

PENNSYLVANIA PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

BUDGET REPORT

HOUSE APPROPRIATIONS COMMITTEE

FISCAL YEAR 2015-2016



A COMPONENT UNIT OF THE
COMMONWEALTH OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA
PUBLIC SCHOOL EMPLOYEES' RETIREMENT BOARD



MELVA S. VOGLER
Chairman

JAMES M. SANDO
Vice Chairman

March 13, 2015

Members of the House Appropriations Committee

Dear Members:

On behalf of the Public School Employees' Retirement System (PSERS, System, or Fund), I am pleased to present the accompanying report on the financial, actuarial, and investment operations of PSERS and the budgetary recommendations for the 2015/16 fiscal year. Copies of this document and PSERS' Comprehensive Annual Financial Report for the fiscal year ended June 30, 2014 (FY2014) are available for download from PSERS' website at www.pasers.state.pa.us/publications. Hard copies and CDs are also available upon request.

PSERS is responsible for administering a defined benefit pension plan for nearly 500,000 active, retired, 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 continues to be prudent in its use of funds and managing its annual budget. PSERS' Budget Request and the Governor's Recommended Budget for FY2015/16 was \$43,777,000. Each year PSERS participates in an international benchmarking survey evaluating its benefit administration costs and service performance in comparison to other similar public pension funds. Based on the FY2013 survey, PSERS had a 22% lower pension administration cost per member than the average cost for its peer group while experiencing a 17% higher transactional volume per full time equivalent than its peers.
- Member contributions currently range from 5.25% to 10.30% of payroll depending on the class of membership of the employee and when they joined PSERS. Members are projected to contribute an average of 7.49% of their salary towards their retirement benefit in fiscal year 2015/16. Member contributions of approximately \$1.0 billion are expected in fiscal year 2015/16. In addition, Act 120 members hired after June 30, 2011, also share some of the investment risk via the shared risk program and will contribute at a higher contribution rate if the Fund underperforms the benchmark established by Act 120.
- The average annual pension benefit for PSERS' total member population (annuitant, survivor/beneficiaries, and disabled annuitants) as of June 30, 2014 is \$24,962 and the average age is 70.2 years. In FY2014, PSERS provided \$6.1 billion in pension and healthcare benefits to its members. Since approximately 90% was distributed to Commonwealth residents in calendar year 2014, a substantial portion of PSERS' \$6.1 billion annual pension disbursements remain in Pennsylvania, benefiting the economy of the Commonwealth.
- Investment earnings are the largest source of funding for PSERS. Income from PSERS' investment portfolio accounts for nearly 71% of total revenues over the 20-year period from FY1995 to FY2014. For the fiscal year ended June 30, 2014 PSERS' investment portfolio generated a rate of return of 14.91%. PSERS' return exceeded the investment earnings assumption of 7.50% and added \$7.1 billion in net investment income to the Fund. The most recent actuarial valuation as of June 30, 2014 reports that PSERS is 62.0% funded. Total plan net assets were \$53.3 billion as of June 30, 2014.
- For the calendar year ended December 31, 2014 PSERS earned 8.83% and added \$4.2 billion in net investment income. Total plan net assets were \$51.7 billion. Additional detailed investment performance information is located on the Investment Program page of PSERS' website.

Investment Management Fees and Indexing

- On March 3, 2015, Governor Wolf presented his proposed budget. In his remarks the Governor raised the issue of eliminating wasteful expenditures on Wall Street managers and increasing the use of index funds to create savings for PSERS. To date, PSERS has not met with the Governor or the Administration on this proposal. PSERS remains open to reviewing all concepts for potential cost savings at the System. In particular, PSERS staff welcomes the opportunity to meet with the Governor and his Administration to gain a more detailed understanding of his proposal for PSERS' investment manager fees and indexing.
- While PSERS is supportive of identifying potential cost savings, it is imperative that the investment management fee and indexing concept is studied thoroughly before any action is taken to prevent any negative impact on the System or the Commonwealth and school employers. As fiduciaries and investment experts, PSERS' Board and staff are aware of both investment return expectations and investment manager fees. PSERS also has other obligations to balance when investing PSERS' assets which include monitoring investment risk and diversification, and cash flow needs as the System continues to be underfunded by the Commonwealth and school employers.
- PSERS remains open and transparent regarding investment management fees paid and the value PSERS received for those fees. To the extent that any active manager is not performing up to expectations, they are terminated. PSERS is continually evaluating and managing its investment portfolio based on market conditions. For example, 15 years ago the Fund was primarily active in the implementation of its U.S. equity allocation. Today, PSERS almost entirely manages that allocation internally using passive indexes.
- PSERS' philosophy is to use indexes in those asset classes where the investment staff does not believe they can find active managers who can beat the passive indexes on a net of fee basis. As of December 31, 2014, PSERS had over \$10 billion in exposure, or approximately 20% of its portfolio, to passive indexes managed internally by PSERS' investment staff.
- Over the last 15 fiscal years PSERS earned a net profit of an additional \$11.46 billion over and above what PSERS would have earned if the investment staff had just passively indexed the investment portfolio simply to save on fees.

Update on Employer Contribution Rate and Funding Issue

- On March 3, 2015, Governor Wolf in his remarks proposed a \$3 billion cash infusion that would have an immediate effect on the unfunded liability of the System, and save the Commonwealth and school districts nearly \$8 billion over the next 24 years. Governor Wolf also suggested that all future Commonwealth contributions be placed into a restricted account to improve controls over the funding stream.
- Act 120 of 2010 is working as expected and has increased funding to the System by steadily increasing the employer contributions towards meeting the annual required contribution amount. It has significantly reduced benefit costs for all new members joining the System and has shifted some of the investment risk to new members. As of June 30, 2014 approximately 38,000 or 14% of PSERS active membership is under the new reduced benefit structure of Act 120. The employer annual benefit cost for new members joining the System is less than 3%. 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 PSERS' existing unfunded liability. An estimated \$103 million is expected in annual savings during FY2015/16 from the reduced cost of the Act 120 benefit tiers.

- Pension reform enacted under Act 120 of 2010 is well underway. The rate collars continue to gradually increase the employer contribution rate closer to the actuarially required rate. The employer contribution rate for FY2015/16, set by PSERS' Board in December 2014, is 25.84% or the equivalent of approximately \$3.45 billion in contributions. The rate collars established under Act 120 of 2010 remain in effect for a fifth year and continue to suppress the pension rate and underfund the System. FY2015/16 would be the last fiscal year, based on current actuarial projections, the rate collars will be in place as the FY2016/17 employer contribution rate is projected to increase by less than the Act 120 rate collar.
- The employer contribution rate continues to increase to the actuarially-required level necessary to begin making payments on the principal and pay down existing debt for prior service. The majority of the employer contribution rate for FY2015/16 represents the cost of interest on the unfunded liability.

While difficult budget issues remain for both the Commonwealth and school employers, a number of funding projections have improved over the past fiscal year, including:

- Total employer contribution dollars through FY2047 are projected to decrease by \$13.7 billion due to PSERS strong FY2014 investment performance and lower employer payroll.
- The pension debt, or the unfunded accrued liability (UAL) as of June 30, 2014, is \$500 million less than projected one year ago due to PSERS' strong FY2014 investment performance and lower employer payroll. It was projected at \$35.6 billion but decreased to \$35.1 billion.
- The peak UAL dollar amount projected for FY2018 is over \$2 billion less than what was projected last fiscal year. The peak amount decreased from \$45.1 billion to \$42.9 billion.
- The annual employer cost of benefits for current service (the employer normal cost) continues to decrease. It decreased from 8.66% in FY2012/13 to 8.38% in FY2015/16, as more new members join the system under the reduced benefit cost structure of Act 120 of 2010. It is projected to be less than 3% once all members are under the Act 120 benefit structure.

In closing, PSERS will continue to cooperate with the General Assembly in its role as a technical expert in providing fact-based information to support efforts in determining effective pension policy. And, as in the past, PSERS will assist in drafting technically correct provisions while remaining policy neutral on legislative proposals. PSERS looks forward to working with you on this critical appropriation issue during the current legislative session. Please contact PSERS Executive Office, if you have any questions or would like additional information.

Respectfully,



Melva S. Vogler
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

FY2015/16 Budget Report
House Appropriations Committee
March 23, 2015

Melva S. Vogler
Chairman
Board of Trustees

James M. Sando
Vice Chairman
Board of Trustees

Jeffrey B. Clay
Executive Director

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

**FY2015/16 Budget Hearing Materials
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Overview

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

As of June 30, 2014, the System had approximately 263,000 active members. The annuitant membership was comprised of approximately 214,000 retirees and beneficiaries who received average monthly pension benefit payments of over \$450 million including healthcare premium assistance. The average yearly pension benefit paid to annuitants was \$24,962. PSERS had 789 participating employers on June 30, 2014.

As reported in the latest Pension and Investments survey, published February 9, 2015, PSERS is the 30th largest plan among United States corporate and public pension plans, and the 20th largest state-sponsored defined benefit public pension fund in the nation. PSERS' total plan net assets as of December 31, 2014 were approximately \$51.7 billion.

During calendar year 2014, PSERS pension disbursements to retirees totaled \$6.1 billion. Of this amount, 90% 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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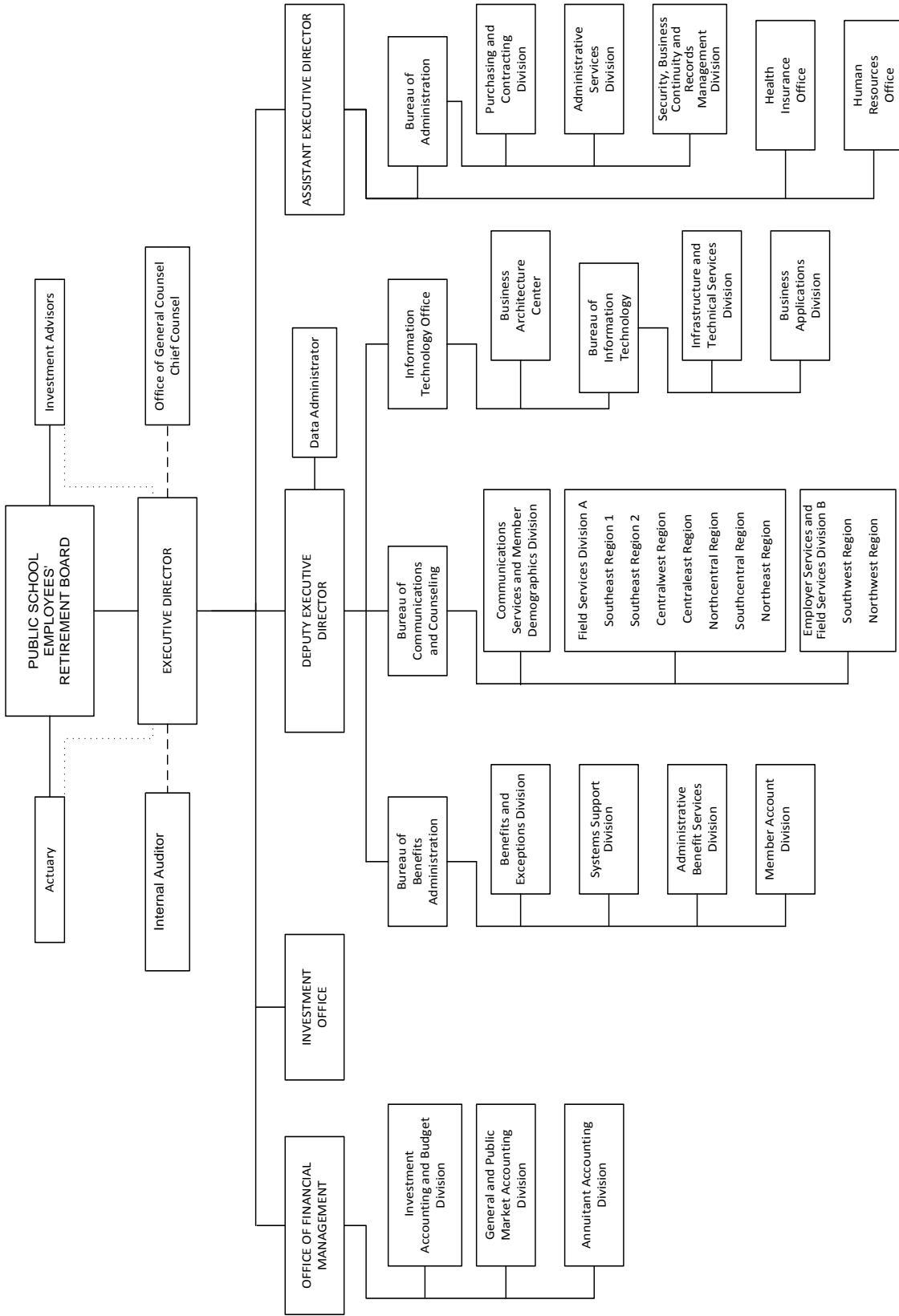
Ambassador Martin J. Silverstein

PSERS Board Members as of February 10, 2015



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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 responsible 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

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.

Benefits Processed (Major Processes)		
Calendar Year	2013	2014
Initial Retirements (1-Step)	11,081	9,687
Initial Retirements (2-Step)	1,230	1,056
Final Retirements (2nd Step of 2-Step)	1,308	793
Purchases of Service and Corrections for Previously Unreported Service and/or Contributions not Withheld	18,951	19,515
Refunds	4,728	4,278
Deaths	6,035	8,147
Account Verification - non retirements	10,211	8,672
TOTAL	53,544	52,148
Percent of Retirement Paid as 1 Step	90%	90%

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.

Organizational Structure (continued)

Other Member Services (Major)		
Calendar Year	2013	2014
Estimates	25,370	25,106
Phone Calls Answered	267,804	264,505
E-mails Received	16,164	14,328
E-mails Sent	12,298	12,786
General Information Sessions	201	198
General Information Attendees	13,665	10,849
Exit Counseling Sessions	983	919
Exit Counseling Attendees	8,962	7,694

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 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 Information Technology 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.

Organizational Structure (continued)

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, asset management and other administrative services to the agency.

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 and is responsible for managing PSERS' electronic data records, imaged records, paper records 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

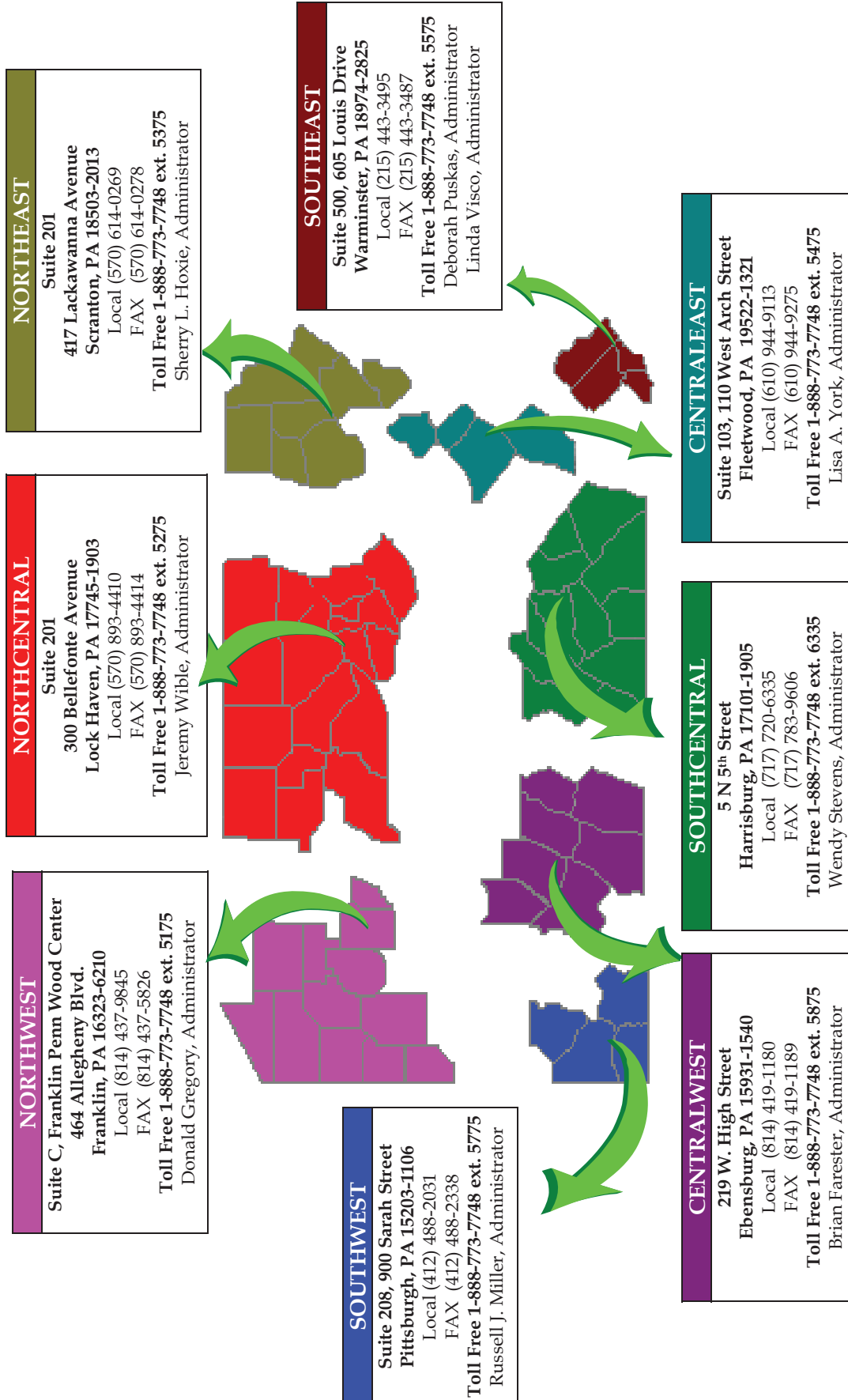
There are eight PSERS Regional Offices strategically located throughout the Commonwealth. The offices provide services to both active and retired PSERS members and 789 employers. Among these services are regularly scheduled retirement counseling meetings and other informational presentations on various topics relating to retirement benefits and programs.

PSERS REGIONAL OFFICES

Public School Employees' Retirement System of Pennsylvania

PSERS FIELD SERVICES DIVISION

Serving You in the 21st Century



Section 1 - PSERS Overview

Member Demographics and Financial Information (continued)

Members by Type						
Fiscal Year ended <u>June 30</u>	<u>Active Members</u>	<u>Inactive Members</u>	<u>Annuitants, Beneficiaries, and Survivor Annuitants</u>	<u>Total Active/Retired Members</u>	<u>Ratio of Active/ Retired</u>	<u>Total Inactive, Active & Survivor Annuitants</u>
2014	263,312	132,564	213,900	477,212	1.23 to 1	609,776
2013	267,428	128,650	209,204	476,632	1.28	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
Average ratio of annuitants to active members (Public Funds)					1.55*	

*Based on the January 2015 Public Fund Survey prepared by the National Association of State Retirement Administrators (NASRA).

Profile of PSERS' Annuitants, Beneficiaries, and Survivor Annuitants				
Type of Member	Number of Members		Average Annual Benefit	
	<u>6/30/2013</u>	<u>6/30/2014</u>	<u>6/30/2013</u>	<u>6/30/2014</u>
Normal/Early Retirees	189,170	194,886	\$25,746	\$25,889
Survivor Annuitants	11,469	10,144	10,394	12,625
Disability Retirees	<u>8,565</u>	<u>8,870</u>	<u>18,384</u>	<u>18,723</u>
Total	209,204	213,900	\$24,603	\$24,962
Age and Service Profile of All Active Members				
	<u>June 30, 2013</u>	<u>June 30, 2014</u>		
Average Age	44.8 years	44.8 years		
Average Years of PSERS Service	10.8 years	11.0 years		
Average Annual Compensation	\$47,030	\$47,931		
Class T-E Members				
	<u>June 30, 2013</u>	<u>June 30, 2014</u>		
Number of Members	22,405	32,638		
Average Age	35.9 years	36.6 years		
Average Years of PSERS Service	0.7 years	1.0 years		
Average Annual Compensation	\$22,573	\$24,016		
Class T-F Members				
	<u>June 30, 2013</u>	<u>June 30, 2014</u>		
Number of Members	3,496	5,391		
Average Age	35.3 years	35.6 years		
Average Years of PSERS Service	0.9 years	1.3 years		
Average Annual Compensation	\$30,532	\$33,035		

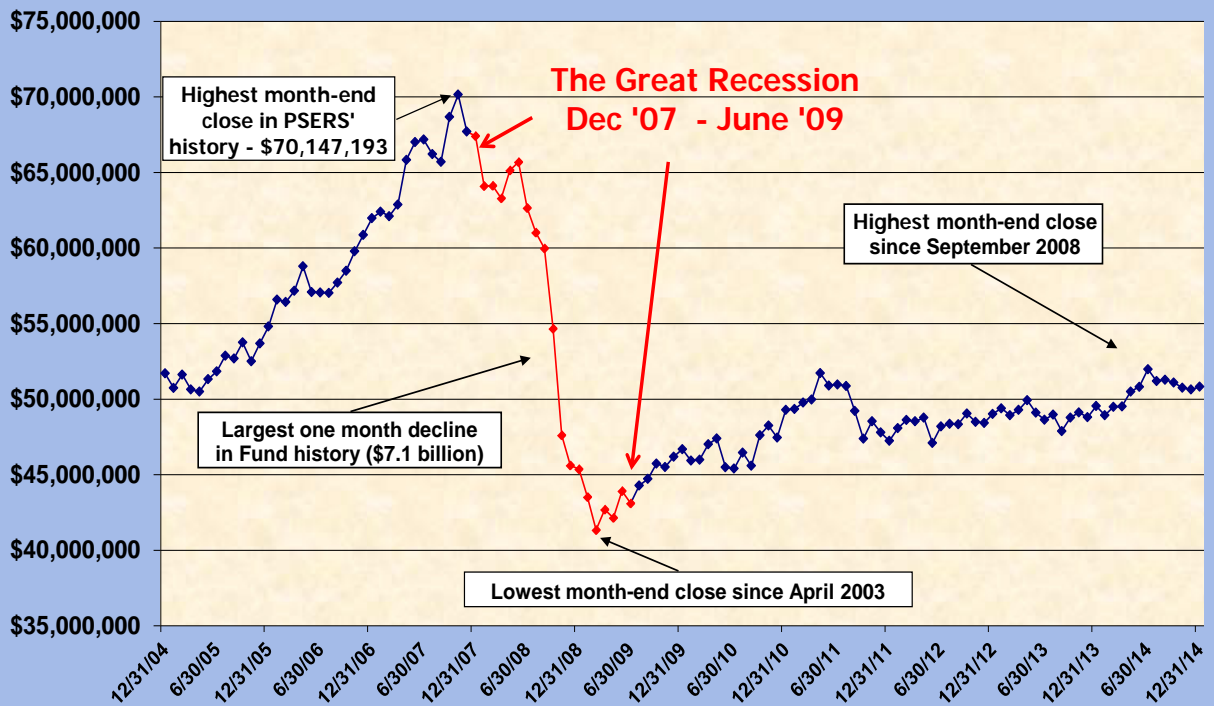
Section 1 - PSERS Overview

Member Demographics and Financial Information (continued)

**PSERS Pension Plan Changes in Fiduciary Net Position
10 Year Cumulative Summary-Calendar Year
(Dollar Amounts in Millions)**

	Cumulative 10 Year Total	
	January 1, 2005 - December 31, 2014	
Balance of Net Position (01/01/05)		\$ 51,993
Member Contributions	\$ 9,257	
Employer Contributions	9,454	
Net Investment Income	31,359	
Total Deductions - Benefits & Expenses	(50,666)	
Net Decrease		\$ (596)
Balance of Net Position (12/31/14)		\$ <u>51,397</u>

**PA Public School Employees' Retirement System
Fund Net Asset Values (NAV)
for the 10 Year Period Ended December 31, 2014
(Dollar Amounts in Thousands)**



The above chart illustrates the changes to PSERS' Net Asset Values for the past ten years. Since the Great Recession recent asset growth has been slow even as the employer contributions have risen, in accordance with Act 120, due to the benefit payments that have also increased.

Section 1 - PSERS Overview

Member Demographics and Financial Information (continued)

PSERS Pension Plan Changes in Fiduciary Net Position 10 Year Cumulative Summary-Fiscal Year (Dollar Amounts in Millions)		
		Cumulative 10 Year Total <u>July 1, 2004 - June 30, 2014</u>
Balance of Net Position (07/01/04)		\$ 48,340
Member Contributions	\$ 9,168	
Employer Contributions	8,454	
Net Investment Income	36,399	
Total Deductions - Benefits & Expenses	<u>(49,381)</u>	
Net Increase		\$ <u>4,640</u>
Balance of Net Position (6/30/14)		\$ <u>52,980</u>

Cash Flow Fiscal Years Ended in June 30 (Dollar Amounts in Millions)			
- - - Projected - - -			
	<u>2014</u>	<u>2015</u>	<u>2016</u>
Member Contributions	\$ 967	\$ 979	\$ 1,006
Employer Contributions	<u>1,992</u>	<u>2,792</u>	<u>3,462</u>
Total Contributions	\$ 2,959	\$ 3,771	\$ 4,468
Less:			
Pension Benefits	<u>6,029</u>	<u>6,451</u>	<u>6,720</u>
Negative Cash Flow	\$ -3,070	\$ -2,680	\$ -2,252
Beginning of Year Total Assets	\$ 49,016	\$ 52,992	\$ 54,220
Negative Cash Flow (NCF) as a % of Total Assets	-6.3%	-5.1%	-4.2%
Average NCF as a % of Total Assets (Public Funds)	-2.7%*		

*Based on the January 2015 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 -\$31.8 billion during that time period. For the fiscal year ended June 2014, PSERS' NCF percentage is -6.3% which is more than twice the public fund average. PSERS' projected NCF percentage of -4.2% will remain above the public fund average through FY2015/16 because, in accordance with Act 120, the employer contributions will remain below the actuary's recommended level, and PSERS' funded ratio is below the public fund average.

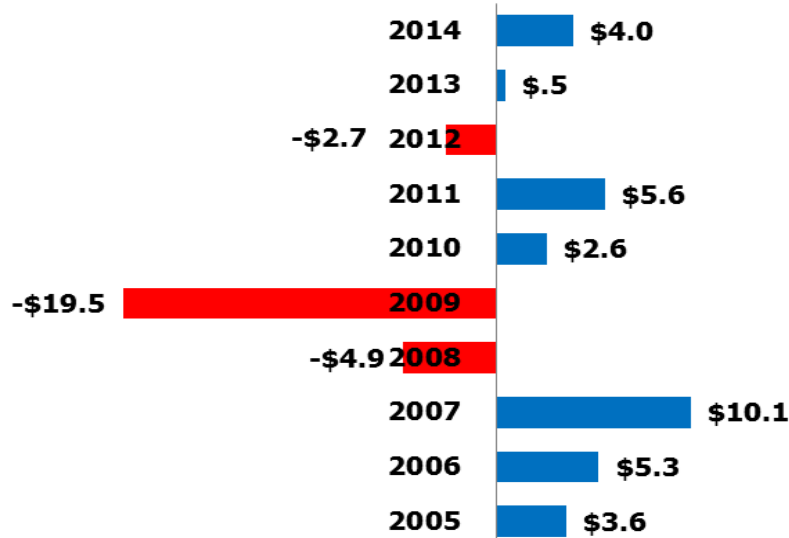
payments. Consequently, even during years when PSERS meets its investment return assumption, the Fund's assets will grow very slowly until employer contribution rates increase to the level recommended by PSERS' actuary. In FY2017/18 contributions will be sufficient to begin to pay down the unfunded liability.

As a result of the large negative cash flow, PSERS has to sell a portion of its investments each year to fund benefit

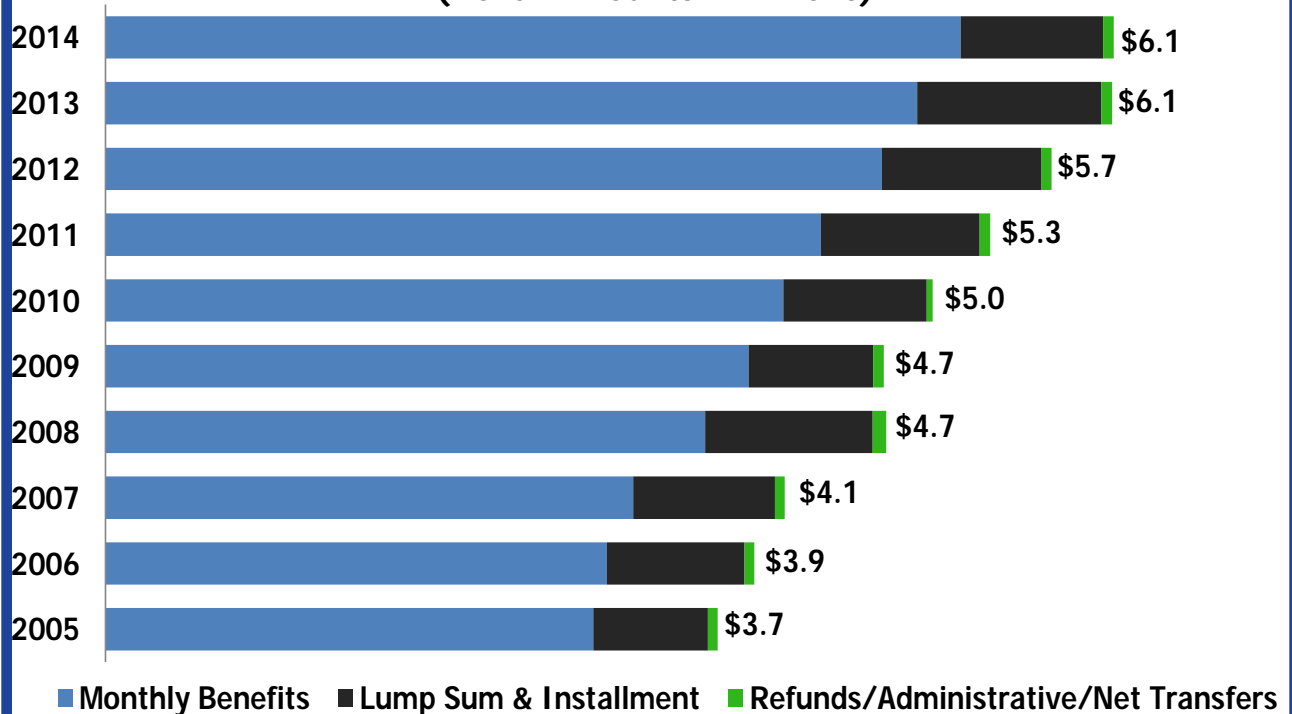
Section 1 - PSERS Overview

Member Demographics and Financial Information (continued)

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



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



*Does not include PSERS Postemployment Healthcare Plan Net Assets.

