

**Pennsylvania
Public School Employees' Retirement System**

A Component Unit of the Commonwealth of Pennsylvania

5 North 5th Street
Harrisburg, Pennsylvania 17101-1905

**Fiscal Year 2019-20 Budget Report
Appropriations Committee
February 12, 2019**

Melva S. Vogler
Chairman
Board of Trustees

Nathan G. Mains
Vice Chairman
Board of Trustees

Glen R. Grell
Executive Director

*Report prepared primarily by the Public School Employees' Retirement System
Office of Financial Management with support from Investment Office and other PSERS professionals*

**FY 2019-20 Budget Hearing Materials
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Fiscal Year 2019-2020



Pennsylvania Public School Employees' Retirement System

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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 and post employment healthcare benefits to PSERS retirees and dependents.

As of June 30, 2018, the System had approximately 256,000 active members. The annuitant membership was comprised of approximately 233,000 retirees and beneficiaries who received average monthly pension benefit payments of over \$497 million including healthcare premium assistance. The average yearly pension benefit paid to annuitants was \$25,405. PSERS had 775 participating employers on June 30, 2018.

As reported in the latest *Pension and Investments* survey, published February 5, 2018, based on asset size, PSERS is the 31st largest plan among United States corporate and public pension plans, and the 15th largest state-sponsored defined benefit public pension fund in the nation. PSERS' total plan net assets as of June 30, 2018 were approximately \$56.7 billion. PSERS' investment rate of return for the fiscal year ended June 30, 2018 was 9.27%, net of fees.

During fiscal year 2018, PSERS' pension disbursements to retirees totaled \$6.6 billion. Of this amount, nearly 91%, or \$6.0 billion, was distributed to Pennsylvania residents representing PSERS' significant impact on the Commonwealth's economy.

In addition to retirement benefits, PSERS administers the Premium Assistance Program that provides a health insurance premium subsidy of up to \$100 per month for those retirees who qualify. At June 30, 2018, there are over 93,000 retirees who receive this benefit. PSERS also manages a health insurance program, PSERS Health Options Program, that is entirely funded through participating member premiums and provides Medicare Supplemental, Medicare Advantage, Prescription Drug, and Dental plans to over 117,000 retirees and their dependents.



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.

PSERS Board of Trustees

as of January 18, 2019

Melva S. Vogler, Chairman

Nathan G. Mains, Vice Chairman

Deborah J. Beck

Honorable John P. Blake

Senate of Pennsylvania

Honorable Matthew D. Bradford

(appointed January 18, 2019)

House of Representatives

Honorable Patrick M. Browne

Senate of Pennsylvania

Jason M. Davis

Eric O. DiTullio

Honorable Frederick B. Keller

(appointed January 18, 2019)

House of Representatives

Susan C. Lemmo

Pedro A. Rivera

Secretary of Education

Ambassador Martin J. Silverstein

(resignation effective January 2, 2019)

Christopher SantaMaria

Honorable Joseph M. Torsella

Treasurer of Pennsylvania

Robin L. Weissmann

Secretary of Banking and Securities

Organizational Structure of the Public School Employees' Retirement System

Executive Office

The Executive Director acts as the Chief Executive Officer with overall responsibility for the management of the Public School Employees' Retirement System (PSERS) to achieve the objectives of the agency as established by the Board of Trustees (Board). The position's primary duty is to lead PSERS' employees in meeting the agency mission by serving the members and stakeholders of the System to: provide timely and accurate payment of benefits; maintain a financially sound System; invest the assets of the System prudently; clearly communicate members' and employers' rights and responsibilities, and manage the resources of the System effectively. In this capacity, the position has responsibility for the establishment, installation, and maintenance of modern management techniques to provide an efficient control of funds and services to the members of the System. It certifies expenditures of the Fund and oversees the performance of professional staff and external contractors for specialized services. The Executive Director also apprises and seeks approval from the Board for significant issues that will in any way affect the System and its operation.

Investment Office

This office is headed by the Chief Investment Officer and 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

The office provides legal services through a team of professionals in collaboration with PSERS' Executive Director and the Board of Trustees. 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

The office provides independent, objective assurance, and consulting activity designed to add value and improve Public School Employees' Retirement System's (PSERS') operations. Objectives are accomplished by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes. The office provides a wide range of quality independent internal auditing services for the Audit/Compliance Committee of the PSERS' Board

and executive management. It performs independent assessments of the systems of risk management, internal controls and operating efficiency, guided by professional standards and using innovative approaches. The office also routinely monitors compliance with established laws, rules, regulations, policies and procedures.

Office of Financial Management

This office is directed by the Chief Financial Officer (CFO) 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 for PSERS Pension, Premium Assistance, HOP, and Defined Contribution Plans. The Office is also responsible for PSERS annuitant payroll and for managing actuarial functions. 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, financial reporting, treasury operations, taxation, actuarial and budgetary matters. The office is comprised of the CFO's Office, General and Public Market Accounting, Investment Accounting and Budget, Annuitant Accounting and Employer Accounting.

Deputy Executive Director and Director of Defined Contribution Investments

The position provides comprehensive leadership to assist the Executive Director to accomplish the agency mission by maintaining oversight of PSERS' membership related benefit functions for both the agency's Defined Benefit (DB) and the Defined Contribution (DC) plans in addition to DC related investment contract management. This includes managerial responsibility for the following areas: member and employer communications; member retirement counseling; member and employer data administration; benefits determinations and processing; member appeals; knowledge management of benefit policies and procedures; health insurance retirement programs including premium assistance; third party contractor administration, and defined contribution contract investment management.

Deputy Executive Director of Administration

The position provides comprehensive leadership to assist the Executive Director to accomplish the agency mission by maintaining oversight of PSERS' administrative and information technology related services for the agency. This includes managerial responsibility for the following areas: information technology; human resources; board of trustees administration; third party contract administration; physical security; facilities; contracting and procurement; business continuity; safety; records management; and mail, imaging, and printing services.

Organizational Structure (continued)

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.

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. The bureau also conducts retirement exit counseling to individual members in advance of the decision to retire.

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.

Information Technology Office

This office is headed by the Chief Information Officer and oversees the Bureau of Information Technology and the Business Architecture Center. It is responsible for strategic information technology planning and policy development, ensuring that information technology plans, projects and policies are aligned with, in support of, and prioritized according to agency needs and requirements as well as those Commonwealth needs and requirements that are consistent with agency needs, and for communicating such to the agency's IT professionals. 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.

Bureau of Administration

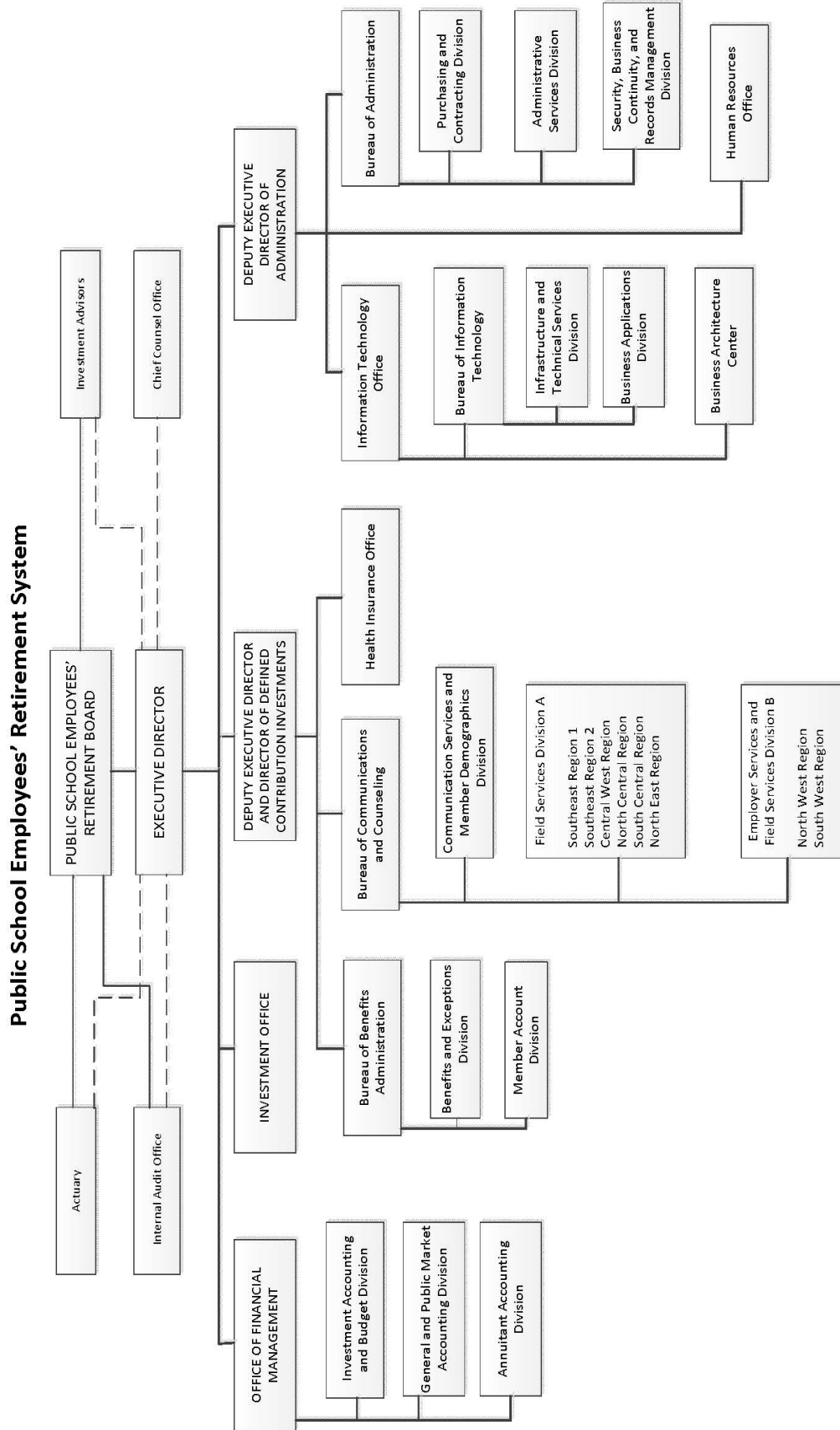
This bureau provides facilities, purchasing and contracting, policies and procedures, business continuity, records management, automotive, mail, imaging, and other administrative services necessary to support agency functions.

Human Resources Office

This office is responsible for supporting management and employees 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.

