Summary Annual Financial Report

Fiscal Year Ended June 30, 2016

PSERS

Partners for Your Future

A Message From the Executive Director

October 27, 2016

On behalf of our Board of Trustees and staff, I am pleased to present the first edition of a Summary Annual Financial Report (SAFR) for the Pennsylvania Public School Employees' Retirement System (PSERS) for the fiscal year ended June 30, 2016 (FY 2016). This report summarizes the financial data and accomplishments from FY 2016 that are provided in greater detail in PSERS' Comprehensive Annual Financial Report (CAFR). PSERS' CAFR is available online at www.psers.state.pa.us.

PSERS was established nearly 100 years ago and today provides a secure retirement to over half a million current and retired public school employees. In FY 2016, PSERS disbursed over $5.7 billion or over 90% of $6.3 billion in pension benefits to retired members who reside in Pennsylvania. Pension benefit disbursements are a significant economic driver that provides a stable source of revenue for local economies throughout Pennsylvania.

From left: James H. Grossman, PSERS Chief Investment Officer; Glen R. Grell, PSERS Executive Director; Terrill J. Sanchez, PSERS Deputy Executive Director

In these challenging economic times, PSERS remains firmly committed to improving the efficiency of its operations and finding cost savings wherever possible. For the third year in a row, PSERS' investment manager fees have declined as the System invests a greater share of the Fund through internal and indexed management. PSERS' investment expenses decreased by over $142 million, from $558 million in FY 2013 to $416 million in FY 2016, which is a reduction of over 25%.

PSERS has faced significant funding challenges from years of underfunding, but we are reaching a turning point. Act 120 of 2010 led to dramatic progress toward addressing the funding issue at PSERS. While we acknowledge the financial burden on our school employers' budgets, for the first time in 15 years, the employer contribution rate for FY 2017 provides 100% of the actuarially required rate based on sound actuarial practices and principles. As a result of the increased funding, in approximately two years, PSERS' funded ratio is projected to slowly improve after declining for many years and PSERS is now on a path to full funding.

Respectfully,

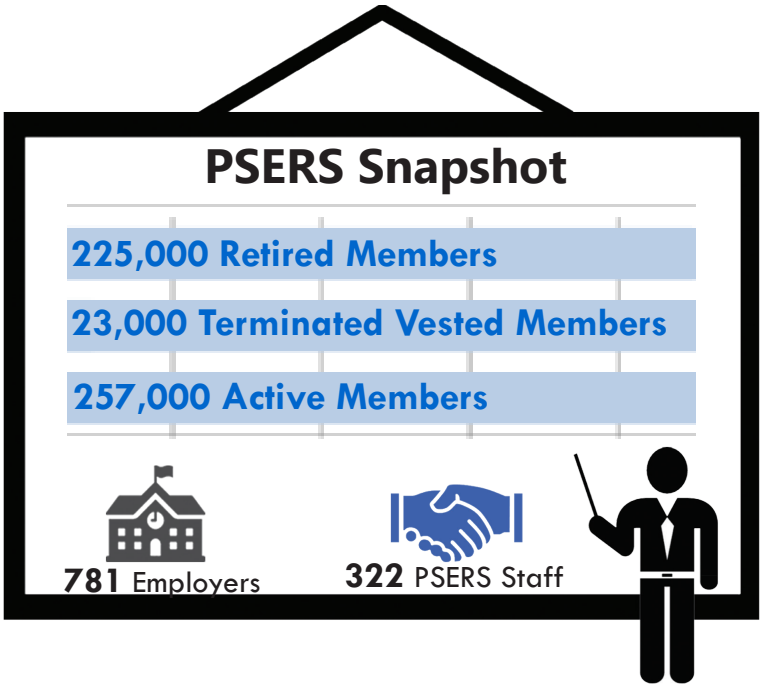
Glen R. Grell
PSERS Executive Director

PSERS' Long History

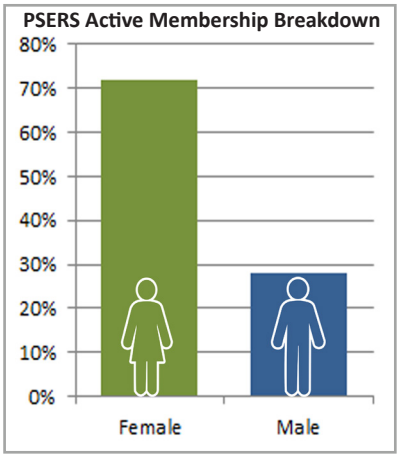
PSERS was established on July 18, 1917, to provide retirement benefits to public school employees of the Commonwealth of Pennsylvania.

PSERS has paid out retirement benefits uninterrupted for nearly 100 years--through two World Wars, the Great Depression, and the Great Recession. Over 500,000 active, terminated vested, and retired public school employees rely on PSERS for their retirement.