Section 1 - PSERS Overview

Statement of Fiduciary Net Position December 31, 2014 (Dollar Amounts in Thousands)

	2014			
	Postemployment Healthcare			Totals
	Pension	Premium Assistance	Health Options Program	
Assets:				
Receivables:				
Members	\$ 294,319	\$ 3,856	\$ 36	\$ 298,211
Employers	484,121	28,464	-	512,585
Investment income	140,228	31	16	140,275
Investment proceeds	531,133	-	-	531,133
CMS Part D and prescriptions	-	-	42,396	42,396
Interfund	1,634	-	-	1,634
Miscellaneous	409	1,192	-	1,601
Total Receivables	1,451,844	33,543	42,448	1,527,835
Investments, at fair value:				
Short-term	3,240,065	81,990	197,709	3,519,764
Fixed income	5,563,568	-	-	5,563,568
Common and preferred stock	10,500,490	-	-	10,500,490
Collective trust funds	12,559,597	-	-	12,559,597
Real estate	6,643,591	-	-	6,643,591
Alternative investments	11,975,763	-	-	11,975,763
Total Investments	50,483,074	81,990	197,709	50,762,773
Securities lending collateral pool	594,501	-	-	594,501
Capital assets (net of accumulated depreciation \$25,116)	22,815	-	-	22,815
Total Assets	52,552,234	115,533	240,157	52,907,924
Liabilities:				
Accounts payable and accrued expenses	101,736	305	1,763	103,804
Benefits payable	193,634	-	22,244	215,878
Participant premium advances	-	-	23,252	23,252
Investment purchases and other liabilities	265,373	-	-	265,373
Obligations under securities lending	594,501	-	-	594,501
Interfund payable	-	1,634	-	1,634
Total Liabilities	1,155,244	1,939	47,259	1,204,442
Net position restricted for pension and postemployment healthcare benefits	\$ 51,396,990	\$ 113,594	\$ 192,898	\$ 51,703,482

Section 1 - PSERS Overview

Statement of Changes in Fiduciary Net Position Six Months Ended December 31, 2014 (Dollar Amounts in Thousands)

	2014			
	Pension	Postemployment Healthcare		Totals
		Premium Assistance	Health Options Program	
Additions:				
Contributions:				
Members	\$ 457,335	\$ -	\$ -	\$ 457,335
Employers	1,201,070	55,457	-	1,256,527
Total contributions	1,658,405	55,457	-	1,713,862
Participant premiums	-	-	136,439	136,439
Centers for Medicare & Medicaid Services premiums	-	-	33,214	33,214
Investment income:				
From investing activities:				
Net appreciation (depreciation) in fair value of investments	(687,676)	(99)	-	(687,775)
Short-term	5,010	199	91	5,300
Fixed income	88,265	-	-	88,265
Common and preferred stock	113,620	-	-	113,620
Collective trust funds	650	-	-	650
Real estate	184,434	-	-	184,434
Alternative investments	257,573	-	-	257,573
Total investment activity income (loss)	(38,124)	100	91	(37,933)
Investment expenses	(223,835)	-	-	(223,835)
Net income (loss) from investing activities	(261,959)	100	91	(261,768)
From securities lending activities:				
Securities lending income	5,608	-	-	5,608
Securities lending expense	(550)	-	-	(550)
Net income from securities lending activities	5,058	-	-	5,058
Total net investment income (loss)	(256,901)	100	91	(256,710)
Total Additions	1,401,504	55,557	169,744	1,626,805
Deductions:				
Benefits	2,954,456	52,996	132,869	3,140,321
Refunds of contributions	9,668	-	-	9,668
Net transfer to State Employees' Retirement System	215	-	-	215
Administrative expenses	20,290	1,027	13,726	35,043
Total Deductions	2,984,629	54,023	146,595	3,185,247
Net increase (decrease)	(1,583,125)	1,534	23,149	(1,558,442)
Net position restricted for pension and postemployment healthcare benefits:				
Balance, beginning of year	52,980,115	112,060	169,749	53,261,924
Balance, end of period	\$ 51,396,990	\$ 113,594	\$ 192,898	\$ 51,703,482



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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 twenty-year period ended June 30, 2014 investment earnings provided 71% of PSERS’ funding followed by 15% from members. Employers contributed 14%, the smallest of the three sources.

Employer Contributions

The Retirement Code vests PSERS’ 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, 2014 was 16.93%, including 0.93% for healthcare premium assistance. The total employer contribution rate

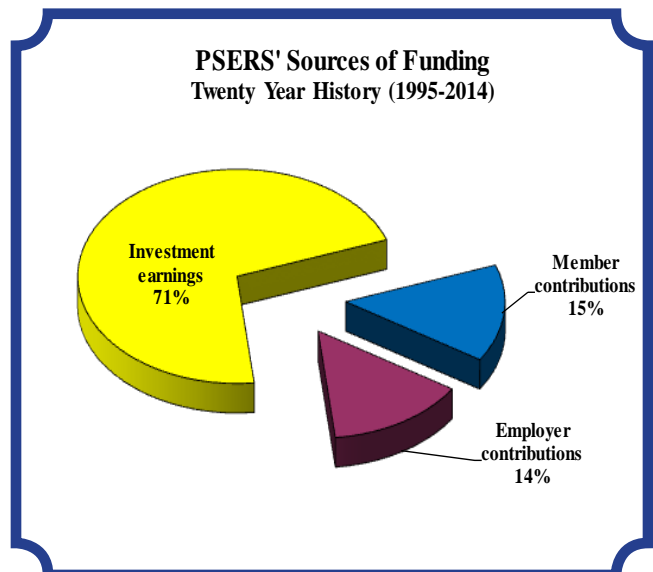
for the fiscal year ending June 30, 2015 is 21.4%. This rate consists of a 20.5% pension rate (FY2013/14 pension rate of 16.0% plus the Act 120 4.50% collar) plus the healthcare premium assistance contribution of 0.90%. The FY2015/16 employer contribution rate is 25.84%. This rate consists of a 25.0% pension rate (FY2014/15 pension rate of 20.5% plus the Act 120 4.50% collar) plus the healthcare premium assistance contribution of 0.84%. The Board of Trustees certified this rate, which was calculated in accordance with the provisions of Act 120 of 2010, at their December 2014 meeting. Without the Act 120 collar the total employer contribution rate would be 28.66% in FY2015/16.

For the fiscal year ended June 30, 2014, PSERS’ employer contributions totaled \$2.110 billion, which includes \$118 million for healthcare premium assistance. For the fiscal year ending June 30, 2015 the estimate for employer contributions is \$2.885 billion, reflective of the 21.4% contribution rate. The contribution rate for the fiscal year ending June 30, 2016 is 25.84% resulting in an employer contribution estimate of \$3.456 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 under Act 9 of 2001. The average contribution rate payable by the members for the current year (FY2014/15) is 7.46%.

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.



The Actuarial Process and Pension Plan Funding (continued)

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. As a result of the Fund’s 8.66% three year return through June 30, 2014 exceeding the investment performance hurdle mandated by Act 120, the member rate will not change. The next investment performance measurement period for Class T-E and T-F members will end on June 30, 2017.

PSERS members contributed \$967 million for pension contributions for FY2014. Total member contributions are estimated to be \$979 million for the fiscal year ending June 30, 2015 and \$1.006 billion for the fiscal year ending June 30, 2016.

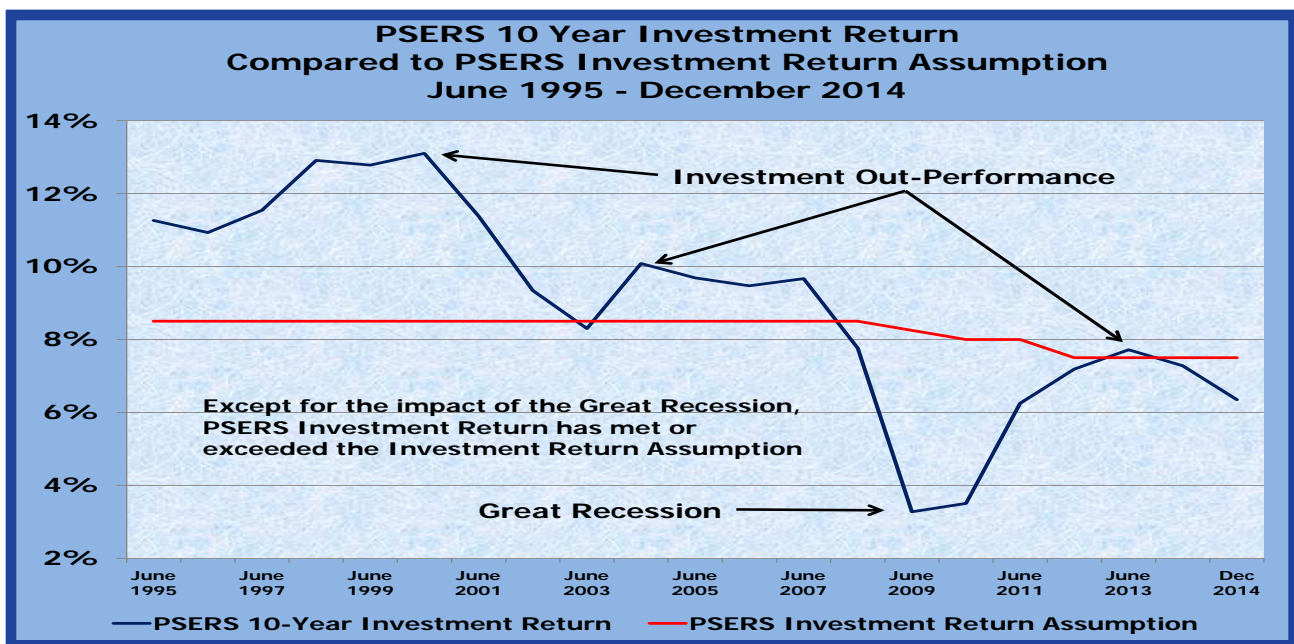
Investment Returns

The investment rates of return (net of fees) for the fiscal years ended June 30, 2014 and June 30, 2013 were 14.91% and 7.96%, respectively. The annualized rates of investment return for the three, five and ten-year periods ended June 30, 2014 were 8.66%, 12.09% and 7.28% respectively. The investment rates of return for the one, three, five and ten-year periods ended December 31, 2014 were 8.83%, 9.61%, 9.43% and 6.35%, respectively. Over the past 25 years ended December 31, 2014, the Fund earned an estimated annualized rate of return of 8.46% which exceeded the Fund’s long term investment rate of return assumption during that time period.

PSERS’ investments continue to positively impact the funding situation at the System. Due to PSERS’ strong investment performance and lower employer payroll, over the past fiscal year a number of pension funding projections have improved, including:

- Total employer contribution dollars through FY2047 are projected to decrease by \$13.7 billion.
- The pension debt or the unfunded accrued liability (UAL) at June 30, 2014 is \$500 million less than projected one year ago.
- The peak UAL dollar amount projected for FY2018 is \$2 billion less than what was projected last fiscal year.
- The annual employer cost for benefits for current service (the employer normal cost) continues to decrease. It decreased from 8.66% in FY 2012/13 to 8.38% in FY2015/16 as more new members join the system under the reduced benefit structure of Act 120 of 2010.

PSERS’ ten-year return, as shown in the chart at the bottom of the page, has exceeded the actuarial investment rate of return for 13 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. Due to negative returns during the Great Recession, which resulted in the largest decrease in stock market performance since the Great Depression, PSERS recent ten-year return has been below the assumed rate of return.



The Actuarial Process and Pension Plan Funding (continued)

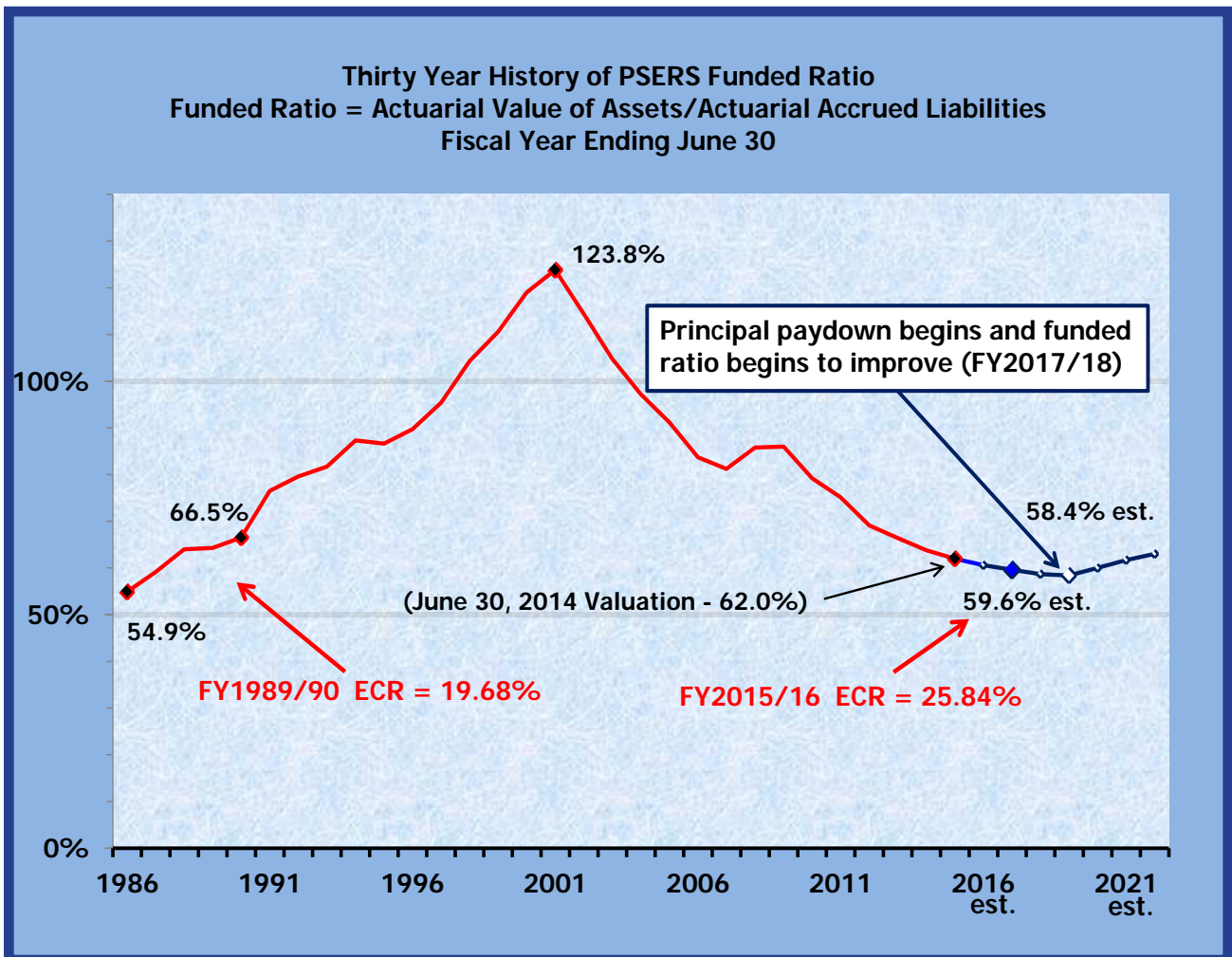
Funded Status

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.

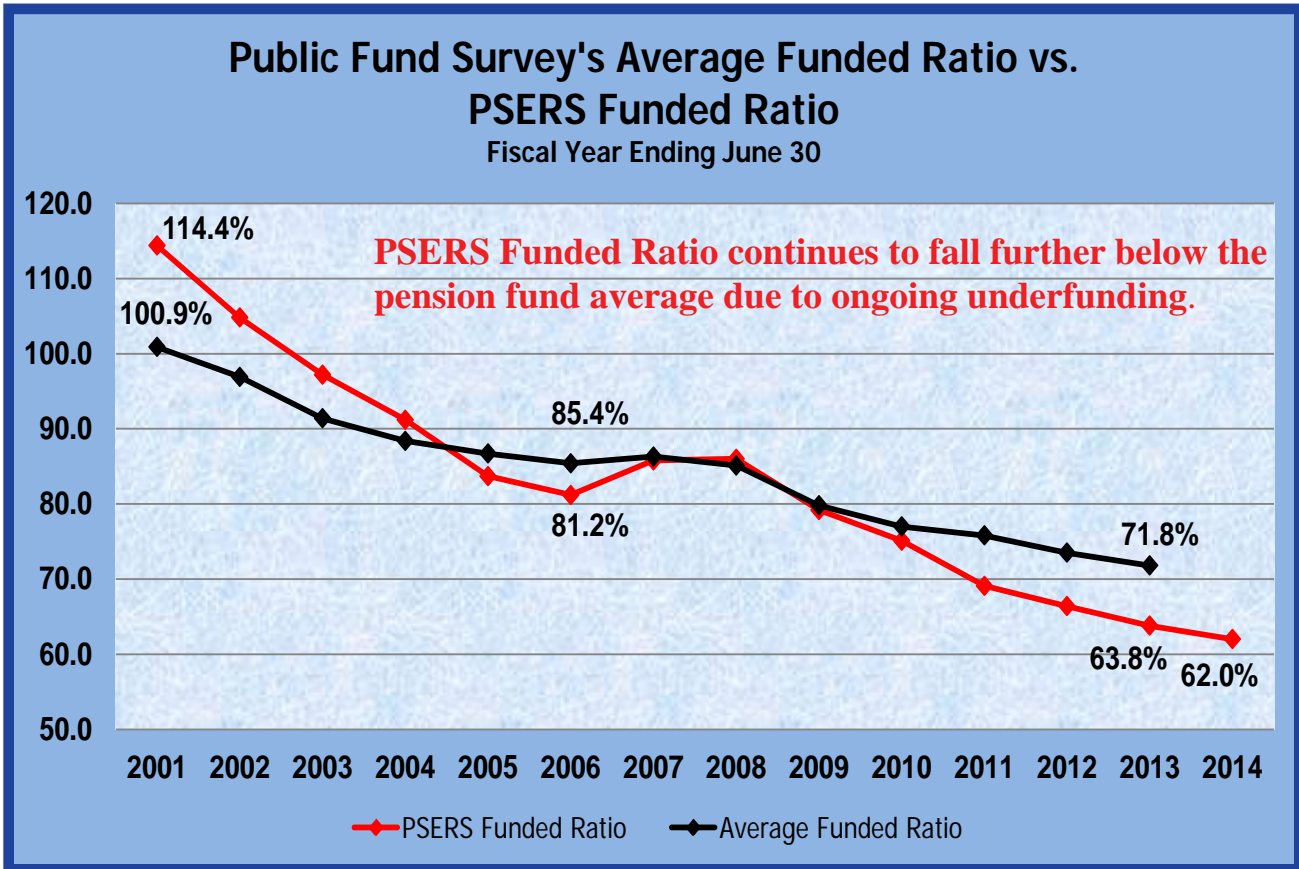
Key Facts

- Funded Status: 62.0% as of June 30, 2014
- Funded Status: 63.8% as of June 30, 2013
- The decrease in FY2014 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 underfunded PSERS by \$2.0 billion in FY2014.

- 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.



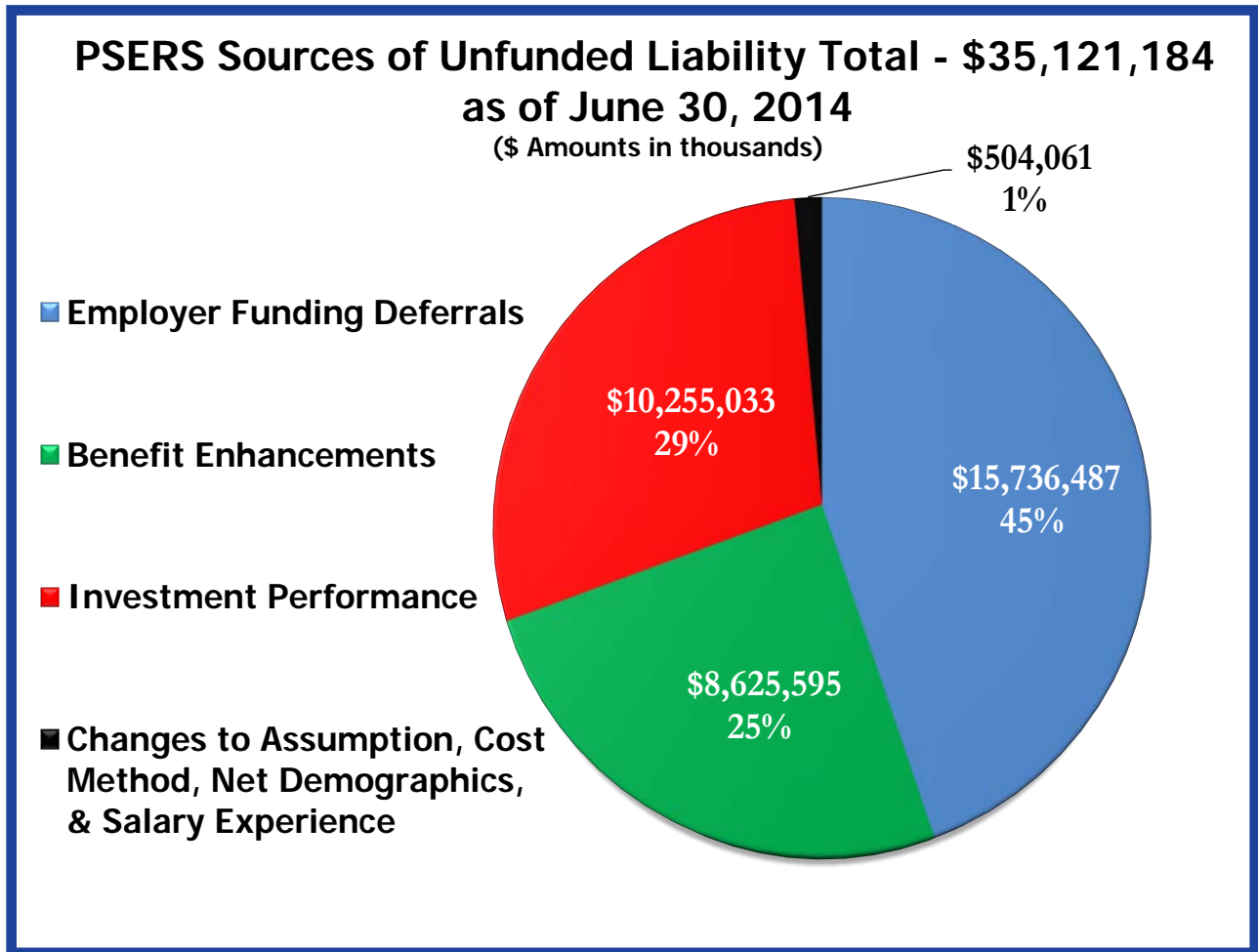
**The Actuarial Process and Pension
Plan Funding
(continued)**



A comparison of PSERS funded ratio to the public fund average funded ratio based on the January 2015 Public Fund Survey prepared by the National Association of State Retirement Administrators (NASRA) is charted above. A lower than average funded ratio is an important factor because it signifies a smaller than average asset base. A smaller asset base means a greater percentage of the investment returns are being used to pay benefits, and results in a very slow growth of assets.

Besides market performance, other factors that affect a plan's funding level include contributions made relative to those that are required; changes in benefit levels; changes in actuarial assumptions, and rates of employee salary growth (*Public Fund Survey*, January 2015).

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



Sources of Unfunded Liability

The System's total funded ratio (for Pensions and Health Insurance combined) is 62.0% as of June 30, 2014. This funded ratio is based on an actuarial value of assets of \$57.34 billion and an accrued liability of \$92.46 billion which equates to a \$35.12 billion unfunded liability. The pie-chart above depicts the sources of the unfunded liability. The largest sources of unfunded liability in order of magnitude are employer funding deferrals (45%), investment performance (29%), and benefit enhancements (25%), which include Act 9, cost of living increases and early retirement incentives. As a result of the Act 120 contribution rate collars, 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

December 31, 2014, is now below its return assumption of 7.50%. 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, 2014 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 replaced 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 significantly changed 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.

PSERS adopted Statement No. 67 for the fiscal year ended June 30, 2014. An analysis of the major differences between Statement No. 67 and Statement No. 25 can be found in the Management's Discussion and Analysis, notes to the financial statements, and RSI found in the Financial Section of PSERS' Comprehensive Annual Financial Report. PSERS will also post three schedules as recommended by the American Institute of Certified Public Accountants (AICPA) to the Employer page of PSERS' website. These three schedules, the Schedule of Employer Allocations, the Schedule of Pension Amounts by Employer, and Amortization Schedules of Deferred Inflows and Outflows will further assist employers in implementing Statement No. 68.

Beginning in 2013, PSERS began an outreach effort to its employers. This mainly consisted of speaking at various conferences held by the Pennsylvania Association of School Business Officials (PASBO), Pennsylvania School

Boards Association (PSBA), and the Pennsylvania Institute of Certified Public Accountants (PICPA). Additionally, PSERS has published articles in its Employer Bulletin, beginning with Volume 4 of 2014. These articles will continue with each Employer Bulletin issue through July of 2015.

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 (FY2014/15) 21.40%
- Lowest historical ECR (FY2001/02) 1.09%
- Ten yr. avg. ECR (2005/06 to 2014/15) 9.28%
- Twenty yr. avg. ECR (1995/96 to 2014/15) 7.34%
- Thirty yr. avg. ECR (1985/86 to 2014/15) 10.59%
- Adopted ECR (FY2015/16) 25.84%

Act 120 of 2010

Progress on Funding Issue

PSERS is in the 4th 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 became new members of PSERS on or after July 1, 2011. Members hired since the passage of Act 120 now total over 38,000 and account for 14% of the total active membership.