Organizational Chart of the
Public School Employees' Retirement System

Chart 2.1



PSERS REGIONAL OFFICES

Chart 2.2

Northwest

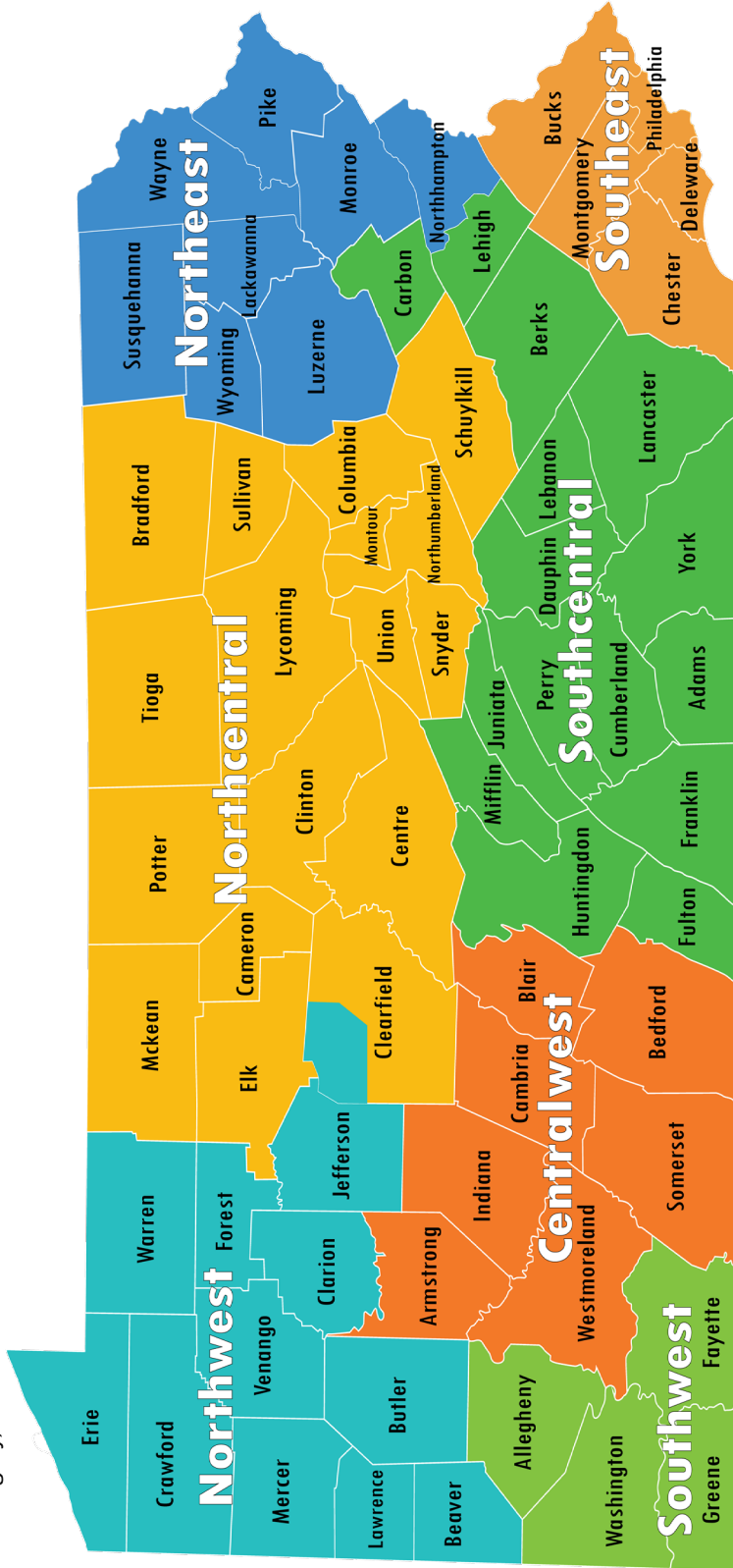
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 FAX: 1.814.437.5826
Toll-Free: 1.888.773.7748 ext. 5175
 Donald Gregory, Administrator

Northcentral

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 Jeremy Wible, Administrator

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 Brian Farester, Administrator

Southcentral

5 N 5th Street
Harrisburg, PA 17101-1905
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Toll-Free: 1.888.773.7748 ext. 6335
 John Tucker, Administrator

Southeast

605 Louis Drive, Suite 500
Warminster, PA 18974-2825
 Local: 1.215.443.3495
 FAX: 1.215.443.3487
Toll-Free: 1.888.773.7748 ext. 557
 Joshua Catalfu, Administrator
 Linda Visco, Administrator

Summary of Various Member Service Statistics

PSERS operates very efficiently. There are only 332 staff serving the needs of over 500,000 members of the System and 775 employers. PSERS professionals are dedicated to fulfilling PSERS' mission to serve our members. Below are highlights of some of the more common services that PSERS provides to its members.

Table 2.1 Benefits Processed (Major)		
Fiscal Year	<u>2017</u>	<u>2018</u>
Initial Retirements (1-Step)	8,756	8,407
Initial Retirements (2-Step)	858	677
Final Retirements (2nd Step of 2-Step)	934	598
Purchases of Service and Corrections for Previously Unreported Service and/or Contributions not Withheld	13,814	8,219
Refunds	4,124	4,295
Deaths - Processed and Paid	4,175	5,579
Account Verification - non retirements	12,346	11,464
TOTAL	45,007	39,239
Percent of Retirement Paid as 1 Step	93%	93%

Table 2.2 Other Member Services (Major)		
Fiscal Year	<u>2017</u>	<u>2018</u>
Retirement Estimates	19,770	17,953
Phone Calls Answered	168,170	156,184
E-mails Received	15,704	20,644
E-mails Sent	14,953	17,856
General Information Sessions	207	214
General Information Attendees	10,598	11,065
Exit Counseling Sessions	1,343	1,202
Exit Counseling Attendees	7,154	6,771

**Summary of Various Member Service Statistics
(continued)**

Table 2.3 Member Payment Services for Retirees and Beneficiaries		
Calendar Year	2017	2018
Monthly Payments to Members	2,703,487	2,744,206
Non-recurring Payments to Members	48,278	46,847
Forms 1099-R Produced	257,279	259,241
W4-P Tax Withholding Forms Processed	4,170	7,515
EFT Forms Processed - Direct Deposit	9,553	9,344
ACH Rejects Researched and Reviewed (Direct Deposit Failures)	5,026	4,876
Member Payment Changes Processed	3,825	2,981

Table 2.4 Member Self Service Transactions Done by Members	
Calendar Year	2018
Retirement Estimate	27,007
Nomination of Beneficiary	33,800
Address Change	11,162
Income Verification	4,718
W-4P	511
Elect Class T-F	1,241
Apply for Multiple Service	71
TOTAL	78,510

PSERS had 111,275 members sign up for the MSS account. Of those, approximately 98% opted for paperless delivery. Between members and employers, this resulted in over \$180,000 in postage and printing savings.

Economic Impact on Pennsylvania, Member Demographics, and Financial Information

Economic Impact of Pension Benefits on Pennsylvania

In Fiscal Year 2017-18, PSERS' pension disbursements to retirees totaled approximately \$6.6 billion. Of this amount, nearly 91%, or \$6.0 billion, went directly into state and local economies. According to a study by the National Institute on Retirement Security (NIRS) this spending expands through the economy as the retiree's spending becomes another's income, multiplying the effect of the \$6.0 billion into an economic impact of \$12.7 billion throughout the Commonwealth. Estimates show that the impact of money from PSERS in Pennsylvania includes*:

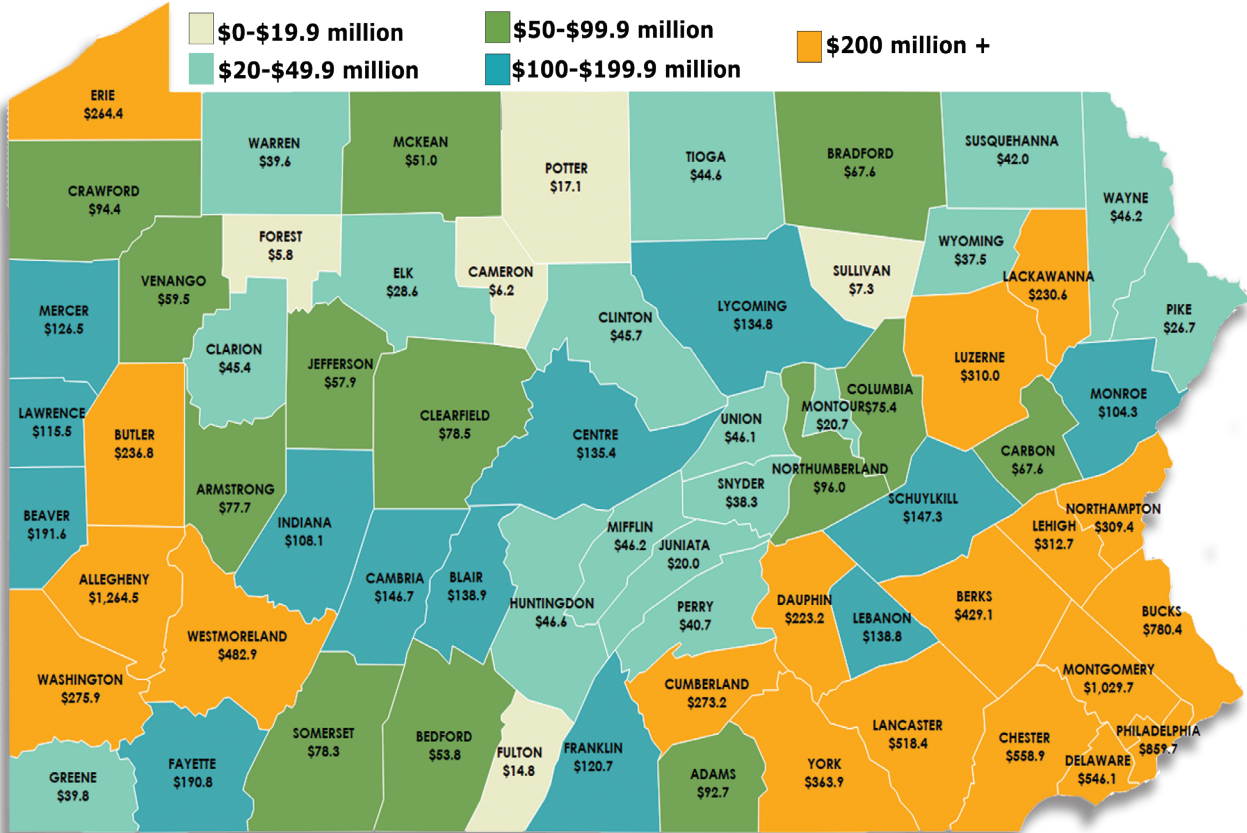
- Economic impact exceeding \$12.7 billion
- Support for over 65,000 jobs that paid \$3.4 billion in wages and salaries
- \$1.7 billion in federal and local tax revenues

Table 3.1
Top 10 Counties Based on Economic Impact from Benefit Disbursements (Dollars in Millions)

