotal - Private Debt</b>			<b>16,036</b>

### Section 3 - Investment Information

## Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>Venture Capital</u></b>			
Aisling Capital II, L.P.	New York	NY	\$ 541
Aisling Capital III, L.P.	New York	NY	873
Co-Investment Fund II, L.P. (The)	Radnor	PA	1,330
Cross Atlantic Technology Fund II, L.P.	Radnor	PA	59
CS Strategic Partners IV VC, L.P.	New York	NY	344
CSFB Strategic Partners III-VC, L.P.	New York	NY	303
Franklin Capital Associates III, L.P.	Franklin	TN	737
Jefferson Partners Fund IV, L.P.	Toronto	Canada	207
KBL Partnership, L.P.	New York	NY	136
LLR Equity Partners, L.P.	Philadelphia	PA	7
LLR Equity Partners II, L.P.	Philadelphia	PA	660
LLR Equity Partners III, L.P.	Philadelphia	PA	3,301
Novitas Capital, L.P.	Wayne	PA	124
Novitas Capital II, L.P.	Wayne	PA	122
Perseus-Soros BioPharmaceutical Fund, L.P.	New York	NY	219
Psilos Group Partners III, L.P.	New York	NY	760
Quaker BioVentures, L.P.	Philadelphia	PA	1,387
Quaker BioVentures II, L.P.	Philadelphia	PA	1,986
SCP Private Equity Partners II, L.P.	Wayne	PA	398
Starvest Partners II, L.P.	New York	NY	1,000
Sterling Venture Partners, L.P.	Baltimore	MD	142
Summit Partners Growth Equity Fund VIII, L.P.	Boston	MA	579
Tenaya Capital IV-P, L.P.	New York	NY	532
Tenaya Capital V-P, L.P.	New York	NY	1,177
Tenaya Capital VI, L.P.	New York	NY	724
<b>Subtotal - Venture Capital</b>			<b>17,648</b>
<b>Total Alternative Investments</b>			<b>137,211</b>

### Section 3 - Investment Information

## Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b><u>Absolute Return</u></b>			
Aeolus Capital Management Ltd.	Hamilton	Bermuda	\$ 6,022
AQR Capital Management, LLC	Greenwich	CT	6,741
Black River Asset Management LLC	Hopkins	MN	8,332
BlackRock Financial Management, Inc.	New York	NY	10,834
BlueCrest Capital Management L.P.	New York	NY	6,495
Boston Company Asset Management, LLC	Boston	MA	119
Brevan Howard Fund, Ltd.	George Town	Cayman Islands	12,555
Bridgewater Associates, Inc.	Westport	CT	21,448
Brigade Capital Management, LLC	New York	NY	15,636
Capula Global Relative Value Fund	London	UK	5,090
Capula Tail Risk Fund	London	UK	7,146
Caspian Select Credit International Fund	New York	NY	7,628
Denali Advisors, LLC	San Diego	CA	125
Ellis Lake Domestic Fund, L.P.	New York	NY	276
FX Concepts, Inc.	New York	NY	2,427
Lazard Asset Management	New York	NY	2,748
Nephila Capital Ltd.	Hamilton	Bermuda	5,824
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	21,171
Pareto Investment Management, Ltd.	London	UK	1,758
Robeco Investment Management	New York	NY	4,033
Sciens Aviation Special Opportunitites Fund II, L.P.	Miami	FL	<u>3,356</u>
<b>Total - Absolute Return</b>			<b>149,764</b>
<b><u>Commodities</u></b>			
Cargill Financial Services Corporation	Hopkins	MN	2,399
Credit Suisse Asseet Management, LLC	New York	NY	584
Deutsche Asset Management Americas, Inc.	New York	NY	2,869
Gresham Investment Management, LLC	New York	NY	2,559
Schroder Investment Management North America, Inc.	New York	NY	3,613
Wellington Management Company, L.L.P.	Boston	MA	<u>5,385</u>
<b>Total - Commodities</b>			<b>17,409</b>

**Section 3 - Investment Information****Investment Managers' Fees  
Fiscal Year Ended June 30, 2013  
(Dollar Amounts in Thousands)  
(continued)**

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<b>Master Limited Partnerships</b>			
Harvest Fund Advisors, LLC	Wayne	PA	\$ 2,231
Salient Capital Advisors, LLC	Houston	TX	1,470
Atlantic Trust Private Wealth Management	Chicago	IL	<u>1,265</u>
<b>Total - Master Limited Partnership</b>			<b>4,966</b>
<b>Risk Parity</b>			
AQR Capital Management, LLC	Greenwich	CT	1,321
Bridgewater All Weather Fund @ 15%, Ltd.	Westport	CT	<u>3,829</u>
<b>Total - Risk Parity</b>			<b>5,150</b>
<b>Total External Management</b>			<b>538,027</b>
<b>Total Internal Management</b>			<b><u>14,634</u> *</b>
<b>Total Investment Management</b>			<b><u>\$ 552,661</u></b>

\*Internal Management fees include salaries and fringe benefits of \$5,687 and operating expenses of \$8,947.

## **Internal Equity Trading Desk**

One of the benefits of managing a significant amount of assets internally is that PSERS can have its own trading desk. A majority of the U.S. equity trades for the Fund are executed by PSERS' internal trading desk. The internal U.S. equity managers as well as a number of the external U.S. equity managers utilize the trading desk to execute trades. The objectives of PSERS' internal trading desk include:

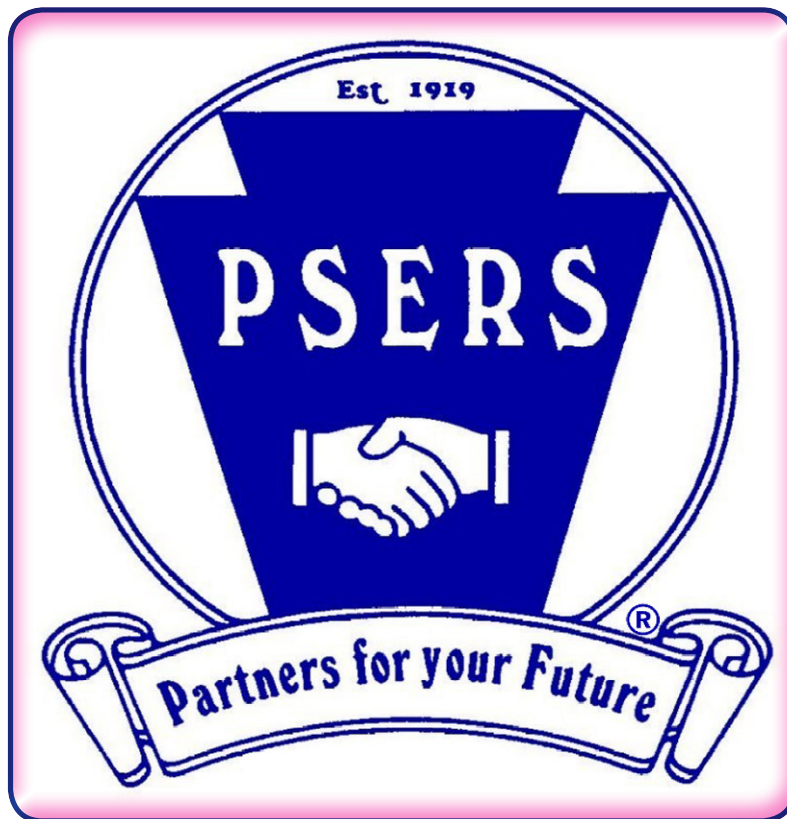
- to obtain best execution;
- to pay the lowest possible commissions consistent with obtaining best execution; and
- to provide market information/data to portfolio managers

The trading desk provides PSERS with access to information on the markets from sell-side brokers and by monitoring business news services which helps in the management of

the investments of the Fund. The trading desk also provides portfolio transition management services to PSERS. When equity portfolio managers are terminated, the trading desk handles the liquidation of the portfolio or the transition from one portfolio manager to another, minimizing the costs of those transitions.

The order flow generated by the trading desk provides PSERS with access to initial public offerings (IPOs). This can be a source of incremental returns since most IPOs generally trade higher after being issued. This IPO access generated \$6,282,675 in profits for PSERS during the calendar year ending December 31, 2013.

PSERS' trading desk executed approximately 15,300 U.S. orders for the purchase and sale of stock, futures, and options during the fiscal year ended June 30, 2013. The total dollar amount of U.S. orders traded during the fiscal year ended June 30, 2013 was approximately \$5.6 billion.



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**PSERS' Public Market  
Emerging Investment Manager  
(PMEIM) Program  
(as of December 31, 2013)**

The Public Market Emerging Investment Manager (PMEIM) Program is a sub-section of PSERS' U.S. Equity, Non-U.S. Equity, Absolute Return, and Fixed Income asset classes.

**Policy**

Consistent with its fiduciary responsibilities, the Board has established the PMEIM Program to:

1. locate and fund managers with successful histories of generating positive alpha with risk commensurate with the alpha generated (positive risk adjusted returns);
2. provide a source of potential managers for the main fund; and
3. assist public market emerging investment management firms grow through the use of the System's name in the managers' marketing efforts.

The Board has allocated up to \$1 billion to the PMEIM Program. Funding for each investment manager will come from assets allocated within the main fund similar to or most closely related to the investment manager's mandate. The maximum number of investment managers in the program at any one time shall not exceed 25. The program may run with less than 25 investment managers.

Investment managers desiring to participate in the program must meet the following required criteria:

- Firms must be registered under the Investment Advisors Act of 1940 or be exempt therefrom (and will maintain such registration or exemption);
- Firms must provide transparency of positions and transactions;
- Firms must provide at least quarterly liquidity;
- Firms, the portfolio manager, or any combination thereof must have a three-year historical, performance record verified by at least one consultant or accounting firm in accordance with the Global Investment Performance Standards (GIPS);

- Firms considered to provide Equity, Commodity or Absolute Value exposure must have no more than \$1.5 billion of total assets under management when hired (existing investment managers will be terminated within a reasonable period of time from the PMEIM Program when the total assets under management exceeds \$3.0 billion);
- Firms considered to provide Fixed Income exposure must have no more than \$3.0 billion of total assets under management when hired (existing investment managers will be terminated within a reasonable period of time from the PMEIM Program when the total assets under management exceeds \$6.0 billion); and
- For performance-based fee accounts, the managers must exceed both a hurdle rate and a high water mark before they can earn the performance-based fee.

Preference will be given to investment managers deemed as able to meet the objectives, goals, and required criteria noted above plus having one or more of the following characteristics:

- Pennsylvania investment management firms headquartered or incorporated within the Commonwealth; and/or
- Minority and/or women-owned investment management firms approved by the Office of Minority and Women Business Enterprise in accordance with the criteria established by Executive Order No. 1987-18 and 4 Pennsylvania Code, Section 68.204.

**Market Value as of December 31, 2013:** \$555.6 million or 1.1% of the total market value of the Fund.

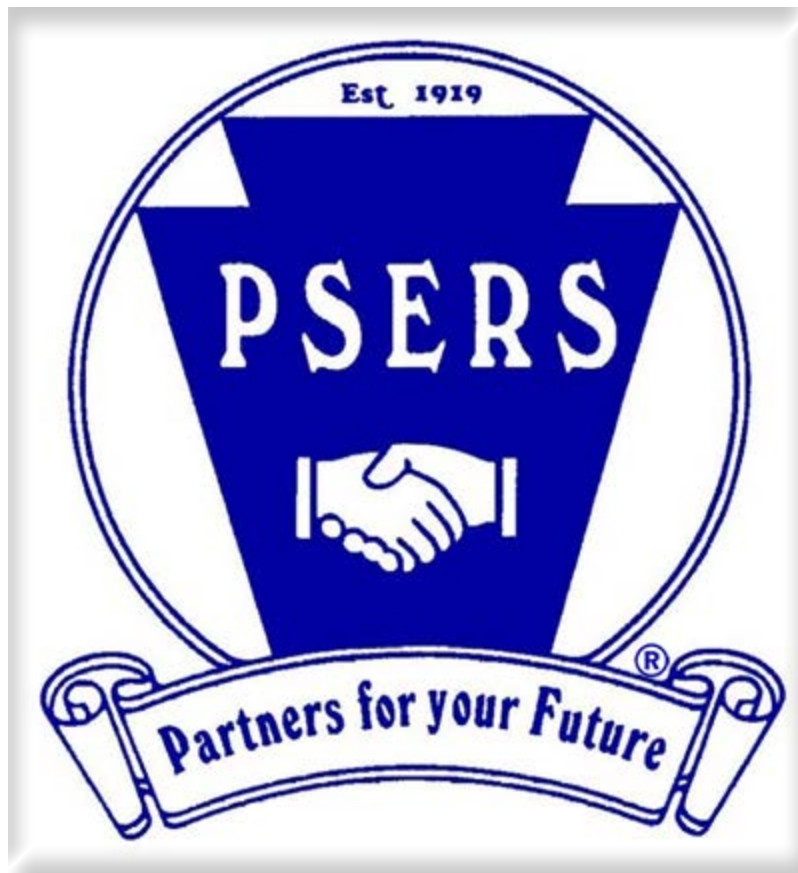
**Number of External Investment Managers:** PSERS had contracts with 8 external investment managers in the PMEIM Program.