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

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

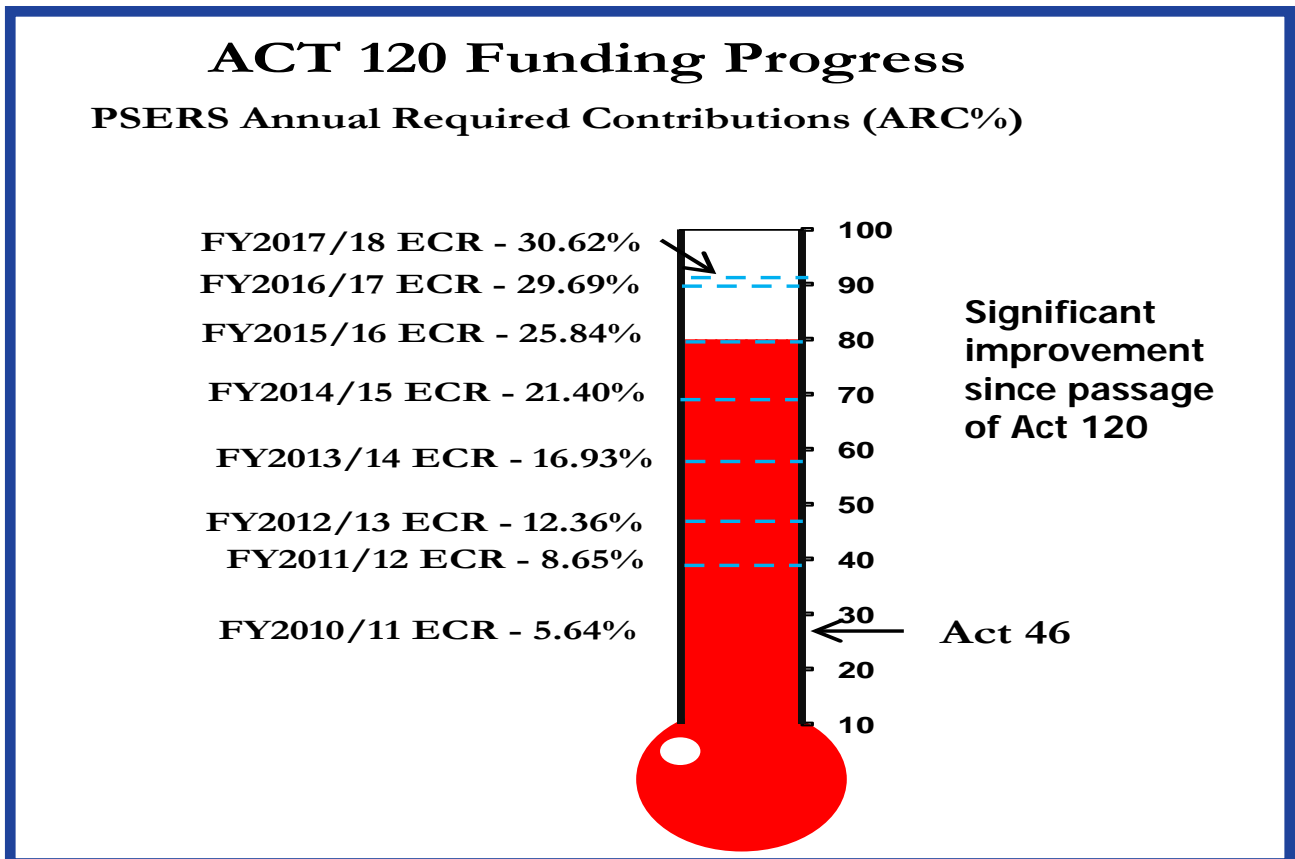
Class T-E

- 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%

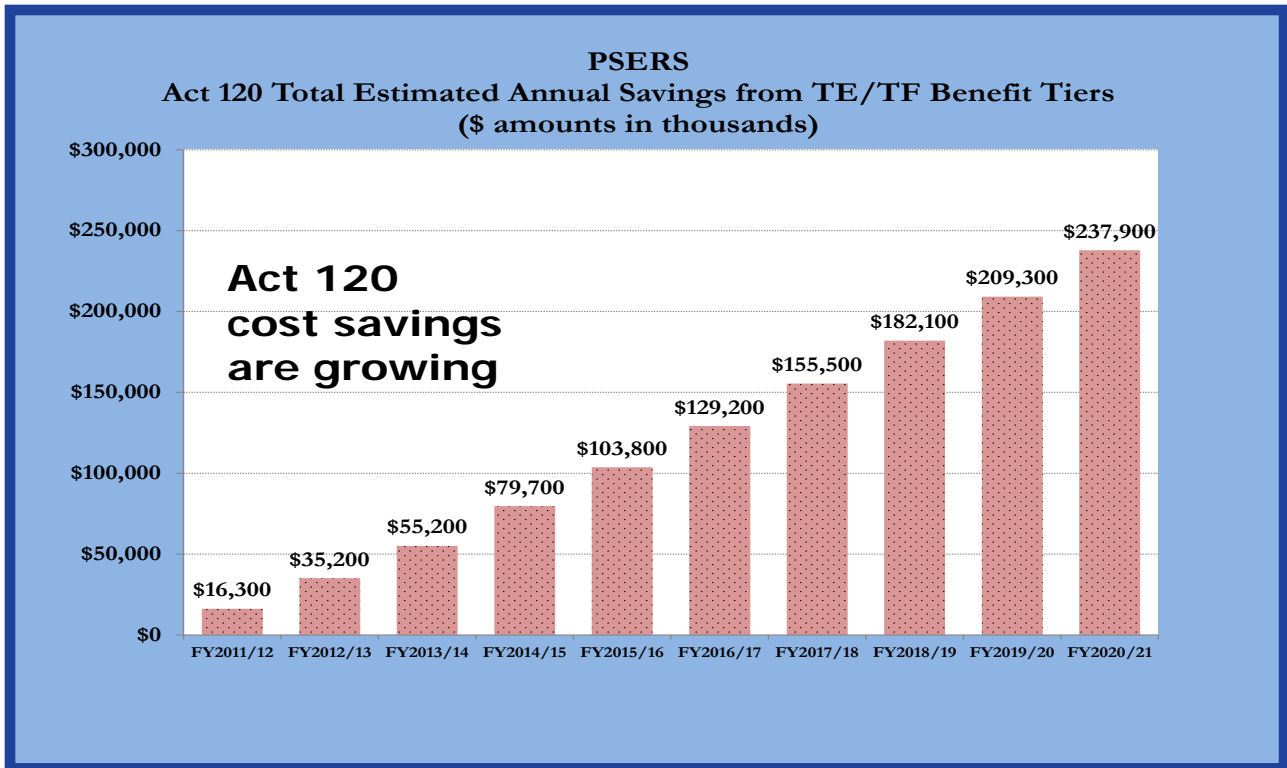
Class T-F

- 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%

As depicted in the thermometer chart below, the gradual rate increases under Act 120 are moving PSERS toward the 100% Annual Required Contribution (ARC) goal.



Employer Contribution Rate
(continued)



Class T-E and T-F members share some of the risk when investments underperform. As a result of the Fund's 8.66% three year return through June 30, 2014 exceeding the investment performance hurdle mandated by Act 120, the member rate will not change. The next three year investment performance measurement period for T-E/T-F members that could increase the member rate by .5% ends June 30, 2017.

The total estimated savings of the T-E/T-F Benefit Tiers is illustrated in the chart at the top of the page. As the number of T-E/T-F members grows, the savings from the low T-E/T-F cost structures also increases and allows a greater portion of employer contributions to go towards paying the unfunded liability.

As of June 30, 2014, 5,391 or 14.2% of new members elected Class T-F and 32,638 or 85.8% of new members remained in Class T-E. As indicated, Class T-F members maintain the higher 2.5% pension multiplier but contribute at a higher member contribution rate than Class T-E members.

**Employer Contribution Rate
(continued)**

Funding/Actuarial Changes Summary

Funding Changes - Employer Contributions

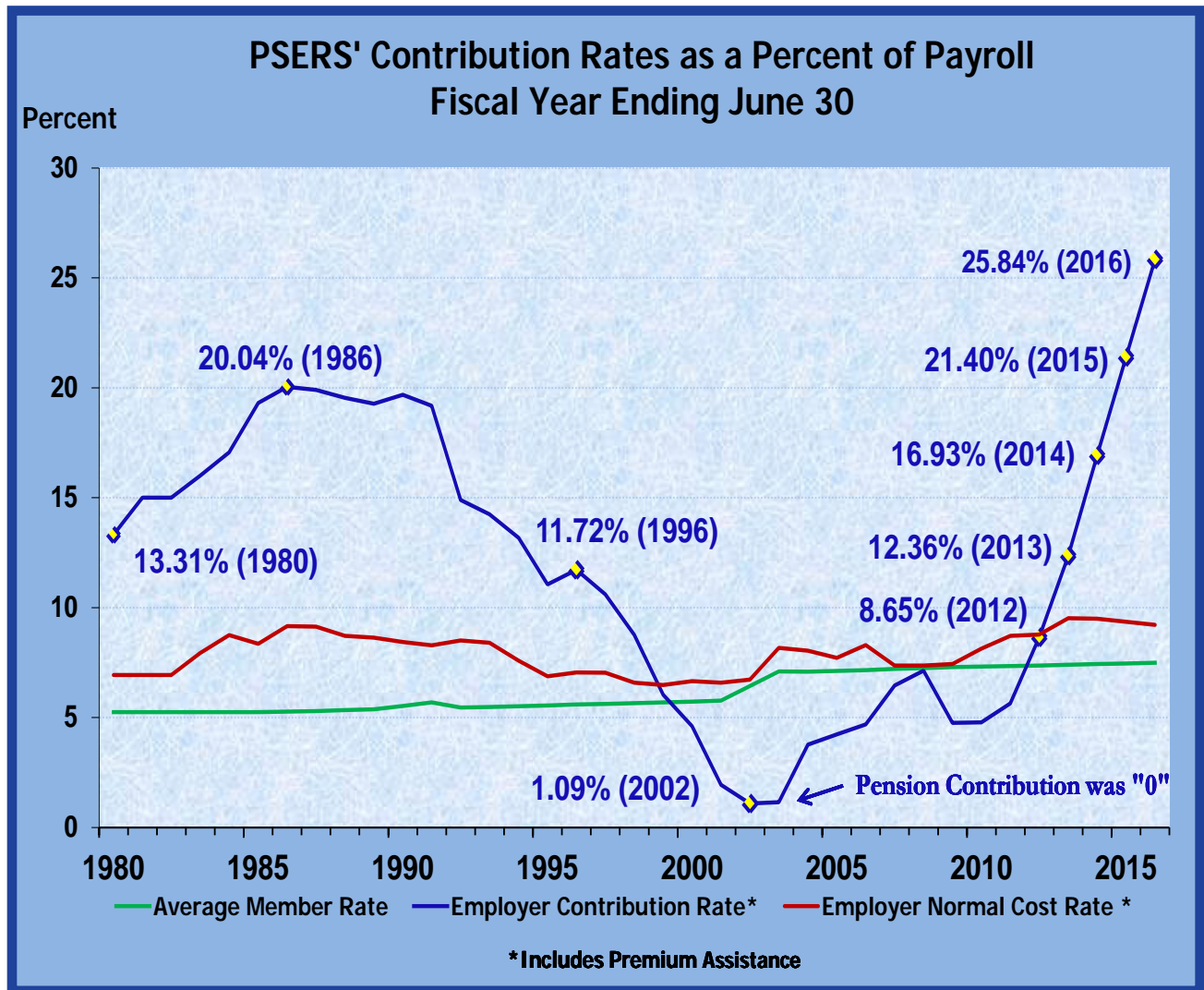
Act 120 of 2010 also suppressed the employer contribution rate by using rate caps in future years to keep the rate from rising too high, too fast for budgetary purposes.

The rate caps have limited the amount the pension component of the employer contribution rate could 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 the rate caps are no longer necessary, the actuary's recommended rate will be utilized. Based on the current projection, the rate cap will not be needed for FY2016/17. PSERS' average member rate, employer contribution rate and normal cost for the past thirty-five years are presented in the graph on the bottom of the page. The "employer normal cost" is the amount needed from the school employers to fund the benefits earned by the active members for that year.

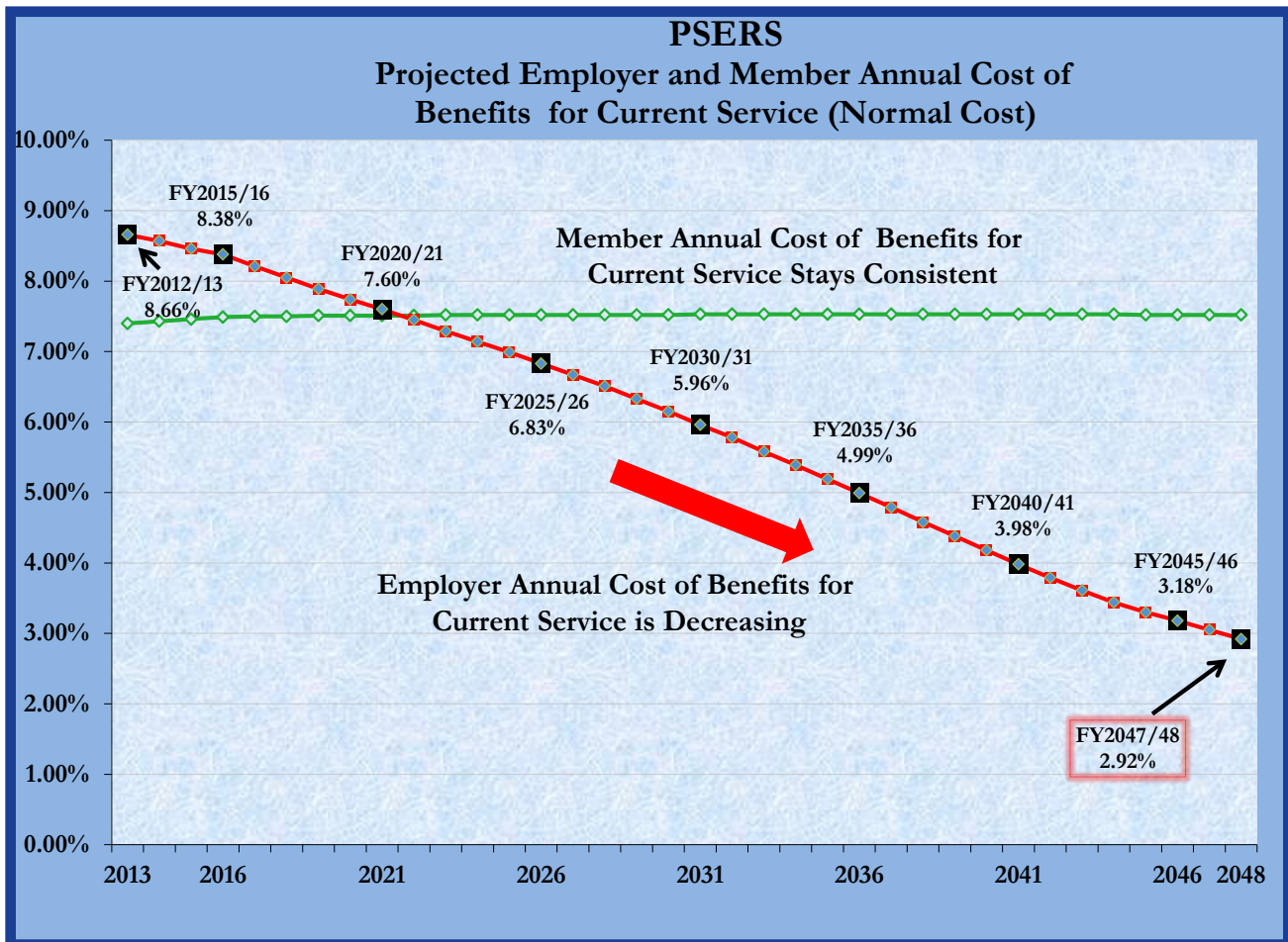


Employer Contribution Rate
(continued)

Act 120 Employer Costs

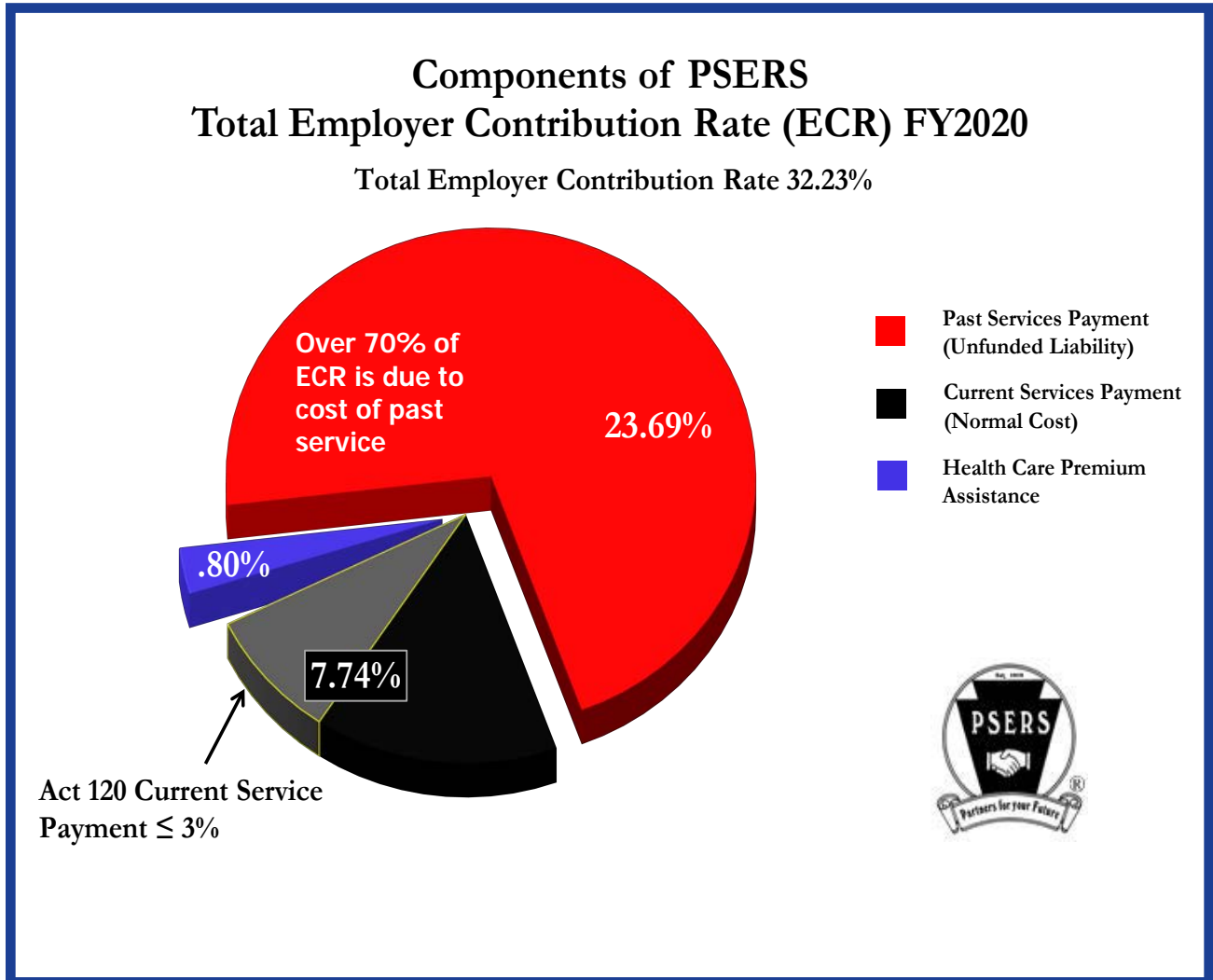
The cost structure of PSERS' new members under Act 120 is low and the shared risk provisions shift a portion of the investment risk to active members giving PSERS a defined contribution element. Essentially, Act 120 provides the members with a defined benefit plan, which is both adequate and secure, 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 below 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. As illustrated in the chart below, the employer normal cost is projected to be 2.92% in FY2047/48 when nearly all active employees will be Act 120 members.



Employer Contribution Rate (continued)

The chart below displays the components of PSERS' projected employer contribution rate in FY2019/20 when it is expected to peak at 32.23%. At that point in time, the majority of the rate, over 70%, is dedicated toward paying the cost of past service.



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 Contributions 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	\$13,375,000	25.84%	\$4,479,288	\$3,456,100	\$1,023,188	\$572,985	\$450,203	81
2017	\$13,739,290	29.69%	\$4,528,470	\$4,079,195	\$449,275	\$251,594	\$197,681	90
2018	\$14,097,299	30.62%	\$4,547,789	\$4,316,593	\$231,196	\$129,470	\$101,726	91
Cumulative Total Budgetary Deferral					\$7,601,907	\$4,257,067	\$3,344,840	

* Updated for most recent actual payroll.

Act 120 Budgetary Deferral

As indicated previously, the funding and actuarial provisions of Act 120 have provided the Commonwealth and school employers a multi-year period to appropriate funds for PSERS' unfunded liability. Act 120 will defer a total of \$7.6 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 went into effect July 1, 2014.

The FY2013/14 employer contribution rate of 16.93% also resulted 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.

Schedule of Employer Contributions (\$ Amounts in Thousands)

Fiscal Year Ended June 30	Annual Required Contribution (ARC)	Actual Employer Contribution	ARC Percentage Contributed
2014	\$3,410,373	\$1,986,384 *	58%
2013	\$3,110,429	\$1,434,815 *	46%
2012	\$2,629,244	\$1,001,140 *	38%
2011	\$2,436,602	\$647,000 *	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%
2005	\$945,107	\$431,556	46%
2004	\$321,901	\$321,901	100%

*Net of purchase of service contributions

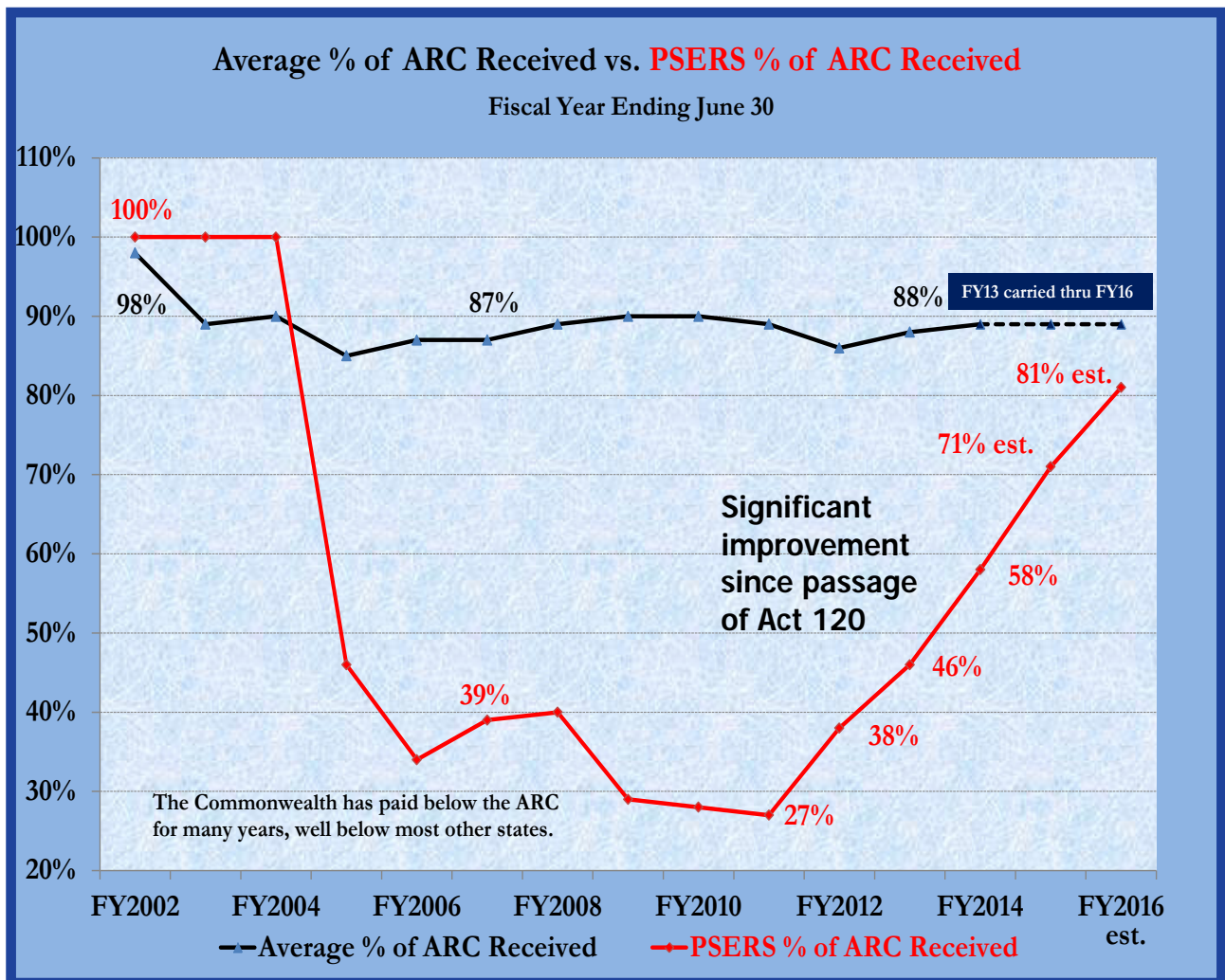
**Employer Contribution Rate
(continued)**

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 ten years. Taxpayers, as a result, have benefited significantly from employer pension funding deferrals. However, bond rating agencies have already reduced Pennsylvania's bond rating five times and the pension funding gap was noted as one of the reasons for the decrease. If Pennsylvania does not continue to increase its contributions as provided in Act 120, the underfunding could further negatively impact bond ratings and increase PSERS' unfunded liability under GASB 67.

PSERS' Board certified an employer contribution rate of 25.84% for FY2015/16 in compliance with Act 120. As a result, PSERS' ARC percentage is projected to increase from 71% in the FY2014/15 to 81% in FY2015/16. PSERS' projected ARC percentage of 71% for FY2014/15 is well

below the average ARC percentage of 89% for public funds based on the January 2015 Public Fund Survey prepared by NASRA.

The FY2015/16 contribution rate of 25.84% includes a portion to fund interest on the unfunded liability of the System. This will be the fourth consecutive year PSERS' employer contribution rate includes a portion to pay for some of the interest costs on the unfunded liability. As depicted in the 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 81%. 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 89% for major public plans (NASRA). The chart at the bottom of the page shows a comparison of PSERS' percentage of ARC received to the average ARC received for large public pension plans.



Section 1 - PSERS Overview

Employer Contribution Rate

(continued)

Projected Impact to PSERS from \$3 Billion Cash Infusion

The Governor's Budget proposal includes a \$3 billion cash infusion that would have an immediate effect on the unfunded liability of the System. Not only would the System's funded ratio improve but also the employer contribution rate plateau would be reduced by 1.6%. As shown in the table below, this funding would save the Commonwealth and school districts nearly \$8 billion over the next 24 years.

**Pension Funding
With Impact of \$3 Billion Cash Infusion
As of June 30, 2014 Actuarial Valuation**

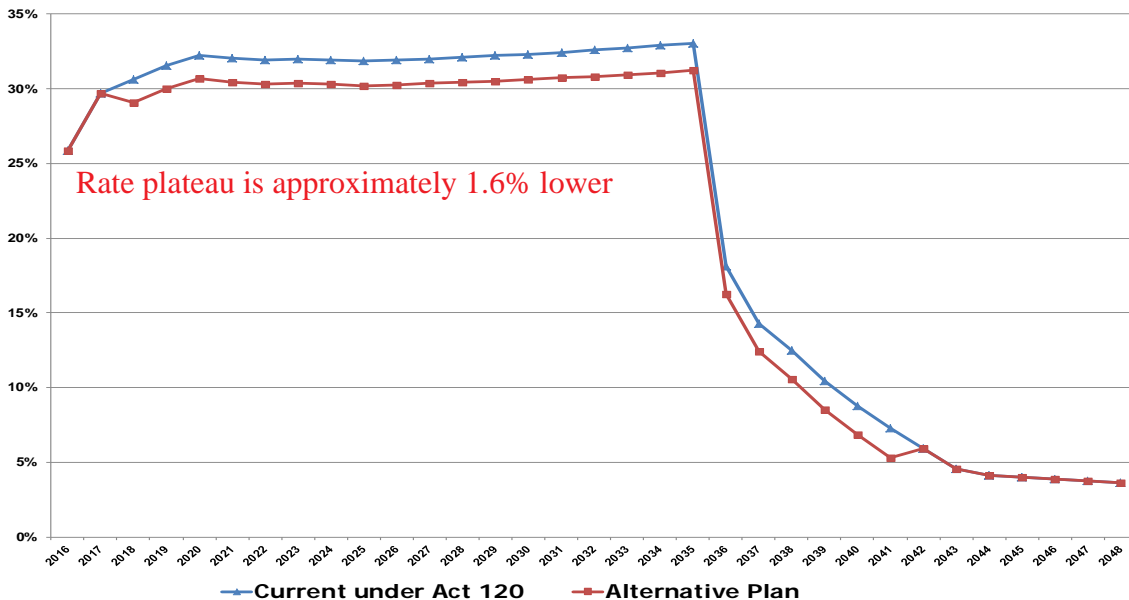
Funding Reform	Projected Savings through FY2048 (\$000s omitted)	Employer Contribution Rate Plateau Level (%)	Funded Ratio Lowest Level (%)	Funded Ratio Lowest Level Fiscal Year	Unfunded Accrued Liability Peak Level (\$millions)	Unfunded Accrued Liability Peak Level Fiscal Year
Current Law (June 30, 2014 Valuation)	N/A	32.00	58.4	2018	42,871	2018
Current Law w/\$3.0 Billion Cash Infusion	7,915,144	30.40	60.2	2018	39,620	2018

**Public School Employees' Retirement System of Pennsylvania
With Impact of \$3 Billion Cash Infusion
As of June 30, 2014 Valuation**

Alternative Funding Assumptions:

- One-time contribution of \$3,000,000,000 is made as of 2/1/2016 and the lump sum amount is amortized over 24 years, beginning with FY2018.

Projection of Total Employer Contribution Rate



Employer Contribution Rate (continued)

Next Steps

As noted, the Commonwealth and school employers have benefited over the past 10 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.

Act 120 has provided both the Commonwealth and the school employers with a multi-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.

The funding issue confronting PSERS represents the greatest challenge the System has faced in its history. While Act 120 of 2010 provided historic pension reform and made dramatic progress toward addressing the funding issue at PSERS, difficult budget issues remain for both the Commonwealth and school employers.

PSERS has long stated that three events must occur to resolve the funding issue at the System: (1) pension reform must take place, (2) PSERS' investments must perform as required, and (3) a large cash infusion must be obtained to pay off the existing debt (unfunded liability) that has already been incurred but not yet paid.

Two of those items have occurred and have begun to help resolve the funding issue. Significant pension reform was enacted in 2010 and PSERS' investments have performed as required.

Act 120 of 2010 has already provided significant pension reform. Act 120 reformed the benefit structure and actuarial and funding methodologies at PSERS. The Act 120 benefit reductions are projected to save over \$24.6 billion. Currently, the annual employer benefit cost for new members is less than 3.00% of payroll, which leaves very little to cut for additional meaningful benefit reform to occur.

Even with the recent increase in the employer contribution rates, an additional cash infusion and/or still higher employer contribution rates are necessary to pay down the "principal" of the existing debt in the System. Although there has been much discussion of additional pension reform as a solution to the funding issue, the impact of further benefit reductions for new members will only have a marginal impact on projected employer contribution rates. The primary question that needs to be addressed is how to

pay for the higher employer contribution rates needed to reach the funding levels recommended by PSERS' actuary and begin to pay off the existing debt.

The Governor's Budget includes a \$3 billion cash infusion to PSERS in FY2015/16 which would immediately improve PSERS' unfunded liability and lower the employer contribution rate plateau by 1.6%. In addition, based on current actuarial projections, in FY2016/17 the Act 120 rate collars would no longer be needed and future contribution rates begin to level off which will reduce budgetary pressure on the Commonwealth in FY2017/18 and beyond.



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Section 1 - PSERS Overview

Consultants' Fees (\$100,000 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, 2014.