Allegheny	\$1,264.5
Montgomery	\$1,029.7
Philadelphia	\$859.7
Bucks	\$780.4
Chester	\$558.9
Delaware	\$546.1
Lancaster	\$518.4
Westmoreland	\$482.9
Berks	\$429.1
York	\$363.9

Pension Benefit Payments Made in Pennsylvania By County for FY 2017-18

\$6.0 Billion in Disbursements = \$12.7 Billion Economic Impact



Section 1 - PSERS Overview

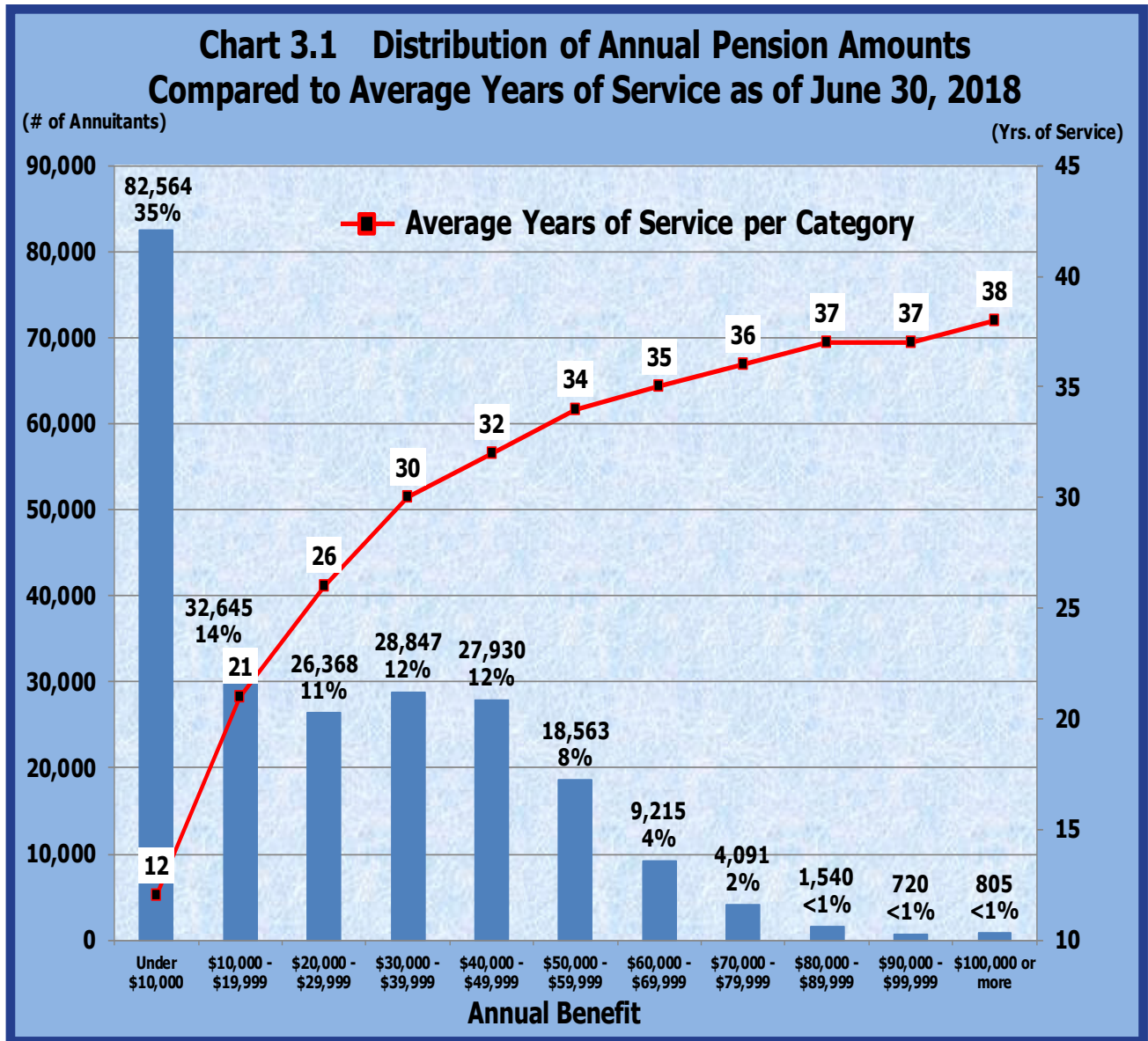
Member Demographics and Financial Information (continued)

Fiscal Year ended <u>June 30</u>	Active Members	Annuitants, Beneficiaries, and Survivor <u>Annuitants</u>	Total Active/Retired Members	Ratio of Active/ Retired	<u>Vestees</u>	Total Membership
2018	256,362	233,288	489,650	1.10 to 1	25,117	514,767
2017	255,945	230,014	485,959	1.13	24,515	510,474
2016	257,080	224,828	481,908	1.14	23,437	505,345
2015	259,868	219,775	479,643	1.18	21,909	501,552
2014	263,312	213,900	477,212	1.23	20,467	497,679
Average ratio of active members to annuitants (Public Funds)				1.38*		

*Based on the November 2018 Public Fund Survey prepared by the National Association of State Retirement Administrators (NASRA).

Type of Member	Number of Members		Average Annual Benefit	
	<u>6/30/2017</u>	<u>6/30/2018</u>	<u>6/30/2017</u>	<u>6/30/2018</u>
Normal/Early Retirees	209,715	212,712	\$26,128	\$26,225
Survivor Annuitants	11,128	11,409	14,019	14,406
Disability Retirees	<u>9,171</u>	<u>9,167</u>	19,740	20,607
Total/Average Yearly Benefit	230,014	233,288	\$25,287	\$25,405
Age and Service Profile of All Active Members				
	<u>6/30/2017</u>	<u>6/30/2018</u>		
Average Age	45.2	45.3		
Average Years of PSERS Service	11.4	11.5		
Average Annual Compensation	\$50,924	\$52,188		
	Class T-C Members		Class T-D Members	
	<u>6/30/2017</u>	<u>6/30/2018</u>	<u>6/30/2017</u>	<u>6/30/2018</u>
Number of Members	3,447	3,216	184,831	175,975
Average Age	52.3	52.8	47.6	48.0
Average Years of PSERS Service	19.4	20.4	14.7	15.4
Average Annual Compensation	\$51,683	\$54,084	\$58,559	\$61,105
	Class T-E Members		Class T-F Members	
	<u>6/30/2017</u>	<u>6/30/2018</u>	<u>6/30/2017</u>	<u>6/30/2018</u>
Number of Members	56,453	63,880	11,214	13,291
Average Age	38.4	39.0	37.7	38.0
Average Years of PSERS Service	2.0	2.4	2.4	2.8
Average Annual Compensation	\$28,304	\$29,925	\$38,747	\$40,672

Member Demographics and Financial Information (continued)



Benefit Summary

The average PSERS retiree receives \$25,405 annually, a benefit earned through a career in education.

- Over 73% of PSERS retirees receive less than \$40,000 per year in benefits
- Six-figure pensions are rare, with fewer than one-half of 1% of PSERS retirees receiving an annual benefit over \$100,000. Retirees earning over six figures have spent an average of 38 years working in their careers and contributing to their retirement accounts.

Section 1 - PSERS Overview

Member Demographics and Financial Information (continued)

Table 3.4		PSERS Pension Plan Changes in Fiduciary Net Position 10 Year Cumulative Summary- <u>FISCAL YEAR</u> (Dollar Amounts in Millions)	
		Cumulative 10 Year Total July 1, 2008- June 30, 2018	
Balance of Net Position (07/01/08)		\$	62,473
Member Contributions	\$		9,831
Employer Contributions			20,022
Net Investment Income			22,986
Total Deductions - Benefits & Expenses			(58,948)
Net Decrease		\$	(6,109)
Balance of Net Position (6/30/18)		\$	56,364

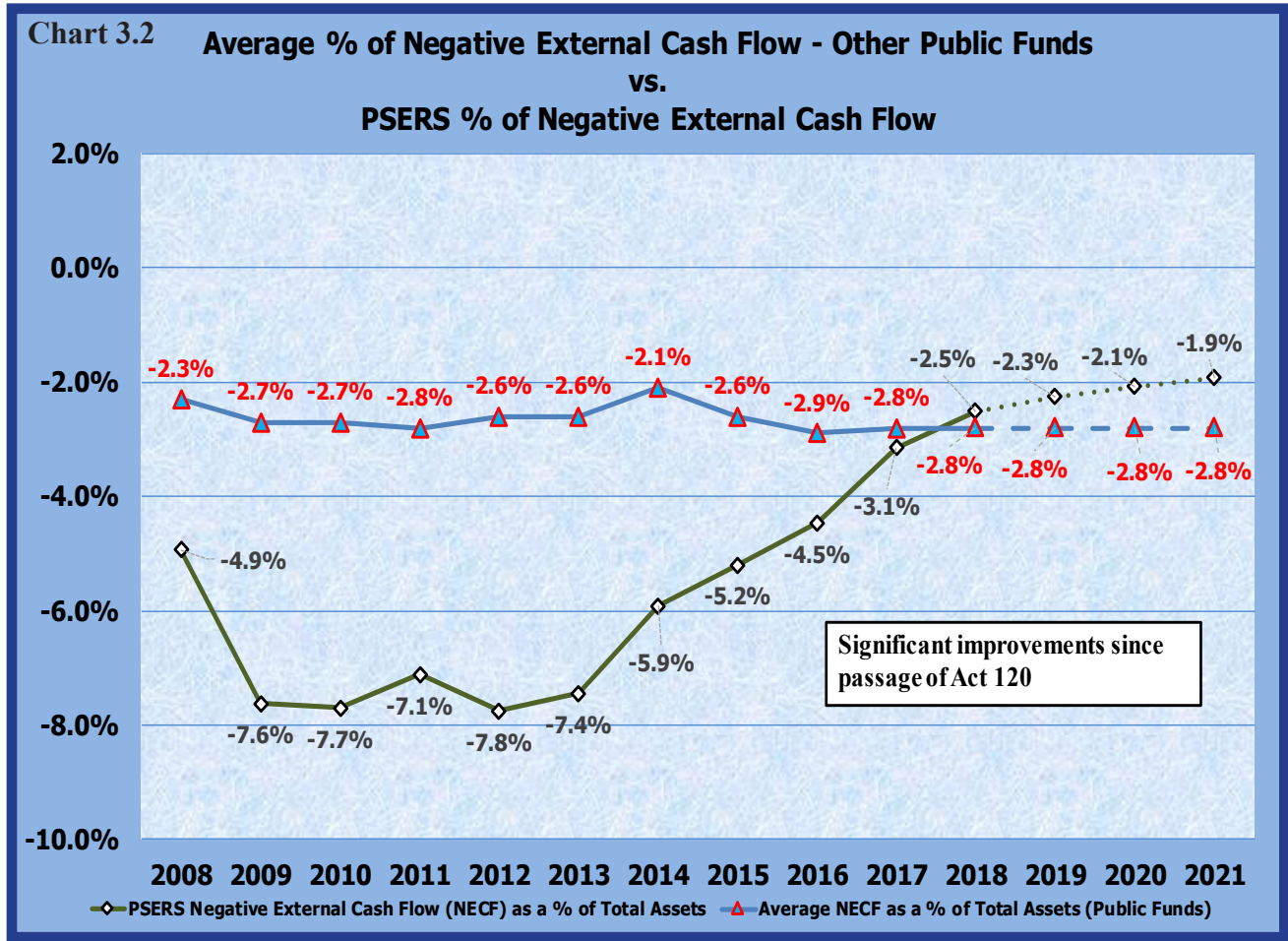
Table 3.5		External Cash Flow Fiscal Years Ended in June 30 (Dollar Amounts in Millions)			
		----- Projected -----			
	2018	2019	2020	2021	
Member Contributions	\$ 1,026	\$ 1,041	\$ 1,054	\$ 1,065	
Employer Contributions	4,250	4,489	4,681	4,854	
Total Contributions	\$ 5,276	\$ 5,530	\$ 5,735	\$ 5,919	
Less:					
Pension Benefits & Expenses	6,702	6,865	7,018	7,170	
Negative External Cash Flow	\$ -1,426	\$ -1,335	\$ -1,283	\$ -1,251	
End of Year Total Assets	\$ 56,364	\$ 59,085	\$ 61,790	\$ 64,981	
Negative External Cash Flow (NECF) as a % of Total Assets	-2.5%	-2.3%	-2.1%	-1.9%	
Average NECF as a % of Total Assets (Public Funds)	-2.8%*				