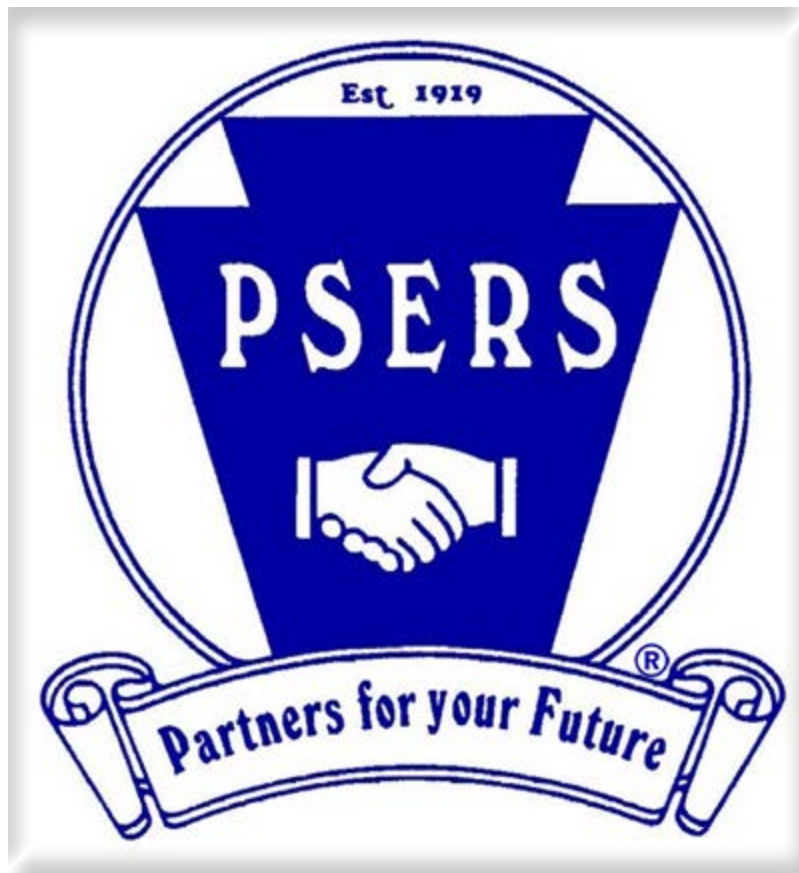
### Section 3 - Investment Information

#### PSERS' PMEIM Investment Managers (Market Value in Millions) (unaudited, as of December 31, 2013)

<u>External Manager</u>	<u>PA-Based</u>	<u>Women-owned</u>	<u>Minority-owned</u>	<u>Other</u>	<u>Total</u>
<b><u>U.S. Equity Mid and Small Cap</u></b>					
A.H. Lisanti Capital Growth, LLC		\$ 71.5			\$ 71.5
Conestoga Capital Advisors, Inc.	\$ 74.6				74.6
Opus Capital Management, Inc.			\$ 63.8		63.8
<b><u>Non-U.S. Equity Large Cap</u></b>					
John Hsu Capital Group, Inc.			71.8		71.8
<b><u>Non-U.S. Equity Emerging Markets</u></b>					
Glovista Investments			31.4		31.4
<b><u>U.S. Core Plus Fixed Income</u></b>					
Piedmont Investment Advisors			50.7		50.7
Pugh Capital Management, Inc.			86.5		86.5
<b><u>Absolute Return</u></b>					
Ellis Lake Capital, LLC				105.3	105.3
<b>Total PSERS' PMEIM Portfolios</b>	<b><u>\$ 74.6</u></b>	<b><u>\$ 71.5</u></b>	<b><u>\$ 304.2</u></b>	<b><u>\$ 105.3</u></b>	<b><u>\$ 555.6</u></b>
<b>Percentage by category</b>	<b><u>13.4%</u></b>	<b><u>12.9%</u></b>	<b><u>54.8%</u></b>	<b><u>18.9%</u></b>	

## Section 4 - Commitment to Pennsylvania





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## Section 4 - Commitment to Pennsylvania

### Commitment to Pennsylvania-Based Investment Managers (as of December 31, 2013)

The members of the Board and Staff are fiduciaries and must act in the interests of the members of the System and for the exclusive benefit of the System's members. In creating the investment program, the Board hires both external investment managers and internal investment managers. The Board has determined that it is in the best interest of the System to manage assets internally when (1) the System's staff has the proven ability to internally manage portfolios at least as well as the external investment managers, and (2) the cost of investing those assets is no greater than the cost that would have been incurred to have those assets externally managed. The Board will also consider the diversification benefits that may be achieved by allocating assets to external portfolio managers even when conditions (1) and (2) are met.

The Board evaluates external managers based on a variety of factors, including, (1) their expected future performance, net of fees; (2) their investment philosophy and style; (3) their investment process; (4) their personnel; (5) cost; and (6) how their philosophy and style fits in with the existing investment structure. In selecting external managers, PSERS will show preference to Pennsylvania-based potential managers that demonstrate similar strengths to alternative managers without a Pennsylvania nexus.

PSERS has shown a tremendous commitment to Pennsylvania's financial services industry by having assets managed by firms based in Pennsylvania or by firms with offices in Pennsylvania. In FY 2013, investment manager fees paid to external firms managing PSERS' assets from offices located in Pennsylvania amounted to \$ 27.7 million, or 5.0% of the total external investment manager fees. The following is a list of assets either managed internally by PSERS or by external managers with headquarters or offices located in Pennsylvania, as of December 31, 2013:

<i>Pennsylvania-Based Manager</i>	<i>Market Value (in millions)</i>	<i>Percentage of the Fund</i>
<b>Internal Management</b>		
US. Equity:		
S&P 500 Index	\$ 3,641.5	7.4%
S&P 400 Index	230.6	0.5%
S&P 600 Index	252.3	0.5%
Non-U.S. Equity:		
ACW ex-U.S. Index	2,410.0	4.9%
Emerging Markets Equity	176.5	0.4%
Fixed Income:		
PSERS TIPS	1,216.1	2.5%
PSERS Active Aggregate	1,100.9	2.2%
PSERS U.S. Long Treasuries	23.0	0.0%
Cash & Cash Equivalents:		
STIF	2,488.0	5.0%
Commodities:		
PSERS Gold Fund	(14.2) <sup>a</sup>	0.0%
Risk Parity:		
Optimal Liquid Beta	48.6	0.1%
Private Markets:		
Internal Program	110.7	0.1%
Real Estate:		
Internal Program	<u>47.2</u>	<u>0.0%</u>
<b>Total Internal Management</b>	<b>11,731.2</b>	<b>23.6%</b>
<b>External Management</b>		
U.S. Equity:		
Conestoga Capital Advisors	74.6	0.2%

a - The Market Value represents the net payable on swap contracts.

## Section 4 - Commitment to Pennsylvania

### Commitment to Pennsylvania-Based Investment Managers

(as of December 31, 2013)

(continued)

<i>Pennsylvania-Based Manager</i>	<i>Market Value (in millions) (1)</i>	<i>Percentage of the Fund</i>
<b>External Management</b>		
Fixed Income:		
LBC Credit Partners II, LP	135.0	0.3%
LBC Credit Partners III, LP	69.4	0.1%
Mariner - International Infrastructure Finance Company Fund L.P.	20.3	0.0%
Radcliffe Capital Management	210.1	0.4%
Master Limited Partnership:		
Harvest Fund Advisors, LLC	665.1	1.3%
Real Estate:		
BPG Investment Partnership V, L.P.		
BPG Investment Partnership VI, L.P.		
BPG Co-Investment Fund		
Charter Oak Advisors, Inc.		
Exeter Industrial Value Fund II, L.P.		
GF Management, Inc.		
Grosvenor Fund Management U.S., Inc.		
LEM Real Estate Mezzanine Fund II, L.P.		
LEM RE High Yield Debt & Preferred Equity Fund III, LP		
Lubert-Adler Real Estate Fund III		
Lubert-Adler Real Estate Fund IV		
Lubert-Adler Real Estate Fund V		
Lubert-Adler Real Estate Fund VI		
<b>Subtotal Real Estate:</b>	<b>\$ 493.3</b>	<b>1.0%</b>
Private Equity and Debt:		
Graham Partners, LP		
Incline Equity Fund III, L.P.		
PNC Equity Partners II, L.P.		
PNC Equity Partners, L.P.		
Milestone Partners II, L.P.		
Milestone Partners III, L.P.		
Milestone Partners IV, L.P.		
Versa Capital Fund I, L.P.		
Versa Capital Fund II, L.P.		
Versa Capital Fund III, L.P.		
<b>Subtotal Private Equity and Debt:</b>	<b>\$ 364.4</b>	<b>0.7%</b>

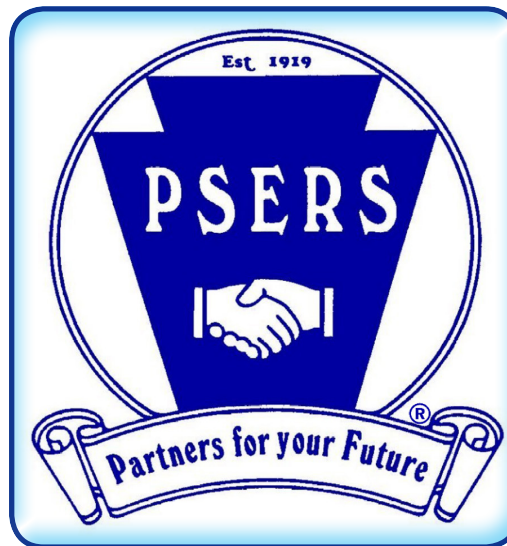
(1) Market values for individual Real Estate and Private Market investments are not being disclosed at this time.

## Section 4 - Commitment to Pennsylvania

### Commitment to Pennsylvania-Based Investment Managers (as of December 31, 2013) (continued)

<i>Pennsylvania-Based Manager</i>	<i>Market Value (in millions) (1)</i>	<i>Percentage of the Fund</i>
Venture Capital:		
Adams Capital Management, LP		
Co-Investment 2000 Fund, L.P.		
Co-Investment Fund II, L.P.		
Cross Atlantic Technology Fund II		
Cross Atlantic Technology Fund, L.P.		
LLR Equity Partners II, L.P.		
LLR Equity Partners III, L.P.		
LLR Equity Partners IV, L.P.		
LLR Equity Partners, L.P.		
NEPA Venture Fund II		
Novitas Capital , L.P.		
Novitas Capital II, L.P.		
Quaker BioVentures II, L.P.		
Quaker Bio-Ventures, L.P.		
SCP Private Equity Partners I, L.P.		
SCP Private Equity Partners II, L.P.		
TDH III, L.P.		
<b>Subtotal Venture Capital:</b>	<b>\$ 478.5</b>	<b>1.0%</b>
<b>Total External Management</b>	<b>2,280.3</b>	<b>4.6%</b>
<b>Total Investment Portfolios Managed in PA</b>	<b>\$ <u>14,241.9</u></b>	<b>28.7%</b>

(1) Market values for individual Real Estate and Private Market investments are not being disclosed at this time.



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**Summary of Investments in Pennsylvania**  
(as of December 31, 2013)

Where investment characteristics including yield, risk, and liquidity are equivalent, the Board’s policy favors investments that have a positive impact on the economy of Pennsylvania. The Board, in managing the investment portfolio, will also be cognizant of concentration risk to any one region, including Pennsylvania. The Fund will continue to seek investments in Pennsylvania-based companies when the investment characteristics are equivalent to other favorable investments, subject to diversification considerations.