<u>Firm</u>	<u>Services Provided</u>	<u>Consultant Fee</u>
CoreSource, Inc.	Postemployment healthcare benefits administration and claims adjudication	\$ 17,827,860 *
ViTech Systems Group, Inc.	Pension administration system services	\$ 5,852,332 *
Rx Solutions, Inc.	Administration of postemployment healthcare benefits and prescription drug plan	\$ 4,548,820 *
The Segal Company, Inc.	Actuarial services and consulting for the Health Options Program and prescription drug plan	\$ 2,579,589 *
Portfolio Advisors, LLC	Private market consulting	\$ 1,606,832
Aksia LLC	Hedge fund investment consulting	\$ 700,000
Financial Control Systems, Inc.	Investment accounting application service provider	\$ 633,750
Independent Pharmaceutical Consultants, Inc.	Pharmacy benefit consulting services	\$ 513,149 *
Hewitt EnnisKnupp	General investment consulting	\$ 410,764
Buck Consultants LLC	Pension benefit actuarial services	\$ 378,286 *
Courtland Partners, Ltd.	Real estate investment consulting	\$ 260,000
Glass, Lewis & Co., LLC	Proxy voting	\$ 169,949
Wilshire Associates	General investment consulting	\$ 164,904

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



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Legislation Information

PSERS Related Legislation Enacted during the Year 2014

Other than the authorization of PSERS' Administrative Budget for FY 2014-15, no legislation affecting the operations or the membership of the Public School Employees' Retirement System was enacted during calendar year 2014.



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SECTION 2 - PSERS FY2015/16 BUDGET

PSERS FY2015/16 Budget..... Tab 9
Directed Commissions Recapture Program Budget..... Tab 10



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Section 2 - FY2015/16 Budget

Public School Employees' Retirement System Fiscal Year 2015/16 Administrative Budget

	<u>Budget 2013/2014</u>	<u>Budget 2014/2015</u>	<u>Governor's Budget Recommendation 2015/2016</u>
Total Personnel Services	\$ 23,613,000	\$ 24,339,000	\$ 26,188,000
Operating Expenses			
Travel	\$ 134,600	\$ 145,300	\$ 144,000
Training & Conference Registration	123,500	122,000	141,200
Telecomm - Recurring	417,000	388,000	383,500
Telecomm - Non-Recurring	11,000	11,000	11,300
Telecomm - Voice Hardware less than \$5,000	2,100	3,000	3,000
Electricity	41,700	44,000	44,500
Consultant Services - Non EDP	722,000	800,600	795,600
Consulting - Maint & Support - (post implementation)	75,000	49,000	30,000
Consulting - Security	-	-	65,000
Consulting - General IT Support	275,500	218,000	160,000
Consulting - Outsourced Infrastructure Svcs (DPH)	2,030,000	2,130,000	2,130,000
Legal Services/Fees	58,000	48,000	-
Specialized Services	420,400	394,200	404,300
Other Specialized Services	241,300	128,200	221,500
Advertising	10,000	10,000	10,000
Medical, Mental, & Dental Services	2,500	4,500	4,100
Software Licensing - Maintenance	1,030,900	1,075,200	1,099,500
Hardware Server - Maintenance	1,000	1,000	1,000
Hardware Network - Maintenance	13,000	22,000	21,500
Hardware Periph - Maintenance	20,000	10,000	-
Hardware Desktop - Maintenance	4,000	3,000	3,000
Contracted Maintenance Non EDP	187,800	155,300	184,900
Telecomm Data Services	60,000	85,000	38,200
Contracted Repairs - Non EDP	16,400	15,500	19,000
Real Estate Rental	1,777,000	1,885,400	1,998,200
Vehicle Rental	1,700	1,700	1,600
Office Equipment Rental	286,400	318,500	305,200
Other Rentals	35,500	35,300	34,800
Office Supplies	211,900	211,800	221,000
Educational Supplies (Books)	11,300	11,200	11,000
Medical Supplies	100	5,300	5,300
Software License non-recurring less than \$5,000	55,250	9,000	18,500
Hardware Desktop less than \$5,000	139,900	93,900	66,000
Furniture and Fixtures	35,500	41,500	44,500

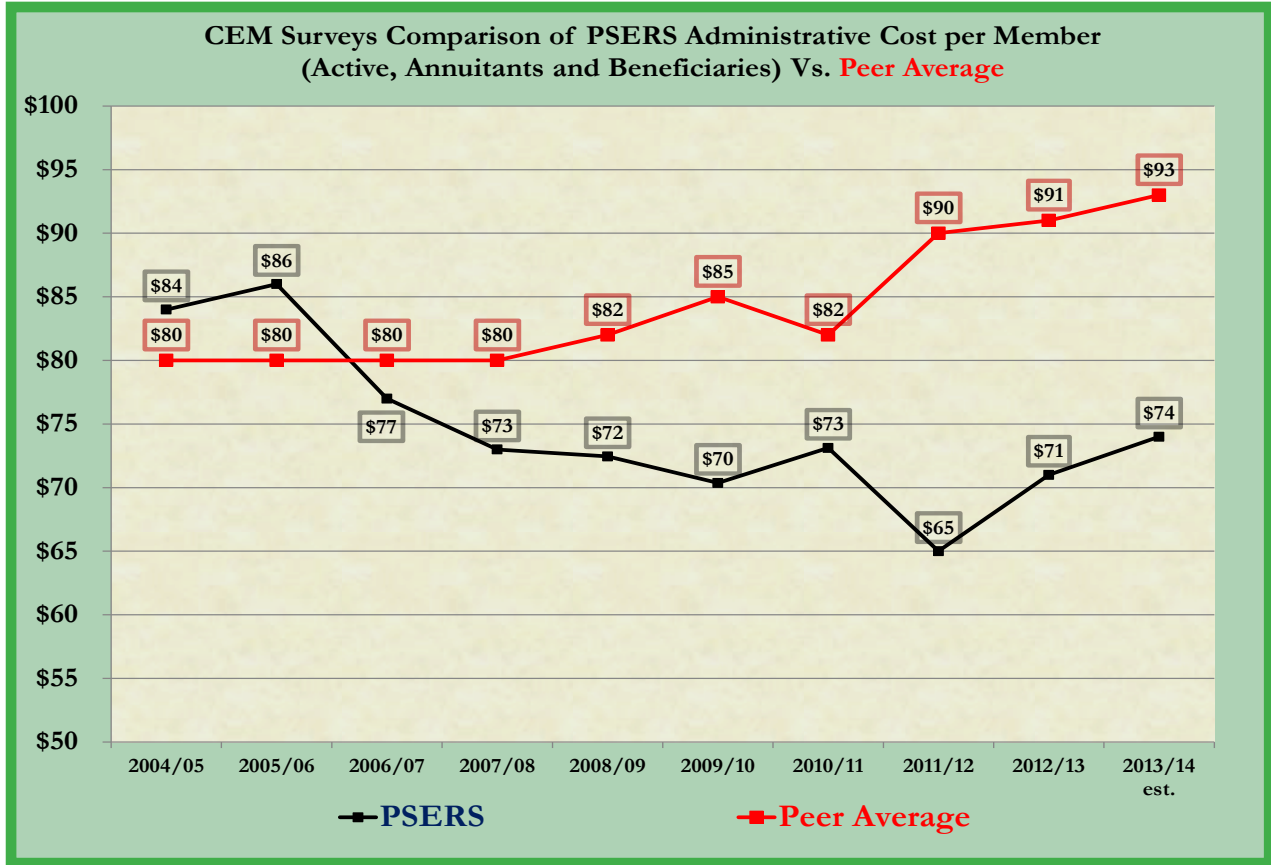
Section 2 - FY2015/16 Budget

Public School Employees' Retirement System Fiscal Year 2015/16 Administrative Budget (continued)

	<u>Budget 2013/2014</u>	<u>Budget 2014/2015</u>	<u>Governor's Budget Recommendation 2015/2016</u>
Other Equipment	2,600	13,000	2,000
Motorized Equipment Supplies	22,000	23,000	21,000
Postage	1,138,200	1,051,700	1,051,300
Freight	5,400	7,000	5,000
Printing	270,600	246,700	237,700
Subscriptions	137,350	137,200	178,800
Membership Dues	32,800	35,200	34,000
Conference Expense	51,000	51,000	50,000
Insurance, Surety & Fidelity Bonds	23,000	23,000	23,000
Other Operational Expenses	<u>1,783,800</u>	<u>1,707,800</u>	<u>1,787,000</u>
Total Operating Expenses	\$ 11,919,000	\$ 11,772,000	\$ 12,011,000
Fixed Assets			
Automobiles	\$ -	\$ 20,000	\$ 20,000
Software License non-recurring greater than \$5,000	30,000	58,000	58,000
Software License recurring greater than \$5,000	<u>6,127,000</u>	<u>5,500,000</u>	<u>5,500,000</u>
Total Fixed Assets	\$ 6,157,000	\$ 5,578,000	\$ 5,578,000
Total Administrative Budget	<u>\$ 41,689,000</u>	<u>\$ 41,689,000</u>	<u>\$ 43,777,000</u>

Section 2 - FY2015/16 Budget

**Public School Employees' Retirement System
Fiscal Year 2015/16 Administrative Budget
(continued)**



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 most recent survey, PSERS had a 22% 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 its annual budget. In FY2013/2014, PSERS replaced individual desktop printers with shared Multi-Function Devices, saving the agency money on printing supplies. As of September 1, 2013, all new retirees are required to receive their monthly annuities by electronic funds transfer, saving PSERS their postage and Treasury processing fees each month. Working with its actuary, PSERS has utilized interactive models to bring a portion of its actuarial analysis in-house. This led to a meaningful reduction in actuarial fees in FY2013/2014 despite a large number of pension funding requests from the General Assembly. Other reductions were made to overtime, training, and electricity, all part of PSERS' ongoing efforts to control costs and improve operational efficiency.



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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 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 Appropriation #601270000**

	<u>Actual Expenditures FY2013/14</u>	<u>Available FY2014/15</u>	<u>PSERS' Budget 2015/2016</u>
Budgetary Reserve	-	<u>\$2,000,000</u>	<u>\$2,000,000</u>
Total	-	<u>\$2,000,000</u>	<u>\$2,000,000</u>



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SECTION 3 - INVESTMENT INFORMATION

Investment Policy, Objectives and Performance	Tab 11
Asset Allocation.....	Tab 12
Investment Program Summary	Tab 13
Investment Advisory Fees	Tab 14
Internal Equity Trading Desk.....	Tab 15
Public Market Emerging Investment Manager Program.....	Tab 16



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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, 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 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, 2014) Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<i>PSERS U.S. Equities</i>	25.27	16.52	19.95	7.99
U.S. Equity Policy Index (1)	24.55	15.77	18.73	8.07
<i>PSERS Non-U.S. Equities</i>	18.14	6.01	12.32	9.20
Non-U.S. Equity Policy Index (2)	21.10	5.54	11.29	8.20
<i>PSERS Private Markets (3)</i>	14.27	11.33	14.90	13.70
Thomson ONE Median Return, Vintage Year Weighted	8.34	5.14	7.60	5.78
<i>PSERS Real Estate (3)</i>	16.44	10.91	7.90	6.06
Blended Real Estate Index (4)	11.13	10.21	8.75	8.63
<i>PSERS Fixed Income Portfolios</i>	9.86	7.21	10.71	7.46
Fixed Income Policy Index (5)	6.52	4.34	7.83	6.50
<i>PSERS Absolute Return</i>	6.31	4.33	8.24	N/A
Absolute Return Policy Index (6)	7.50	7.50	7.70	N/A
<i>PSERS Risk Parity</i>	23.95	12.95	N/A	N/A
Risk Parity Policy Index (7)	16.45	4.23	N/A	N/A
<i>PSERS Master Limited Partnerships</i>	35.97	28.46	33.01	N/A
S&P MLP Index	24.87	20.32	26.99	N/A
<i>PSERS Commodities</i>	10.29	-4.59	3.94	N/A
Commodity Policy Index (8)	8.21	-5.16	1.99	N/A
<i>PSERS Cash</i>	0.26	0.25	0.28	N/A
BofA Merrill Lynch U.S. Treasury Bill 0 - 3 Month Index	0.03	0.05	0.08	N/A
<i>PSERS Total Fund (9)</i>	14.91	8.66	12.09	7.28
Policy Index	12.05	6.14	9.20	5.81

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 reported on a one-quarter lag, except for publicly traded real estate investments.
4. Comprised of 100% Blended Benchmark (NCREIF-CEVA for Value Added and Opportunistic; NCREIF-ODCE for Core) since October 1, 2013, reported on a one-quarter lag. Between July 1, 2010 and September 30, 2013 the NTFI Index was used. 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.
5. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (17.2%), Barclays Capital Global Aggregate GDP Weighted Dev x U.S. (Unhedged) Index (3.5%), Barclays Capital Emerging Mkt 10% Country Cap Index (6.9%), Barclays Capital U.S. Treasury Long Index (10.3%), Barclays Capital U.S. High Yield Index (20.7%), and Barclays Capital U.S. TIPS Index (41.4%) effective July 1, 2013. Prior to July 1, 2013, the blend was Barclays Capital U.S. Universal Index (24.7%), JP Morgan GBI EM Global Diversified Index (9.4%), Barclays Capital U.S. High Yield Index (28.2%), Barclays Capital Multiverse Index (14.1%), and Blended Policy (Net Levered TIPS) (23.6%).
6. Policy index is based on the assumed actuarial rate of return for the Fund which was 8.0% from July 1, 2009 through June 30, 2011. The assumed rate changed to 7.5% on July 1, 2011.
7. Returns presented are a blend of the MSCI ACW Index (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); Bloomberg Commodity Index (Total Return) (15%); Bloomberg Commodity Gold Index (5%); and 3-Month LIBOR (-150%).
8. Returns presented are a blend of the Bloomberg Commodity Gold Index (33.3%) and the Bloomberg Commodity Index (66.7%). On July 1, 2014, the indices names were changed from DJ/UBS to Bloomberg. The returns have been adjusted for leverage.
9. Over the past 25 years ended June 30, 2014, the Fund earned an annualized rate of return of 8.70 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 December 31, 2014) Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<i>PSERS U.S. Equities</i>	11.71	20.09	15.82	7.62
U.S. Equity Policy Index (1)	11.94	19.73	15.01	7.74
<i>PSERS Non-U.S. Equities</i>	5.09	12.99	7.72	7.71
Non-U.S. Equity Policy Index (2)	5.81	12.95	6.84	6.71
<i>PSERS Private Markets (3)</i>	10.38	12.12	12.37	12.91
Thomson ONE Median Return, Vintage Year Weighted	5.84	5.67	6.85	5.83
<i>PSERS Real Estate (3)</i>	17.23	12.65	10.87	5.53
Blended Real Estate Index (4)	14.95	11.49	11.32	8.48
<i>PSERS Fixed Income Portfolios</i>	10.32	6.32	8.48	6.88
Fixed Income Policy Index (5)	5.19	3.27	5.43	5.83
<i>PSERS Absolute Return</i>	3.09	3.55	6.70	N/A
Absolute Return Policy Index (6)	5.61	6.86	7.27	N/A
<i>PSERS Risk Parity</i>	10.15	7.65	N/A	N/A
Risk Parity Policy Index (7)	10.41	4.76	N/A	N/A
<i>PSERS Master Limited Partnerships</i>	16.30	21.70	24.54	N/A
S&P MLP Index	7.66	13.60	17.79	N/A
<i>PSERS Commodities</i>	-10.59	-7.11	-3.15	N/A
Commodity Policy Index (8)	-12.05	-7.94	-4.60	N/A
<i>PSERS Cash</i>	0.19	0.24	0.25	N/A
BofA Merrill Lynch U.S. Treasury Bill 0 - 3 Month Index	0.03	0.05	0.07	N/A
<i>PSERS Total Fund (9)</i>	8.83	9.61	9.43	6.35
Policy Index	6.66	7.04	6.88	4.96

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 reported on a one-quarter lag, except for publicly traded real estate security investments.
4. Comprised of 100% Blended Benchmark (NCREIF-CEVA for Value Added and Opportunistic; NCREIF-ODCE for Core) since October 1, 2013, reported on a one-quarter lag. Between July 1, 2010 and September 30, 2013 the NTFI Index was used. 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.
5. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (17.2%), Barclays Capital Global Aggregate GDP Weighted Dev x U.S. (Unhedged) Index (3.5%), Barclays Capital Emerging Mkt 10% Country Cap Index (6.9%), Barclays Capital U.S. Treasury Long Index (10.3%), Barclays Capital U.S. High Yield Index (20.7%), and Barclays Capital U.S. TIPS Index (41.4%) effective July 1, 2013. Prior to July 1, 2013, the blend was Barclays Capital U.S. Universal Index (24.7%), JP Morgan GBI EM Global Diversified Index (9.4%), Barclays Capital U.S. High Yield Index (28.2%), Barclays Capital Multiverse Index (14.1%), and Blended Policy (Net Levered TIPS) (23.6%).
6. Three month LIBOR +3.50% effective July 1, 2014. Previously, was based on the assumed actuarial rate of return for the Fund which was 8.0% from July 1, 2009 through June 30, 2011. The assumed rate changed to 7.5% on July 1, 2011 and was used as the Absolute Return Policy Index through June 30, 2014.
7. Effective July 1, 2014 returns presented are a blend of MSCI ACW Index (\$Net) (50%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (55%); Bloomberg Commodity Index (Total Return) (15%); Bloomberg Gold Subindex (5%); and 3-Month LIBOR (-100%). The weights to these indices have varied in previous quarters. The returns have been adjusted for volatility.
8. Returns presented are a blend of the Bloomberg Commodity Gold Index (33.3%) and the Bloomberg Commodity Index (66.7%). On July 1, 2014, the indices names were changed from DJ/UBS to Bloomberg. The returns have been adjusted for leverage.
9. Over the past 25 years ended December 31, 2014, the Fund earned an estimated annualized rate of return of 8.46 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, 2014)

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 information 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 following represents PSERS' asset allocation as of December 31, 2014 (unaudited):

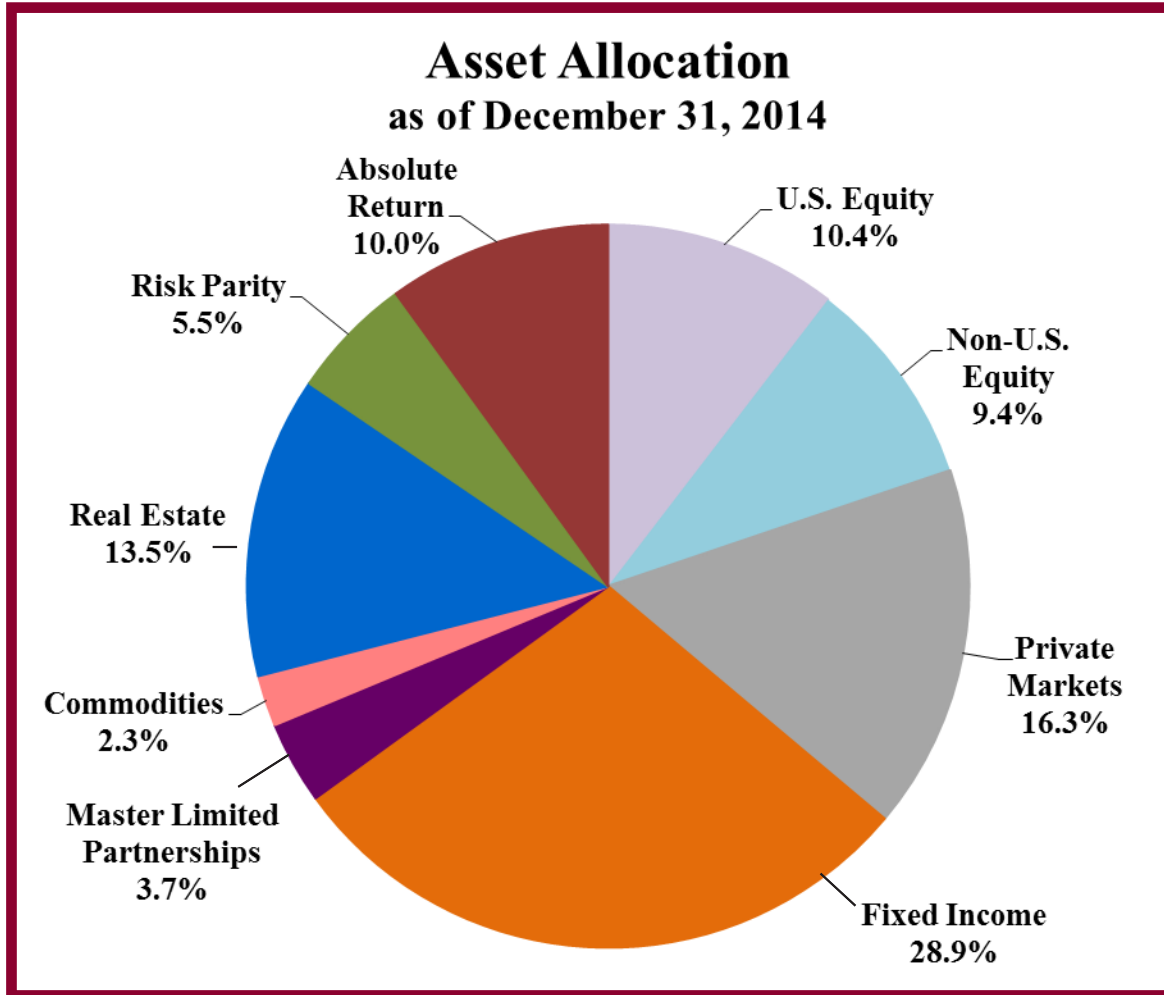
<u>Asset Class</u>	<u>Market Value (in millions)</u>	<u>Percentage of Total</u>	<u>Target Allocation %</u>	<u>Target Allocation Range</u>
Global Public Market Equity:				
U.S. Equity	\$ 5,294.2	10.4 %	10.4 %	
Non-U.S. Equity	<u>4,770.7</u>	<u>9.4</u>	<u>11.1</u>	
Total Global Public Market Equity	\$ 10,064.9	19.8 %	21.5 %	
Private Markets	<u>8,295.1</u>	<u>16.3</u>	<u>17.0</u>	
Total Equity	\$ 18,360.0	36.1 %	38.5 %	± 10%
Fixed Income**	\$ 14,688.2 *	28.9 %	23.0 %	± 10%
Master Limited Partnerships	1,879.4	3.7 %	4.0 %	
Commodities**	1,156.5	2.3	4.0	
Real Estate	<u>6,858.5</u>	<u>13.5</u>	<u>13.5</u>	
Total Real Asset Exposure	\$ 9,894.4	19.5 %	21.5 %	± 10%
Risk Parity**	\$ 2,803.3	5.5 %	7.0 %	± 5%
Absolute Return	\$ 5,076.6	10.0 %	10.0 %	± 4%
Totals	<u>\$ 50,822.5</u>	<u>100.0 %</u>	<u>100.0 %</u>	

* 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. Cash also includes a \$1.5 billion receivable from the secondary sale of 20 Private Equity partnership interests.

**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, 2014, PSERS had increased economic exposure of \$6.0 billion related to the following asset classes: Fixed Income (\$4.3 billion); Risk Parity (\$0.7 billion) and Commodities (\$1.0 billion). The target allocation to financing was netted against the following target allocations: Fixed Income (9%), Risk Parity (1%), and Commodities (2%).

Asset Allocation
(as of December 31, 2014)
(continued)

The following chart illustrates PSERS' asset allocation as of December 31, 2014:



**Asset Allocation
(as of December 31, 2014)
(continued)**

Number of Investment Managers and Portfolios

Public Market Asset Classes (ex. Real Estate)

PSERS' public market asset classes, excluding Real Estate, used 62 external investment managers who were responsible for 75 portfolios, and 9 internal portfolio managers who were responsible for 13 portfolios. There were 5 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 107 active external general partners to invest in 256 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
<i>U.S. Equity Investments:</i>		
External*	2	2
Internal	2	3
<i>Non-U.S. Equity Investments:</i>		
External	9	10
Internal	2	3
<i>Fixed Income Investments:</i>		
External*	25	35
Internal**	2	3
<i>Commodities:</i>		
External	4	4
Internal	1	2
<i>Master Limited Partnerships:</i>		
External	3	3
<i>Risk Parity:</i>		
External	3	3
Internal	1	1
<i>Absolute Return:</i>		
External*	15	16
<i>Cash:</i>		
Internal**	1	1
<i>Securities Lending:</i>		
External	1	2
<i>Total</i>	71	89
<i>Total External*</i>	62	75
<i>Total Internal</i>	9	13

*The Public Market Emerging Investment Manager Program consisted of 5 portfolio managers. There were 1 U.S. Equity,

4 Fixed Income portfolios, and 1 Absolute Return portfolio in the Program.

**PSERS managed \$279.7 million for the System's healthcare account.



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**Summary of PSERS’
Equity Investments
(as of December 31, 2014)**

Public Market Global Equity Exposure is one of eight 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 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 21.5% of assets to Global Public Market Equity Exposure.

Market Value as of December 31, 2014:

- U.S.: \$5,294.2 million, or 10.4% of the Fund’s total market value.
- Non-U.S.: \$4,770.7 million, or 9.4% of the Fund’s total market value.
- Total: \$10,064.9 million, or 19.8% of the Fund’s total market value.

Number of External Investment Managers: PSERS had contracts with two external investment managers responsible for various U.S. Equity portfolios (including one Public Market Emerging Manager Program manager) and contracts with 9 external investment managers responsible for various Non-U.S. Equity portfolios.

Number of Internal Portfolio Managers:

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

Types of Investment Portfolios at December 31, 2014:

- U.S.: 81.2% large capitalization stock strategies, and 18.8% medium/small capitalization stock strategies.
- 95.4% passively-managed portfolios and 4.6% actively-managed stock selection portfolios.
- 95.4% was managed by internal portfolio managers and 4.6% was managed by external investment managers.
- Non-U.S.: 71.4% large capitalization stock strategies, 15.0% small capitalization strategies, and 13.6% emerging market stock strategies.
- 45.8% passively-managed portfolios (managed internally) and 54.2% actively-managed portfolios (managed externally).