*Based on the November 2018 Public Fund Survey prepared by NASRA.

Negative External Cash Flow (NECF)

Using data from Table 3.4 at the top of the page, the last 10 years of contributions and benefit payments resulted in a Negative External Cash Flow (NECF) of -\$29.1 billion (comprised of total deductions less member and employer contributions) during that time period. In Table 3.5, PSERS' Negative External Cash Flow percentage is -2.5% of total assets for FY 2017-18, which was more favorable than the public fund average for the first time in many years. PSERS' projected NECF percentage of -2.3% for FY 2018-19 is also more favorable than the public fund average due to the System receiving 100% of actuarially required contributions for the third consecutive year. If PSERS meets or exceeds its investment return assumption, PSERS' total assets are projected to grow in excess of total liabilities and begin to pay down the unfunded liability.

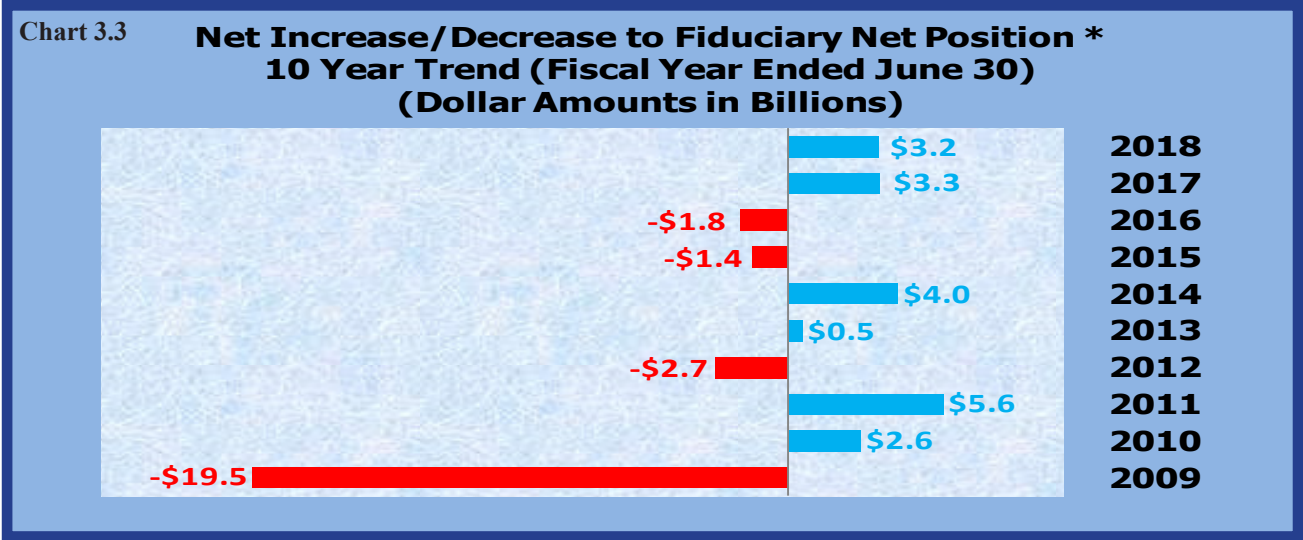
Member Demographics and Financial Information (continued)



PSERS Negative External Cash Flow Projection (NECF)

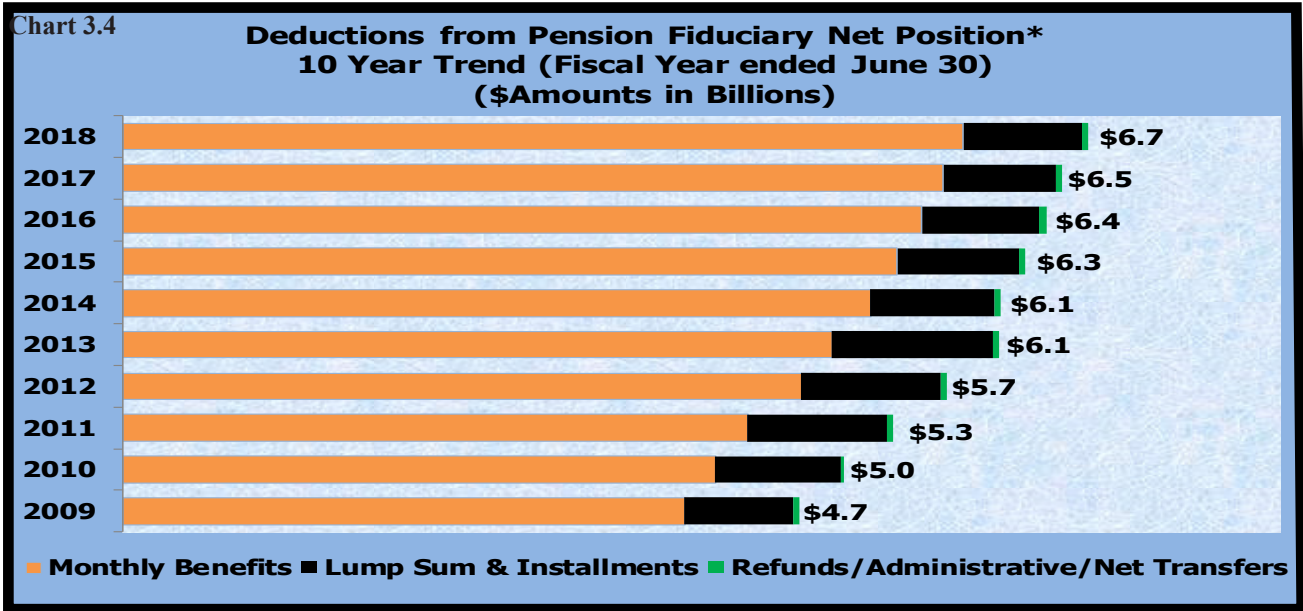
In Chart 3.2, beginning in FY2018 PSERS' projected NECF percentage of -2.5% is more favorable than the public fund percentage. If PSERS meets or exceeds its investment return assumptions the total assets are projected to grow in excess of total liabilities and begin to pay down the unfunded liability.

Member Demographics and Financial Information (continued)



PSERS' Pension Fiduciary Net Position

As depicted in Chart 3.3, PSERS' fiduciary net position increased by \$3.2 billion from \$53.2 billion at June 30, 2017 to \$56.4 billion at June 30, 2018. The increase was due in large part to net investment income from strong investment returns plus member and employer contributions exceeding deductions for benefit and administrative expenses.



*Does not include PSERS Postemployment Healthcare and DC Plans Net Position.

PSERS Deductions from Pension Fiduciary Net Position

As depicted in Chart 3.4, the increase for FY2017 to FY2018 is mainly attributed to an ongoing rise in the average monthly benefit and an increase in the number of members receiving benefits.

Section 1 - PSERS Overview

Statement of Fiduciary Net Position June 30, 2018 (Dollar Amounts in Thousands)

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

Section 1 - PSERS Overview

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

2018

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

The Actuarial Process and Pension Plan Funding

PSERS is a defined benefit plan, meaning benefits are based on members' service and salary history. Act 5 of 2017 created two new hybrid defined benefit/defined contribution plans and a defined contribution only plan but they do not go into effect until July 1, 2019. The following information highlights the actuarial process and funding for PSERS current plan.

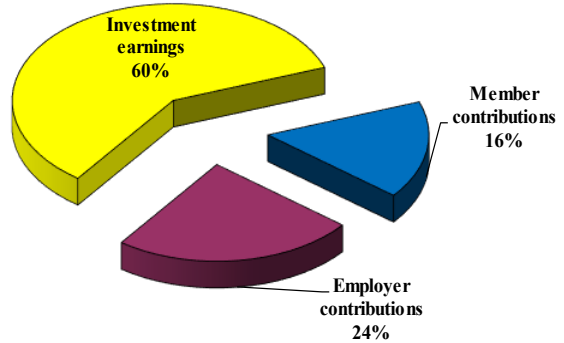
Actuarial Process

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 and PSERS' professionals review economic and demographic experience annually and, in more depth, 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 2016 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 7.50% to 7.25%, the salary growth assumption was changed from 5.50% to 5.00%, the inflation assumption was reduced from 3.00% to 2.75%, the rates of withdrawal, disability and retirement from employment among active members were updated

Chart 4.2

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



and mortality rates were revised. Chart 4.1 places PSERS' 7.25% return assumption among the more conservative group of funds in the public pension universe.

Funding

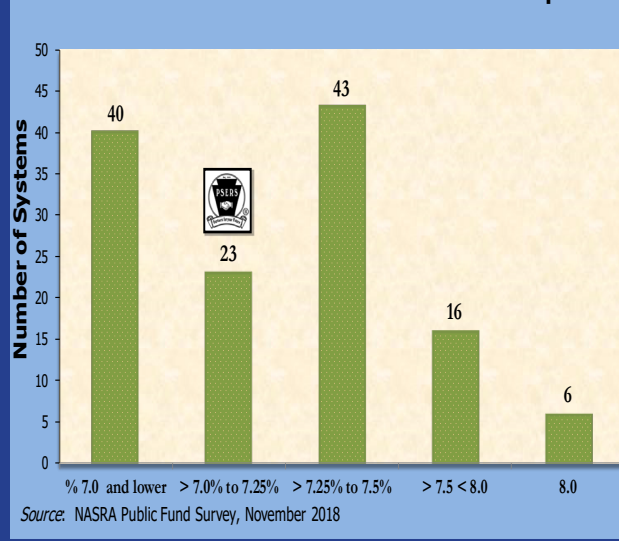
The plan is funded through three sources: (1) employer contributions; (2) member contributions; and, (3) investment earnings. As depicted in Chart 4.2, for the twenty-year period ended June 30, 2018 investment earnings provided 60% of PSERS' funding followed by 24% from employers while members contributed 16%.