The following is a table of Pennsylvania-based investments and other statistics at December 31, 2013 (\$’s in millions):

<i>Asset Class</i>	<i>Total PA Market Value (PSERS' Portion)</i>	<i>Total PA Market Value (Total Invested)</i>	<i># of People Employed</i>	<i>Payroll</i>
U.S. Equities	\$ 94.7	\$ 94.7	*	\$ *
Fixed Income	160.0	160.0	*	*
Private Real Estate	145.7	2,941.9	1,077	26.0
Private Markets:				
Venture Capital	175.6	636.4	4,771	110.0
Private Equity	1,094.7	15,739.2	37,934	1,107.7
Private Debt	<u>143.5</u>	<u>1,047.9</u>	<u>9,537</u>	<u>148.2</u>
<b>Total</b>	<b>\$ <u>1,814.2</u></b>	<b>\$ <u>20,620.1</u></b>	<b><u>53,319</u></b>	<b>\$ <u>1,391.9</u></b>

\* Statistics for publicly traded companies not included due to the difficulty in obtaining the information.

**U.S. Equities**

PSERS invests in the stock of Pennsylvania-based companies through the various U.S. Equity portfolios managed by external and internal portfolio managers. PSERS has always had substantial investments in large national firms located in Pennsylvania, a list of which is included later in this section.

**Fixed Income Securities**

PSERS invests in the debt of Pennsylvania-based companies through the various Fixed Income portfolios managed by external and internal portfolio managers. PSERS has always had substantial investments in large national firms located in Pennsylvania, a list of which is included later in this section.

**Private Real Estate**

PSERS has investments in limited partnerships that have invested in Pennsylvania real estate properties. PSERS has committed \$207.5 million in three funds (Fund V, Fund VI, and a Co-Investment Fund) managed by Equus

Capital Partners, Ltd., located in Philadelphia. PSERS has committed \$550 million in five funds (Lubert-Adler Funds II, III, IV, V and VI) managed by Lubert-Adler, and \$150 million of commitments in two funds (LEM Real Estate Mezzanine Fund II and LEM RE High Yield Debt & Preferred Equity Fund III) managed by LEM Mezzanine Partners, both located in Philadelphia. Finally, PSERS has committed \$150 million in two funds (Exeter Industrial Value Fund II and III) managed by Exeter Property Group, located in Plymouth Meeting.

As of December 31, 2013, PSERS’ Pennsylvania real estate portfolio contained 47.8 million square feet of office, retail, and warehouse space and 39,950 apartment, hotel and condominium units. The gross market value of the Pennsylvania real estate portfolio investments totaled \$2.9 billion, of which PSERS’ ownership share was \$145.7 million. The portfolio contains numerous notable Pennsylvania real estate investments, including:

- **5 North Fifth Street** - PSERS owns a 100% interest in this major downtown Harrisburg, PA office building that contains 70,693 square feet of office space. The building is PSERS’ headquarters and is fully occupied by PSERS.
- **Brixmor** - Blackstone Real Estate Partners VI made an investment in a nationwide portfolio of neighborhood shopping centers, comprising over 90 million square feet of gross leasable area in 39 states. There are approximately 43 centers comprising over 6.75 million square feet of this portfolio located in Pennsylvania. This company listed on the NYSE on October 30, 2013.

**Summary of Investments in Pennsylvania**  
**(as of December 31, 2013)**  
**(continued)**

- Kenmawr – This investment is a part of a long-term joint venture relationship between Lubert-Adler and Philadelphia Management and Companies (PMC) that specializes in adaptive re-use of vacant buildings into stable, high quality rental apartments within and outside of Pennsylvania. The Kenmawr investment is located in Pittsburgh, PA and consists of 206 apartment units and 44 commercial units. The Kenmawr investment was made in Lubert-Adler Real Estate Funds V and VI.
- Brandywine Office Portfolio – The Brandywine Office Portfolio consists of 29 properties totaling 1.6 million square feet and is located in the Lehigh Valley. This investment was made by DRA Growth and Income Fund VI.
- The Franklin – The Franklin is an 18-story, mixed-use property with 125,788 square feet of medical office and retail space, in addition to 412 residential units. This investment is located in Philadelphia, PA and was made by AG Core Plus Realty Fund III.

**Venture Capital**

PSERS’ Venture Capital program has committed \$2.6 billion to 54 partnerships since the inception of the program. In addition to the current international scope of venture capital investments, a historical objective of this program has been to target partnerships that demonstrate an ability to invest in Pennsylvania-based companies. Selected partnerships offer diversification according to geographic region and financing stage within Pennsylvania. From the inception of this program to December 31, 2013, 29 of the 54 venture capital partnerships were headquartered in Pennsylvania.

PSERS is generally the lead investor in many of the venture capital funds in which PSERS invests. As a lead investor, PSERS provides Pennsylvania with capital from numerous out-of-state investors. As of December 31, 2013, PSERS’ Venture Capital partnerships invested in 175 Pennsylvania locations employing 4,771 employees with a combined payroll of \$110.0 million. The market value of these investments was \$636.4 million, of which PSERS’ share was \$175.6 million.

A key objective of PSERS’ venture capital program is to attract both national and regional funds into the Pennsylvania small business community. Venture capital investments serve to accelerate economic growth in both the business sector and the community due to an increase in employment and revenues within the Commonwealth. Following are a sample of Pennsylvania companies invested in by PSERS through the Venture Capital program:

- TELA Bio, Inc. Malvern, PA - TELA Bio is developing and commercializing innovative biosurgical products for use in advanced surgical reconstruction procedures. The company is targeting the hernia repair market initially and has licensed a founding technology that promises to address unmet clinical needs. The company is currently conducting animal studies to optimize the core technology prior to a targeted commercial launch in 2014. Quaker BioVentures II made this investment.
- Precision Therapeutics, Inc. Pittsburgh, PA - Precision is a leader in the development and commercialization of clinically proven, decision support tools and services that assist physicians treating cancer patients. The company’s mission is to improve treatment outcomes for cancer patients through technology that enables the individualization of therapy. Quaker BioVentures I made this investment.
- Pet360 Inc. (formerly PetFood Direct), Montgomeryville, PA – Pet360 is one of the largest online retailers of pet food and related products. With over 11,000 products and 400 brands, the Company meets the needs of pet owners by offering selection, discount prices and convenient delivery. The Company also provides value-added services for its customers, including an auto-ship program and information on pet healthcare and nutrition. LLR Equity Partners II made this investment.
- Strategic Distribution, Inc., Bristol, PA. - Strategic Distribution, Inc. provides outsourced maintenance, repair and operations supply chain management services. Strategic Distribution, Inc. manages the procurement and inventory management of more than 2.0 million maintenance, repair and operations SKUs through the combination of customer integrated technology, on-site professional staff and centralized, supplier-agnostic sourcing and operations departments. LLR Equity Partners III made this investment.

**Private Equity**

PSERS’ Private Equity program has committed \$18.3 billion to 130 partnerships since the inception of the program. PSERS is the lead investor in many of the private equity funds in which it invests. As a lead investor, PSERS provides Pennsylvania with capital from numerous out-of-state investors. As of December 31, 2013, PSERS’ Private Equity partnerships invested in 1,088 Pennsylvania locations employing 37,934 employees with a combined payroll of \$1.1 billion. The market value of these investments was \$15.7 billion, of which PSERS’ share was \$1.1 billion. From the inception of this program to December 31, 2013, 7 of the 119 partnerships were headquartered in Pennsylvania. The following companies are a sample of Pennsylvania investments funded through PSERS’ private equity partnerships:

**Summary of Investments in Pennsylvania**  
**(as of December 31, 2013)**  
**(continued)**

- AirClic, Philadelphia, PA – AirClic is a global provider of mobile software products that improve the performance of an organization’s supply chain, logistics and field services operations. The company has more than 500 global customers across multiple vertical markets. Using AirClic-enabled wireless devices, managers and workers can easily and economically capture, exchange, and access critical data that represent people, assets and activity. AirClic is driving new levels of accountability and improved customer service for many of the world’s leading companies. Edgewater Private Equity Fund III made this investment.
- CODi, Inc., Harrisburg, PA – CODi, Inc. is a provider of lightweight, high-quality laptop computer cases and information technology accessories to Fortune 500 companies. CODi’s accumulated knowledge dealing with the “corporate road warrior” allows the company to uniquely service corporate and consumer needs with precision. CODi uses a direct sales force to its competitive advantage, allowing a one-stop solution for customers in a market where distributors and value-added resellers are the norm. This one-stop approach allows high profitability as it captures up to three levels of contributions margins. The investment was brought about through Milestone Partners II.
- Gorell Enterprises, Indiana, PA - Gorell Enterprises is a manufacturer of specially engineered, custom-manufactured vinyl windows for replacement and new-construction applications, patio doors, aluminum storm windows and doors, sunrooms, and conservatories. Gorell is well known in the industry for placing strong emphasis on designing and manufacturing strong, durable high-quality products. Gorell was the national winner of the 2006 ENERGY STAR® “Sustained Excellence” Award, given for their new window models to make homes more energy efficient as well as secure. PNC Equity Partners made this investment.
- Interface Solutions, Inc., Lancaster, PA - Interface Solutions Inc. (ISI) is a leading manufacturer of fiber-based flooring felt and intermediate gasket materials and a fabricator of finished fiber, graphite and metal gaskets. Acquisitions, expansions, and capital investments in research facilities empower ISI to offer both OEM and aftermarket customers unmatched technical and design support and application testing. ISI has an extraordinary depth of experience and engineering knowledge, with

roots to predecessor companies dating back over 90 years. ISI was created as an independent, private corporation in 1999, formed from the organization previously known as Armstrong Industrial Specialties Inc. (AIS). PNC Equity Partners L.P. made this investment.

- Primanti Bros., Pittsburgh, PA – Primanti Bros. is a restaurant that serves sandwiches, burgers, buffalo wings, salad, and pizza in a sports oriented environment. Since Primanti Bros. was founded in 1933 they have expanded to 20 locations with 16 of them located in the Pittsburgh area. Additional plans for expansion are currently underway. Primanti Bros. signature sandwiches have been featured in National Geographic, and on the Travel Channels Man V. Food and Food Paradise television shows. Catterton Partners VII, L.P. made this investment.

**Private Debt**

PSERS’ Private Debt program has committed \$4.8 billion to 30 partnerships since the inception of the program. PSERS is the lead investor in many of the private debt funds in which PSERS invests. PSERS has committed \$375 million to the three Pennsylvania-based Versa Capital Partners funds (formerly known as Chrysalis Capital Partners) managed by Versa Capital Management, located in Wayne, Pennsylvania. As of December 31, 2013, PSERS’ private debt partnerships invested in 176 Pennsylvania locations employing 9,537 employees with a combined payroll of \$148.2 million. The market value of these investments was \$1.0 billion, of which PSERS’ share was \$143.5 million. From the inception of this program to December 31, 2013, three of the 30 private debt partnerships were headquartered in Pennsylvania.

The following companies are a sample of a Pennsylvania investments made through PSERS’ Private Debt Program:

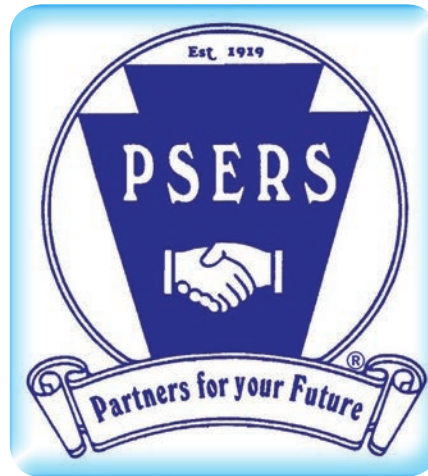
- David’s Bridal, Ardmore, PA - David’s Bridal is the leading bridal gown and bridal accessory retailer in the United States operating through the David’s Bridal and Priscilla’s of Boston divisions. The David’s Bridal division is a value-oriented provider while Priscilla’s of Boston is a luxury brand that caters to the more affluent segments of the market. This investment was made through New York Life Investment Management Mezzanine Partners II.
- DynaVox, Pittsburgh, PA - DynaVox, a former division of Sunrise Medical spun-out in May 2004, is the market leader in the alternative and augmentative communication industry, developing and selling devices and software for individuals affected by speech disabilities resulting from traumatic, congenital or degenerative conditions. This investment was made through New York Life Investment Management Mezzanine Partners I.