Under PSERS' defined benefit plan a member's pension benefit is determined by a formula that takes into account a pension multiplier, years of service, and final average salary. A member's pension benefit payment is not impacted by the performance of PSERS' investments. Defined benefit plans like PSERS are designed so that the member's pension benefit is fully funded during their working lifetime. Members contribute between 5.25% and 10.30% of their pay depending on the class of membership to help fund their own retirement benefit.



PSERS has a staff of 322 and is headquartered in Harrisburg, Pennsylvania. PSERS also has eight field offices in strategic areas of the Commonwealth to enable direct contact with the membership and the System's employers.



A Closer Look at PSERS' Active Members

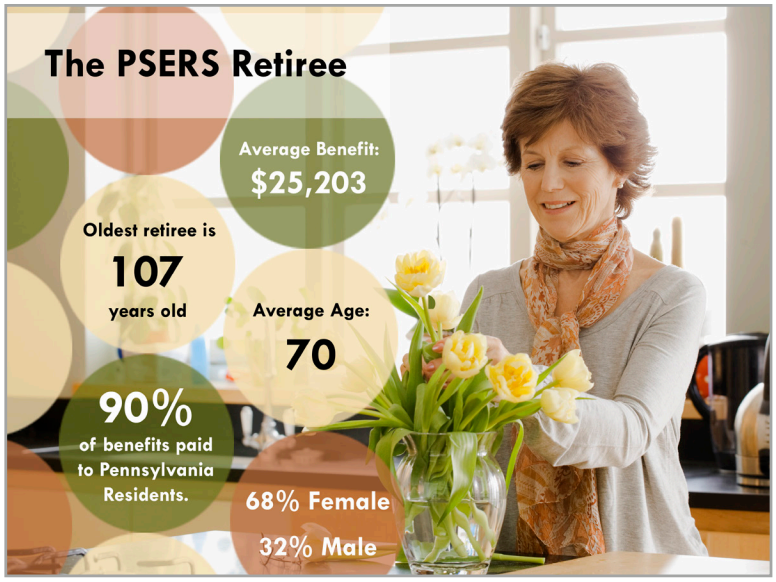
As of June 30, 2016, PSERS had over 257,000 active members and 781 school employers with an employer payroll of $13.0 billion.

- The top five largest school employers are: Philadelphia City School District, Pittsburgh School District, Central Bucks School District, North Penn School District, and Allentown City School District.
- The average age of a PSERS active member is 45.1 years with 11.3 years of service.
- The most years of service earned by a current active member is 60 years.
- The average salary of an active member is $49,989.

A Closer Look at PSERS' Retired Members

As of June 30, 2016, PSERS had nearly 225,000 retirees and beneficiaries who receive over $467 million in pension benefits and $9 million in healthcare premium assistance benefits each month.

- The average yearly benefit paid to retirees is $25,203.
- Approximately 73% of PSERS retirees receive an annual pension benefit of less than $40,000.
- Six-figure pensions are rare, with fewer than one-half of 1% of PSERS retirees receiving an annual pension benefit over $100,000 after a long career in public education.
- Retirees earning six-figure pensions have spent an average of 38 years working in their careers.
- The oldest PSERS retiree is 107 years old.



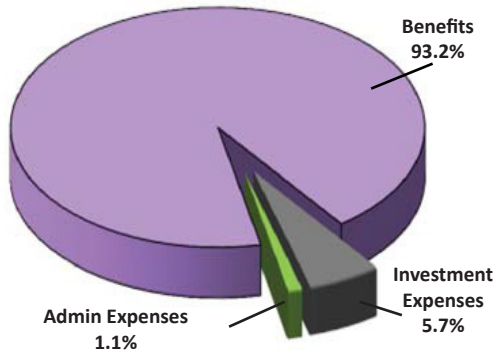
Budgetary and Financial Governance

PSERS participates in an annual independent, international benchmarking survey evaluating its costs and service performance in comparison to other public pension funds. Based on the most recent survey, PSERS had a 16% lower pension administration cost per member than the average cost for its peer group. By running a lean and efficient operation, PSERS saves the Commonwealth and school employers approximately $7.3 million annually in administrative expenses compared to its peers.

PSERS' administrative budget is not funded by taxpayers through the Commonwealth's General Fund, but rather from the earnings of the Fund itself. Historically, PSERS has underspent its approved budget, keeping more funds available to invest for PSERS' members.

PSERS is prudent in its use of funds and managing its annual budget. In FY 2016, PSERS entered into a new agreement for its hardware and server maintenance, resulting in significant savings. PSERS reduced mailings to members and is moving toward electronic newsletter distribution, producing savings in both printing and postage costs. Working with its actuary, PSERS continues to save actuarial fees by completing various analyses in-house. Other reductions were made in wages, overtime, travel, and training, all part of PSERS' ongoing efforts to control costs and improve operational efficiency.