Employer Contributions

The Retirement Code vests PSERS' Board with the authority to establish the employer contribution rate (ECR) based on the parameters in the Retirement Code. The Board in consultation with the actuary and PSERS' staff 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 healthcare premium assistance.

The total employer contribution rate for the fiscal year ended June 30, 2018 was 32.57%, including 0.83% for healthcare premium assistance. The total employer contribution rate for the fiscal year ending June 30, 2019 is 33.43%. This rate consists of a 32.60% pension rate plus the healthcare premium assistance contribution of 0.83%. The FY 2019-20 employer contribution rate is 34.29%. This rate consists of a 33.36% pension rate, the healthcare premium assistance contribution of 0.84% and an Act 5 Defined Contribution (DC) rate of 0.09%. The Board of Trustees certified this rate, which was calculated in accordance with the provisions of Act 5 of 2018, at their December 2018 meeting. While any contribution increase is a challenge for PSERS' employers, the increase in the FY 2019-20 contribution rate is the smallest since FY 2009-10. The very large increases that employers experienced prior to FY 2017-18 are now in the past. The projected rate increases in the future are less than current levels of inflation.

Chart 4.1 Distribution of Investment Return Assumptions



The Actuarial Process and Pension Plan Funding
(continued)

For the fiscal year ended June 30, 2018, PSERS’ employer contributions totaled \$4.362 billion, which includes \$112 million for healthcare premium assistance. For the fiscal year ending June 30, 2019 the estimate for total employer contributions is \$4.605 billion, reflective of the 33.43% contribution rate. The contribution rate for the fiscal year ending June 30, 2020 is 34.29% resulting in an employer contribution estimate of \$4.759 billion.

Member Contributions

Most members of the Public School Employees’ Retirement System contribute between 7.5% and 10.3% of their pay depending on their class of membership to help fund their own retirement benefit. The average contribution rate payable by the members for the current year (FY2018-19) is 7.57%. This is in contrast to many non-public (private) pension plans to which members of over 90% of such plans do not contribute (Source: based on a query of private plan IRS Form 5500 filings). For these plans, the employers bear 100% of the costs of the benefit.

According to recent National Association of State Retirement Administrators (NASRA) data, PSERS member contribution rate is one of the highest among U.S. public pension plans that participate in Social Security.

Pursuant to Act 120, 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, 2011 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 six- year return through June 30, 2017 exceeding the investment performance hurdle mandated by Act 120, the member contribution rate did not change. The next investment performance measurement period for Class T-E and T-F members will be the nine-year period ending June 30, 2020.

PSERS’ members contributed \$1.026 billion of pension contributions for FY2018. Total member contributions are estimated to be \$1.041 billion for the fiscal year ending June 30, 2019 and \$1.054 billion for the fiscal year ending June 30, 2020.

Investment Returns

PSERS’ investment rate of return for the fiscal year ended June 30, 2018 was 9.27%, net of fees. The investment rates of return (net of fees) for the fiscal years ended June 30, 2017 and June 30, 2016 were 10.14% and 1.29%, respectively. The annualized rates of investment return for the three, five and ten-year periods ended September 30, 2018 were 8.78%, 7.31%, and 6.41% respectively. Over the past 25 years ended September 30, 2018, the Fund earned an annualized rate of return of 7.78% which exceeded the Fund’s long term investment rate of return assumption.

PSERS’ 25-year return, as shown in Chart 4.3, has consistently outperformed the actuarial investment rate of return. Throughout much of the 1990’s and 2000’s PSERS’ investment performance exceeded its investment rate of return assumption. This outstanding long-term investment performance resulted in declining employer contribution rates and/or contribution rates lower than the annual normal cost of benefits. Even after the Great Recession of 2008-2009, PSERS’ long-term returns continued to exceed the return assumption.

Chart 4.3

PSERS 25 Year Investment Return vs. PSERS Investment Return Assumption June 2009 - June 2018



The Actuarial Process and Pension Plan Funding

(continued)

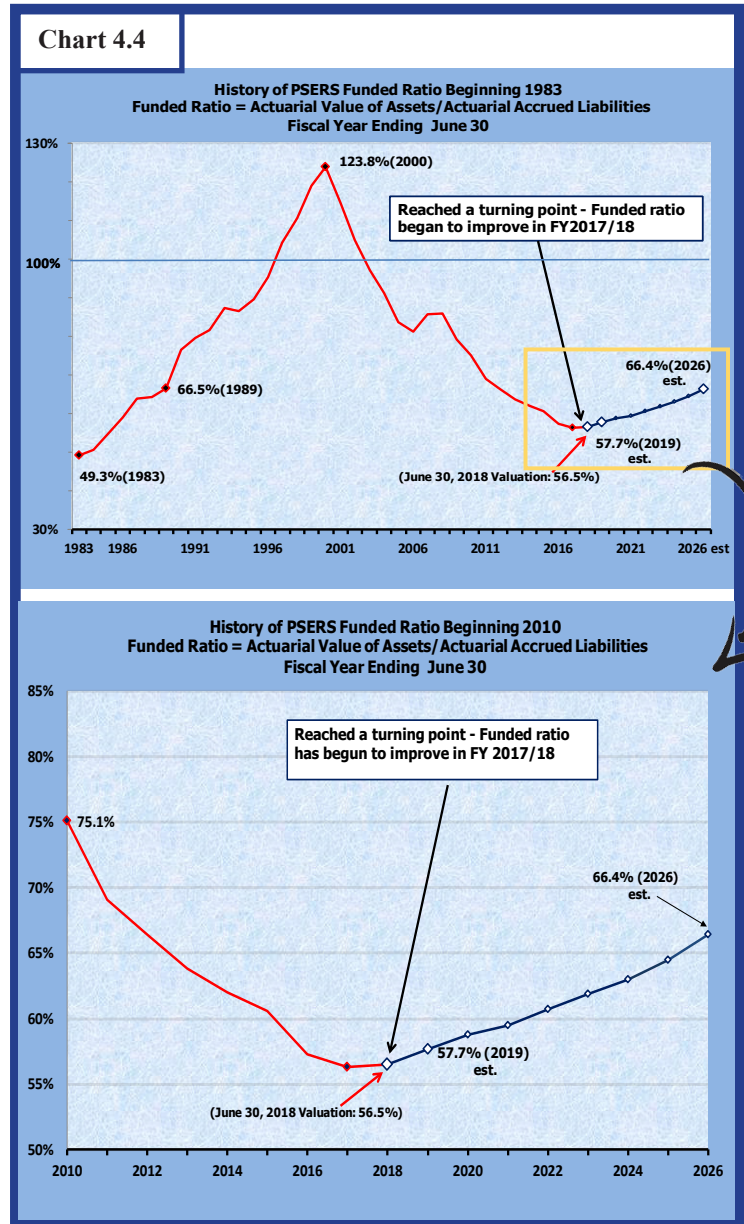
Funded Status

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.

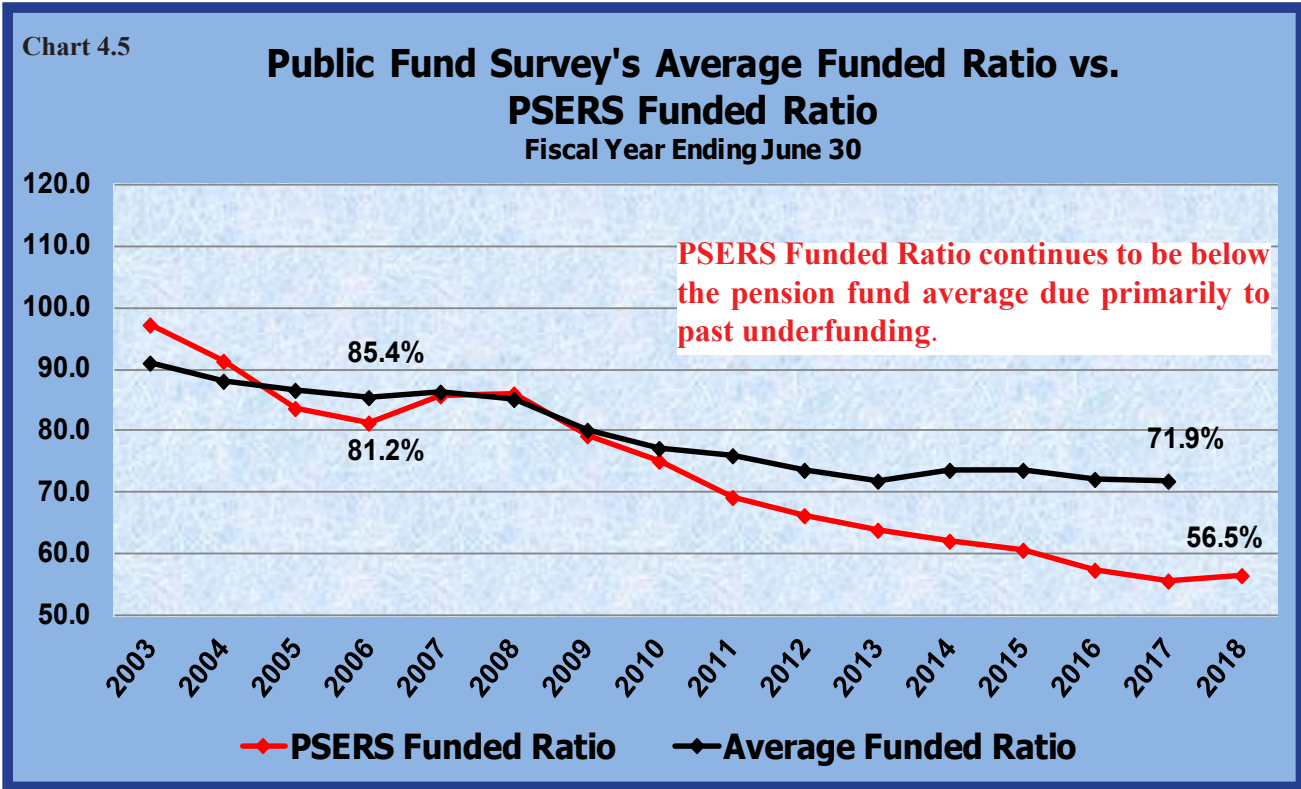
Key Facts

- As a result of legislated contribution increases under Act 120, PSERS has reached a turning point. Effective with the June 30, 2018 actuarial valuation, PSERS' funded ratio has begun to slowly improve after declining for many years.
- Funded Status: 56.5% as of June 30, 2018
- Funded Status: 56.3% as of June 30, 2017
- The increase in FY2018 is one year earlier than projected due to favorable demographic experience and investment returns.
- 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; benefit enhancements from Act 9 and Act 38; the adoption of new demographic and economic assumptions in FY2016; funding collars in Act 120 which continued the employer underfunding of the system; and, actuarial liability losses.