**Summary of Investments in  
Pennsylvania  
(as of December 31, 2013)  
(continued)**

- Simplexity (Adeptio INPC Holdings, LLC), Wayne, PA – Simplexity is the leading independent online seller of wireless services, representing all major wireless carriers and selling primarily through proprietary websites (principally its flagship site, www.wirefly.com) and partner websites (e.g. Radioshack.com, Staples.com, Overstock.com). This investment was made through Versa Capital Fund I.
- Keane & Sons Drilling Corp., Lewis Run, PA – Keane & Sons Drilling provides oilfield services in the Appalachian Basin, including top hole drilling and hydraulic fracturing services to major operators in the Marcellus Shale basin and across the U.S. This investment was made through Cerberus Institutional Partners, L.P. – Series Four.

**PSERS Private Market Internal Program**

PSERS' Private Market Internal Program has committed \$142 million to 11 investments since the inception of the program. PSERS has committed \$2.5 million to one investment based in Pennsylvania. PSERS's Private Market Internal Program was initiated in 2013 and consists of co-investments and secondary fund investments where PSERS is already a Limited Partner. The number of employees, payroll, and market value are included within the private equity figures.



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## Section 4 - Commitment to Pennsylvania

### Pennsylvania-Based Publicly Traded Stocks (as of December 31, 2013)

<i>Security</i>	<i>Shares Outstanding</i>	<i>Market Value</i>
Air Products & Chemicals, Inc.	40,326	\$ 4,507,640
Airgas, Inc.	12,668	1,416,916
Alcoa, Inc.	289,869	3,081,307
Allegheny Technologies, Inc.	48,835	1,739,991
Amerisourcebergen Corp.	43,906	3,087,031
Comcast Corp. Class A	513,820	25,639,767
Consolidated Energy, Inc.	149,728	5,695,653
Customers Bancorp, Inc.	64,600	1,321,716
Dentsply International, Inc.	27,228	1,320,013
Dorman Products, Inc.	13,250	742,543
EQT Corp.	65,427	5,874,036
Endo Pharmaceuticals Holdings, Inc.	16,117	1,087,253
FMC Corp.	25,438	1,919,551
Federated Investors, Inc. Class B	121,919	3,511,267
Hershey Company	28,594	2,780,195
Interdigital, Inc.	229,996	6,782,582
Kulicke and Soffa Industries, Inc.	48,000	638,400
Matthews International Corp.	3,829	163,154
Mine Safety Appliances Company	4,436	227,168
Mylan Labs, Inc.	73,075	3,171,455
PNC Financial Services Group, Inc.	101,562	7,879,180
PPG Industries, Inc.	27,108	5,141,303
PPL Corp.	120,295	3,619,677
Triumph Group, Inc.	19,081	1,451,492
United States Steel Corp.	38,021	1,121,620
Urban Outfitters, Inc.	20,815	<u>772,237</u>
<b>Total</b>		<b>\$ <u>94,693,147</u></b>

## Section 4 - Commitment to Pennsylvania

### Pennsylvania-Based Bonds

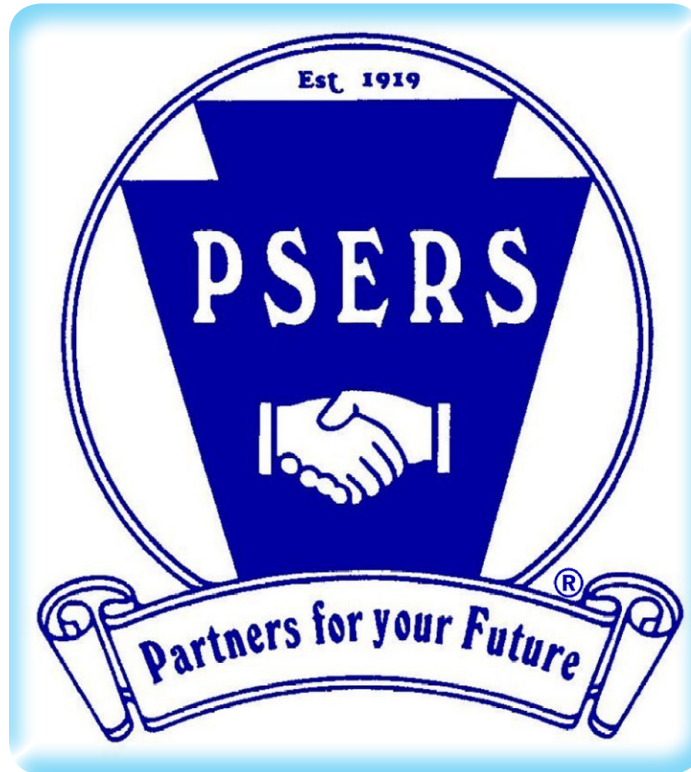
(as of December 31, 2013)

<i>Security</i>	<i>Interest Rate (%)</i>	<i>Maturity Date</i>	<i>Par Value</i>	<i>Market Value</i>
Airgas, Inc.	4.500	09/15/2014	2,475,000	\$ 2,539,053
Airgas, Inc.	2.375	02/15/2020	1,000,000	944,540
Allegheny Ludlum Corp.	6.950	12/15/2025	177,000	187,992
Allegheny Technologies, Inc.	9.375	06/01/2019	335,000	409,286
Bethel Park PA	4.000	09/01/2033	2,000,000	1,828,740
Chester County PA	5.000	11/15/2031	2,660,000	2,923,473
Comcast Corp.	5.300	01/15/2014	43,906,000	43,970,542
Comcast Corp.	8.875	05/01/2017	640,000	785,920
Comcast Corp.	5.875	02/15/2018	200,000	229,398
Comcast Corp.	6.450	03/15/2037	370,000	429,400
Comcast Corp.	6.400	03/01/2040	302,000	348,469
Hempfield PA Area School District	5.000	10/15/2018	2,650,000	2,784,912
Hershey Company	4.125	12/01/2020	1,565,000	1,673,548
Koppers, Inc.	7.875	12/01/2019	745,000	804,600
Montgomery County PA	6.030	09/01/2039	3,400,000	3,550,008
Mylan, Inc.	7.875	07/15/2020	430,000	486,562
New Enterprise Stone & Lime Company	13.000	03/15/2018	914,243	1,033,095
New Enterprise Stone & Lime Company	11.000	09/01/2018	680,000	496,400
Pennsylvania Turnpike Commission	5.000	12/01/2043	60,000	59,537
PHEAA	0.866	04/25/2019	966,653	967,339
PNC Bank	0.548	01/28/2016	4,000,000	4,005,080
PNC Bank	6.000	12/07/2017	2,233,000	2,544,615
PNC Funding Corp.	0.438	01/31/2014	26,502,000	26,505,180
PNC Funding Corp.	3.000	05/19/2014	56,445,000	57,017,352
PPL Capital Funding, Inc.	4.200	06/15/2022	470,000	469,140
Rivers Pittsburgh LP	9.500	06/15/2019	893,000	980,068
West Chester PA Area School District	5.000	05/15/2029	1,500,000	1,568,205
Wyoming PA Area School District	5.280	09/01/2014	450,000	<u>459,032</u>
<b>Total</b>				<b>\$ <u>160,001,486</u></b>

**Section 4 - Commitment to Pennsylvania**

**Real Estate Separate Account Pennsylvania Properties**  
(as of December 31, 2013)

<i>Real Estate Separate Account Pennsylvania Properties</i>			
<b>Property</b>	<b>Location</b>	<b>Description</b>	<b>Manager</b>
5 North Fifth Street	Harrisburg	5 story office building (PSERS headquarters)	Grosvenor
Total market value (unaudited) of Pennsylvania-based properties was \$6.3 million as of December 31, 2013.			



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## Section 4 - Commitment to Pennsylvania

### Pennsylvania-Based Private Equity/Venture Capital/ Private Debt Partnerships

(Dollar Amounts in Millions)

(Since the inception of the program as of December 31, 2013)

<i>Partnership</i>	<i>Location</i>	<i>PSERS Maximum Capital Commitment</i>
Adams Capital Management, L.P.	Sewickley	\$ 12.5
APA/Fostin Venture Fund I (closed)	King of Prussia	20.0
CEO Venture Fund I (closed)	Pittsburgh	1.0
CEO Venture Fund II (closed)	Pittsburgh	15.0
Co-Investment 2000 Fund, L.P.	Wayne	135.0
Co-Investment Fund II, L.P.	Wayne	135.0
Commonwealth Venture Partners I (closed)	Philadelphia	20.0
Commonwealth Venture Partners II (closed)	Philadelphia	10.0
Cross Atlantic Technology Fund, L.P.	Radnor	30.1
Cross Atlantic Technology Fund II, L.P.	Radnor	21.1
Graham Partners Investments, L.P.	Newtown Square	56.7
Incline Equity Partners III (PSERS), L.P.	Pittsburgh	65.0
Keystone Minority Capital Fund (closed)	Philadelphia	0.1
Keystone Venture Fund IV (closed)	Philadelphia	7.8
LLR Equity Partners, L.P.	Philadelphia	62.5
LLR Equity Partners II, L.P.	Philadelphia	75.0
LLR Equity Partners III, L.P.	Philadelphia	187.5
LLR Equity Partners IV, L.P.	Philadelphia	200.0
Loyalhanna Venture Fund (closed)	Pittsburgh	15.0
Milestone Partners II, L.P.	Rosemont	29.9
Milestone Partners III, L.P.	Rosemont	60.0
Milestone Partners IV, L.P.	Rosemont	70.0
NEPA Venture Fund I (closed)	Bethlehem	1.0
NEPA Venture Fund II	Bethlehem	5.0
Novitas Capital I, L.P.	Wayne	30.0
Novitas Capital II, L.P.	Wayne	75.0
P/A Fund (closed)	King of Prussia	30.0
PNC Equity Partners, L.P.	Pittsburgh	43.1
PNC Equity Partners II, L.P.	Pittsburgh	68.1
Quaker BioVentures, L.P.	Philadelphia	69.4
Quaker BioVentures II, L.P.	Philadelphia	100.0
SCP Private Equity Partners I, L.P.	Wayne	62.5
SCP Private Equity Partners II, L.P.	Wayne	125.0
TDH III, L.P.	Rosemont	7.3
Technology Leaders, L.P. (closed)	Wayne	10.0
TL Ventures III, L.P. (closed)	Wayne	50.0
Versa Capital Partners, L.P. (f/k/a Chrysalis)	Wayne	75.0
Versa Capital Partners II, L.P.	Wayne	150.0
Versa Capital Partners III, L.P.	Wayne	150.0
<b>Total</b>		<b>\$ <u>2,280.6</u></b>



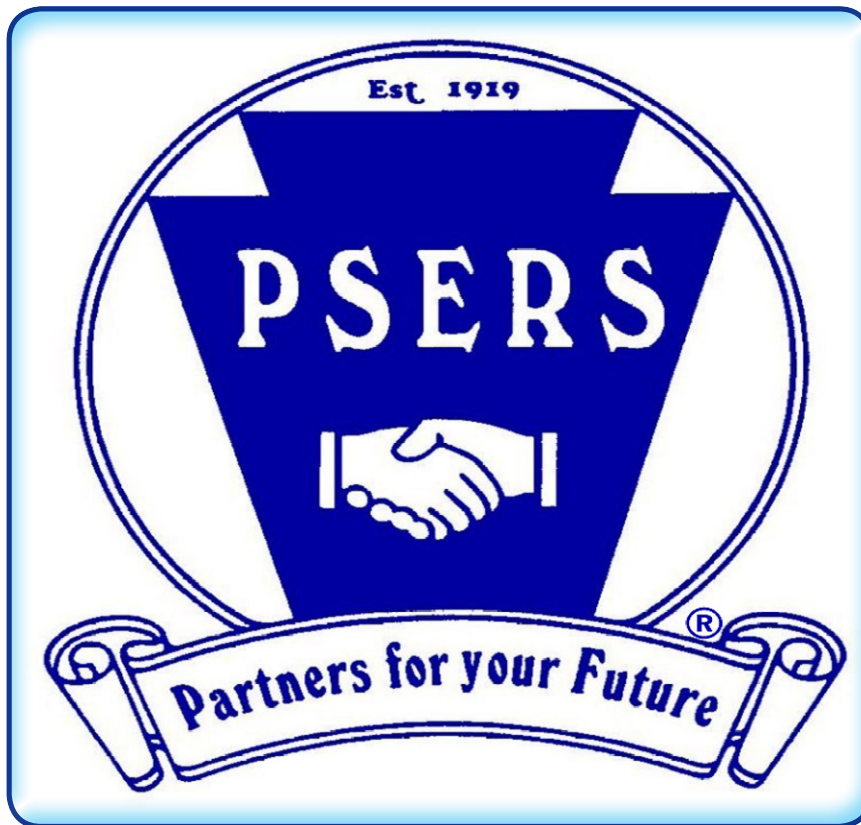
## Section 4 - Commitment to Pennsylvania