Section 3 - Investment Information

Summary of PSERS' U.S. Equity Portfolios (unaudited) (as of December 31, 2014)

	Market Value (in millions)	% of U. S. Equities	% of Total Fund
<i>Passively Managed Portfolios</i>			
PSERS S&P 400 Index Fund	\$ 370.1	7.0%	0.7%
PSERS S&P 500 Index Fund	4,300.3	81.2%	8.5%
PSERS S&P 600 Index Fund	379.6	7.2%	0.7%
Other	<u>1.3</u>	<u>0.0%</u>	<u>0.0%</u>
Total Passively Managed U.S. Equity	\$ <u>5,051.3</u>	<u>95.4%</u>	<u>9.9%</u>
<i>Actively Managed Mid and Small Cap Portfolios</i>			
A.H. Lisanti Capital Growth, LLC	\$ 72.7	1.4%	0.1%
First Pacific Advisors, Inc.	<u>170.2</u>	<u>3.2%</u>	<u>0.3%</u>
Total Actively Managed Mid and Small Cap U.S. Equity	\$ <u>242.9</u>	<u>4.6%</u>	<u>0.5%</u>
Total U.S. Equity	\$ <u>5,294.2</u>	<u>100.0%</u>	<u>10.4%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Non-U.S. Equity Portfolios (unaudited) (as of December 31, 2014)

	Market Value (in millions)	% of Non-U. S. Equities	% of Total Fund
<i>Passively Managed Portfolios</i>			
PSERS ACWI x-US Index Fund	\$ 1,828.4	38.3%	3.6%
PSERS Emerging Markets Equity Index	356.9	7.5%	0.7%
Total Passively Managed Non-U.S. Equity	\$ 2,185.3	45.8%	4.3%
<i>Actively Managed Developed Large Cap Portfolios</i>			
Baillie Gifford Overseas Ltd.	\$ 524.2	11.0%	1.0%
BlackRock Financial Management, Inc.	499.5	10.5%	1.0%
Marathon Asset Management Limited	537.9	11.3%	1.1%
Pareto Investment Management, Ltd.	15.3 a	0.3%	0.0%
Total Actively Managed Developed Large Cap Non-U.S. Equity	\$ 1,576.9	33.1%	3.1%
<i>Actively Managed Emerging Market Portfolios</i>			
Wasatch Advisors, Inc.	\$ 291.3	6.1%	0.6%
Other	0.4	0.0%	0.0%
Total Actively Managed Emerging Market Non-U.S. Equity	\$ 291.7	6.1%	0.6%
<i>Actively Managed Developed Small Cap Portfolios</i>			
Acadian Asset Management	\$ 180.1	3.8%	0.4%
Batterymarch Financial Mgmt., Inc.	73.0	1.5%	0.1%
Oberweis Asset Management, Inc.	135.9	2.8%	0.3%
Pyramis Global Advisors	128.3	2.7%	0.2%
Wasatch Advisors, Inc.	199.5	4.2%	0.4%
Total Actively Managed Developed Small Cap Non-U.S. Equity	\$ 716.8	15.0%	1.4%
Total Non-U.S. Equity	\$ 4,770.7	100.0%	9.4%

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, 2014)

Private Market investments represent one of eight 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 17.0% 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 serve 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, 2014)
(continued)**

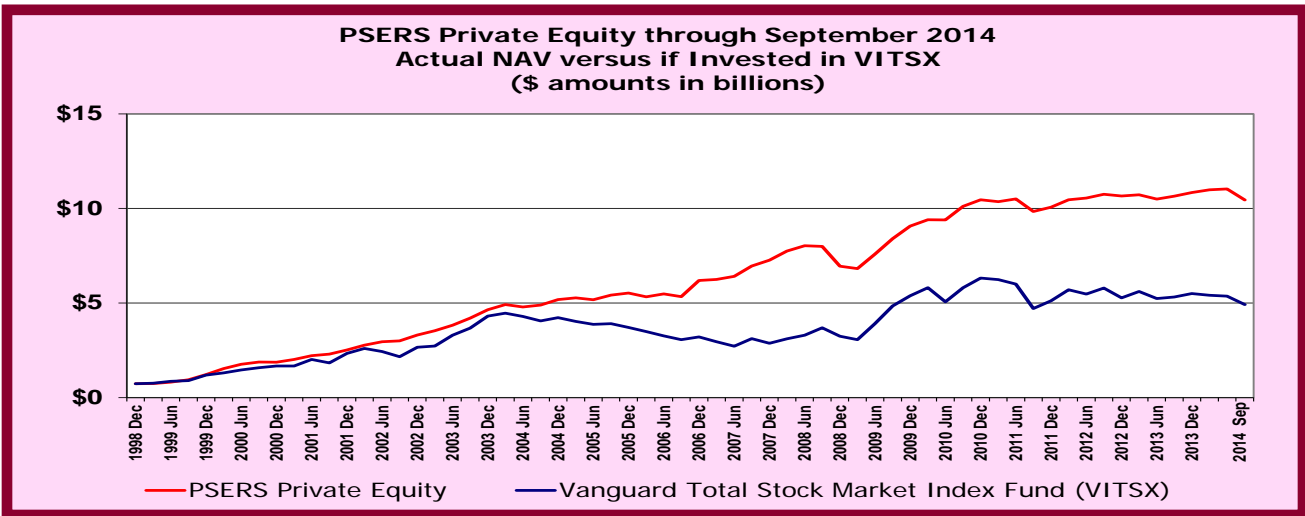
Public Equity vs. Private Equity

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 2014:



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, 2014) 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):

	10 Year, Net of Fee Return (Sep 2004 - Sep 2014)
PSERS Private Equity Program	13.68%
Vanguard Total Stock Market Index (VITSX)	8.66%
Vanguard 500 Index Fund Admiral Shares (VFIAX)	8.08%
PSERS Internally-Managed S&P 500 Index Fund	8.44%

Section 3 - Investment Information

Summary of PSERS' Private Market Investments (as of December 31, 2014) (continued)

Market Value as of December 31, 2014: \$8,295.1 million, or 16.3% of the Fund's total market value. Sub-asset class market values (unaudited) and fund percentages were as follows:

	Total Commitment (in millions)	Market Value (in millions)	Percent Allocation to Total Fund
Private Equity	\$ 14,844.3	\$ 6,245.8	12.3%
Venture Capital	2,372.1	840.6	1.6
Private Debt	<u>3,987.0</u>	<u>1,208.7</u>	<u>2.3</u>
Totals	\$ <u>21,203.4</u>	\$ <u>8,295.1</u>	<u>16.3%</u>

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, 2014 are as follows:

Industry Diversification (by number of companies in each industry)

Secondary Funds	35.7%
Services	12.0%
Industrial	11.0%
Computer	8.1%
Financial	7.6%
Medical	6.8%
Consumer	4.7%
Energy	4.3%
Communication	4.0%
Transportation	2.7%
Real Estate	2.5%
Other	0.6%

Number of External Investment Managers: PSERS' Private Equity program has committed a total of \$14.8 billion to 100 partnerships through December 31, 2014. Six of these partnerships are located in Pennsylvania. Thirty-three of the 36 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	30.7%
New York	18.3%
California	12.7%
Texas	5.0%
Massachusetts	4.2%
Pennsylvania	2.8%
Illinois	2.5%
Connecticut	2.3%
New Jersey	2.3%
Florida	2.2%
North Carolina	1.7%
Maryland	1.4%
Virginia	1.2%
Ohio	1.1%
Other	11.6%

PSERS' Venture Capital program consists of 35 partnerships with committed capital totaling \$2.4 billion through December 31, 2014. A significant number of the venture capital partnerships, 17 out of 35, are located in Pennsylvania. One of the 36 international partnerships is included within the venture capital sector.

PSERS' Private Debt program has committed \$4.0 billion to 25 partnerships through December 31, 2014. 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 two of the 36 international partnerships are included within the private debt sector.

Number of In-House Co-Investments: PSERS' Private Market Internal Program consists of 16 investments with committed capital totaling \$195 million through December 31, 2014. PSERS' 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 six of the 16 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, 2014)

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	212,591,038	105,310,843
Actis Global 4, L.P.	2012	100,000,000	38,706,374	1,307,219
Allegheny New Mountain Partners, L.P.	2004	100,000,000	83,775,587	151,200,845
Apax Europe VII, L.P.	2007	242,000,000	288,419,822	137,723,403
Bain Capital Asia Fund II, L.P.	2012	100,000,000	57,500,000	5,827,814
Bain Capital Fund XI, L.P.	2013	100,000,000	16,250,000	-
Baring Asia Private Equity Fund III, L.P.	2005	122,500,000	139,970,424	271,797,962
Baring Asia Private Equity Fund IV, L.P.	2007	300,000,000	291,337,270	147,389,568
Baring Asia Private Equity Fund V, L.P.	2011	200,000,000	186,674,807	32,382,247
Baring Asia Private Equity Fund VI, L.P.	2014	100,000,000	-	-
Blue Point Capital Partners (B), L.P.	2001	103,750,000	91,089,506	138,050,630
Blue Point Capital Partners II (B), L.P.	2007	100,000,000	93,191,399	107,579,376
Blue Point Capital Partners III (B), L.P.	2014	60,000,000	13,592,686	-
Bridgepoint Capital II (Secondary)	1998	84,714,906	81,276,972	166,298,691
Bridgepoint Europe I	1998	79,622,624	75,089,014	135,785,536
Bridgepoint Europe II	2001	363,000,000	312,831,930	605,119,344
Bridgepoint Europe III A, L.P.	2005	242,000,000	249,204,232	148,242,066
Bridgepoint Europe IV, L.P.	2008	363,000,000	378,736,181	207,368,150
Bridgepoint Europe V, L.P.	2014	181,500,000	-	-
Capital International Private Equity Fund V L.P.	2007	200,000,000	198,859,899	133,698,911
Capital International Private Equity Fund VI, L.P.	2011	100,000,000	49,043,154	635,511
Catterton Growth Partners II, L.P.	2013	75,000,000	29,558,479	-
Catterton Growth Partners, L.P.	2008	75,000,000	84,387,768	48,862,186
Catterton Partners V, L.P.	2004	100,000,000	101,386,111	91,234,269
Catterton Partners VI, L.P.	2006	130,000,000	141,321,654	172,512,147
Catterton Partners VII, L.P.	2012	100,000,000	48,095,025	-
Cinven Fund (Fifth), L.P.	2011	121,000,000	52,872,278	1,007,065
Cinven Fund (Fourth), L.P.	2006	181,500,000	201,849,501	175,694,498
Coller International Partners VI, L.P.	2011	100,000,000	47,024,819	13,434,540
Credit Suisse Int'l Equity Partners, L.P.	1997	83,000,000	76,663,758	95,804,666
Crestview Partners II (PF) LP	2009	200,000,000	211,539,086	132,613,798
Crestview Partners III, L.P.	2014	150,000,000	-	-
Crestview Partners, L.P.	2005	150,000,000	152,889,340	202,329,836
CVC Capital Partners Asia Pacific III, L.P.	2008	300,000,000	293,371,326	232,458,081
CVC European Equity Partners V (A), L.P.	2008	363,000,000	402,080,158	252,050,230
DCPF VI Oil and Gas Co-Investment Fund, L.P.	2013	25,000,000	5,394,884	-
Denham Commodity Partners Fund VI, L.P.	2011	75,000,000	30,923,566	4,559,068
DLJ Merchant Banking Partners III, L.P.	2000	300,000,000	309,532,168	658,328,029
Dubin Clark Fund II, L.P.	2000	24,083,333	23,706,041	15,338,534
Energy & Minerals Group Fund III, L.P., (The)	2014	100,000,000	52,805,366	4,919

*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, 2014) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Evergreen Pacific Partners II, L.P.	2008	\$ 80,954,545	\$ 61,722,733	\$ 22,810,218
Evergreen Pacific Partners, L.P.	2005	50,000,000	37,284,430	5,291,302
First Reserve Fund XI, L.P.	2006	200,000,000	213,209,232	117,065,025
First Reserve Fund XII, L.P.	2008	250,000,000	258,290,074	95,641,350
GoldPoint Partners Co-Investment V, L.P.	2013	50,000,000	19,865,091	2,504,075
Greenwich Street Capital Partners II	1998	200,000,000	215,035,127	211,623,188
HgCapital 7 A, L.P.	2013	116,857,500	33,265,995	-
Incline Equity Partners III (PSERS), L.P.	2011	65,000,000	21,957,082	1,239,468
Irving Place Capital Partners II L.P.	2000	300,000,000	283,564,188	455,029,417
Irving Place Capital Partners III L.P.	2006	150,000,000	136,790,154	77,792,585
KRG Capital Fund II (PA) L.P.	2001	100,000,000	79,647,554	115,274,688
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	95,379,863	77,023,032
Landmark Equity Partners XIV, L.P.	2008	150,000,000	131,783,625	80,622,525
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	312,797,567	719,167,486
Milestone Partners II, L.P.	2004	29,890,000	27,844,247	42,050,676
Milestone Partners III, L.P.	2008	60,000,000	57,691,761	17,395,683
Milestone Partners IV, L.P.	2011	70,000,000	45,878,605	513,701
Morgan Stanley Dean Witter Cap. Partners IV, L.P.	1998	300,000,000	236,925,618	477,873,353
Morgan Stanley PE Asia Fund IV, L.P.	2013	100,000,000	38,090,112	-
New Mountain Partners III L.P.	2007	300,000,000	289,740,969	102,416,117
New Mountain Partners IV, L.P.	2013	100,000,000	14,929,142	-
New Mountain Partners. L.P.	2000	192,509,033	161,121,249	238,834,977
New York Life Capital Partners I, L.P.	1999	200,000,000	204,885,726	225,216,660
New York Life Capital Partners II, L.P.	2001	200,000,000	194,550,318	509,244,873
New York Life Capital Partners III-A, L.P.	2005	200,000,000	216,588,342	84,026,868
New York Life Capital Partners IV-A. L.P.	2008	100,000,000	105,889,105	84,776,978
NGP Natural Resources X, L.P.	2012	100,000,000	72,833,505	10,483,612
NGP Natural Resources XI, L.P.	2014	100,000,000	564,960	-
Odyssey Investment Partners Fund V, L.P.	2014	100,000,000	1,125,707	-
Orchid Asia V, L.P.	2011	40,000,000	33,497,194	20,602,156
Orchid Asia VI, L.P.	2014	75,000,000	1,765,996	-
PAI Europe IV-B2, L.P.	2005	121,000,000	129,935,514	172,570,055
PAI Europe V, L.P.	2007	121,000,000	125,416,062	38,561,892
PAI Europe VI, L.P.	2013	121,000,000	29,341,375	-
Palladium Equity Partners II-A, L.P.	2000	57,750,000	62,404,592	77,590,826
Palladium Equity Partners IV, L.P.	2014	75,000,000	19,394,410	580,018
Partners Group Secondary 2008, L.P.	2007	181,500,000	178,083,194	122,722,285

*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, 2014) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Partners Group Secondary 2011 (USD), L.P. Inc.	2011	\$ 100,000,000	\$ 52,199,851	\$ 11,253,302
Permira IV, L.P.	2006	151,250,000	160,992,120	124,602,329
Platinum Equity Capital Partners-A II, L.P.	2007	300,000,000	277,602,228	308,388,766
Platinum Equity Capital Partners-A III, L.P.	2012	200,000,000	70,547,849	54,753,988
Platinum Equity Capital Partners-A, L.P.	2004	125,000,000	97,387,205	247,394,758
PNC Equity Partners II, L.P.	2007	68,065,386	58,571,287	52,077,801
PNC Equity Partners, L.P.	2001	43,154,458	39,619,636	77,106,929
PSERS Private Equity Internal Program	2012	54,432,390	37,484,497	12,246,673
PSERS Private Equity Internal Program	2013	67,159,129	54,262,362	562,390
PSERS Private Equity Internal Program	2014	73,545,715	51,195,040	388,223
Quadrangle Capital Partners, L.P.	2001	270,422,415	225,438,094	377,588,897
StepStone International Investors III L.P.	2007	121,000,000	135,663,385	73,620,981
Sterling Capital Partners, L.P.	2002	75,000,000	84,218,317	148,372,825
Strategic Feeder, L.P.	2001	200,000,000	193,702,086	301,262,321
Strategic Partners Fund II, L.P.	2003	300,000,000	263,918,027	460,718,871
Strategic Partners Fund III-B, L.P.	2005	200,000,000	216,856,813	205,494,633
Strategic Partners Fund IV, L.P.	2008	100,000,000	92,820,310	113,389,049
Strategic Partners Fund V, L.P.	2011	150,000,000	106,232,901	56,898,525
Strategic Partners Fund VI, L.P.	2014	150,000,000	28,684,740	592,684
Trilantic Capital Partners IV L.P.	2007	76,752,676	75,944,527	77,264,734
Trilantic Capital Partners V (North America), L.P.	2013	100,000,000	32,882,454	92,138
U.S. Equity Partners II	2001	300,000,000	222,540,895	221,400,105
Sub Total Private Equity		\$ 14,553,447,797	\$ 12,009,726,444	\$ 11,954,346,634
Investment (1):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Bay City Capital V, L.P.	2007	\$ 18,906,000	\$ -	\$ -
Birchmere Ventures III TSIB, L.P.	2005	13,333,333	-	-
CHV Health Ventures Account I & II, L.P.	2003	10,916,667	-	-
Guggenheim Technology Ventures I, L.P.	2008	25,000,000	-	-
Invesco Partnership Fund IV, L.P.	2004	25,000,000	-	-
McCoy Investments, L.P.	2007	25,000,000	-	-
NB Crossroads Fund XVIII - Institutional Asset Allocation, L.P.	2006	25,000,000	-	-

(1) The Tobacco Settlement Fund, in accordance with the Commonwealth 2014-2015 Budget, transferred these investments to PSERS on December 31, 2014.

*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, 2014) (continued)

Partnership Name Private Equity - Investment (1) (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
NewSpring Health Capital II, L.P.	2008	\$ 20,000,000	\$ -	\$ -
Novitas Capital III, L.P.	2003	20,000,000	-	-
Pantheon Europe Fund IV, L.P.	2005	5,000,000	-	-
Pantheon USA Fund VI, L.P.	2004	20,000,000	-	-
Quaker BioVentures II, L.P.	2008	20,000,000	-	-
Quaker BioVentures Tobacco Fund, L.P.	2004	31,750,000	-	-
Versa Capital Fund I, L.P.	2006	31,000,000	-	-
Total Investment		\$ 290,906,000	\$ -	\$ -
Total Private Equity		\$ 14,844,353,797	\$ 12,009,726,444	\$ 11,954,346,634
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	54,991,937	23,576,409
Aisling Capital III, L.P.	2008	50,000,000	46,268,089	32,921,571
Co-Investment 2000 Fund, L.P.	2000	135,000,000	135,000,000	189,180,406
Co-Investment Fund II, L.P.	2006	135,000,000	130,950,000	31,178,095
Cross Atlantic Technology Fund II	2001	21,119,734	21,119,734	17,446,765
Cross Atlantic Technology Fund, L.P.	1999	30,141,666	30,357,584	35,781,536
Jefferson Partners Fund IV (PA) L.P.	2003	25,119,768	24,583,511	200,204
KBL Partnership, L.P.	1999	13,743,333	13,711,864	6,563,009
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	108,499,587
LLR Equity Partners III, L.P.	2008	187,500,000	164,570,481	140,605,594
LLR Equity Partners IV, L.P.	2013	200,000,000	30,000,000	954,167
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	123,891,149	201,103,404
Psilos Group Partners III-C, L.P.	2007	62,500,000	62,744,925	30,420,581
Quaker BioVentures II, L.P.	2007	100,000,000	85,153,932	54,020,776
Quaker BioVentures, L.P.	2003	69,350,000	63,488,565	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	29,114,336

(1) The Tobacco Settlement Fund, in accordance with the Commonwealth 2014-2015 Budget, transferred these investments to PSERS on December 31, 2014.

*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, 2014) (continued)

Partnership Name Venture Capital (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
StarVest Partners , L.P.	1999	\$ 67,500,000	\$ 65,659,367	\$ 102,852,914
StarVest Partners II (Parallel), L.P.	2007	50,000,000	45,039,747	1,886,791
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	55,373,125	52,657,959
Strategic Partners Fund IV VC, L.P.	2008	50,000,000	56,656,572	42,803,049
Summit Partners Growth Equity Fund VIII, L.P.	2012	100,000,000	58,500,000	9,708,786
Summit Partners Venture Capital Fund III, L.P.	2012	25,000,000	16,250,000	-
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	80,607,212
Tenaya Capital VI, L.P.	2012	50,000,000	31,996,566	-
Tenaya Capital VII, L.P.	2014	100,000,000	-	-
Tenaya Capital V-P, L.P.	2007	75,000,000	67,309,889	78,963,581
Total Venture Capital		\$ 2,372,078,200	\$ 1,999,637,396	\$ 1,650,324,233
Partnership Name Private Debt:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Apollo Investment Fund VIII, L.P.	2013	\$ 20,000,000	\$ 19,215,818	\$ -
Avenue Asia Special Situations Fund IV, LP	2006	300,000,000	225,056,480	176,084,050
Avenue Europe Special Situations Fund, L.P.	2008	242,000,000	259,698,044	355,848,488
Avenue Special Situations Fund IV, L.P.	2005	115,000,000	144,782,669	188,059,499
Avenue Special Situations Fund V, L.P.	2007	300,000,000	301,095,120	394,037,486
Avenue Special Situations Fund VI, L.P.	2010	75,000,000	76,892,726	34,395,660
Cerberus Institutional Partners V, L.P.	2012	200,000,000	191,502,125	19,212,678
Cerberus Institutional Partners, L.P. (Series 2)	2001	200,000,000	173,047,901	535,607,961
Cerberus Institutional Partners, L.P. (Series 3)	2003	100,000,000	81,055,777	140,674,890
Cerberus Institutional Partners, L.P. (Series 4)	2006	400,000,000	369,661,873	289,218,180
Gleacher Mezzanine Fund II, L.P.	2006	100,000,000	91,547,783	85,926,634
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	78,468,787
GSC Partners CDO Investors IV, L.P.	2003	80,000,000	80,000,000	100,200,000
GSC Recovery II, L.P.	2000	280,000,000	279,170,771	389,075,776
GSC Recovery III (Parallel Fund), L.P.	2005	200,000,000	201,394,130	230,412,782
NYLIM Mezzanine Partners (Parallel Fund) L.P.	2003	75,000,000	68,935,472	88,940,865
NYLIM Mezzanine Partners II (Parallel Fund) LP	2006	150,000,000	164,075,949	188,974,623
OCM Opportunities Fund VII L.P.	2007	75,000,000	75,000,000	88,756,217
OCM Opportunities Fund VII-b L.P.	2008	225,000,000	202,500,000	318,146,782
Versa Capital Fund I, L.P.	2005	75,000,000	88,545,177	61,691,490
Versa Capital Fund II, L.P.	2008	150,000,000	144,033,012	61,173,002

*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, 2014)
(continued)**

Partnership Name Private Debt (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Versa Capital Fund III, L.P.	2013	\$ 150,000,000	\$ -	\$ -
Windjammer Senior Equity Fund III, L.P.	2006	50,000,000	45,223,847	53,565,899
Windjammer Senior Equity Fund IV, L.P.	2012	\$ <u>100,000,000</u>	\$ <u>39,146,458</u>	\$ <u>2,763,553</u>
Total Private Debt		\$ 3,987,000,000	\$ 3,435,031,437	\$ 3,977,174,132
Grand Total		<u>\$ 21,203,431,997</u>	<u>\$ 17,444,395,275</u>	<u>\$ 17,581,845,002</u>

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

Summary of PSERS' Real Estate Investments (as of December 31, 2014)

Private Real Estate Exposure is one of eight 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.

	Total Commitment (Millions)	Market Value (Millions)	Percent Allocation to Total Fund
Separate Accounts	\$ 448.8	\$ 291.5	0.6%
PTRES	202.4	213.5	0.4%
Core Real Estate	301.4	197.7	0.4%
Opportunistic Real Estate	8,709.2	4,597.9	9.0%
Value Added Real Estate	<u>4,136.4</u>	<u>1,557.9</u>	<u>3.1%</u>
Totals	<u>\$ 13,798.2</u>	<u>\$ 6,858.5</u>	<u>13.5%</u>

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 13.5% 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 (30%), Value Added (50%) and Core (20%) 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, 2014: \$6,858.5 million or 13.5% of the Fund's total market value. This market value represents the combination of December 31, 2014 and September 30, 2014 market values adjusted for cash flows that occurred during the fourth quarter of 2014.

Number of External Investment Managers: PSERS had contracts with five external directly managed real estate asset managers and 38 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, 2014:

- 4.3% Separate Account Portfolios
- 3.1% Public Securities Portfolios
- 2.9% Core Real Estate Portfolios
- 67.0% Opportunistic Real Estate Portfolios
- 22.7% Value Added Real Estate Portfolios

Section 3 - Investment Information

Summary of PSERS' Active Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2014)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Separate Accounts:				
Charter Oak Advisors, Inc.	1993	\$ 133,179,000	\$ 136,248,758	\$ 238,546,497
GF Management, Inc.	1987	131,991,000	132,449,035	146,107,784
Grosvenor Fund Management U.S., Inc.	1986	10,859,844	11,160,942	12,627,728
L&B Realty Advisors, LLP	1993	150,403,000	151,746,926	246,042,040
Prudential Agriculture Group	n/a	<u>22,421,000</u>	<u>22,534,106</u>	<u>55,358,754</u>
Total Separate Accounts		\$ 448,853,844	\$ 455,139,767	\$ 698,682,803
Public Securities:				
Security Capital Research & Management, Inc. - Preferred Growth	1997	\$ 202,393,803	\$ 202,393,803	\$ 89,824,697
Core Real Estate:				
JPMCB Strategic Property Fund	2007	\$ 100,000,000	\$ 25,000,000	\$ 4,949,023
PRISA	2006	100,000,000	100,000,000	29,996,705
PSERS Real Estate Internal Program	2014	1,371,558	1,371,558	-
UBS (US) Trumbull Property Fund, L.P.	2006	<u>100,000,000</u>	<u>75,000,000</u>	<u>17,905,584</u>
Total Core Real Estate		\$ 301,371,558	\$ 201,371,558	\$ 52,851,313
Opportunistic Real Estate:				
Ares European Real Estate Fund III, L.P.	2007	\$ 121,000,000	\$ 135,004,940	\$ 94,503,242
Ares European Real Estate Fund IV, L.P.	2013	100,000,000	11,394,763	-
Avenue Real Estate Fund (Parallel) L.P.	2006	100,000,000	94,193,695	-
BlackRock Asia Property Fund III, L.P.	2007	174,293,186	134,983,698	50,128,288
BlackRock Europe Property Fund III, L.P.	2007	121,000,000	125,216,070	68,187,204
Blackstone Real Estate Partners Europe III, L.P.	2009	242,000,000	258,705,795	121,368,498
Blackstone Real Estate Partners Europe IV, L.P.	2013	100,000,000	40,775,420	3,588,083
Blackstone Real Estate Partners V, L.P.	2006	200,000,000	214,491,119	199,232,639
Blackstone Real Estate Partners VI, L.P.	2007	400,000,000	428,664,925	375,818,864
Blackstone Real Estate Partners VII, L.P.	2011	300,000,000	294,731,455	97,306,662
Brookfield Strategic Real Estate Partners, L.P.	2012	200,000,000	173,951,892	24,730,774
Carlyle Europe Real Estate Partners III, L.P.	2007	242,000,000	279,059,328	79,888,248
Carlyle Realty Partners III, L.P.	2000	141,016,667	114,891,142	229,326,199
Carlyle Realty Partners IV, L.P.	2005	130,000,000	186,382,360	71,986,223
Carlyle Realty Partners V, L.P.	2007	300,000,000	361,662,366	376,574,984
Carlyle Realty Partners VI, L.P.	2011	200,000,000	166,850,734	92,447,476
Carlyle Realty Partners VII, L.P.	2014	100,000,000	586,301	-
DLJ Real Estate Capital Partners III, L.P.	2005	150,000,000	165,682,693	65,186,412
DLJ Real Estate Capital Partners IV, L.P.	2007	250,000,000	276,083,452	101,700,759

*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 Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2014) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Opportunistic Real Estate (continued):				
DLJ Real Estate Partners II, L.P.	1999	\$ 200,000,000	\$ 185,777,413	\$ 289,723,580
Fortress Investment Fund IV LP	2006	100,000,000	100,976,805	36,032,845
Fortress Investment Fund LLC	2000	200,000,000	195,446,950	527,623,657
Fortress Investment Fund V (Fund A) L.P.	2007	200,000,000	195,531,972	65,288,589
LAI 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	225,774,546
Lubert-Adler Real Estate Fund IV	2004	100,000,000	97,646,305	52,349,534
Lubert-Adler Real Estate Fund V	2006	100,000,000	93,743,009	12,652,905
Lubert-Adler Real Estate Fund VI	2007	150,000,000	142,913,507	64,950,368
Morgan Stanley Real Estate Fund IV Spec. Dom.	2002	100,000,000	113,878,480	118,465,924
Morgan Stanley Real Estate Fund IV Spec. Int'l.	2001	200,000,000	216,214,681	447,979,887
Morgan Stanley Real Estate Fund V Spec. Int'l.	2005	200,000,000	231,598,540	254,727,601
Morgan Stanley Real Estate Fund V U.S.	2006	150,000,000	189,913,007	28,674,308
Morgan Stanley Real Estate Fund VI Spec. Int'l.	2006	400,000,000	463,329,437	40,192,719
Morgan Stanley Real Estate Fund VII Global, L.P.	2007	309,636,000	297,643,501	165,647,286
O'Connor North American Property Partners II L.P.	2007	132,142,857	132,680,041	41,622,459
O'Connor North American Property Partners, L.P.	2004	100,000,000	111,660,943	42,473,479
Paladin Realty Latin America Investors III, L.P.	2008	113,583,333	112,046,993	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	28,381,175	10,304,882
Silverpeak Legacy Pension Partners II, L.P.	2005	200,000,000	207,887,600	138,539,568
Silverpeak Legacy Pension Partners III, L.P.	2007	300,000,000	137,725,257	11,091,434
Silverpeak Legacy/PSERS, L.P.	2000	300,000,000	139,573,305	278,577,703
Stockbridge RE Fund III Co-Investment	2013	49,870,000	49,870,000	1,136,594
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	494,686,665	576,573,475
Strategic Partners Fund II RE, L.P.	2003	75,000,000	67,759,107	96,807,978
Strategic Partners Fund III RE, L.P.	2005	75,000,000	80,020,127	17,169,775
Strategic Partners Fund IV RE, L.P.	2008	75,000,000	75,739,831	34,230,183
William E. Simon & Sons	2001	<u>76,662,500</u>	<u>74,788,678</u>	<u>60,042,379</u>
Total Opportunistic Real Estate		\$ 8,709,170,060	\$ 8,477,920,642	\$ 6,206,845,160

*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 Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2014) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Value Added Real Estate:				
AG Core Plus Realty Fund III, L.P.	2011	\$ 75,000,000	\$ 57,870,989	\$ 15,562,500
Almanac Realty Securities V, L.P.	2007	100,000,000	98,725,324	67,090,571
Almanac Realty Securities VI, L.P.	2012	100,000,000	45,973,171	30,418,314
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	96,586,142
Ares U.S. Real Estate Fund VII, L.P.	2008	150,000,000	146,903,937	96,258,140
Ares U.S. Real Estate Fund VIII, L.P.	2013	75,000,000	5,027,068	514,882
AvalonBay Value Added Fund II, L.P.	2009	100,000,000	89,100,000	33,125,000
AvalonBay Value Added Fund, L.P.	2004	75,000,000	75,000,000	95,573,863
Beacon Capital Strategic Partners V, L.P.	2007	200,000,000	180,000,000	59,348,940
Bell Institutional Fund IV, LLC	2011	75,000,000	72,128,981	7,210,959
Bell Institutional Fund V, LLC	2013	75,000,000	24,867,259	525,000
Blackstone Real Estate Debt Strategies II, L.P.	2013	100,000,000	49,134,015	4,044,126
BPG Investment Partnership V, L.P.	1999	50,000,000	47,112,231	84,171,753
BPG Investment Partnership VI, L.P.	2002	87,500,000	84,251,339	126,344,262
BPG/PSERS Co-Investment Fund	2001	100,000,000	65,703,742	171,843,849
Broadway Partners Real Estate Fund II, L.P.	2006	125,000,000	124,057,276	41,474,666
Broadway Partners Real Estate Fund III, L.P.	2007	166,182,500	167,153,228	8,875,000
Cabot Industrial Value Fund III, L.P.	2008	100,000,000	81,671,500	123,195,503
Cabot Industrial Value Fund IV, L.P.	2013	75,000,000	10,534,000	-
Centerline High Yield CMBS III - Loan/Stock	2008	90,000,000	90,000,000	42,173,179
DRA Growth and Income Fund VI, L.P.	2007	148,200,000	97,385,694	125,582,412
DRA Growth and Income Fund VII, L.P.	2011	100,000,000	98,460,000	24,831,937
DRA Growth and Income Fund VIII, LLC	2014	100,000,000	17,037,037	103,704
Exeter Industrial Value Fund II, L.P.	2011	75,000,000	73,539,355	24,390,244
Exeter Industrial Value Fund III, L.P.	2014	75,000,000	15,000,000	-
Fillmore West Fund, L.P.	2008	100,000,000	97,807,786	39,504,678
Hines U.S. Office Value Added Fund, L.P.	2004	100,000,000	104,304,496	150,775,996
Latitude Management Real Estate Capital III, Inc.	2012	75,000,000	51,849,791	3,476,243
LCCG R E Special Situations Mortgage Fund	2006	133,875,000	133,627,886	34,176,737
Legg Mason Real Estate Capital	2002	57,640,625	56,934,991	57,567,092
Legg Mason Real Estate Capital II	2005	100,000,000	97,699,152	66,908,081
LEM RE HY Debt & Pfd Equity Fund III, L.P.	2012	75,000,000	45,000,000	4,124,943
LEM Real Estate Mezzanine Fund II, L.P.	2006	75,000,000	60,000,000	42,836,394
Madison Marquette Retail Enhancement Fund LP	2007	100,000,000	97,157,748	27,328,544

*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 Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2014) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Value Added Real Estate (continued):				
Paramount Group Real Estate Fund VII, L.P.	2014	\$ 100,000,000	\$ 28,144,696	\$ -
PSERS Real Estate Internal Program	2013	15,000,000	15,000,000	13,921,955
PSERS Real Estate Internal Program	2014	25,000,000	22,569,577	-
RCG Longview Debt Fund IV, L.P.	2007	175,000,000	199,407,972	210,647,621
RCG Longview Debt Fund V, L.P.	2013	75,000,000	39,827,491	4,054,992
RCG Longview Equity Fund, L.P.	2006	125,000,000	90,423,129	55,539,458
Senior Housing Partnership Fund IV, L.P.	2011	100,000,000	83,181,660	9,456,620
Strategic Partners Value Enhancement Fund LP	2005	<u>55,000,000</u>	<u>54,978,609</u>	<u>28,061,000</u>
Total Value Added Real Estate		\$ 4,136,398,125	\$ 3,313,926,185	\$ 2,115,434,083
Grand Total		<u>\$ 13,798,187,390</u>	<u>\$ 12,650,751,955</u>	<u>\$ 9,163,638,056</u>

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

Numbers may not add due to rounding.