A history of PSERS' funded ratio beginning in 1983 and eight-year projection of PSERS' funded status is shown in Chart 4.4. As a result of legislated contribution increases under Act 120, PSERS has reached a turning point. Effective with the June 30, 2018 actuarial valuation, PSERS' funded ratio has begun to slowly improve after declining for many years. Future projections now reflect a steadily increasing funded ratio.



The Actuarial Process and Pension Plan Funding
(continued)



A comparison of PSERS’ funded ratio to the public fund projected weighted average funding ratio provided by the National Association of State Retirement Administrators (NASRA) is shown in Chart 4.5 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. High employer contributions are required in order for assets to grow.

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*, 2018).

Beginning July 1, 2016 PSERS’ employer contribution rate provides 100% of the actuarially required rate. This is the first major step needed for PSERS’ funded ratio to begin to improve. As noted previously, as a result of receiving 100% of the actuarially required rate, PSERS’ funded ratio began to improve in FY 2017-18 and the gap between PSERS’ funded ratio and the public fund average will slowly begin to shrink.

The Actuarial Process and Pension Plan Funding (continued)

Sources of Unfunded Liability

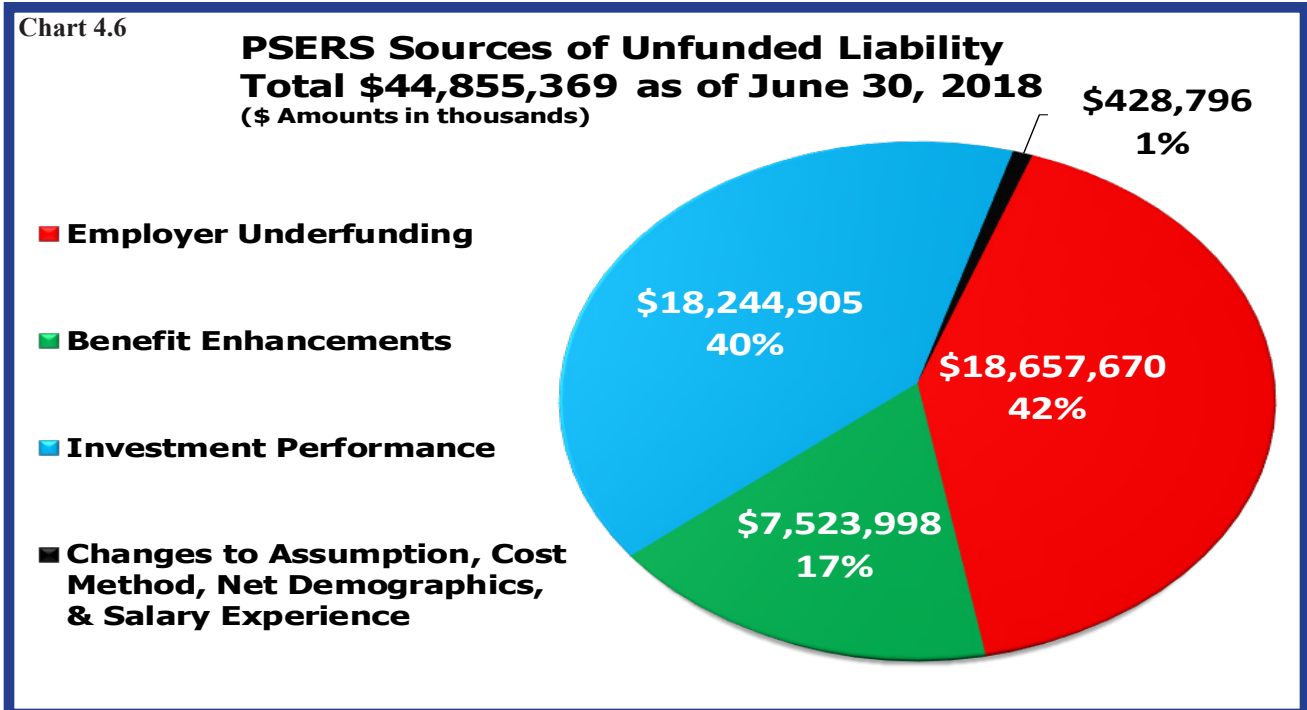
The System’s total funded ratio (for Pensions and Health Insurance combined) is 56.5% as of June 30, 2018. This funded ratio is based on an actuarial value of assets of \$58.26 billion and a total accrued liability of \$103.11 billion which equates to a \$44.85 billion unfunded liability. Chart 4.6 depicts the sources of the unfunded liability. The largest sources of unfunded liability in order of magnitude are employer funding deferrals (42%), investment performance (40%), and benefit enhancements (17%), which include Act 9, cost of living increases and early retirement incentives. The new demographic and economic assumptions adopted by the Board in June 2016 added approximately \$2.5 billion to the unfunded liability. The additional unfunded liability will be amortized over 24 years so the impact of the new assumptions to the FY 2018-19 employer contribution rate was small.

For many years PSERS’ outstanding investment performance compensated for unfunded benefit enhancements and employer funding deferrals. The Great Recession had a negative impact upon the System’s long-term investment performance. Without the higher investment out-performance to compensate, the employer funding deferrals and benefit enhancements have significantly increased PSERS’ unfunded liability. Approximately fifty-nine percent of PSERS’ June 30, 2018 unfunded liability is due to employer funding deferrals and benefit enhancements, both of which are not a result of the defined benefit plan design.

GASB 68 and 75 Pension and Healthcare Reporting for Employers

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

In June 2018, PSERS sent information to its employers to assist them in complying with GASB Statement No. 68, *Accounting and Financial Reporting for Pensions* and Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (OPEB)*. The information sent to employers included a memo explaining PSERS’ role, descriptions of the material provided, and the employers’ responsibilities. In addition to the memo, PSERS provided a variety of schedules audited by PSERS’ independent public accountants as well as unaudited schedules. PSERS strives to incorporate all the information necessary for employers to comply with GASB 68 and 75 reporting requirements in these audited and unaudited schedules. Additionally, PSERS continues to make itself available to assist employers and their auditors should they have any additional requests in order to comply with GASB 68 and 75.





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Employer Contribution Rate

PSERS undergoes an annual independent actuarial valuation to calculate the actuarial assets and liabilities of the pension fund. Based on the actuarial valuation process, the actuary in consultation with PSERS' professionals, 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 (FY 2018-19) 33.43%
- Lowest historical ECR (FY 2001-02) 1.09%
- Ten yr. avg. ECR (2009-10 to 2018-19) 19.16%
- Twenty yr. avg. ECR (1999-2000 to 2018-19) 11.57%
- Thirty yr. avg. ECR (1989-90 to 2018-19) 12.02%
- Adopted ECR (FY 2019-20) 34.29%

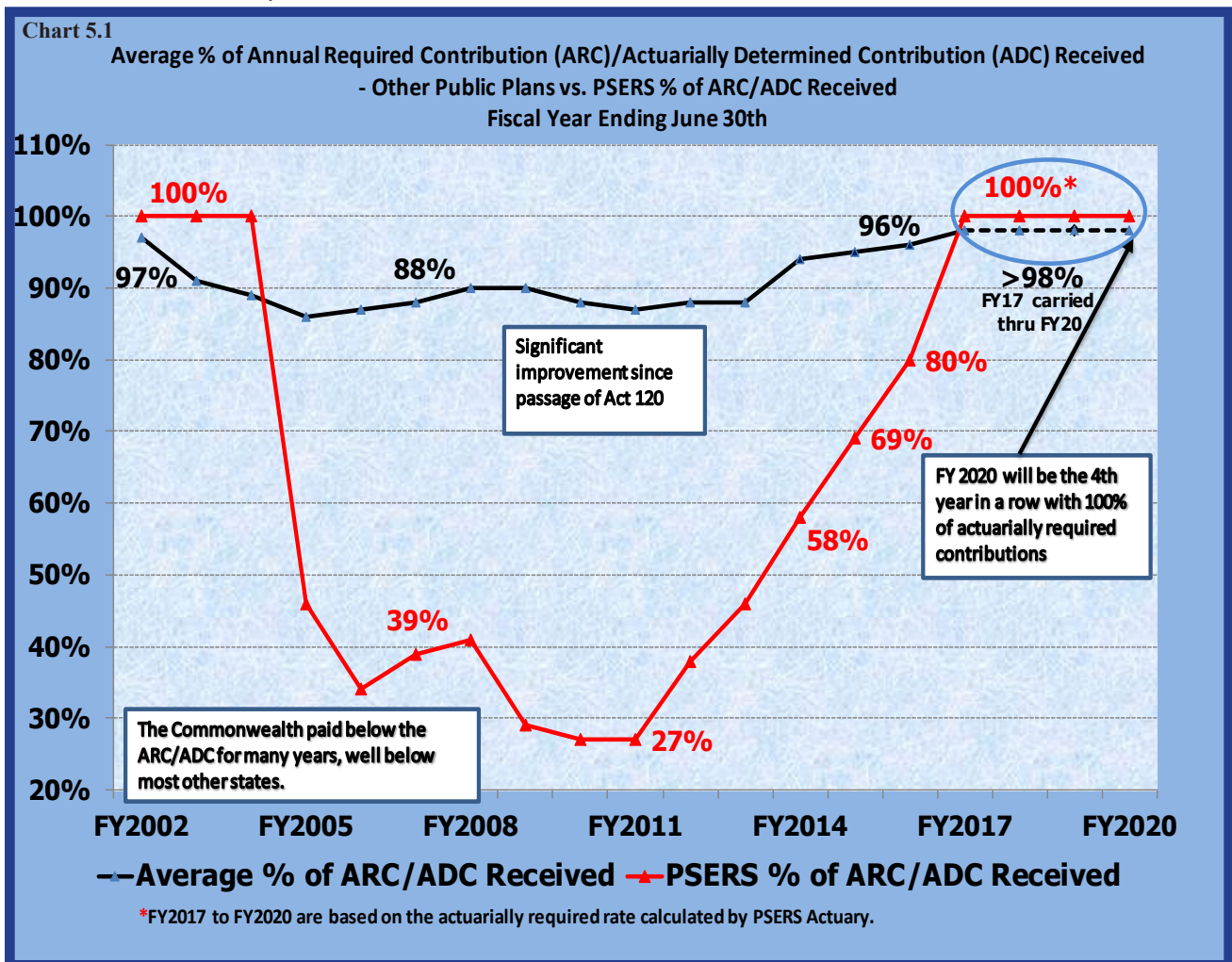
Act 120 provided historic pension reform and made dramatic progress toward addressing funding issues at PSERS. The legislation included actuarial and funding changes to PSERS and benefit reductions for individuals who became new members of PSERS on or after July 1, 2011.