### Pennsylvania-Based Real Estate Partnerships

(Dollar Amounts in Millions)

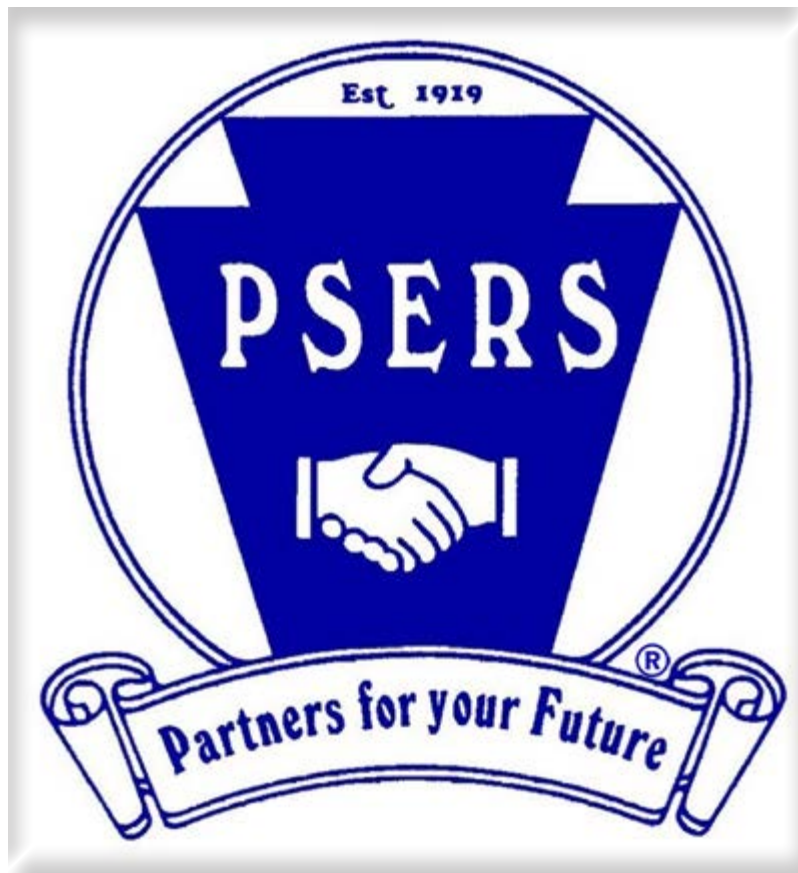
(Since the inception of the program as of December 31, 2013)

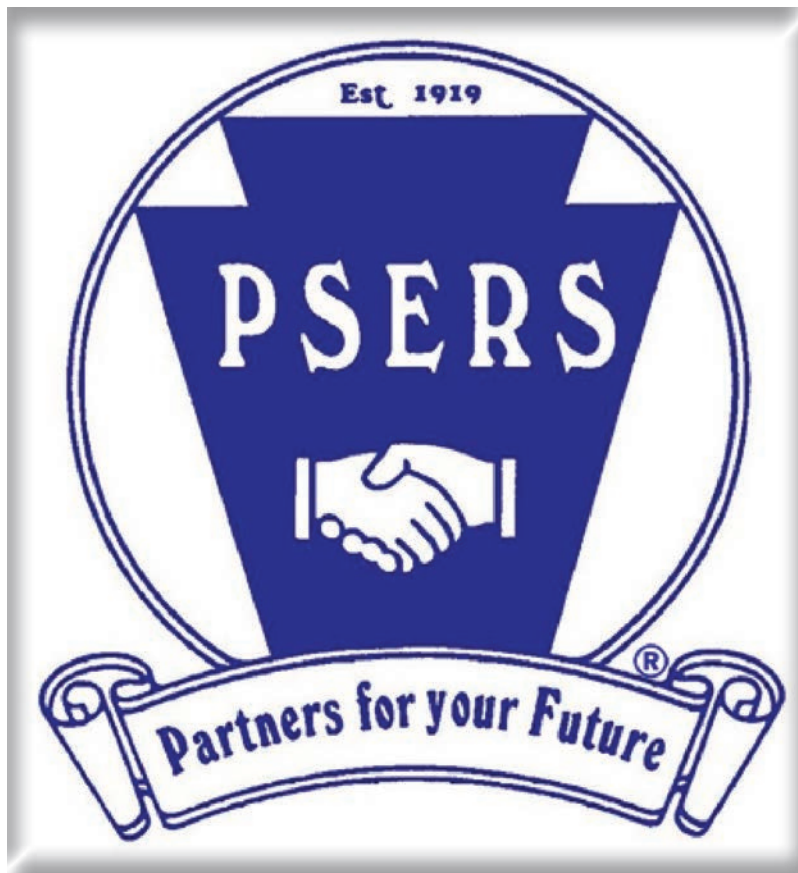
<i>Partnership</i>	<i>Location</i>	<i>PSERS Maximum Capital Commitment</i>
BPG Investment Partnership IV, L.P. (closed)	Philadelphia	\$ 75.0
BPG Investment Partnership V, L.P.	Philadelphia	50.0
BPG Investment Partnership VI, L.P.	Philadelphia	87.5
BPG/PSERS Co-Investment Fund	Philadelphia	100.0
Exeter Industrial Value Fund II, L.P.	Plymouth Meeting	75.0
LEM RE High Yield Debt & Preferred Equity Fund III, L.P.	Philadelphia	75.0
LEM Real Estate Mezzanine Fund II, L.P.	Philadelphia	75.0
Lubert-Adler Real Estate Fund II	Philadelphia	50.0
Lubert-Adler Real Estate Fund III	Philadelphia	150.0
Lubert-Adler Real Estate Fund IV	Philadelphia	100.0
Lubert-Adler Real Estate Fund V	Philadelphia	100.0
Lubert-Adler Real Estate Fund VI	Philadelphia	<u>150.0</u>
<b>Total</b>		<b>\$ <u>1,087.5</u></b>



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## Section 5 - Other PSERS Programs





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**Health Options Program**

Pursuant to Sec. 8701 et seq. of the Public School Retirees Health Insurance Act 24 Pa. C.S. § 8701 et seq. PSERS sponsors a group health insurance program called the Health Options Program (HOP) for individuals who are annuitants or survivor annuitants or the spouse or dependents of an annuitant or survivor annuitant. The HOP is funded by and for eligible participants. The following is a summary of HOP initiatives during the period July 1, 2012 to January 1, 2014.



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- » The Retirement Board issued an Invitation for Application (IFA) to allow qualified insurance carriers to apply to PSERS to offer a fully insured Medicare Advantage group insurance plan and accompanying Pre-65 group insurance plan to PSERS retirees who participate in the Health Options Program. The effective date of the insurance is January 1, 2013. As a result of the IFA, PSERS has entered into contract with the following carriers to participate in HOP:

- Aetna
- Capital Blue Cross/Keystone Health Plan Central
- Geisinger Health Plan
- Highmark
- Independence Blue Cross (IBC)/  
Keystone Health Plan East
- UPMC

- » The Retirement Board continues to make changes in the Basic and Enhanced Medicare Rx Options as required by the Affordable Care Act (ACA, health care reform) and adjust maximum co-payments to reflect prescription drug cost inflation. Effective January 1, 2014, the following benefit changes were adopted:

***Basic Medicare Rx Option***

Initial Tier:	Member Paid in 2013	Member Pays in 2014
Retail Pharmacy Preferred Brand Rx	30% (\$50 maximum for up to 33-day supply & \$100 maximum for a 34 to 90-day supply)	30% ( <b>\$60</b> maximum for up to <b>30</b> -day supply & <b>\$120</b> maximum for a <b>31</b> to 90-day supply)
Mail Pharmacy Preferred Brand Rx	30% (\$100 maximum for a 34 to 90-day supply)	30% (\$100 maximum for a <b>31</b> to 90-day supply)
Non-Preferred Brand Rx	40% (no maximum)	40% (no maximum)
<b>Coverage Gap:</b>		
Generic Rx	<b>79%</b>	<b>72%</b>

**Health Options Program**

(continued)

***Enhanced Medicare Rx Option***

<b>Initial Tier:</b>	<b>Member Paid in 2013</b>	<b>Member Pays in 2014</b>
Retail Pharmacy Brand Rx	25% (\$50 maximum for up to 33-day supply & \$90 maximum for a 34 to 90-day supply)	25% (\$50 maximum for up to 30-day supply & \$100 maximum for a 31 to 90-day supply)
Mail Pharmacy Brand Rx	25% (\$90 maximum for a 34 to 90-day supply)	25% (\$90 maximum for a 31 to 90-day supply)
<b>Coverage Gap:</b>		
Generic Rx	79%	72%

- » The Retirement Board adopted the PSERS Health Options Program Eligibility and Enrollment Policy effective January 1, 2014. The Policy defines “Qualifying Events” which create opportunities for eligible persons to enroll in the Health Options Program.
- » The Retirement Board is evaluating the impact of the ACA defined on previous retirees (and other eligible persons) participating in the PSERS Health Options Program who are not yet eligible for Medicare. PSERS retirees and their dependents not eligible for Medicare are required by ACA to have health insurance or pay a tax. For 2014 the tax is the greater of \$95 or 1% of income. By 2016 the tax will be the greater of \$695 or 2.5% of income. Most, if not all, pre-65 participants of the Health Options Program and some pre-65 retirees covered under their former school employer’s plan will be able to reduce their monthly premium costs by enrolling in an ACA plan through the exchange. A PSERS retiree who enrolls in an ACA plan will not receive Premium Assistance as only Commonwealth school plans and plans offered through the Health Options Program are approved for Premium Assistance. The legal and administrative ramifications of the Retirement Board approving ACA plans for Premium Assistance are under review.



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**Plans Available Through the Health Options Program**

The Health Options Program offers participants a choice among a supplement to Medicare, various Medicare prescription drug plans, and Medicare Advantage plans. Participants under age 65 and not eligible for Medicare may elect to enroll in a high deductible health insurance plan without prescription drug coverage or a managed care plan. These options are available to new enrollees or Health Option Program participants electing to change coverage during the 2014 option selection period conducted in the fall of 2013. The following is a list of HOP plans as of January 1, 2014:

## Section 5 - Other PSERS Programs

### Health Options Program

(continued)

For Individuals Eligible for Medicare:	For Individuals Not Eligible for Medicare
HOP Medical Plan (Medicare supplement)	HOP Pre-65 Medical Plan
Basic Medicare Rx Option (Medicare Part D)	HOP Pre-65 Medical Plan w/ Rx coverage
Enhanced Medicare Rx Option (Medicare Part D)	
Medicare Advantage Plans	Companion Pre-65 Managed Care Plans
Aetna Medicare PPO	Aetna PPO Plan
Capital Blue Cross SeniorBlue PPO	Capital Blue Cross PPO
Geisinger Gold Preferred PPO	Geisinger Choice PPO
Highmark FreedomBlue PPO	Highmark PPO Blue
Independence Blue Cross-Keystone 65 HMO	Independence Blue Cross-Keystone HMO
UPMC for Life HMO	UPMC Health Plan

#### HOP Program Plan Premiums

##### Paid By Individuals ELIGIBLE for Medicare

The premiums paid by participants eligible for Medicare generally vary by geographical area. The exceptions are the premiums for the HOP Medicare Rx Options. The following tables show the standard premium rates for 2014 compared to the 2013 rates in Pennsylvania for single coverage. These rates do not reflect the \$100 Premium Assistance benefit provided to eligible retirees or discounts available to individuals enrolling at age 65.