Summary of PSERS' Fixed Income Investments (as of December 31, 2014)

Fixed Income Exposure is one of eight 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 23.0% of assets to Fixed Income, 6.0% of which is designated to Investment Grade, 8.0% of which is designated to Credit-Related, 6.0% of which is designated to TIPS strategies, and 3.0% designated to Cash.

Market Value as of December 31, 2014: \$14,688.2 million, or 28.9% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with 25 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 two employees managing various Fixed Income portfolios.

Types of Investment Portfolios at December 31, 2014:

- 8.7% Global strategy portfolios
- 16.6% Core/Core Plus strategies portfolios
- 20.8% TIPS strategies portfolios
- 21.5% Credit Opportunities portfolios
- 1.4% U.S. Long Treasuries
- 31.0% Cash and Passively Managed portfolios.
- 45.8% was managed by internal portfolio managers and 54.2% was managed by external investment managers

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2014)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<i>Actively Managed U.S. Core/Core Plus Fixed</i>			
<i>Income Portfolios</i>			
BlackRock U.S. Extended Core Global Alpha Fund	\$ 839.5	5.7%	1.7%
Pacific Investment Mgmt. Co. (PIMCO)	263.7	1.8	0.5
Piedmont Investment Advisors	53.4	0.4	0.1
PSERS Active Aggregate	1,088.7	7.4	2.1
Pugh Capital Management, Inc.	94.6	0.6	0.2
SEI Investments Management Corp.	100.2	0.7	0.2
Other	1.8	0.0	0.0
Total Actively Managed U.S. Core/Core Plus			
Fixed Income	\$ 2,441.9	16.6%	4.8%
<i>Actively Managed Treasury Inflation-Protected</i>			
<i>Securities (TIPS) Portfolios</i>			
Black River Asset Management, LLC	\$ 297.8	2.0%	0.6%
Bridgewater Associates, Inc.	1,720.1	11.7	3.4
PSERS TIPS Portfolio	1,044.1	7.1	2.1
Total Actively Managed Treasury Inflation-Protected Securities (TIPS)			
	\$ 3,062.0	20.8%	6.1%
<i>Actively Managed U.S. Long Treasury Portfolios</i>			
PSERS U.S. Long Treasuries	\$ 38.5	0.3%	0.1%
Pacific Investment Mgmt. Co. (PIMCO)	163.7	1.1	0.3
Total Actively Managed U.S. Long Treasury Portfolios			
	\$ 202.2	1.4%	0.4%

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2014) (continued)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<u>Actively Managed Credit Opportunity Portfolios</u>			
Apollo European Principal Finance Fund II, LP	\$ 134.3	0.9%	0.3%
BlackRock Mortgage (Offshore) Investors	0.3	0.0	0.0
Brigade Distressed Value Offshore Fund	128.3	0.9	0.3
Brigade Structured Credit Offshore Fund	200.7	1.4	0.4
Carlyle Energy Mezzanine Opportunity Fund, LP	140.7	1.0	0.3
Cerberus Levered Loan Opportunities Fund, LP	56.3	0.4	0.1
Cerberus Levered Loan Opportunities Fund II, LP	159.1	1.1	0.3
Galton Onshore Mortgage Recovery Fund III, LP	7.3	0.0	0.0
Hayfin Special Opportunities Credit Fund, LP	149.2	1.0	0.3
ICG Europe Fund V, LP	212.5	1.5	0.4
International Infrastructure Finance Company Fund, LP	49.1	0.3	0.1
LBC Credit Partners II, LP	64.9	0.4	0.1
LBC Credit Partners III, LP	124.7	0.8	0.2
Mariner Investment Group	149.7	1.0	0.3
Oaktree Loan Fund	13.9	0.1	0.0
Pacific Investment Mgmt. Co. (PIMCO)	318.3	2.2	0.6
Sankaty Advisors LLC - Bank Loans	420.6	2.9	0.8
Sankaty Credit Opportunities Fund IV, LP	125.0	0.9	0.2
Sankaty Credit Opportunities Fund V-A, LP	260.6	1.8	0.5
Sankaty Middle Market Opportunities Fund	122.0	0.8	0.2
Sankaty Middle Market Opportunities Fund II, LP	71.3	0.5	0.1
TOP NPL (A), LP	91.7	0.6	0.2
TPG Opportunities Partners II, LP	83.8	0.6	0.2
TPG Opportunities Partners III, LP	15.6	0.1	0.0
Summit Partners Credit Fund II, LP	21.4	0.1	0.0
Varde Scratch & Dent Fund, LP	<u>30.0</u>	<u>0.2</u>	<u>0.1</u>
Total Actively Managed Credit Opportunity			
Fixed Income	\$ <u>3,151.3</u>	<u>21.5%</u>	<u>6.0%</u>
Total Actively Managed U.S.			
Fixed Income	\$ <u>8,857.4</u>	<u>60.3%</u>	<u>17.3%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2014) (continued)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<u>Actively Managed Non-U.S. Developed Markets</u>			
<u>Fixed Income Portfolios</u>			
Alliance Bernstein	\$ 265.6	1.8%	0.5%
Pacific Investment Mgmt. Co. (PIMCO)	54.5	0.4	0.1
Other	<u>140.0</u>	<u>1.0</u>	<u>0.3</u>
Total Actively Managed Non-U.S. Developed Markets			
Fixed Income	\$ <u>460.1</u>	<u>3.2%</u>	<u>0.9%</u>
<u>Actively Managed Global Emerging Markets Fixed</u>			
<u>Income Portfolios</u>			
Franklin Templeton	\$ 377.9	2.6%	0.7%
Pacific Investment Mgmt. Co. (PIMCO)	109.1	0.7	0.2
Stone Harbor Investment Partners	<u>316.3</u>	<u>2.2</u>	<u>0.6</u>
Total Actively Managed Global Emerging Markets			
Fixed Income	\$ <u>803.3</u>	<u>5.5%</u>	<u>1.5%</u>
<u>Passively Managed Portfolios</u>			
PSERS Private Debt Internal	\$ <u>32.9</u>	<u>0.2%</u>	<u>0.1%</u>
<u>Internally Managed Cash Portfolios</u>			
PSERS Private Equity Conversions (2)	\$ 1,501.5	10.2%	3.0%
PSERS Proprietary Fund	3,029.0	20.6	6.0
PSERS Tobacco Guaranty Payment	<u>4.0</u>	<u>0.0</u>	<u>0.0</u>
Total Internally Managed Cash Portfolios			
Total Fixed Income	\$ <u>14,688.2</u>	<u>100.0%</u>	<u>28.9%</u>

(2) PSERS entered into sale agreements in December 2014 for 20 Private Equity partnership interests with 3 separate buyers.

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Absolute Return Investments (as of December 31, 2014)

Absolute Return Exposure is one of eight 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 the 3-month LIBOR +3.5%.

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, 2014: \$5,076.6 million, or 10.0% 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, 2014)

	Market Value (in millions)	% of Total Absolute Return	% of Total Fund
<i>Actively Managed Absolute Return Portfolios</i>			
Aeolus Capital Management Ltd.	\$ 266.3	5.3%	0.5%
Anderson Global Macro Fund, Ltd.	2.8	0.1	0.0
Black River Asset Management, LLC	300.0	5.9	0.6
BlackRock Capital Structure Investments Fund	264.8	5.2	0.5
Brevan Howard Fund, Ltd.	414.4	8.2	0.8
Bridgewater Associates, Inc.	972.1	19.1	1.9
Brigade Capital Management	454.3	8.9	0.9
Capula Global Relative Value Fund	249.1	4.9	0.5
Capula Tail Risk Fund	334.8	6.6	0.7
Caspian Capital Advisors, LLC	240.9	4.8	0.5
Ellis Lake Domestic Fund 2012	97.7	1.9	0.2
Nephila Capital, Ltd.	288.5	5.7	0.6
Oceanwood Opportunity Fund	199.0	3.9	0.4
Pacific Investment Mgmt. Co. (PIMCO)	720.0	14.2	1.4
Perry Partners, Inc.	194.4	3.8	0.4
Sciens Aviation Special Opportunities Fund II, LP	77.5	1.5	0.2
Total Absolute Return	\$ 5,076.6	100.0%	10.0%

Numbers may not add due to rounding.

**Summary of
PSERS' Risk Parity Portfolios
(as of December 31, 2014)**

Risk Parity Exposure represents one of eight asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan allocates capital to various Risk Parity strategies to diversify implementation and management styles. PSERS uses both an internal investment manager as well as contracts with external investment managers to manage Risk Parity portfolios.

Policy

Risk parity strives to generate investment returns through a more diversified allocation by endeavoring to balance market risk factor exposures as opposed to capital exposures. 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 risk-balancing portfolio construction.

The Fund benchmarks its Risk Parity investments to a custom benchmark: MSCI ACWI (\$Net) (50%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (55%); Bloomberg Commodity Index (Total Return) (15%); Bloomberg Gold Subindex (5%); and 3-Month LIBOR (-100%).

PSERS' Asset Allocation currently targets an allocation of 7.0% of assets to Risk Parity investments. The Risk Parity investments are targeted to be 100.0% actively managed.

Market Value of December 31, 2014: \$2,803.3 million, or 5.5% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with three 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, 2014)**

	Market Value (in millions)	% of Total Risk Parity	% of Total Fund
<u>Risk Parity Portfolios</u>			
AQR GRP EL 20 Offshore Fund, Ltd.	\$ 338.0	12.1%	0.7%
Bridgewater All Weather @ 15% Fund	1,662.6	59.3	3.3
D.E. Shaw Orienteer Fund, LLC	531.9	19.0	1.0
PSERS Risk Parity	<u>270.8</u>	<u>9.6</u>	<u>0.5</u>
Total Risk Parity	\$ <u>2,803.3</u>	<u>100.0%</u>	<u>5.5%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Master Limited Partnerships (as of December 31, 2014)

Master Limited Partnership Exposure (MLPs) represents one of eight 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 4.0% of assets to MLP investments and are targeted to be 100.0% actively managed.

Market Value of December 31, 2014: \$1,879.4 million, or 3.7% 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, 2014)

	Market Value (in millions)	% of Total MLPs	% of Total Fund
<i>Master Limited Partnership Portfolios</i>			
Atlantic Trust Private Wealth Management	\$ 553.8	29.5%	1.1%
Harvest Fund Advisors, LLC	737.7	39.2	1.4
Salient Capital Advisors, LLC	<u>587.9</u>	<u>31.3</u>	<u>1.2</u>
Total Master Limited Partnerships	\$ <u>1,879.4</u>	<u>100.0%</u>	<u>3.7%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Commodity Investments (as of December 31, 2014)

Commodity Exposure represents one of eight 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 (except for Gold) to the Bloomberg Commodity Index. The Bloomberg Commodity Index is calculated on an excess return basis and reflects commodities futures prices. Gold is benchmarked to the Bloomberg Commodity Gold Subindex.

PSERS' Asset Allocation currently targets an allocation of 4.0% of assets to Commodity investments which is targeted to be 100.0% actively managed.

Market Value of December 31, 2014: \$1,156.5 million, or 2.3% of the Fund's total market value.

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

Number of Internal Investment Managers: PSERS had one employee managing 2 commodity portfolios.

Summary of PSERS' Commodity Portfolios (unaudited) (as of December 31, 2014)

	Market Value (in millions)	% of Total Commodities	% of Total Fund
<u>Full Discretion Commodity Portfolio</u>			
Wellington Management Company, LLP	\$ 460.2	39.8%	0.9%
<u>Core/Enhanced Commodity Portfolios</u>			
Credit Suisse Asset Management	\$ 216.9	18.7%	0.4%
Black River Global Agricultural Absolute Return Fund	119.9	10.4	0.2
Gresham, LLC	387.8	33.5	0.8
PSERS Commodity Beta	(26.8) a	(2.3)	0.0
PSERS Gold Fund	(1.5) a	(0.1)	0.0
Total Core/Enhanced Commodities	\$ 696.3	60.2%	1.4%
Total Commodities	\$ 1,156.5	100.0%	2.3%

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 potentially 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 long-term excess returns above passive alternatives, net of fees

- 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 five 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 five 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. Generally, 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 allows PSERS 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, 2014 (Dollar Amounts in Thousands)

	<u>Fees</u>	<u>Basis Points</u>
External Management		
U.S. Equity	\$ 3,051	50
Non - U.S. Equity	18,392	27
Fixed Income	81,835	91
Real Estate	73,926	102
Alternative Investments	116,951	90
Absolute Return	140,523	263
Commodities	11,334	81
Master Limited Partnerships	11,133	64
Risk Parity	6,255	42
Total External Management	463,400	99
Total Internal Management	<u>12,336</u>	11
Total Investment Management	\$ 475,736	82
Custodian Fees	1,221	
Consultant and Legal Fees	<u>5,279</u>	
Total Investment Expenses	\$ <u>482,236</u>	83

Investment Advisory Fees History

<u>Fiscal Year</u>	<u>Total Investment Expenses*</u>	<u>Actual Net Return</u>	<u>Policy Benchmark Net Return</u>	<u>Excess Performance vs Index</u>	<u>Investment Performance Excluding Investment Expenses*</u>	<u>Investment Outperformance Net of Investment Expenses*</u>
2014	\$ 482	14.91%	12.05%	2.86%	\$ 1,755	\$ 1,273
2013	558	7.96%	5.68%	2.28%	1,835	1,277
2012	481	3.43%	1.98%	1.45%	1,467	986
2011	515	20.37%	17.56%	2.81%	1,641	1,126
2010	522	14.59%	10.87%	3.72%	2,280	1,758
2009	478	-26.54%	-20.67%	-5.87%	(2,649)	(3,127)
2008	399	-2.82%	-1.84%	-0.98%	(218)	(617)
2007	314	22.93%	18.48%	4.45%	2,674	2,360
2006	211	15.26%	11.96%	3.30%	1,846	1,635
2005	<u>193</u>	12.87%	10.54%	2.33%	<u>1,283</u>	<u>1,090</u>
Total	\$ <u>4,153</u>				\$ <u>11,914</u>	\$ <u>7,761</u>

* Dollar amounts in millions.

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (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>
<u>U.S. Equity</u>			
AH Lisanti Capital Growth, LLC	New York	NY	\$ 263
AllianceBernstein LP	New York	NY	698
Conestoga Capital Advisors, Inc.	Radnor	PA	270
First Pacific Advisors, Inc.	Los Angeles	CA	986
NorthPointe Capital, LLC	Troy	MI	662
Opus Capital Management, Inc.	Cincinnati	OH	<u>172</u>
Total - U.S. Equity			3,051
<u>Non - U.S. Equity</u>			
Acadian Asset Management	Boston	MA	877
Baillie Gifford Overseas Ltd.	Edinburgh	UK	2,111
Batterymarch Financial Management, Inc.	Boston	MA	574
BlackRock Financial Management, Inc.	New York	NY	2,647
Glovista Investments LLC	Jersey City	NJ	240
John Hsu Capital Group, Inc.	New York	NY	212
Marathon Asset Management Limited	London	UK	1,867
Oberweis Asset Management, Inc.	North Aurora	IL	1,284
Pareto Investment Management, Ltd.	New York	NY	2,346
Pyramis Global Advisors	Boston	MA	1,090
Shah Capital Management, Inc.	Raleigh	NC	3
Wasatch Advisors, Inc.	Salt Lake City	UT	4,488
Westwood Global Investments, LLC	Boston	MA	<u>653</u>
Total - Non - U.S. Equity			18,392
<u>Fixed Income</u>			
AllianceBernstein L.P.	White Plains	NY	820
Apollo European Principal Finance Fund II(Dollar A), L.P.	New York	NY	2,860
BlackRock Financial Management, Inc.	New York	NY	5,979
BlackRock Mortgage (Offshore) Investors, L.P.	New York	NY	2,015
Brevan Howard US, LLC	New York	NY	3,052
Bridgewater Associates, Inc.	Westport	CT	16,191
Brigade Capital Management, LLC	New York	NY	4,051
Cargill Financial Services Corporation	Hopkins	MN	5,469
Carlyle Energy Mezzanine Opportunities Fund, L.P.	Washington	DC	2,800
Cerberus Levered Loan Opportunities Fund I, L.P.	New York	NY	1,971
Cerberus Levered Loan Opportunities Fund II, L.P.	New York	NY	1,725

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Fixed Income (continued)</u>			
Franklin Templeton Investments	Nassau	Bahamas	\$ 2,089
Galton Onshore Mortgage Recovery Fund III, L.P.	Harrison	NY	59
Hayfin Special Opportunities Credit Opp Fund, L.P.	George Town	Cayman Islands	2,519
ICG Europe Fund V, L.P.	St. Helier	Guernsey	1,021
International Infrastructure Finance Company, L.P.	Harrison	NY	1,204
LBC Credit Partners II, L.P.	Philadelphia	PA	4,593
LBC Credit Partners III, L.P.	Philadelphia	PA	2,500
MacKay-Shields Financial Corporation	New York	NY	546
Mariner Investment Group	Harrison	NY	1,328
Oaktree Loan Fund, L.P.	Los Angeles	CA	89
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	4,854
Piedmont Investment Advisors	Durham	NC	130
Pugh Capital Management, Inc.	Seattle	WA	174
Sankaty Advisors LLC Bank Loans	Wilmington	DE	1,980
Sankaty Credit Opportunities IV, L.P.	Wilmington	DE	3,596
Sankaty Credit Opportunities V, L.P.	Wilmington	DE	987
Sankaty Middle Markets Opportunity Fund, L.P.	Wilmington	DE	1,582
Sankaty Middle Markets Opportunity Fund II, L.P.	Wilmington	DE	114
SEI Investments Company	Oaks	PA	166
Stone Harbor Investment Partners, L.P.	New York	NY	2,427
Strategic Fixed Income, LLC	Arlington	VA	329
TOP NPL (A), L.P.	Fort Worth	TX	254
TPG Opportunities Partners II (A), L.P.	Fort Worth	TX	2,152
Western Asset Management Company	Pasadena	CA	209
Total - Fixed Income			81,835
<u>Real Estate-Direct Ownership</u>			
Charter Oak Advisors, Inc.	King of Prussia	PA	965
GF Management, Inc.	Philadelphia	PA	131
Grosvenor Investment Management U.S., Inc.	Philadelphia	PA	47
L & B Realty Advisors, L.L.P.	Dallas	TX	53
Subtotal - Real Estate-Direct Ownership			1,196

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Real Estate-Partnerships/Funds</u>			
AG Core Plus Realty Fund III, L.P.	New York	NY	\$ 577
Almanac Realty Securities V, L.P.	New York	NY	1,002
Almanac Realty Securities VI, L.P.	New York	NY	992
Apollo European Real Estate Fund III, L.P.	Purchase	NY	1,323
Apollo Real Estate Finance Corporation	New York	NY	883
Apollo Value Enhancement Fund VII, L.P.	Purchase	NY	1,593
AREFIN Co-Invest Corporation	New York	NY	61
AvalonBay Value Added Fund, L.P.	Alexandria	VA	278
AvalonBay Value Added Fund II, L.P.	Alexandria	VA	945
Avenue Real Estate Fund Parallel, L.P.	New York	NY	1,138
Beacon Capital Strategic Partners V, L.P.	Boston	MA	528
Bell Institutional Fund IV, LLC	Wilmington	DE	1058
Bell Institutional Fund V, LLC	Wilmington	DE	224
BlackRock Asia Property Fund III, L.P.	Hamilton	Bermuda	1,267
BlackRock Europe Property Fund III, L.P.	London	UK	1,508
Blackstone Real Estate Partners Europe III, L.P.	New York	NY	2,729
Blackstone Real Estate Partners Europe IV, L.P.	New York	NY	866
Blackstone Real Estate Partners V.TE.1, L.P.	New York	NY	1,100
Blackstone Real Estate Partners VI.TE.1, L.P.	New York	NY	4,181
Blackstone Real Estate Partners VII.TE.1, L.P.	New York	NY	3,723
BPG Investment Partnership V, L.P.	Philadelphia	PA	(38)
BPG Investment Partnership VI, L.P.	Philadelphia	PA	107
Broadway Partners Parallel Fund P II, L.P.	New York	NY	197
Broadway Partners Parallel Fund P III, L.P.	New York	NY	250
Brookfield Strategic Real Estate Partners, L.P.	New York	NY	2,250
Cabot Industrial Value Fund III, L.P.	Boston	MA	342
Cabot Industrial Value Fund IV, L.P.	Boston	MA	1,060
Carlyle Europe Real Estate Partners III-A, L.P.	Washington	DC	2,149
Carlyle Realty Partners III, L.P.	Washington	DC	(38)
Carlyle Realty Partners IV, L.P.	Washington	DC	1,102
Carlyle Realty Partners V, L.P.	Washington	DC	1,453
Carlyle Realty Partners VI, L.P.	Washington	DC	841
DLJ Real Estate Capital Partners II, L.P.	New York	NY	123
DLJ Real Estate Capital Partners III, L.P.	New York	NY	979
DLJ Real Estate Capital Partners IV, L.P.	New York	NY	2,244
DRA Growth and Income Fund VI, L.P.	New York	NY	1,799
DRA Growth and Income Fund VII, L.P.	New York	NY	2,205

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Real Estate-Partnerships/Funds (continued)</u>			
Exeter Industrial Value Fund II, L.P.	Plymouth Meeting	PA	\$ 822
Fillmore West Fund, L.P.	San Francisco	CA	506
Fortress Investment Fund IV, L.P.	New York	NY	957
Fortress Investment Fund V (Fund A), L.P.	New York	NY	1,501
Hines U.S. Office Value Added Fund, L.P.	Houston	TX	71
JPMCB Strategic Property Fund	New York	NY	229
LCCG RE Special Situations Mortgage Fund, LLC	Irving	TX	358
Latitude Management Real Estate Capital III, Inc.	Providence	RI	742
Legg Mason Real Estate Capital, Inc.	Los Angeles	CA	21
Legg Mason Real Estate Capital II, Inc.	Los Angeles	CA	1,251
LEM RE High Yield Debt & Preferred Equity Fund III, L.P.	Philadelphia	PA	563
LEM Real Estate Mezzanine Fund II, L.P.	Philadelphia	PA	345
Lubert-Adler Real Estate Fund IV, L.P.	Philadelphia	PA	83
Lubert-Adler Real Estate Fund V, L.P.	Philadelphia	PA	337
Lubert-Adler Real Estate Fund VI, L.P.	Philadelphia	PA	550
Madison Marquette Retail Enhancement Fund, L.P.	Washington	DC	945
Morgan Stanley Real Estate Fund IV Special Dom., L.P.	New York	NY	21
Morgan Stanley Real Estate Fund IV Special Int'l, L.P.	New York	NY	152
Morgan Stanley Real Estate Fund V Special Int'l, L.P.	New York	NY	308
Morgan Stanley Real Estate Fund V Special U.S., L.P.	New York	NY	84
Morgan Stanley Real Estate Fund VI Special Int'l, L.P.	New York	NY	621
Morgan Stanley Real Estate Fund VII Global, L.P.	New York	NY	1,412
O' Connor North American Property Partners, L.P.	New York	NY	801
O' Connor North American Property Partners II, L.P.	New York	NY	967
Paladin Realty Latin America Investors III, L.P.	Los Angeles	CA	1,594
Peabody Global Real Estate Partners, L.P.	New York	NY	25
PRISA	Parsippany	NJ	693
ProLogis North American Industrial Fund, L.P.	Denver	CO	1,677
RCG Longview Debt Fund IV, L.P.	New York	NY	1,035
RCG Longview Debt Fund V, L.P.	New York	NY	844
RCG Longview Equity Fund, L.P.	New York	NY	476
Senior Housing Partnership Fund IV, L.P.	Parsippany	NJ	447
Silverpeak Legacy Pension Partners II, L.P.	New York	NY	1,029
Silverpeak Legacy Pension Partners III, L.P.	New York	NY	1,052
Silverpeak/PSERS Real Estate, L.P.	New York	NY	65
Strategic Partners Fund II RE, L.P.	New York	NY	93
Strategic Partners Fund III RE, L.P.	New York	NY	(73)

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Real Estate-Partnerships/Funds (continued)</u>			
Strategic Partners Fund IV RE, L.P.	New York	NY	\$ 326
Stockbridge Real Estate Fund, L.P.	New York	NY	2,338
Stockbridge Real Estate Fund II, L.P.	New York	NY	814
Stockbridge Real Estate Fund III, L.P.	New York	NY	1,817
Strategic Partners Value Enhancement Fund, L.P.	Los Angeles	CA	541
UBS (US) Trumbull Property Fund, L.P.	Hartford	CT	830
Subtotal - Real Estate-Partnerships/Funds			72,271
<u>Real Estate-Farmland</u>			
Prudential Agricultural Group	Lisle	IL	459
Subtotal - Real Estate-Farmland			459
Total Real Estate			73,926
<u>Private Equity</u>			
ABS Capital Partners II, L.P.	Baltimore	MD	3
Actis Emerging Markets 3, L.P.	London	UK	3,177
Actis Global 4 L.P.	London	UK	1,807
Apax Europe VII-B, L.P.	St. Peter Port	Guernsey	678
Baring Asia Private Equity Fund III, L.P.	Hong Kong	China	977
Baring Asia Private Equity Fund IV, L.P.	Hong Kong	China	3,048
Baring Asia Private Equity Fund V, L.P.	Hong Kong	China	4,000
Blue Point Capital Partners III (B), L.P.	Cleveland	OH	1,043
Bridgepoint Europe II-A, L.P.	London	UK	18
Bridgepoint Europe III-A, L.P.	London	UK	1,531
Bridgepoint Europe IV, L.P.	London	UK	2,955
Capital International Private Equity Fund V, L.P.	San Francisco	CA	1,134
Capital International Private Equity Fund VI, L.P.	San Francisco	CA	1,412
Catterton Growth Partners, L.P.	Greenwich	CT	852
Catterton Growth Partners II, L.P.	Greenwich	CT	1,323
Catterton Partners V, L.P.	Greenwich	CT	346
Catterton Partners VI, L.P.	Greenwich	CT	1,792
Catterton Partners VII, L.P.	Greenwich	CT	1,984
Cinven Fund (Fourth), L.P. (The)	London	UK	1,668
Cinven Fund (Fifth), L.P. (The)	London	UK	1,728
Clarity Partners, L.P.	Beverly Hills	CA	802
Clarity Partners II, L.P.	Beverly Hills	CA	35