As depicted in the Chart 5.1, effective in FY2016-17, the gradual rate increases under Act 120 raised PSERS' employer contributions to the 100% annual required contribution (ARC) goal, now referred to as the actuarially determined contribution (ADC), for the first time in 15 years. An ARC/ADC includes both the employer's normal cost and the amount required to amortize the unfunded actuarial accrued liability (UAAL) in an actuarially sound manner. PSERS' Board certified an employer contribution rate of 34.29% for FY 2019-20 in compliance with Act 120 and Act 5 of 2017. This is the fourth consecutive year PSERS' contribution rate provides 100% of the actuarially required rate based on sound actuarial practices and principles and now exceeds the average ARC/ADC percentage of 98% for public funds based on the November 2018 Public Fund Survey prepared by NASRA.

Act 120 of 2010

Progress on Funding Issue

PSERS is now in the 8th year under Act 120 of 2010. Act



**Employer Contribution Rate
(continued)**

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. As of June 30, 2018, members hired since the passage of Act 120 now total approximately 77,000 and account for 30% of the total active membership.

Class T-E

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

Class T-F

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

Class T-E and T-F members share some of the risk when investments underperform. As a result of the Fund’s six-

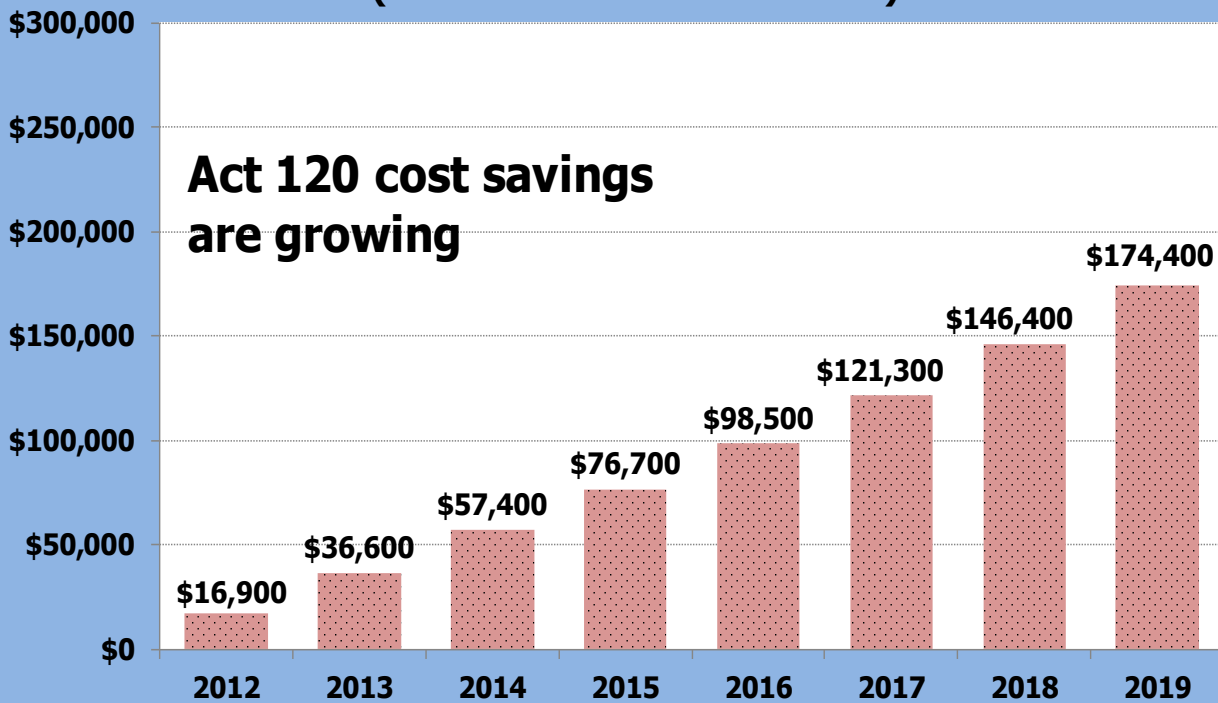
year return through June 30, 2017 exceeding the investment performance hurdle mandated by Act 120, the member rate has not changed. The next investment performance measurement period for T-E/T-F members that could increase the member rate by .5% is for the nine-year period ending June 30, 2020.

The total estimated savings of the T-E/T-F Benefit Tiers is illustrated in Chart 5.2. As the membership grows through FY 2018-19, the annual savings from the low T-E/T-F cost structure also increases and allows a greater portion of employer contributions to go towards paying the unfunded liability. Class T-E and T-F will close to new members after June 30, 2019. Cumulative estimated savings through June 30, 2018 were \$553.0 million. The average member benefit for Act 120 members is approximately 32% lower than the benefit for pre-Act 120 members.

As of June 30, 2018, 13,291 or 17% of new members elected Class T-F and 63,880 or 83% of new members remained in Class T-E. As indicated, Class T-F members maintain the higher 2.5% pension multiplier but fully pay for the higher benefit by contributing a higher member contribution rate than Class T-E members.

Chart 5.2

**PSERS Act 120 Total Estimated Annual Savings
from TE/TF Benefit Tiers
Fiscal Year Ending June 30
(Dollar Amounts in Thousands)**



Employer Contribution Rate (continued)

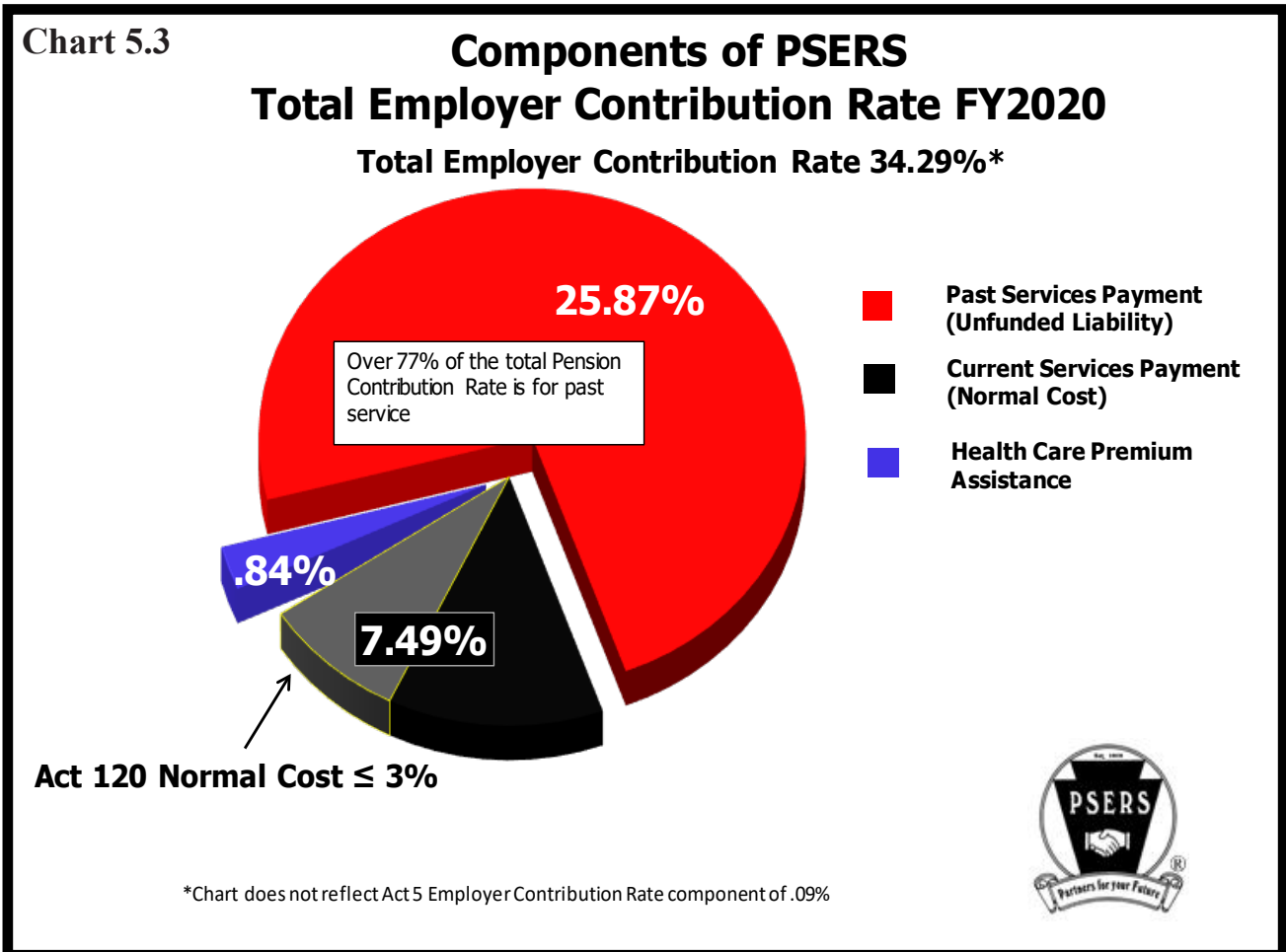
Funding Changes - Employer Contributions

Act 120 of 2010 also suppressed the employer contribution rate by using rate caps to keep the rate from rising too high, too fast for budgetary purposes. The rate caps limited the amount the pension component of the employer contribution rate could increase over the prior year's rates. Effective with FY 2016-17 the rate caps were no longer in place.

PSERS' Board has approved a total employer contribution rate of 34.29% for FY 2019-20 which represents an inflationary-like increase of 2.57% over the FY 2018-19 rate of 33.43%. This is the smallest percentage increase since FY 2009-10.