Southeastern Region: Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties	2013	2014	Increase
<b>Medicare Supplement Plan</b>			
HOP Medical Plan	\$ 199	\$ 199	0%
w/ Basic Rx	\$ 227	\$ 231	2%
w/ Enhanced Rx	\$ 281	\$ 283	1%
<b>Medicare Advantage Plans</b>			
Aetna Medicare 15 Special PPO	\$ 329	\$ 344	5%
Highmark FreedomBlue PPO	\$ 575	\$ 592	3%
Independence Blue Cross / Keystone 65 Select HMO	\$ 289	\$ 299	4%
<b>Legacy Medicare Advantage Plans (no new participants)</b>			
Aetna Medicare 10 Special Plan HMO	\$ 406	\$ 426	5%
IBC's Personal Choice 65 PPO	\$ 636	\$ 636	0%

## Section 5 - Other PSERS Programs

### Health Options Program

(continued)

Southwestern Region: Allegheny, Fayette, Greene, Indiana, Washington, and Westmoreland Counties		2013	2014	Increase
<b>Medicare Supplement Plan</b>				
HOP Medical Plan	\$	195	\$ 195	0%
w/ Basic Rx	\$	223	\$ 227	2%
w/ Enhanced Rx	\$	277	\$ 279	1%
<b>Medicare Advantage Plans (compared with 2010 legacy plan)</b>				
Aetna Medicare 15 Special PPO	\$	306	\$ 320	5%
Highmark FreedomBlue PPO	\$	281	\$ 298	6%
UPMC for Life HMO	\$	234	\$ 234	0%
<b>Legacy Medicare Advantage Plans (no new participants)</b>				
Aetna Medicare 15 Special Plan HMO	\$	353	\$ 419	19%
Highmark SecurityBlue HMO	\$	272	\$ 289	6%

North & Central Region: All other counties in Pennsylvania		2013	2014	Increase
<b>Medicare Supplement Plan</b>				
HOP Medical Plan	\$	164	\$ 169	3%
w/ Basic Rx	\$	192	\$ 201	5%
w/ Enhanced Rx	\$	246	\$ 253	3%
<b>Medicare Advantage Plan (compared with 2010 legacy plan)</b>				
Aetna Medicare 15 Special PPO*	\$	228	\$ 238	4%
Capital Blue Cross SeniorBlue PPO*	\$	228	\$ 228	0%
Geisinger Gold Preferred PPO*	\$	198	\$ 265	34%
Highmark FreedomBlue PPO	\$	260	\$ 277	7%
UPMC for Life HMO*	\$	234	\$ 234	0%
<b>Legacy Medicare Advantage Plans (no new participants)</b>				
Aetna Medicare 10 Special Plan HMO*	\$	244	\$ 255	5%
Highmark SecurityBlue HMO*	\$	271	\$ 289	7%
Keystone Central SeniorBlue HMO*	\$	223	\$ 227	2%

\* Not available in all North & Central Region counties.

Health Options Program participants may select Basic or Enhanced Medicare Rx Option coverage without enrolling in the HOP Medical Plan. The premium rates for the Medicare Rx Options do not vary by region. Stand-alone prescription drug coverage does not qualify for Premium Assistance.

Medicare Prescription Drug Plans All Regions		2013	2014	Increase
Basic Medicare Rx Only	\$	28	\$ 29	4%
Enhanced Medicare Rx Only	\$	82	\$ 82	0%



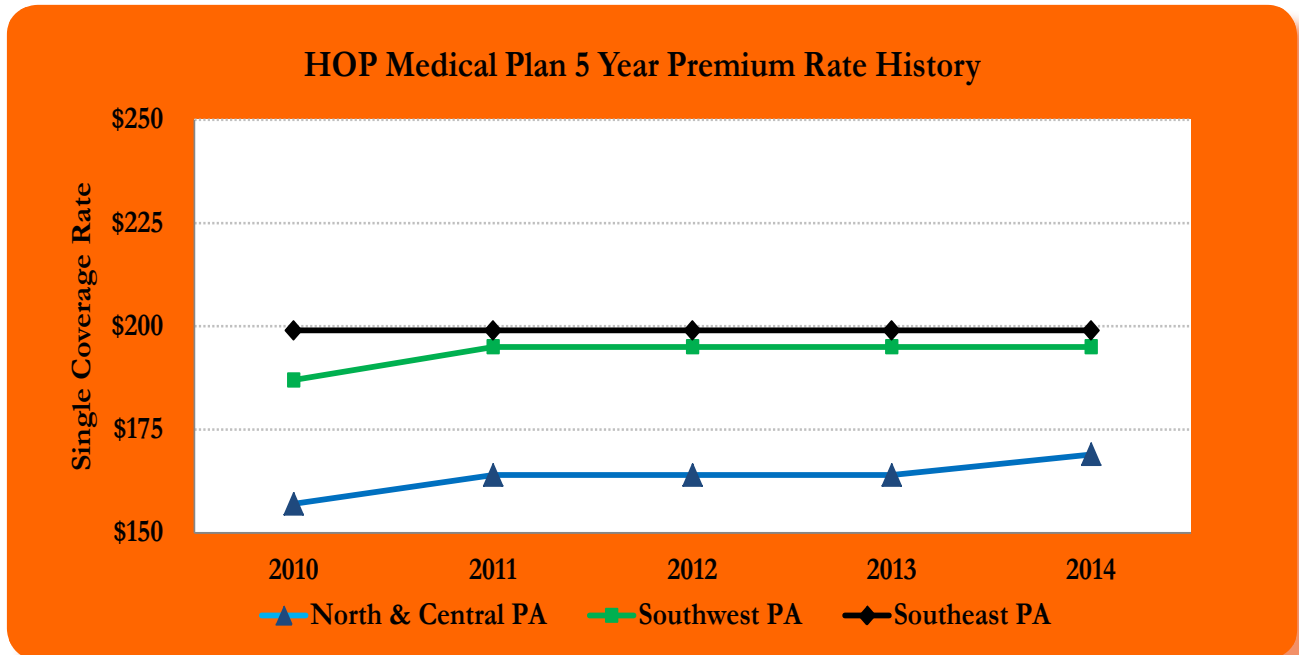
## Health Options Program

(continued)

### Premium History

#### HOP Medical Plan

The following chart illustrates the HOP Medical Plan monthly premium rates for single coverage since 2010. Rates vary by region in the Commonwealth to reflect differences in the cost of health care.



This remarkable premium stability can be attributed to:

1. Plan design changes adopted by the Retirement Board to manage the utilization of health care services.
2. Increasing number of enrollees at age 65 (baby-boomer generation), thereby lowering the average age of the participant population.



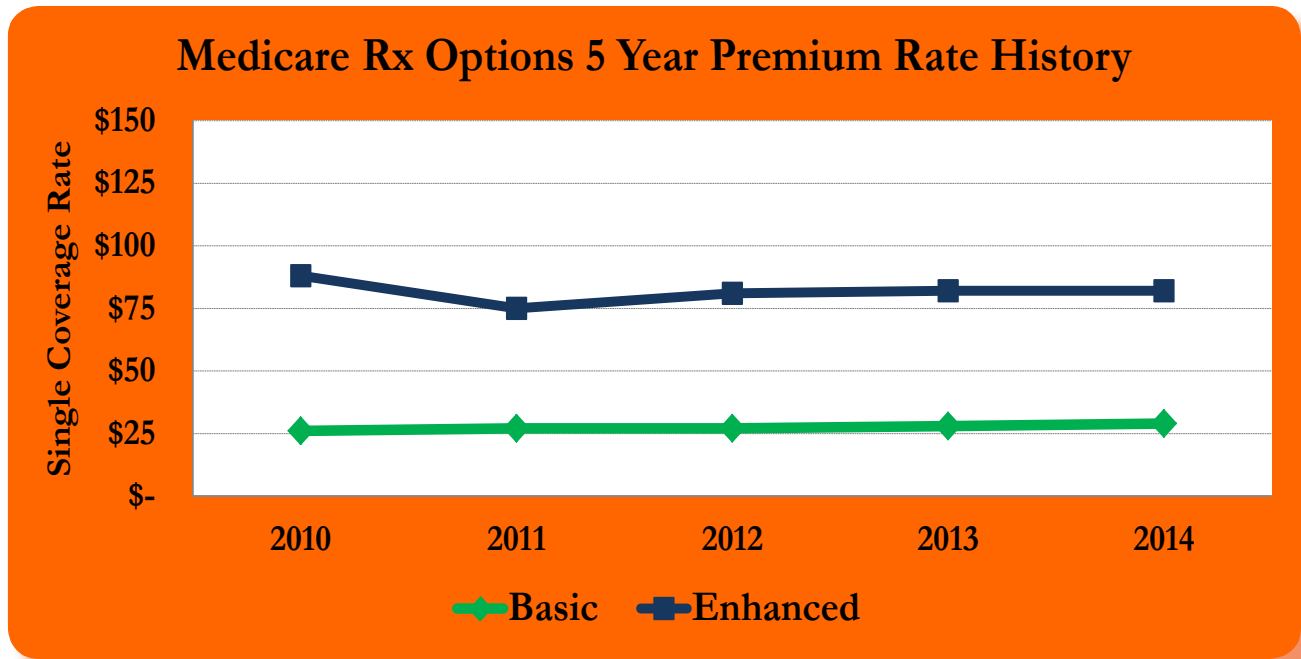
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## Health Options Program

(continued)

### Basic and Enhanced Medicare Rx Options

The following graph illustrates the Basic and Enhanced Medicare Rx Options monthly premium rates for single coverage since 2010. The rates for the Medicare Rx Options do not vary by region.



This relative premium stability can be attributed to:

1. Plan design changes adopted by the Retirement Board to encourage the use of generic drugs.
2. Increasing number of enrollees at age 65 (baby-boomer generation), thereby lowering the average age of the participant population in the Basic Rx Option.

The significant decrease in the premium cost of the Enhanced Rx Option in 2011 is attributable to the reduction in benefits (plan payments) of 50% mandated by the Affordable Care Act. The participants out-of-pocket expense remained the same while their monthly premium decreased.



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## Section 5 - Other PSERS Programs

### Health Options Program

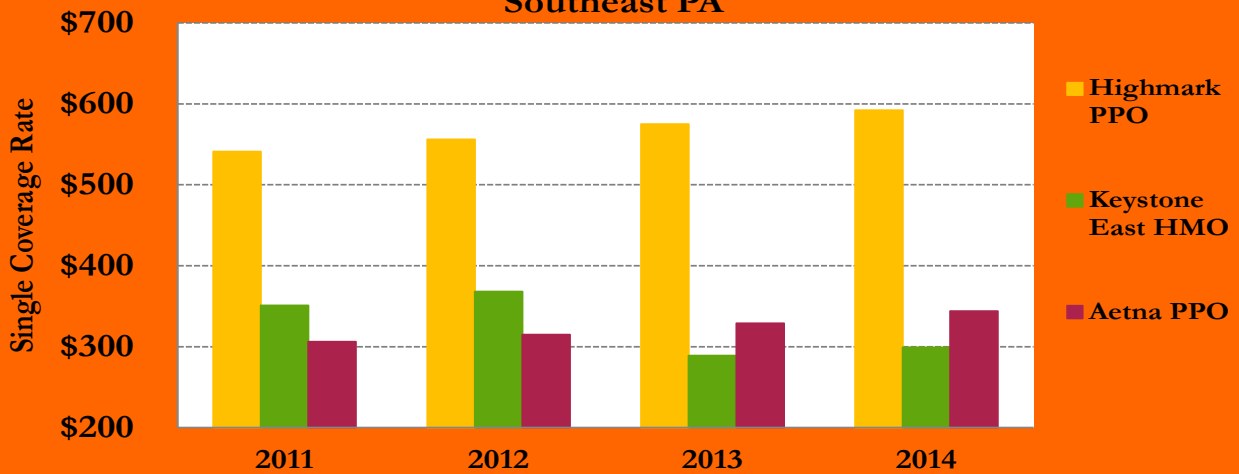
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#### Medicare Advantage Plans

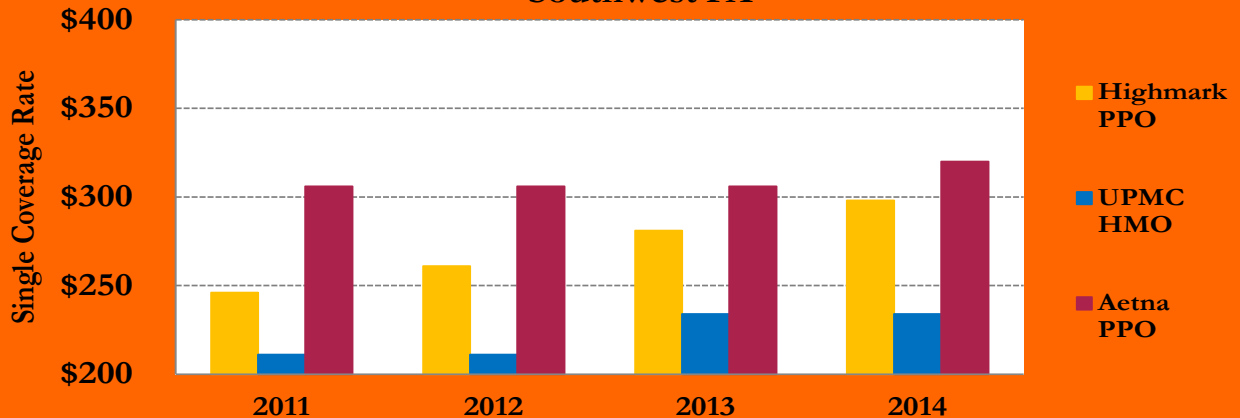
PSERS issues an IFA to allow qualified insurance carriers to apply to offer a fully insured Medicare Advantage group insurance plan through HOP. Other than requiring prescription drug coverage, the insurance carriers are given wide latitude to offer a plan tailored to the PSERS retiree population.