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
Private Equity (continued)			
Coller International Partners VI, L.P.	London	UK	\$ 1,500
Crestview Capital Partners, L.P.	New York	NY	1,140
Crestview Partners II (PF), L.P.	New York	NY	1,272
CVC Capital Partners Asia III Pacific, L.P.	George Town	Cayman Islands	1,745
CVC European Equity Partners V (A), L.P.	George Town	Cayman Islands	1,838
DCPF VI Oil and Gas Co-Investment Fund, L.P.	Boston	MA	4
Denham Commodity Partners Fund VI, L.P.	Boston	MA	1,152
DLJ Merchant Banking Partners III, L.P.	New York	NY	199
Evergreen Pacific Partners II, L.P.	Seattle	WA	447
First Reserve Fund XI, L.P.	Greenwich	CT	1,331
First Reserve Fund XII, L.P.	Greenwich	CT	3,001
GoldPoint Partners Co-Investment V, L.P.	New York	NY	792
Graham Partners Investments (B), L.P.	Newtown Square	PA	104
Greenwich Street Capital Partners II, L.P.	New York	NY	22
Headland Private Equity Fund 6, L.P.	George Town	Cayman Islands	2,398
HgCapital 7, L.P.	London	UK	1,351
Incline Equity Partners III, L.P.	Pittsburgh	PA	941
Irving Place Capital Partners III, L.P.	New York	NY	675
Jefferies Capital Partners IV, L.P.	New York	NY	157
KKR 2006 Fund, L.P.	New York	NY	952
Jefferies Capital Partners IV, L.P.	New York	NY	157
KKR 2006 Fund, L.P.	New York	NY	952
Landmark Equity Partners XIII, L.P.	Simsbury	CT	1,000
Landmark Equity Partners XIV, L.P.	Simsbury	CT	1,500
Milestone Partners III, L.P.	Rosemont	PA	624
Morgan Stanley PE Asia Fund IV, L.P.	New York	NY	2,117
Navis Asia Fund V, L.P.	Kuala Lumpur	Malaysia	1,255
New Mountain Partners III, L.P.	New York	NY	1,041
New York Life Capital Partners III, L.P.	New York	NY	722
New York Life Capital Partners IV, L.P.	New York	NY	617
NGP Natural Resources X, L.P.	Irving	TX	1,433
Nordic Capital VII Beta, L.P.	St. Helier	Guernsey	1,602
Orchid Asia V, L.P.	Grand Cayman	Cayman Islands	800
PAI Europe IV, L.P.	Paris	France	1,052
PAI Europe V, L.P.	St. Peter Port	Guernsey	923
Palladium Equity Partners IV, L.P.	New York	NY	1,931
Partners Group Secondary 2008, L.P.	St. Peter Port	Guernsey	2,568
Partners Group Secondary 2011, L.P.	St. Peter Port	Guernsey	1,250

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Private Equity (continued)</u>			
Permira IV, L.P.	London	UK	\$ 1,117
PNC Equity Partners, L.P.	Pittsburgh	PA	7
PNC Equity Partners II, L.P.	Pittsburgh	PA	65
Providence Equity Partners VI, L.P.	Providence	RI	1,481
Quadrangle Capital Partners II, L.P.	New York	NY	719
StepStone International Investors III, L.P.	London	UK	967
Sterling Capital Partners, L.P.	Northbrook	IL	487
Strategic Partners II, L.P.	New York	NY	546
Strategic Partners III-B, L.P.	New York	NY	500
Strategic Partners IV, L.P.	New York	NY	552
Strategic Partners V, L.P.	New York	NY	1,125
TPG Partners V, L.P.	Fort Worth	TX	481
TPG Partners VI, L.P.	Fort Worth	TX	1,999
Trilantic Capital Partners IV, L.P.	New York	NY	365
Trilantic Capital Partners V, L.P.	New York	NY	1,204
Subtotal - Private Equity			86,092
<u>Private Debt</u>			
Apollo Investment Fund VIII, L.P.	New York	NY	\$ 2,025
Avenue Asia Special Situations Fund IV, L.P.	New York	NY	1,211
Avenue Special Situations Fund VI, L.P.	New York	NY	641
Cerberus Institutional Partners, L.P. (Series Three)	New York	NY	313
Cerberus Institutional Partners, L.P. (Series Four)	New York	NY	2,003
Cerberus Institutional Partners V, L.P.	New York	NY	2,404
Gleacher Mezzanine Fund II, L.P.	New York	NY	438
Gold Hill Venture Lending 03-A, L.P.	Santa Clara	CA	13
GSC Recovery III, L.P.	Greenwich	CT	621
NYLIM Mezzanine Partners Parallel Fund, L.P.	New York	NY	83
NYLIM Mezzanine Partners Parallel Fund II, L.P.	New York	NY	332
OCM Opportunities Fund VII, L.P.	Los Angeles	CA	349
OCM Opportunities Fund VII-B, L.P.	Los Angeles	CA	743
Versa Capital Fund, L.P.	Philadelphia	PA	912
Versa Capital Fund II, L.P.	Philadelphia	PA	702
Windjammer Senior Equity Fund IV, L.P.	Newport Beach	CA	910
Subtotal - Private Debt			13,700

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Venture Capital</u>			
Aisling Capital II, L.P.	New York	NY	\$ 543
Aisling Capital III, L.P.	New York	NY	557
Co-Investment Fund II, L.P. (The)	Radnor	PA	1,387
KBL Partnership, L.P.	New York	NY	136
LLR Equity Partners II, L.P.	Philadelphia	PA	575
LLR Equity Partners III, L.P.	Philadelphia	PA	2,242
LLR Equity Partners IV, L.P.	Philadelphia	PA	3,459
Novitas Capital, L.P.	Wayne	PA	3
Novitas Capital II, L.P.	Wayne	PA	50
Psilos Group Partners III, L.P.	New York	NY	704
Quaker BioVentures, L.P.	Philadelphia	PA	1,261
Quaker BioVentures II, L.P.	Philadelphia	PA	1,434
SCP Private Equity Partners II, L.P.	Wayne	PA	380
Starvest Partners II, L.P.	New York	NY	909
Strategic Partners III-VC, L.P.	New York	NY	261
Strategic Partners IV VC, L.P.	New York	NY	282
Summit Partners Growth Equity Fund VIII, L.P.	Boston	MA	597
Tenaya Capital IV-P, L.P.	New York	NY	427
Tenaya Capital V-P, LP	New York	NY	952
Tenaya Capital VI, L.P.	New York	NY	<u>1,000</u>
Subtotal - Venture Capital			17,159
Total Alternative Investments			116,951
<u>Absolute Return</u>			
Aeolus Capital Management Ltd.	Hamilton	Bermuda	\$ 13,906
Anderson Global Macro Fund	New York	NY	509
AQR Capital Management, LLC	Greenwich	CT	1,162
Black River Asset Management LLC	Minnetonka	MN	9,953
BlackRock Financial Management, Inc.	San Francisco	CA	11,119
BlueCrest Capital Management L.P.	New York	NY	3,087
Brevan Howard Fund, Ltd.	George Town	Cayman Islands	6,118
Bridgewater Associates, Inc.	Westport	CT	23,444
Brigade Capital Management, LLC	New York	NY	17,983
Capula Global Relative Value Fund	London	UK	8,291
Capula Tail Risk Fund	London	UK	6,908
Caspian Select Credit International Fund	New York	NY	7,943

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Absolute Return (continued)</u>			
Ellis Lake Domestic Fund, LP	New York	NY	\$ 2,740
Lazard Asset Management	New York	NY	449
Nephila Capital Ltd.	Hamilton	Bermuda	7,080
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	11,004
Perry Partners L.P.	New York	NY	3,422
Robeco Investment Management	New York	NY	2,856
Sciens Aviation Special Opportunities Fund II, L.P.	Miami	FL	<u>2,549</u>
Total - Absolute Return			140,523
<u>Commodities</u>			
Cargill Financial Services Corporation	Hopkins	MN	825
Credit Suisse Asset Management, LLC	New York	NY	553
Gresham Investment Management, LLC	New York	NY	2,176
Schroder Investment Management North America, Inc.	New York	NY	2,771
Wellington Management Company, L.L.P.	Boston	MA	<u>5,009</u>
Total - Commodities			11,334
<u>Master Limited Partnerships</u>			
Harvest Fund Advisors, LLC	Wayne	PA	3,382
Salient Capital Advisors, LLC	Houston	TX	2,719
Stein Roe Investment Counsel D/B/A Atlantic Trust	Chicago	IL	<u>5,032</u>
Total - Master Limited Partnerships			11,133
<u>Risk Parity</u>			
AQR Capital Management, LLC	Greenwich	CT	1,423
Bridgewater All Weather Fund @15%, Ltd.	Westport	CT	4,192
D. E. Shaw & Co., L.P.	New York	NY	<u>640</u>
Total - Risk Parity			6,255
Total External Management			463,400
Total Internal Management			<u>12,336</u> *
Total Investment Management			<u>\$ 475,736</u>

*Internal Management fees include salaries and fringe benefits of \$5,963 and operating expenses of \$6,373.



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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. The PSERS Internal Equity Trading Desk (Trading Desk) has the ability to trade domestic and international equities, currencies, options, and futures. 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

In addition to trade execution, the Trading Desk provides PSERS with access to information on the financial markets and analysis of trading ideas and strategies developed by PSERS' internal management. Various systems, including Bloomberg, and access to analysis from the broker community provide resources used in evaluating and implementing internal trading ideas and strategies. Trade Cost Analysis (TCA) is able to be performed on a pre-trade basis in order to get an idea of the expected costs of any transaction. Program trading applications enable the Trading Desk to manage the large number of trading transactions which occur during asset allocation changes, index rebalances, or other transitional trading events. These applications provide a means to execute large trading baskets while monitoring the profit or loss of the trade execution in real-time.

During the fiscal year ended June 30, 2014, PSERS' trading desk executed approximately 139,089,160 U.S. shares, 102,931 U.S. futures contracts, 71,276,526 international shares, and 120,955 international futures contracts with a combined notional value of \$92.1 billion.



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**PSERS' Public Market
Emerging Investment Manager
(PMEIM) Program
(as of December 31, 2014)**

The Public Market Emerging Investment Manager (PMEIM) Program is a sub-section of PSERS' 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, 2014: \$815.8 million or 1.6% of the total market value of the Fund.

Number of External Investment Managers: PSERS had contracts with 5 external investment managers in the PMEIM Program.

Section 3 - Investment Information

PSERS' PMEIM Investment Managers (Market Value in Millions) (unaudited, as of December 31, 2014)

<u>External Manager</u>	<u>PA-Based</u>	<u>Women-owned</u>	<u>Minority-owned</u>	<u>Other</u>	<u>Total</u>
<u>U.S. Equity Mid and Small Cap</u>					
A.H. Lisanti Capital Growth, LLC		\$ 72.7			\$ 72.7
<u>U.S. Core Plus Fixed Income</u>					
Piedmont Investment Advisors			\$ 53.4		53.4
Pugh Capital Management, Inc.			94.6		94.6
<u>Short Term Duration - Fixed Income</u>					
Radcliffe Specialty Finance Debt Strategy	\$ 250.0				250.0
Radcliffe Capital Management	247.4				247.4
<u>Absolute Return</u>					
Ellis Lake Capital, LLC				\$ 97.7	97.7
Total PSERS' PMEIM Portfolios	<u>\$ 497.4</u>	<u>\$ 72.7</u>	<u>\$ 148.0</u>	<u>\$ 97.7</u>	<u>\$ 815.8</u>
<i>Percentage by category</i>	<u>61.0%</u>	<u>8.9%</u>	<u>18.1%</u>	<u>12.0%</u>	

SECTION 4 - COMMITMENT TO PENNSYLVANIA

Pennsylvania-Based Investment Managers Tab 17
Investments in Pennsylvania..... Tab 18



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Section 4 - Commitment to Pennsylvania

Commitment to Pennsylvania-Based Investment Managers (as of December 31, 2014)

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) a unique insight or process; (2) the ability to add long-term excess returns above passive alternatives, net of fees; (3) adequate capacity to execute the strategy; (4) adding diversification to our existing investment structure; (5) not exhibiting style drift, and; (6) exhibiting a high level of ethical behavior. 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 2014, investment manager fees paid to external firms managing PSERS' assets from offices located in Pennsylvania amounted to \$ 27.8 million, or 6.0% 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, 2014:

<i>Pennsylvania-Based Manager</i>	<i>Market Value (in millions)</i>	<i>Percentage of the Fund</i>
Internal Management		
US. Equity:		
S&P 500 Index	\$ 4,300.3	8.5%
S&P 400 Index	370.1	0.7%
S&P 600 Index	379.6	0.7%
Non-U.S. Equity:		
ACW ex-U.S. Index	1,828.4	3.6%
Emerging Markets Equity	356.9	0.7%
Fixed Income:		
PSERS TIPS	1,044.1	2.1%
PSERS Active Aggregate	1,088.7	2.1%
PSERS U.S. Long Treasuries	38.5	0.1%
Cash & Cash Equivalents:		
STIF	3,029.0	6.0%
Commodities:		
PSERS Gold Fund	(1.5) a	0.0%
PSERS Commodity Beta	(26.8) a	0.0%
Risk Parity:		
PSERS Risk Parity	270.8	0.5%
Private Markets:		
Internal Program	226.8	0.4%
Real Estate:		
Internal Program	63.1	0.1%
Total Internal Management	\$ 12,968.0	25.5%

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, 2014)

(continued)

<i>Pennsylvania-Based Manager</i>	<i>Market Value (in millions) (1)</i>	<i>Percentage of the Fund</i>
External Management		
Fixed Income:		
LBC Credit Partners II, LP	\$ 64.9	0.1%
LBC Credit Partners III, LP	124.7	0.2%
Mariner - International Infrastructure Finance Company Fund L.P.	49.1	0.1%
Radcliffe Capital Management	497.4	1.0%
SEI Investments Company	100.2	0.2%
Master Limited Partnership:		
Harvest Fund Advisors, LLC	737.7	1.4%
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.		
Exeter Industrial Value Fund III, 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		
Subtotal Real Estate:	\$ 536.7	1.1%
Private Equity and Debt:		
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.		
Subtotal Private Equity and Debt:	\$ 355.0	0.7%

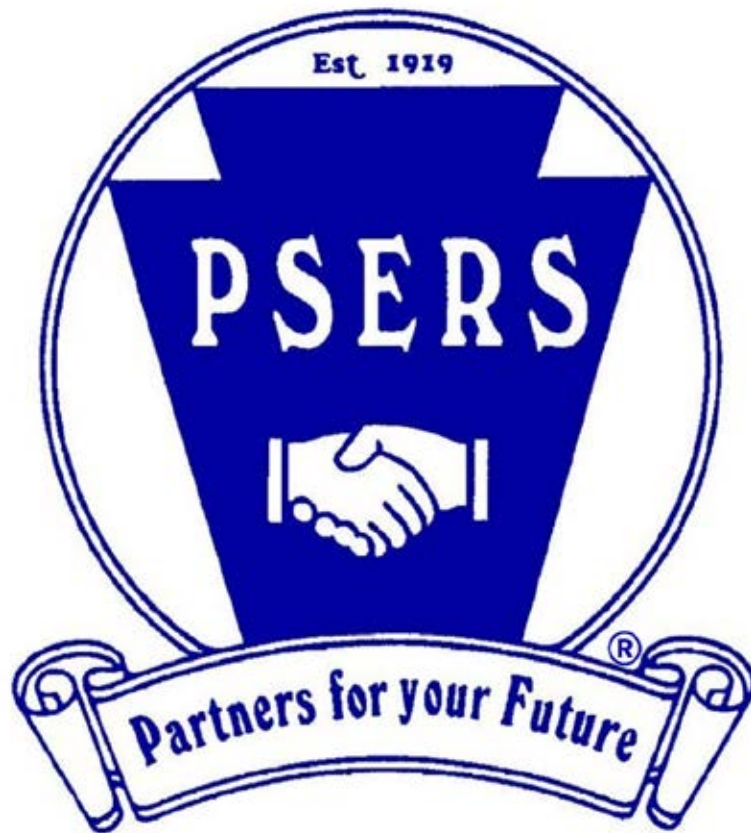
(1) Market values for individual Real Estate and Private Market investments are not being disclosed at this time.

Section 4 - Commitment to Pennsylvania

Commitment to Pennsylvania-Based Investment Managers (as of December 31, 2014) (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.		
Subtotal Venture Capital:	\$ 427.2	0.8%
Total External Management	\$ <u>2,892.9</u>	<u>5.7%</u>
Total Investment Portfolios Managed in PA	\$ <u>15,860.9</u>	<u>31.2%</u>

(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, 2014)

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, 2014 (\$’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	\$ 146.8	\$ 146.8	*	\$ *
Fixed Income	98.8	98.8	*	*
Private Real Estate	138.4	2,937.0	290	9.9
Private Markets:				
Venture Capital	166.3	595.7	4,303	123.5
Private Equity	1,625.0	44,056.0	27,779	845.9
Private Debt	<u>156.8</u>	<u>1,145.0</u>	<u>8,264</u>	<u>166.3</u>
Total	\$ <u>2,332.1</u>	\$ <u>48,979.3</u>	<u>40,636</u>	\$ <u>1,145.6</u>

* 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, 2014, PSERS’ Pennsylvania real estate portfolio contained 82.9 million square feet of office, retail, and warehouse space and 33,519 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 \$138.4 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.
- 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.
- Brixmor - Blackstone Real Estate Partners VI made an investment in a nationwide portfolio of neighborhood shopping centers, comprising over 91 million square feet of gross leasable area in 39 states. There are 18 centers comprising over 7.0 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, 2014)

(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.
- 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 \$2.7 billion to 55 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, 2014, 30 of the 55 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, 2014, PSERS' Venture Capital partnerships invested in 123 Pennsylvania locations employing 4,303 employees with a combined payroll of \$123.5 million. The market value of these investments was \$595.7 million, of which PSERS' share was \$166.3 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:

- 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.

- 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.
- 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.
- 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.

Private Equity

PSERS' Private Equity program has committed \$18.8 billion to 138 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, 2014, PSERS' Private Equity partnerships invested in 553 Pennsylvania locations employing 27,779 employees with a combined payroll of \$845.9 million. The market value of these investments was \$44.1 billion, of which PSERS' share was \$1.6 billion. From the inception of this program to December 31, 2014, 7 of the 138 partnerships were headquartered in Pennsylvania. The following companies are a sample of Pennsylvania investments funded through PSERS' private equity partnerships:

- Bacharach, Inc., New Kensington, PA - Bacharach was founded in 1909 and changed ownership several times before it was purchased by an individual in 1986 from United Technologies. Between 1986 and mid-2000's, Bacharach rapidly diversified its product line

**Summary of Investments in
Pennsylvania
(as of December 31, 2014)
(continued)**

through new introductions and acquisitions. Today, Bacharach is a leading manufacturer of handheld and fixed-based instruments for the measurement and detection of gases and the recovery of refrigerants. The company's products include instruments that detect, measure and record combustion and environmental gases, temperature, relative humidity, air velocity and other air quality and safety parameters. Bacharach sells its products to a mix of customers including heating, ventilation, air conditioning and refrigeration (HVAC/R) distributors, industrial and master distributors, catalog houses and Original Equipment Manufacturers (OEMs). PNC Equity Partners III made this investment.

- Blaschak Coal Corp., Mahanoy City, PA - Blaschak Coal Corp. ("Blaschak") is a miner, preparer and marketer of anthracite, a relatively rare form of coal that has high carbon content and low levels of impurities, making it a valuable fuel for a variety of industrial applications and home heating. Blaschak is a market leader and one of the few fully integrated U.S. anthracite companies with a large reserve base, multiple mines, multiple preparation plants, a bagging plant, rail and truck loading facilities and extensive marketing operations serving several end markets. Milestone Partners 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. Milestone Partners II 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 Channel's Man V. Food and Food Paradise television shows. Catterton Partners VII, L.P. made this investment.

Private Debt

PSERS' Private Debt program has committed \$4.7 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, 2014, PSERS' private debt partnerships invested in 155 Pennsylvania locations employing 8,264 employees with a combined payroll of \$166.3 million. The market value of these investments was \$1.1 billion, of which PSERS' share was \$156.8 million. From the inception of this program to December 31, 2014, three of the 30 private debt partnerships were headquartered in Pennsylvania. The following companies are a sample of 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.
- 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.
- Vestis Retail Group, Philadelphia, PA - Vestis Retail Group is the combined parent of Bob's Stores and Eastern Mountain Sports ("EMS"). Bob's is a value-oriented retail chain selling branded apparel, footwear, activewear and sportswear in the Northeast. EMS is an iconic retailer of outdoor gear and apparel operating in the Northeast and Mid-Atlantic. This investment was made through Cerberus Institutional Partners – Series Two.

**Summary of Investments in
Pennsylvania
(as of December 31, 2014)
(continued)**

PSERS Private Equity Internal Program

PSERS' Private Equity Internal Program has committed \$195.1 million to 16 investments since the inception of the program. PSERS has committed \$2.5 million to one investment based in Pennsylvania. PSERS's Private Equity 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.

Section 4 - Commitment to Pennsylvania

Pennsylvania-Based Publicly Traded Stocks (as of December 31, 2014)

<i>Security</i>	<i>Shares Outstanding</i>	<i>Market Value</i>
Air Products & Chemicals, Inc.	35,095	\$ 5,061,752
Airgas, Inc.	12,267	1,412,913
Allegheny Technologies, Inc.	24,368	847,275
American Eagle Outfitters	37,549	521,180
Amerigas Partners LP	208,423	9,987,630
Amerisourcebergen Corp.	37,908	3,417,785
Ametek, Inc.	44,873	2,361,666
Ansys, Inc.	19,716	1,616,712
Aqua America, Inc.	37,891	1,011,690
Atlas Energy LP	200,000	6,230,000
Carpenter Technology Corp.	11,420	562,435
Comcast Corp.	57,990	3,364,000
Cone Midstream Partners LP	67,701	1,632,948
Consol Energy, Inc.	98,064	3,315,544
CrossAmerica Partners LP	249,713	10,060,937
Dentsply International, Inc.	25,824	1,375,644
Dicks Sporting Goods, Inc.	21,046	1,044,934
EQT Corp.	55,299	4,186,134
Federated Investors, Inc.	98,219	3,234,352
FMC Corp.	24,316	1,386,741
Fulton Financial Corp.	39,742	491,211
Harsco Corp.	17,335	327,458
Hershey Company	27,001	2,806,214
Interdigital, Inc.	228,972	12,112,619
Kennametal, Inc.	16,969	607,321
Liberty Property Trust	31,865	1,199,080
Lincoln National Corp.	47,402	2,733,673
MSA Safety, Inc.	6,746	358,145
Mylan Labs, Inc.	68,291	3,849,564
PNC Financial Services Group, Inc.	96,013	8,759,266
PPG Industries, Inc.	25,040	5,787,996
PPL Corp.	121,350	4,408,646
Rice Energy, Inc.	57,395	1,203,573
Rice Midstream Partners LP	651,395	10,910,866
SEI Investments Co.	27,982	1,120,399
Sunoco Logistics Partners LP	415,754	17,370,202
Teleflex, Inc.	8,884	1,020,061
Toll Bros., Inc.	34,730	1,190,197
Triumph Group, Inc.	10,895	732,362
UGI Corp.	36,988	1,404,804
United States Steel Corp.	38,919	1,040,694

Section 4 - Commitment to Pennsylvania

Pennsylvania-Based Publicly Traded Stocks

(as of December 31, 2014)

(continued)

<i>Security</i>	<i>Shares Outstanding</i>	<i>Market Value</i>
Universal Health Services, Inc.	16,614	\$ 1,848,474
Urban Outfitters, Inc.	18,255	641,298
Vishay Intertechnology, Inc.	29,101	411,779
Westinghouse Air Brake Technologies Corp.	20,648	<u>1,794,105</u>
Total		\$ <u>146,762,280</u>

Pennsylvania-Based Bonds

(as of December 31, 2014)

<i>Security</i>	<i>Interest Rate (%)</i>	<i>Maturity Date</i>	<i>Par Value</i>	<i>Market Value</i>
Amerisourcebergen Corp.	1.150	05/15/2017	1,000,000	\$ 991,550
Bethel Park PA	4.000	09/01/2033	2,000,000	2,094,340
Chester County PA	5.000	11/15/2031	2,660,000	3,129,623
Comcast Corp.	6.450	03/15/2037	370,000	492,255
Comcast Corp.	6.400	03/01/2040	302,000	408,573
FS Investment Corp.	4.250	01/15/2020	54,000,000	53,738,640
H.J. Heinz Finance Company	7.125	08/01/2039	390,000	421,200
Harsco Corp.	2.700	10/15/2015	7,100,000	7,091,125
Hempfield PA Area School District	5.000	10/15/2018	2,650,000	2,685,404
Hershey Foods Corp.	7.200	08/15/2027	1,000,000	1,385,420
Montgomery County PA	6.030	09/01/2039	3,400,000	3,738,334
Mylan, Inc.	7.875	07/15/2020	430,000	458,036
PHEAA	0.760	08/25/2040	421,946	421,946
PHEAA	0.866	04/25/2019	126,405	126,553
PNC Bank	0.537	08/01/2017	10,000,000	9,963,600
PNC Bank	0.543	01/28/2016	4,000,000	4,004,800
PPL Capital Funding, Inc.	4.200	06/15/2022	470,000	497,899
PPL Electric Utilities Corp.	2.500	09/01/2022	3,000,000	2,964,360
Rohm & Haas Company	6.000	09/15/2017	1,024,000	1,132,524
Verizon Pennsylvania Inc.	8.350	12/15/2030	2,229,000	<u>3,061,732</u>
Total				\$ <u>98,807,914</u>

Section 4 - Commitment to Pennsylvania

Real Estate Separate Account Pennsylvania Properties
(as of December 31, 2014)

Real Estate Separate Account Pennsylvania Properties

Property	Location	Description	Manager
5 North Fifth Street	Harrisburg	5 story office building (PSERS headquarters)	Grosvenor

Total market value (unaudited) of Pennsylvania-based properties was \$7.2 million as of December 31, 2014.

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, 2014)

<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
Total		<u>\$ 2,280.6</u>

Section 4 - Commitment to Pennsylvania

Pennsylvania-Based Real Estate Partnerships

(Dollar Amounts in Millions)

(Since the inception of the program as of December 31, 2014)

<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
Exeter Industrial Value Fund III, 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>
Total		\$ <u>1,162.5</u>



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SECTION 5 - OTHER PSERS PROGRAMS

Health Options Program.....	Tab 19
Premium Assistance Program.....	Tab 20



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Section 5 - Other PSERS Programs

Health Options Program

Pursuant to Sec. 8502.2 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 January 1, 2014 to January 1, 2015.

- » 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, 2015. As a result of the IFA, PSERS is expecting 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, 2015, the following benefit changes were adopted:

Basic Medicare Rx Option		For 2014 Member Paid	For 2015 Member Pays
Annual Deductible		\$0	\$0
Initial Coverage	Generic Drugs	\$7 (\$21 for 90-days)	\$8 (\$24 for 90-days)
	Preferred Brand Drugs	30% up to \$60 (\$120 for 90-days) (\$100 for 90-days by mail)	30% up to \$100 (\$250 for 90-days) (\$225 for 90-days by mail)
	Non-Preferred Brand Drugs	40%	40%
	Specialty Drugs	33%	33%
Coverage Gap	Generic Drugs	72%	65%
	Brand Drugs	47.5%	45%
	Specialty Drugs Generic Drugs	72%	65%
	Brand Drugs	47.5%	45%
Catastrophic	Generic Drugs	Greater of \$2.55 or 5% up to \$100	Greater of \$2.65 or 5% up to \$100
	Brand Drugs	Greater of \$6.35 or 5% up to \$100	Greater of \$6.60 or 5% up to \$100

Section 5 - Other PSERS Programs

Health Options Program

(continued)

Enhanced Medicare Rx Option		For 2014 Member Paid	For 2015 Member Pays
Annual Deductible		\$0	\$0
Initial Coverage	Generic Drugs	\$7 (\$21 for 90-days)	\$7 (\$21 for 90-days)
	Preferred Brand Drugs	25% up to \$50 (\$100 for 90-days) (\$90 for 90-days by mail)	25% up to \$65 (\$130 for 90-days) (\$120 for 90-days by mail)
	Non-Preferred Brand Drugs	Same as Preferred Brand	35% up to \$75 (\$150 for 90-days) (\$140 for 90-days by mail)
	Specialty Drugs	33%	33%
Coverage Gap	Generic Drugs	72%	65%
	Brand Drugs	47.5%	45%
	Specialty Drugs Generic Drugs Brand Drugs	72% 47.5%	65% 45%
Catastrophic	Generic Drugs	Greater of \$2.55 or 5% up to \$100	Greater of \$2.65 or 5% up to \$100
	Brand Drugs	Greater of \$6.35 or 5% up to \$100	Greater of \$6.60 or 5% up to \$100

» The Retirement Board is evaluating the impact of the ACA on 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.

» The Retirement Board will be deciding whether to conduct an open enrollment for the Health Options Program for benefit coverage effective January 1, 2016. Currently, a retiree and their dependents must have a Qualifying Event to enroll. Once an individual enrolls in the Health Options Program, he/she may change their benefit coverage annually during the option selection period. An open enrollment gives all PSERS retirees and their dependents an opportunity to enroll. The last open enrollment was conducted for coverage effective January 1, 2011 and before that, January 1, 2006. If the Board decides that an open enrollment will be conducted, PSERS staff and consultants will look at adding or terminating plans to meet the health benefit needs of current and future enrollees.

Section 5 - Other PSERS Programs

Health Options Program

(continued)

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

with or without prescription drug coverage or a managed care plan. These options were available to new enrollees or Health Option Program participants electing to change coverage during the 2015 option selection period conducted in the fall of 2014. The following is a list of HOP plans as of January 1, 2015:

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
Highmark SecurityBlue HMO	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 2015 compared

to the 2014 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.	2014	2015	Increase
Medicare Supplement Plans			
HOP Medical Plan	\$199	\$199	0%
HOP Medical Plan w/ Basic Medicare Rx Option	231	234	1%
HOP Medical Plan w/ Enhanced Medicare Rx Option	283	288	2%
Medicare Advantage Plans			
Aetna Medicare 15 Special PPO	344	376	9%
Highmark FreedomBlue PPO	592	592	0%
Independence Blue Cross / Keystone 65 Select HMO	299	326	9%
Legacy Medicare Advantage Plans (no new enrollment)			
Aetna Medicare 10 Special Plan HMO	426	461	8%
IBC's Personal Choice 65 PPO	636	665	5%

Section 5 - Other PSERS Programs

Health Options Program

(continued)

Southwestern Region: Allegheny, Fayette, Greene, Indiana, Washington, and Westmoreland Counties	2014	2015	Increase
Medicare Supplement Plans			
HOP Medical Plan	\$195	\$195	0%
HOP Medical Plan w/ Basic Medicare Rx Option	227	230	1%
HOP Medical Plan w/ Enhanced Medicare Rx Option	279	284	2%
Medicare Advantage Plans			
Aetna Medicare 15 Special PPO	320	355	11%
Highmark SecurityBlue HMO ¹	289	304	5%
UPMC for Life HMO	234	234	0%
Legacy Medicare Advantage Plans (no new enrollment)			
Aetna Medicare 15 Special Plan HMO	419	454	8%
Highmark FreedomBlue PPO ¹	298	371	25%

¹Highmark elected to activate its HMO product and freeze its PPO product for 2015.