Employer Contribution Rate

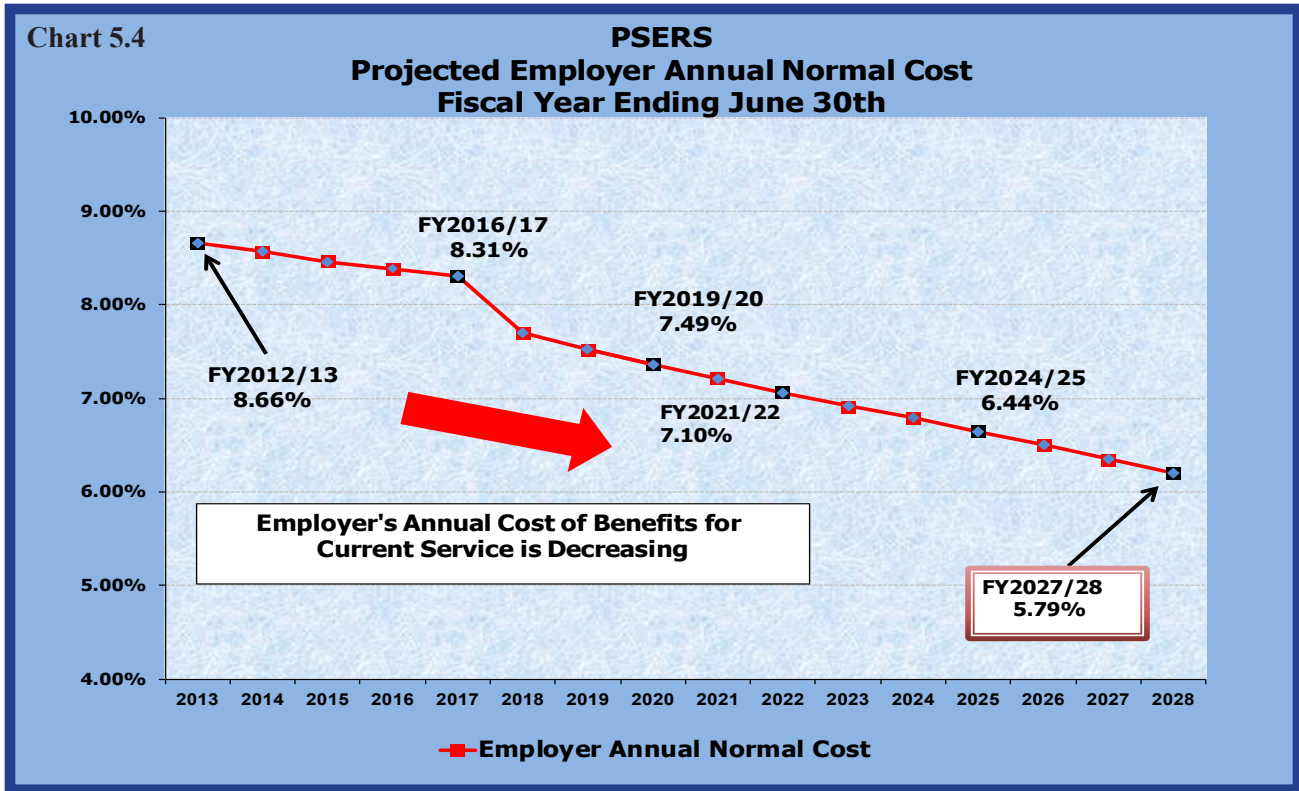
Chart 5.3 displays the components of PSERS' projected employer contribution rate of 34.29% in FY 2019-20. The majority of the rate, over 77%, is dedicated toward paying the cost of past service. The employers' cost for current service is a much smaller portion of the contribution rate and is projected to decrease each year as more Act 120 members, and eventually Act 5, join the System. 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 in large part by the members who have also assumed some of the investment risk.



Employer Contribution Rate (continued)

Act 120 Employer Costs

As Chart 5.4 depicts, the employer normal cost decreases over time as Act 120 and eventually Act 5 members replace retiring pre-Act 120 members. The employer normal cost of current benefits earned by Act 120 members is less than 3% of payroll which is less than 65% of the normal cost for pre-Act 120 members. This represents a significant cost reduction for the employers. Chart 5.4 projects the employer normal cost to be 5.79% in FY 2027-28 when over 50% of active employees will be Act 120 and Act 5 members.



The Commonwealth's Department of Education School Employees Retirement Appropriation

The Commonwealth provides for its share of contributions to PSERS within the Department of Education budget. On average, the Commonwealth pays 56% of total employer contributions and employers pay for 44%. Table 5.1 illustrates the projected amounts of the Commonwealth's Appropriation for FY 2019-20 through FY 2023-24. As depicted, the Commonwealth's share of contributions are starting to level out as the year-over-year increases are smaller each year.

Table 5.1 Commonwealth's Department of Education School Employees' Retirement Appropriation					
(Dollar Amounts in Billions)					
----- Projected -----					
	<u>2019-20</u>	<u>2020-21</u>	<u>2021-22</u>	<u>2022-23</u>	<u>2023-24</u>
School Employees' Retirement	\$ 2.648	\$ 2.750	\$ 2.850	\$ 2.962	\$ 3.071

Employer Contribution Rate (continued)

Act 5 of 2017

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

Act 5 does not affect already retired members or those whose retirement date was prior to June 12, 2017. Class T-C, Class T-D, Class T-E, and Class T-F members active on July 1, 2019 will have the option to switch from the current defined benefit plan to one of the three new retirement plans if they so choose.

Act 5 allows an actuarially neutral Option 4 “lump sum” withdrawal of member contributions and interest for Class T-E and Class T-F members whose retirement date is on or after June 12, 2017, and makes modifications to the “shared risk” program that will allow members to benefit when the Fund outperforms its investment rate of return assumption.

Legislative Pension Proposal Assistance

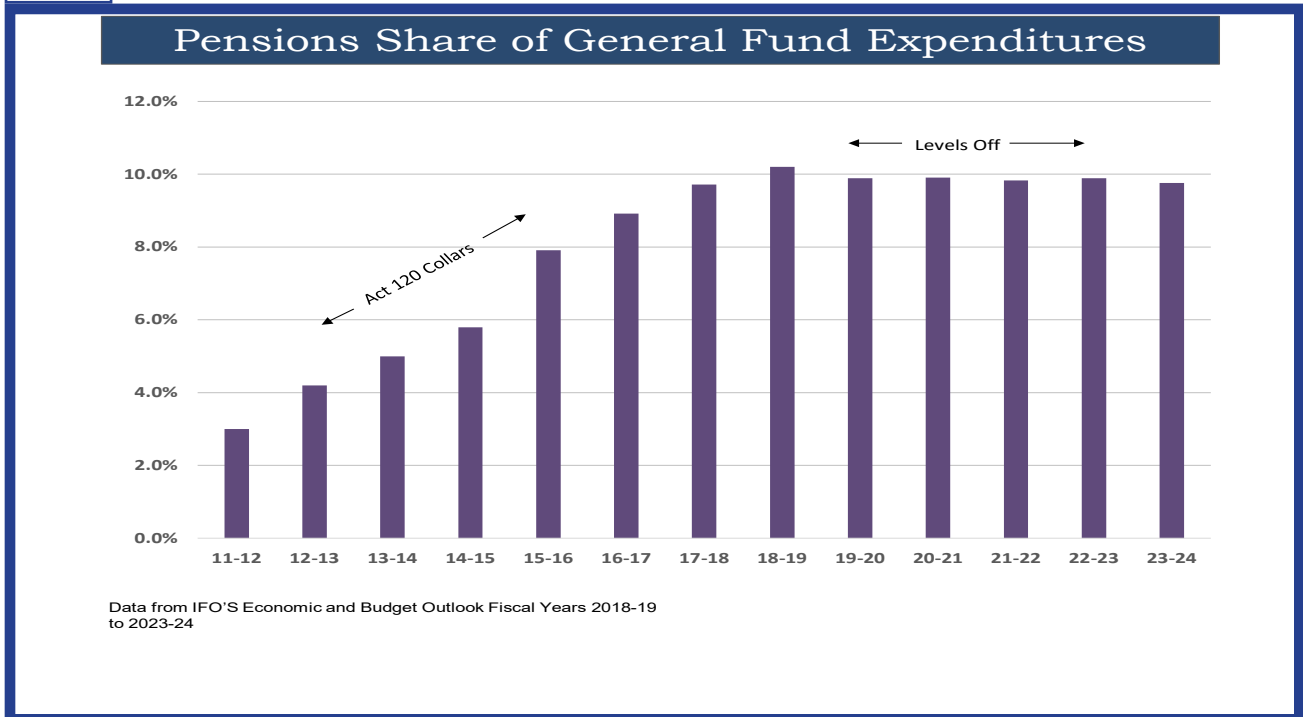
Throughout 2018, PSERS professionals were actively engaged in providing actuarial data, legislative analyses and related technical information to members of the General Assembly and Executive Branch Officials on a range of pension policy proposals while remaining policy neutral.

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. As in the past, PSERS will assist in drafting technically correct provisions and providing input on funding and operational aspects of various proposals, while remaining policy neutral on plan design elements of legislative proposals.

Recap

Act 120 reduced the employer’s annual cost of benefits for members hired after June 30, 2011 by over 32% via member benefit reductions. However, a significant unfunded liability for service already rendered by pre-Act 120 members still remains to be paid. To address the underfunding which had taken place since FY 2000-01, Act 120 also included rate collars designed to systematically increase the employer contribution rate over several years to raise the funding to actuarially required levels. Now that this objective has been achieved, the rate collars no longer apply.

Chart 5.5



Employer Contribution Rate (continued)

At its December 2018 meeting, PSERS Board of Trustees certified an annual contribution rate of 34.29% for FY 2019-20 which continues to put PSERS on the path towards full funding. For the fourth consecutive year, the Commonwealth's employer contribution rate provides 100% of the actuarially required rate based on sound actuarial practices and principles. Contribution rates began to level off after FY 2017-18 which has reduced budgetary pressure on the Commonwealth and school districts in FY 2018-19 and beyond.

The Pennsylvania Independent Fiscal Office (IFO) has recognized the Commonwealth's progress on its pension funding issues. As shown in Chart 5.5, after FY 2018-19 pensions share of the Commonwealth's General Fund expenditures levels off and is no longer a major driver of General Fund expenditure growth.

PSERS has reached a Turning Point under Act 120

Effective in FY 2017-18, PSERS' actuarial funded ratio has begun to slowly improve after declining steadily since FY2000-01. On a market value basis, PSERS unfunded liability began to decline in FY 2016-17 and continued to decline through June 30, 2018. As a result of these funding improvements, bond rating agencies have stated that the pension contribution increases borne by school employers and the Commonwealth have made a positive impact upon their ratings. This is very significant as the bond rating agencies' outlooks impact the Commonwealth's borrowing costs. Despite lowering its ratings of the Commonwealth's debt instruments in September 2017, S&P noted in its outlook that "We also expect that the Commonwealth will continue to fully fund pension ADCs (Actuarially Determined Contributions), which we view as a strength relative to lower rated states."

A major funding milestone was also reached during FY 2016-17 as employers funded 100% of the actuarially required contributions to PSERS for the first time in fifteen years. Full actuarial funding from employers, along with member contributions and investment income are all necessary sources of funds that will pay down the unfunded liability of the System. While a challenging pension funding environment remains for school employers and the Commonwealth due to legacy debt issues, all of the sources of funding are now in place to bring PSERS back to fully funded status.