The following graphs illustrate the monthly premium rates (single coverage) for the active Medicare Advantage plans since 2011. Prior to 2011, Highmark FreedomBlue PPO was the only active Medicare Advantage plan in the Health Options Program.

#### Medicare Advantage Plans 4 Year Premium Rate History - Southeast PA



#### Medicare Advantage Plans 4 Year Premium Rate History - Southwest PA

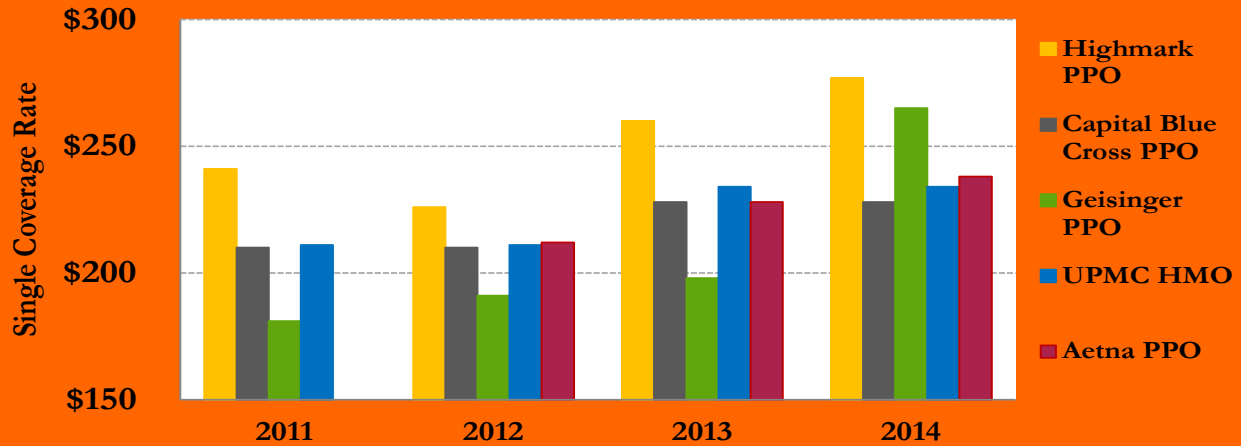


## Section 5 - Other PSERS Programs

### Health Options Program

(continued)

**Medicare Advantage Plans 4 Year Premium Rate History - North & Central PA**



While the Medicare Advantage plans have not had the premium stability of the HOP Medical Plan the increases have been modest when considering the decrease in federal funding set forth in the Affordable Care Act. This relative premium stability can be attributed to:

1. Plan design changes proposed by the Medicare Advantage carriers to control utilization, and
2. Competition among Medicare Advantage carriers.

#### **HOP Premiums Paid By Individuals NOT ELIGIBLE for Medicare**

The premiums paid by participants not eligible for Medicare generally do not vary by geographical area. The exceptions are the regional managed care plans. The following tables show the premium rates for 2014 compared to the 2013 rates in Pennsylvania for single coverage. These rates do not reflect the \$100 Premium Assistance benefit provided to eligible retirees.

All Regions		2013		2014	Increase
<b>HOP Pre-65 Medical Plan</b>					
HOP Pre-65 Medical Plan (Single Coverage)	\$	676	\$	717	6%
Pre-65 Medical Plan w/ Prescription Drugs	\$	780	\$	827	6%

## Section 5 - Other PSERS Programs

### Health Options Program

(continued)

Southeastern Region: Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties.	2013		2014		Increase/ (Decrease)
<b>Managed Care Plans</b>					
Aetna PPO	\$	960	\$	1,109	16%
Highmark PPOBlue	\$	1,169	\$	1,007	(14)%
Keystone East HMO	\$	1,185	\$	1,295	9%
<b>Legacy Managed Care Plans (no new enrollments)</b>					
Aetna Citizen HMO Plan	\$	1,201	\$	1,207	0%
IBC's Personal Choice PPO	\$	1,189	\$	1,291	9%

Southwestern Region: Allegheny, Fayette, Greene, Indiana, Washington, and Westmoreland Counties	2013		2014		Increase/ (Decrease)
<b>Managed Care Plans</b>					
Aetna PPO	\$	960	\$	1,109	16%
Highmark PPOBlue	\$	1,169	\$	1,007	(14)%
UPMC Health Plan EPO	\$	2,256	\$	1,384	(39)%
<b>Legacy Managed Care Plans (no new enrollments)</b>					
Aetna Citizen HMO Plan	\$	1,201	\$	1,207	0%
Highmark PPOBlue - High Option	\$	1,459	\$	1,255	(14)%

North & Central Region: (All other counties in Pennsylvania)	2013		2014		Increase/ (Decrease)
<b>Managed Care Plans</b>					
Aetna PPO*	\$	960	\$	1,109	16%
Highmark PPOBlue	\$	786	\$	832	6%
Capital Blue Cross PPO*	\$	1,169	\$	1,007	(14)%
Geisinger PPO*	\$	1,050	\$	1,069	2%
UPMC EPO*	\$	2,256	\$	1,384	(39)%
<b>Legacy Managed Care Plans (no new participants)</b>					
Aetna Citizen Plan HMO	\$	1,201	\$	1,207	0%
Highmark PPOBlue – High Option	\$	1,459	\$	1,255	(14)%
Capital Blue Cross / Keystone Central HMO	\$	1,057	\$	1,039	(2)%

\* Not available in all North & Central Region Counties.

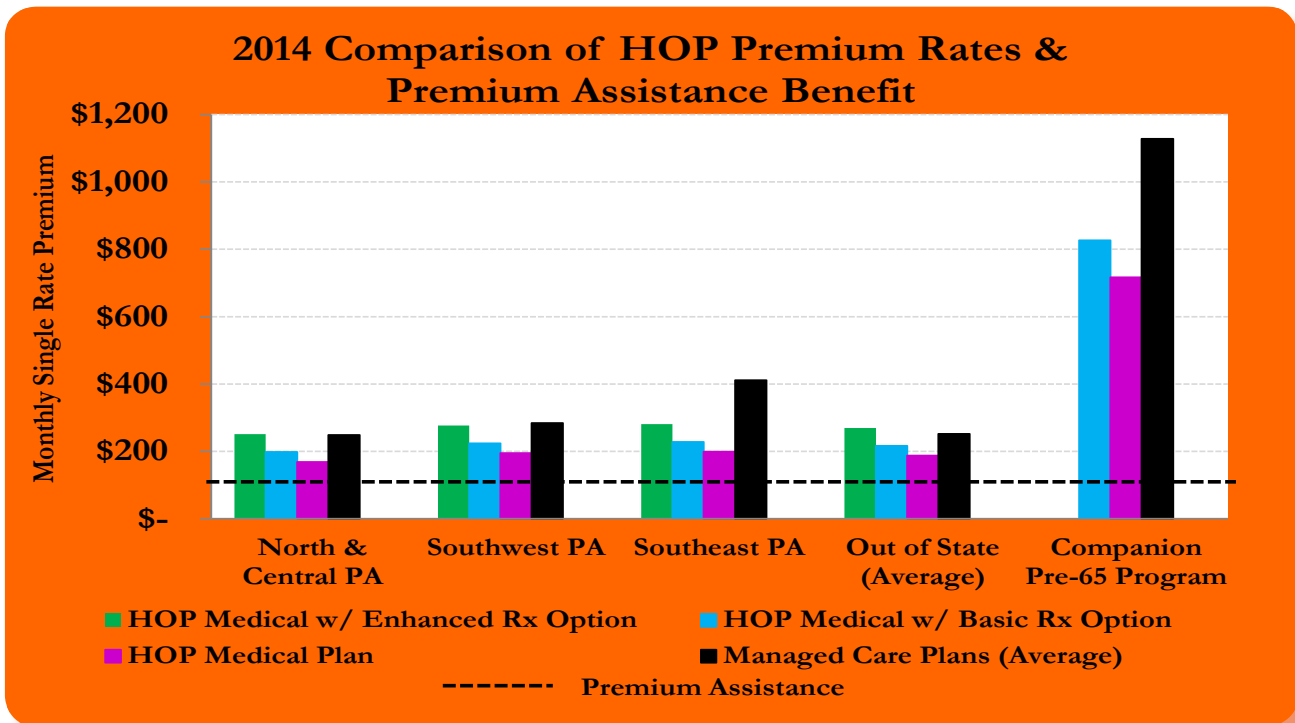
## Section 5 - Other PSERS Programs

### Health Options Program

(continued)

#### HOP Premiums Compared to the PSERS Premium Assistance Benefit

The following charts illustrate the HOP premiums paid by PSERS retirees for single coverage compared with the PSERS Premium Assistance benefit. 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 premiums for 2-person and family coverage would be at least twice the cost of single coverage. Premium Assistance is an offset for the PSERS retiree's premium only.



	North & Central PA		Southwest PA	Southeast PA	Out of State (Average)	Companion Pre-65 Program
HOP Medical w/ Enhanced Rx Option	\$ 251	\$ 277	\$ 281	\$ 270	N/A	
HOP Medical w/ Basic Rx Option	\$ 198	\$ 224	\$ 228	\$ 217	\$ 827	
HOP Medical Plan	\$ 169	\$ 195	\$ 199	\$ 188	\$ 717	
Managed Care Plans (Average)	\$ 248	\$ 284	\$ 412	\$ 252	\$ 1,128	
Premium Assistance	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	

As illustrated in the table above, the percentage of Premium Assistance benefit coverage varies by region and plan.

## Section 5 - Other PSERS Programs

### Health Options Program

(continued)

#### HOP Enrollment

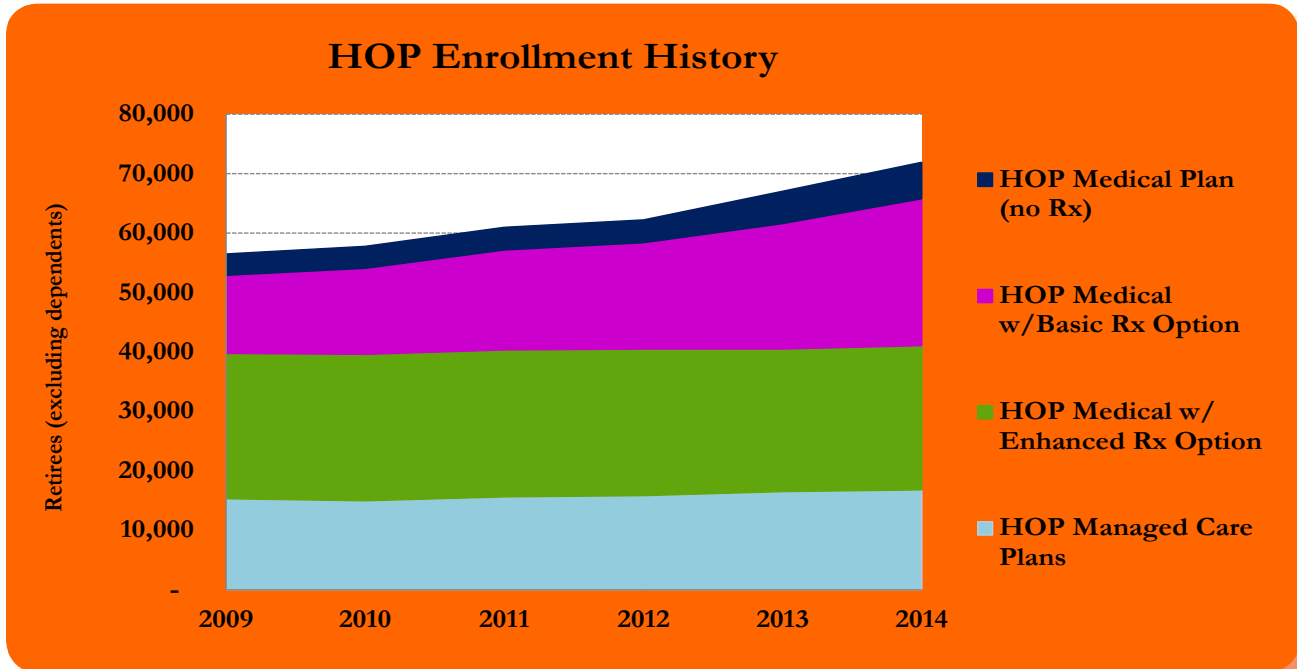
As of January 1, 2014 there are 88,484 participants (72,597 retirees plus their dependents) in the Health Options Program. The total numbers of retirees by Option are:

Individuals Eligible for Medicare	Retirees	Participants
HOP Medical w/ Enhanced Medicare Rx Option	24,262	29,070
HOP Medical w/Basic Medicare Rx Option	24,721	29,962
HOP Medical Plan (no Rx)	6,154	6,941
HOP Enhanced Rx Only	80	103
HOP Basic Rx Only	241	311
Aetna PPO/Legacy HMO	724	882
Capital BC PPO/Keystone Central Legacy HMO	807	1,061
Geisinger PPO	243	311
Highmark PPO/ Legacy HMO	13,493	17,587
Keystone East HMO/IBC Legacy PPO	1,179	1,436
UPMC HMO	345	463
<b>Total Medicare Eligible</b>	<b>72,249</b>	<b>88,127</b>
<b>Individuals Not Eligible for Medicare</b>		
HOP Pre-65 Medical Plan	70	72
HOP Pre-65 Medical Plan w/Rx Coverage	166	170
Aetna PPO/Legacy HMO	15	16
Capital BC PPO/Keystone Central Legacy HMO	16	16
Geisinger PPO	10	11
Highmark PPO	41	41
Keystone East HMO/IBC Legacy PPO	30	31
UPMC HMO	0	0
<b>Total Not Eligible for Medicare</b>	<b>348</b>	<b>357</b>
<b>Total in Health Options Program</b>	<b>72,597</b>	<b>88,484</b>

## Section 5 - Other PSERS Programs

### Health Options Program (continued)

The enrollment in the PSERS Health Options Program continues to increase. As illustrated by the following chart, the number of members has increased 28% over the past 5 years.



#### Funding

A majority of the premium income is deducted from the retiree's monthly retirement benefit and transferred to the plans (claims administrator for the self-funded Options). Approximately 5,000 retirees submit monthly premium payments to the HOP Administration Unit, as their monthly retirement benefits, if any, are insufficient to cover the premium cost. In addition, individuals enrolled in a Medicare Rx Option without HOP Medical Plan coverage must submit monthly premium payments.

Health Options Program income is projected to be \$295 million during the 2014 Plan (Calendar) Year. A majority of this income comes from premium payments from participants. Other sources of funding are Medicare prescription drug payments (for participants enrolled in a Medicare prescription drug plan) from the Center for Medicare and Medicaid Services (CMS), anticipated payment from the Early Retirement Reinsurance Program (ERRP) from Health and Human Services (HHS), and interest income. The following is a breakdown of these sources of income (Dollar amounts in millions):

Income	Calendar Year 2014
Participant Contributions	\$ 260.0
CMS - Medicare Prescription Drug Payments	\$ 35.0
HHS - Early Retiree Reinsurance Program	\$ 0.3
<b>Total</b>	<b>\$ 295.3</b>

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## Section 5 - Other PSERS Programs

### Health Options Program

(continued)

PSERS retirees enrolled in the Health Options Program, who meet the eligibility requirements for Premium Assistance, receive \$100 per month as a partial reimbursement for the out-of-pocket premium expense. Approximately 61,500 of the 72,600 HOP retirees receive Premium Assistance. This accounts for about \$74 million of the \$111 million annual benefit expense of the Premium Assistance Program. The following Premium Assistance Program section provides additional information.

Contributions and interest income pay for the benefits provided to Health Options Program participants plus administrative expenses. The following is a breakdown of the benefit expenses (Dollar amounts in millions):

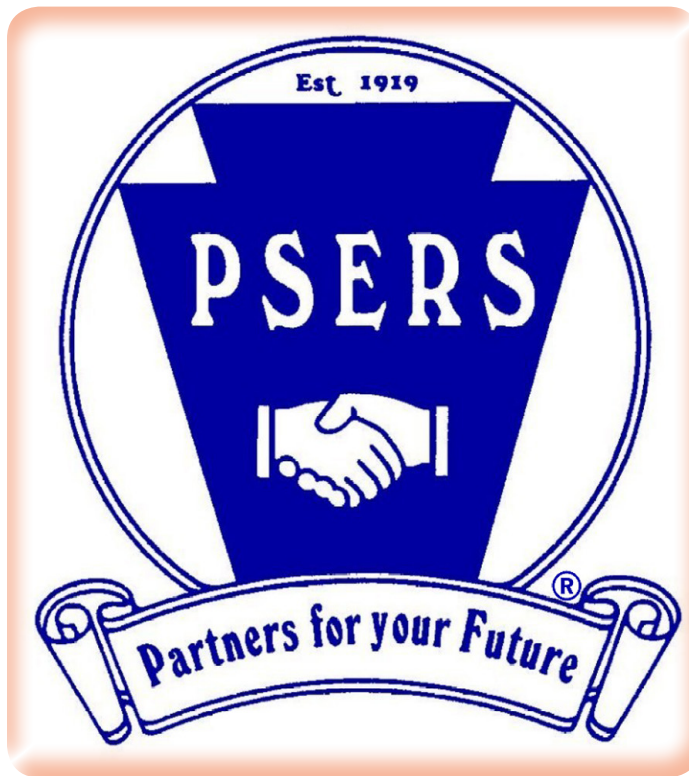
<b>Benefit Expenses</b>	<b>Calendar Year 2014</b>	
Self-funded Hospital, Medical & Major Medical Benefits	\$	129.0
Self-funded Prescription Drug Benefits	\$	79.0
Insured Managed Care Premiums	\$	79.0
<b>Total</b>	\$	<b>287.0</b>

In addition to the benefit expenses identified above, the Health Options Program will pay \$8 million in enrollment and administrative expenses including reimbursing PSERS for its expenses.

As of December 31, 2013, HOP had net assets of \$187 million held in trust to pay the expenses of Health Options Program for the exclusive benefit of participants.



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### **Premium Assistance Program**

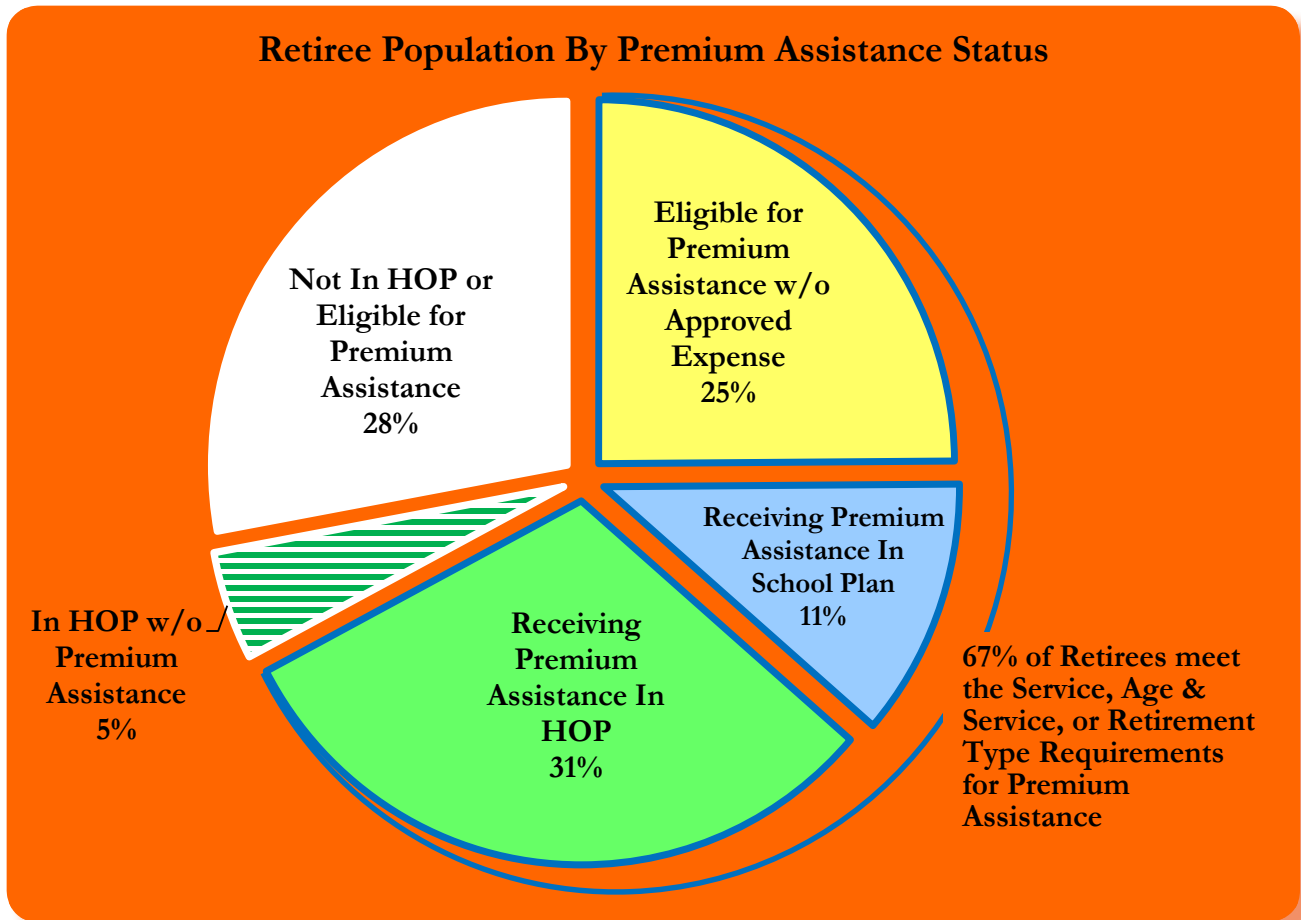
In accordance with Sec. 8509 of the Public School Employees' Retirement Code 24 Pa. C.S. § 8509, PSERS provides up to \$100 per month in Premium Assistance to eligible retirees to help cover the cost of their health insurance. The eligibility requirements for premium assistance are as follows:

- 24.5 years of credited service, or
- 15 years of credited service if termination of employment and retirement occurred after age 62, or
- Receiving a Disability annuity from PSERS; and
- Have an out-of-pocket premium expense from their former school employer's health plan or the PSERS sponsored Health Options Program (HOP).

#### **Enrollment**

As of June 30, 2013, PSERS had 197,735 retirees (excluding survivor annuitants and beneficiaries) receiving a monthly benefit. Of these retirees 132,990 meet the service, service and age at termination of school service, or retirement type (disability) eligibility requirements for the premium assistance program. Of the retirees meeting these requirements, 49,206 are not receiving premium assistance payments because they do not have an out-of-pocket premium expense from an approved plan. Of the 83,784 retirees receiving premium assistance benefits, 61,093 are enrolled in HOP and 22,691 are participating in their former school employer's health plan and have an out-of-pocket premium expense.

A breakdown of retirees by their premium assistance status is as follows:



## Section 5 - Other PSERS Programs

### Premium Assistance Program

(continued)

June 30, 2013	Number	Percentage
Eligible for Premium Assistance <sup>1</sup> w/o Approved Expense (1)	49,206	25%
Receiving Premium Assistance In School Plan (1)	22,691	11%
Receiving Premium Assistance In HOP (1)	61,093	31%
In HOP w/o Premium Assistance	9,570	5%
Not In HOP or Eligible for Premium Assistance	55,175	28%
<b>Total Retiree Population (2)</b>	<b>197,735</b>	<b>100%</b>

(1) Meeting the service, service and age at termination of school employment or retirement type requirements.

(2) As of June 30, 2013 Actuarial Valuation (Excludes Survivor Annuitants and Beneficiaries)

#### Funding

The Premium Assistance Program is funded by employer contributions. The contribution rate calculated by PSERS actuary for FY2014/15 is 0.90% of payroll.

For the year ended June 30, 2013, employer contributions totaled \$108.7 million and net investment income totaled \$0.1 million, while PSERS paid Premium Assistance benefits totaling \$100.1 million and administrative expenses of \$2.1 million.

As of December 31, 2013, the Premium Assistance Program had net assets of \$102 million.



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