North & Central Region: (All other counties in Pennsylvania)	2014	2015	Increase/ (Decrease)
Medicare Supplement Plans			
HOP Medical Plan	\$169	\$169	0%
HOP Medical Plan w/ Basic Medicare Rx Option	201	204	1%
HOP Medical Plan w/ Enhanced Medicare Rx Option	253	258	2%
Medicare Advantage Plans			
Aetna Medicare 15 Special PPO*	238	273	15%
Capital Blue Cross SeniorBlue PPO*	228	222	(3)%
Geisinger Gold Preferred PPO*	265	323	22%
Highmark FreedomBlue PPO	277	308	11%
UPMC for Life HMO*	234	234	0%
Legacy Medicare Advantage Plans (no new enrollment)			
Aetna Medicare 10 Special HMO Plan*	255	290	14%
Highmark SecurityBlue HMO*	289	304	5%
Keystone Central SeniorBlue HMO*	227	215	(5)%

* 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	2014	2015	Increase
Basic Medicare Rx Only	\$29	\$35	21%
Enhanced Medicare Rx Only	82	89	9%

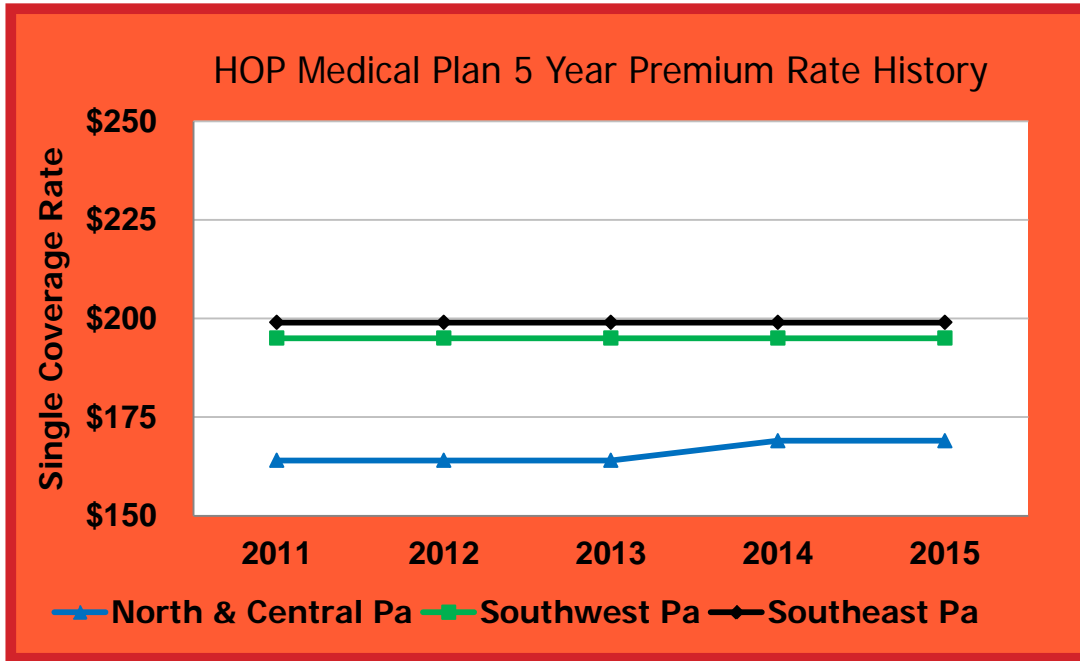
Health Options Program

(continued)

Premium History

HOP Medical Plan

The following chart illustrates the HOP Medical Plan monthly premium rates for single coverage since 2011. Rates vary by region in the Commonwealth to reflect differences in the cost of health care.



This remarkable premium stability can be attributed to:

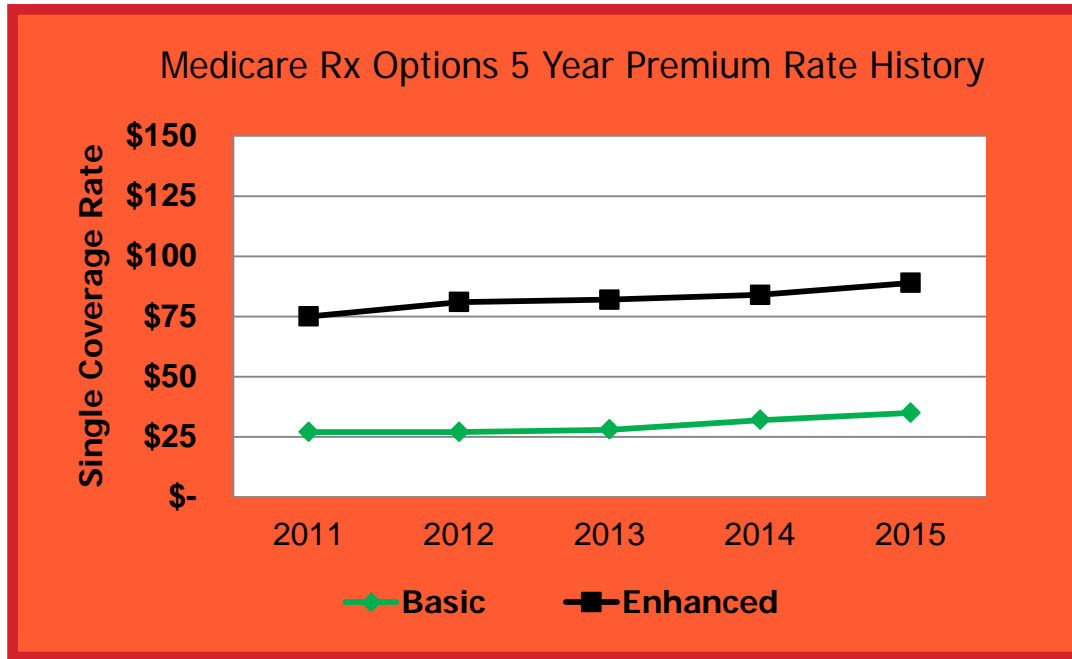
1. Plan design changes adopted by the Retirement Board to manage the utilization of health care services.
2. Increasing number of enrollees at age 65 (baby-boomer generation), thereby lowering the average age of the participant population.

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 2011. The rates for the Medicare Rx Options do not vary by region.



This 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.

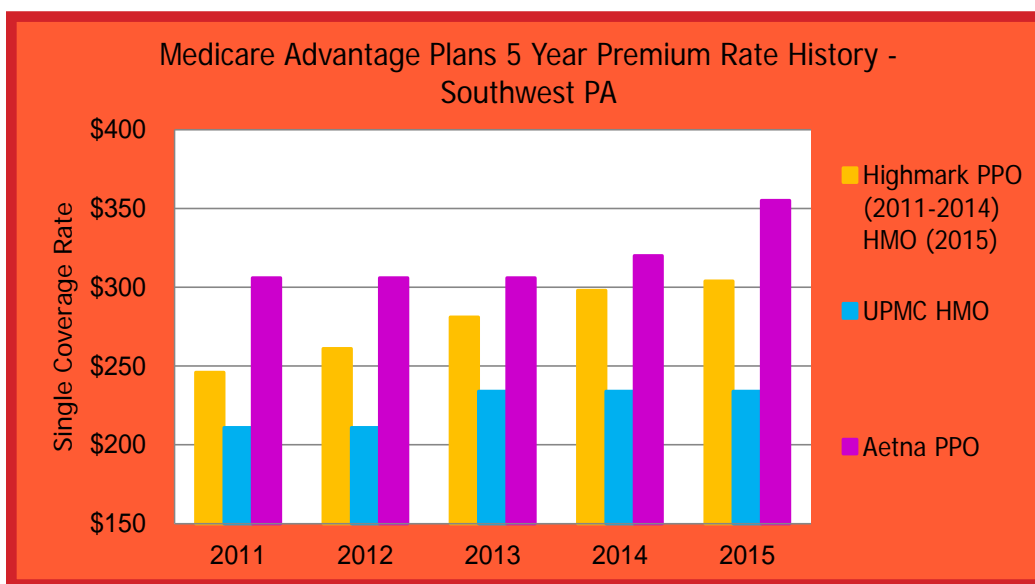
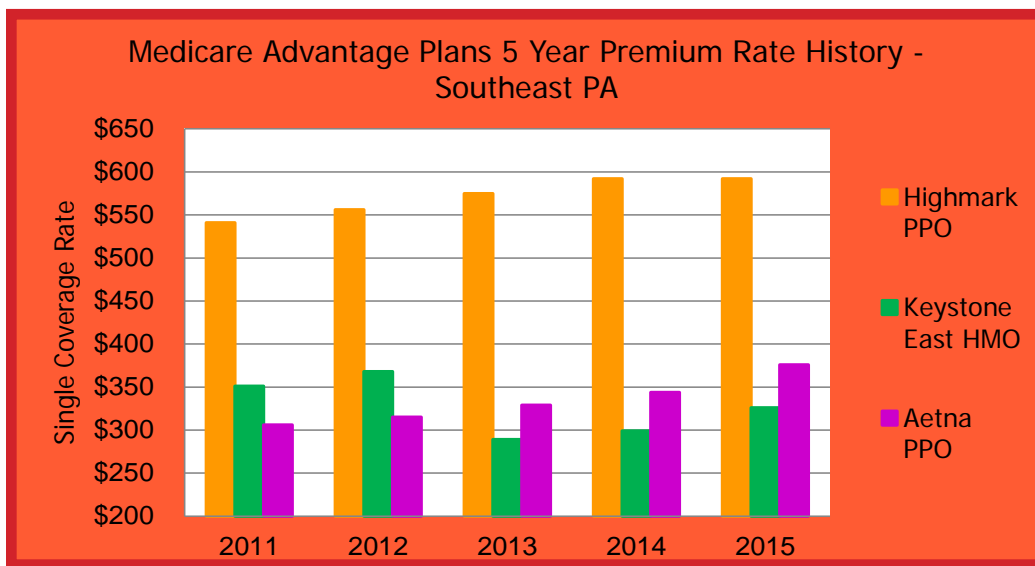
Health Options Program

(continued)

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.

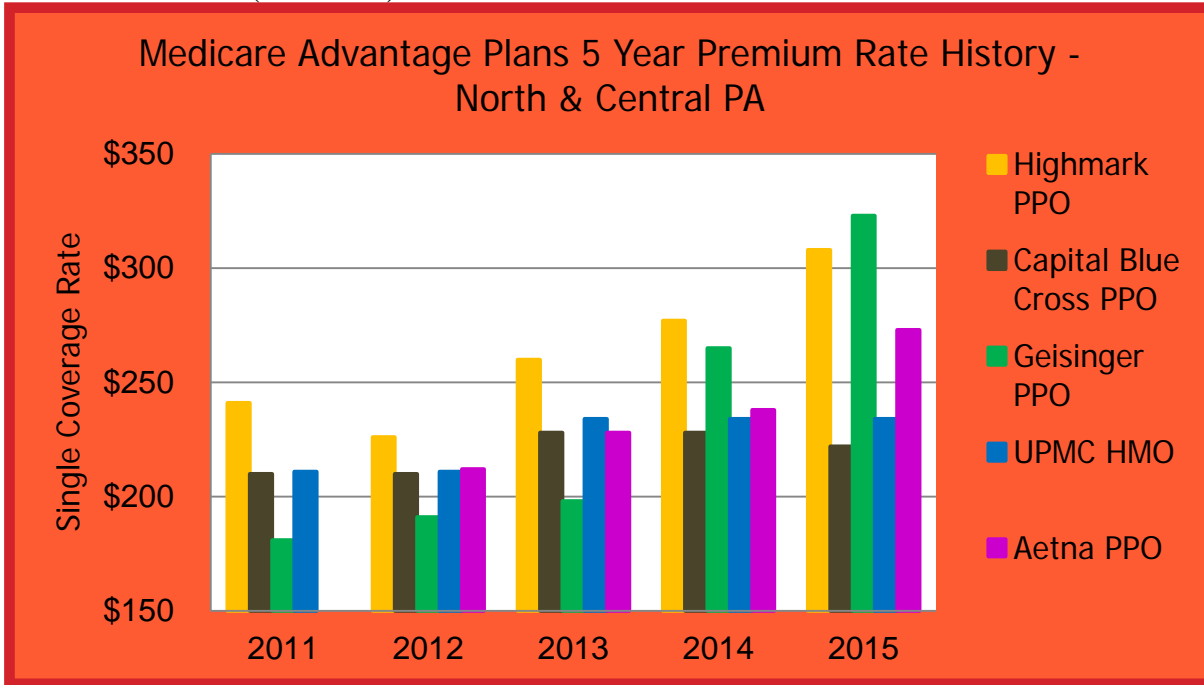
The following graphs illustrate the monthly premium rates (single coverage) for the active Medicare Advantage plans since 2011.



Section 5 - Other PSERS Programs

Health Options Program

(continued)



While the Medicare Advantage plans have not had the premium stability of the HOP Medical Plan, some of the increases are attributable to the decrease in federal funding set forth in the Affordable Care Act.

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 2015 compared to the 2014 rates in Pennsylvania for single coverage. These rates do not reflect the \$100 Premium Assistance benefit provided to eligible retirees.

All Regions	2014	2015	Increase
HOP Pre-65 Medical Plan			
HOP Pre-65 Medical Plan (Single Coverage)	\$ 717	\$ 761	6%
Pre-65 Medical Plan w/ Prescription Drugs	827	877	6%

Section 5 - Other PSERS Programs

Health Options Program

(continued)

Southeastern Region: Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties.	2014	2015	Increase/ (Decrease)
Managed Care Plans			
Aetna PPO	\$1,109	\$1,147	3%
Highmark PPOBlue	1,007	982	(2)%
Keystone East HMO	1,295	1,439	11%
Legacy Managed Care Plans (no new enrollments)			
Aetna Citizen HMO Plan	1,207	1,245	3%
IBC's Personal Choice PPO	1,291	1,438	11%

Southwestern Region: Allegheny, Fayette, Greene, Indiana, Washington, and Westmoreland Counties	2014	2015	Increase/ (Decrease)
Managed Care Plans			
Aetna PPO	\$1,109	\$1,147	3%
Highmark PPOBlue	1,007	982	(2)%
UPMC Health Plan EPO	1,384	1,384	0%
Legacy Managed Care Plans (no new enrollments)			
Aetna Citizen HMO Plan	1,207	1,245	3%
Highmark PPOBlue - High Option	1,255	1,438	11%

North & Central Region: (All other counties in Pennsylvania)	2014	2015	Increase/ (Decrease)
Managed Care Plans			
Aetna PPO*	\$1,109	\$1,147	3%
Capital Blue Cross PPO*	1,007	1,145	14%
Geisinger PPO*	1,069	903	(16)%
Highmark PPO	832	982	18%
UPMC EPO*	1,384	1,384	0%
Legacy Managed Care Plans (no new participants)			
Aetna Citizen Plan HMO	1,207	1,245	3%
Highmark PPOBlue – High Option	1,255	1,438	15%
Capital Blue Cross / Keystone Central HMO	1,039	1,088	5%

* Not available in all North & Central Region Counties.

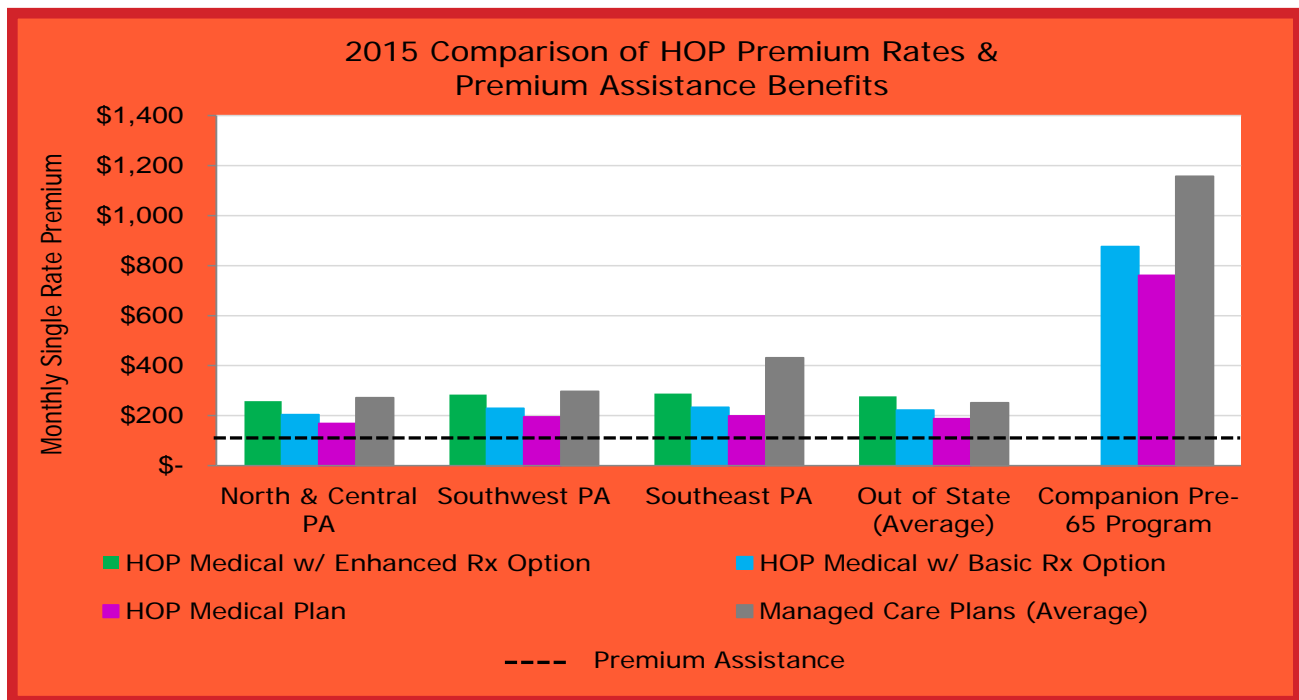
Section 5 - Other PSERS Programs

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	\$258	\$284	\$288	\$277	
HOP Medical w/ Basic Rx Option	204	230	234	223	\$877
HOP Medical Plan	169	195	199	188	761
Managed Care Plans (Average)	272	298	431	252	1,158
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

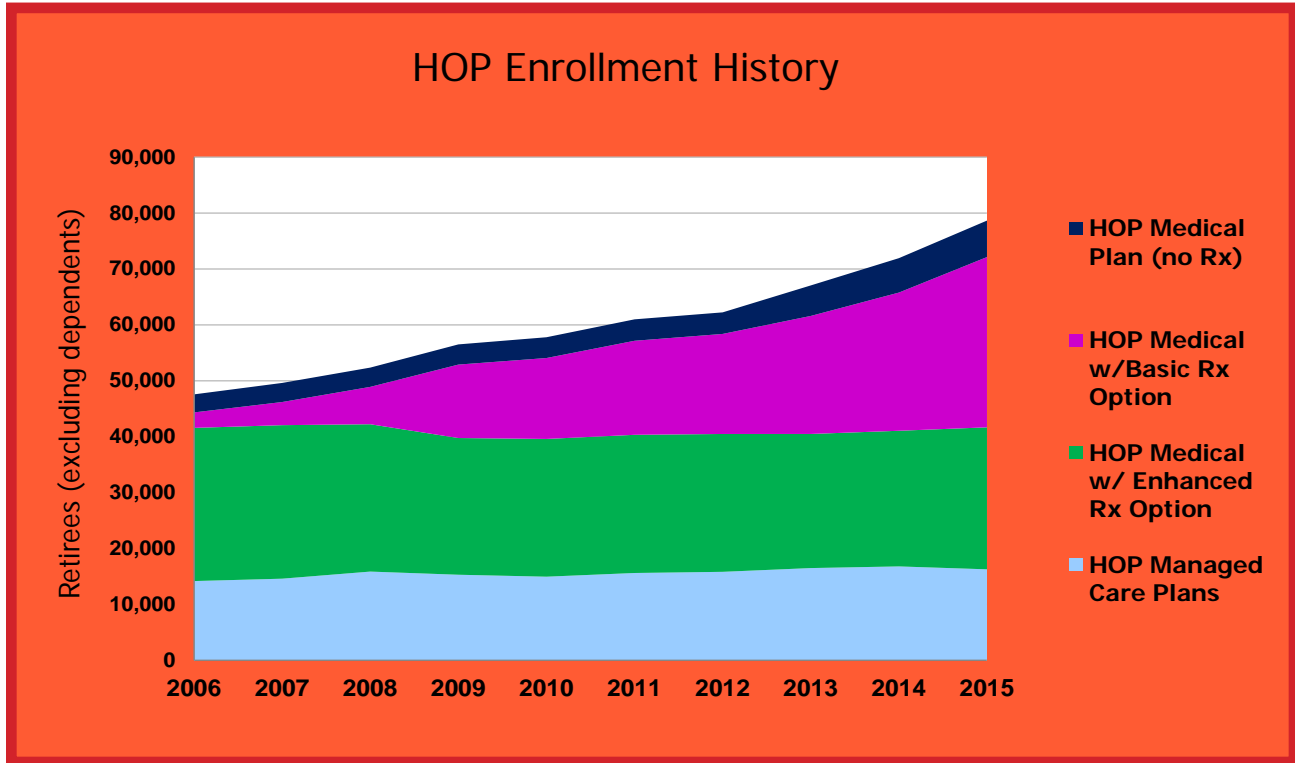
As of January 1, 2015 there are 95,503 participants (79,235 retirees plus their dependents) in the Health Options Program. The total numbers of retirees by Option are:

Individuals Eligible for Medicare	Retirees	Participants
HOP Medical w/Basic Medicare Rx Option	30,457	36,319
HOP Medical w/ Enhanced Medicare Rx Option	25,401	30,208
HOP Medical Plan (no Rx)	6,524	7,317
HOP Enhanced Rx Only	92	116
HOP Basic Rx Only	253	326
Highmark PPO/ Legacy HMO	12,954	16,786
Keystone East HMO/IBC Legacy PPO	1,129	1,366
Capital BC PPO/Keystone Central Legacy HMO	805	1,053
UPMC HMO	600	822
Aetna PPO/Legacy HMO	645	776
Geisinger PPO	136	171
Total Medicare Eligible	78,996	95,260
Individuals Not Eligible for Medicare		
HOP Pre-65 Medical Plan w/Rx Coverage	130	132
HOP Pre-65 Medical Plan	35	35
Highmark PPO	34	35
Capital BC PPO/Keystone Central Legacy HMO	16	17
Keystone East HMO/IBC Legacy PPO	14	14
Aetna PPO/Legacy HMO	5	5
Geisinger PPO	5	5
UPMC HMO	0	0
Total Not Eligible for Medicare	239	243
Total in Health Options Program	79,235	95,503

Section 5 - Other PSERS Programs

Health Options Program (continued)

Enrollment in the PSERS Health Options Program continues to increase. As illustrated by the following chart, the number of retirees participating in the HOP has increased 65% over the past 10 years.



Funding

A majority of the premium income is deducted from the retiree's monthly retirement benefit and transferred to the plan (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 \$333 million during the 2015 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) and interest income. The following is a breakdown of these sources of income (Dollar amounts in millions):

Income	Calendar Year 2015
Participant Contributions	\$297.0
CMS - Medicare Prescription Drug Payments	36.0
Interest Income	0.2
Total	\$333.2

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 67,400 of the 79,200 HOP retirees receive Premium Assistance. This accounts for about \$81 million of the \$104 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):

Benefit Expense	Calendar Year 2015
Self-funded Hospital, Medical & Major Medical Benefits	\$152.0
Self-funded Prescription Drug Benefits	86.0
Insured Managed Care Premiums	87.0
Total	\$325.0

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, 2014, HOP had net assets of \$193 million held in trust to pay the expenses of Health Options Program for the exclusive benefit of participants.



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Section 5 - Other PSERS Programs

Premium Assistance Program

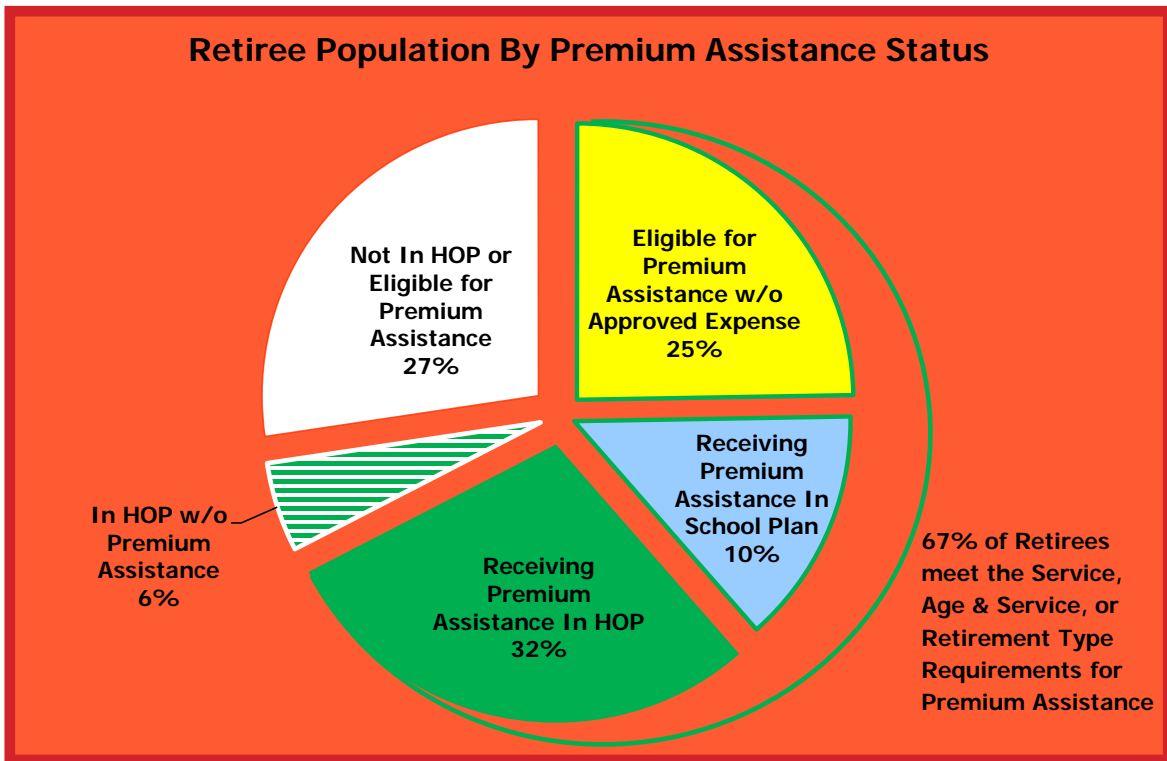
In accordance with Sec. 8509 of the Public School Employees' Retirement Code 24 Pa. C.S. § 8509, PSERS provides up to \$100 per month in Premium Assistance to eligible retirees to help cover the cost of their health insurance. The eligibility requirements for premium assistance are as follows:

- 24.5 years of credited service, or
- 15 years of credited service if termination of employment and retirement occurred after superannuation age, 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, 2014, PSERS had 203,756 retirees (excluding survivor annuitants and beneficiaries) receiving a monthly benefit. Of these retirees 138,505 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, 51,816 are not receiving premium assistance payments because they do not have an out-of-pocket premium expense from an approved plan. Of the 86,689 retirees receiving premium assistance benefits, 65,436 are enrolled in HOP and 21,253 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:



June 30, 2014	Number	Percentage
Eligible for Premium Assistance w/o Approved Expense ¹	51,816	25%
Receiving Premium Assistance In School Plan ¹	21,253	10%
Receiving Premium Assistance In HOP ¹	65,436	32%
In HOP w/o Premium Assistance	11,196	6%
Not In HOP or Eligible for Premium Assistance	54,055	27%
Total Retiree Population ²	203,756	100%

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

(2) As of June 30, 2014 Actuarial Valuation (Excludes Survivor Annuitants and Beneficiaries)

Premium Assistance Program

(continued)

Funding

The Premium Assistance Program is funded by employer contributions. The contribution rate is calculated by PSERS' actuary in accordance with the formula set forth in the Retirement Code¹. The contribution needed during FY2015/2016 is 0.84% of payroll.

For the year ended June 30, 2014, employer contributions equaled \$117.9 million and net investment income totaled \$0.07 million. During this period, PSERS paid Premium Assistance benefits equaling \$104.2 million and incurred administrative expenses of \$2.0 million.

As of December 31, 2014, the Premium Assistance Program had net assets of \$114 million.

¹§8509. Health insurance premium assistance program: (a) Contribution rate.-- For each fiscal year beginning after July 1, 1991, the premium assistance contribution rate shall be established to provide reserves sufficient, when combined with unexpended amounts from the reserves set aside the previous fiscal year for health insurance assistance payments, to provide premium assistance payments in the subsequent fiscal year for all participating eligible annuitants. The Board is authorized to expend an amount not to exceed 2% of the health insurance account each year to pay for the direct expense of administering the health insurance premium assistance program, which expenditure may be included in the Board's consideration when it establishes the premium assistance contribution rate each year.