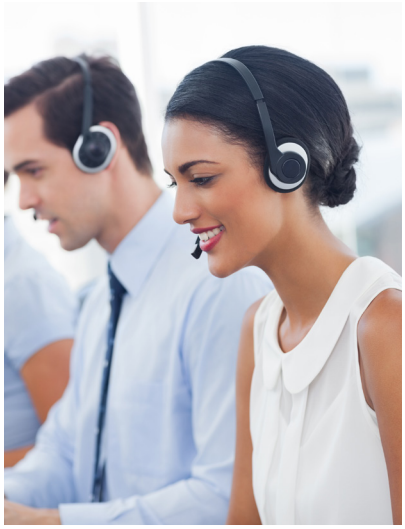
Total PSERS' Benefits and Expenses
FY Ended June 30, 2016



2016 Cost Saving Highlights

- Reduced Hardware and Server Maintenance cost by $317,681.
- Reduced Wages by $120,747.
- Reduced Overtime by $26,249.

Customer Service Improvements



Through 2016, PSERS continued its multi-year effort to upgrade its entire pension administration system. This technology upgrade helps ensure the viability of PSERS' pension administration system into the future, and it will make future enhancements much easier to implement. These changes will not only directly increase customer service opportunities, but will also generate financial savings while potentially enabling PSERS to redeploy staff to other critical needs as workloads shift.

PSERS also expanded its program of reviewing active member accounts at periodic milestones during the member's career to ensure each detail of a member's account is accurately portrayed prior to the member applying for retirement. Nearly 24,000 accounts were reviewed in FY 2016, which included the milestone of reviewing all members identified as having 35 or more years of service.

PSERS increased its efforts to provide retirement benefits in a more efficient manner. Approximately 87% of the retirement benefits processed in FY 2016 were paid through a streamlined process. This shorter process allows for retirement benefits to be processed and finalized in one step rather than the previous two-step process.

FY 2016 Customer Service Highlights

Answered **198,000** Member Calls

Responded to **13,600** Member Emails

Served **7,600** Members in Counseling Sessions

Issued **2.5 Million** Monthly Benefit Payments to Members

Processed **10,200** Retirement Applications

Prepared & Issued **249,500** 1099-R's

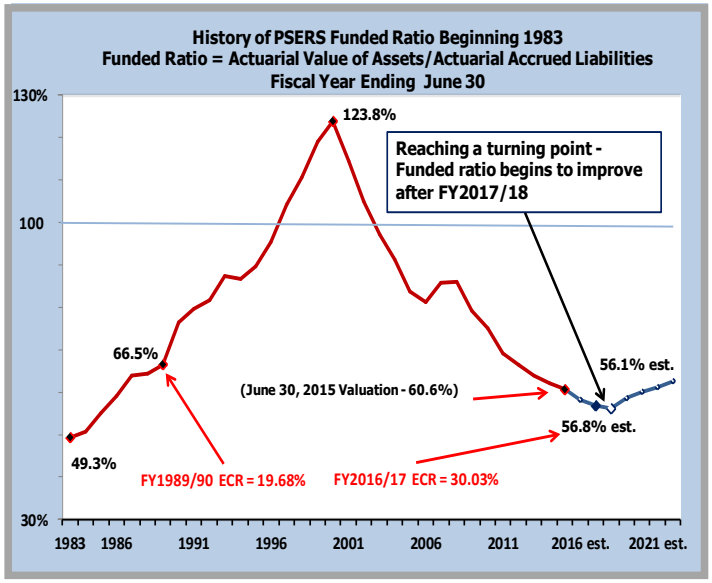
Financial Highlights

PSERS' Net Position

The fair value of the System's fiduciary net position totaled $50.2 billion as of June 30, 2016. The System is the 20th largest state-sponsored public defined benefit pension fund in the nation and the 31st largest among public and corporate pension funds in the nation.

PSERS' total net position decreased by $1.7 billion from $51.9 billion at June 30, 2015 to $50.2 billion at June 30, 2016. The change in total net position from June 30, 2014 to June 30, 2015 was a decrease of $1.4 billion from $53.3 billion at June 30, 2014 to $51.9 billion at June 30, 2015. This decrease in both years was due in large part to deductions for benefits and administrative expenses exceeding net investment income plus member and employer contributions.

PSERS Funded Ratio



An independent review of PSERS' assets and liabilities is performed annually. As part of this review, the progress toward funding PSERS' pension obligations is measured. This measurement is referred to as the funded ratio or funded status. The most recent review reports that PSERS is 60.6% funded with an unfunded liability of $37.3 billion as of June 30, 2015. The funded ratio for the year ended June 30, 2016, will be available in the review that will be completed at the end of the 2016 calendar year. Based on the investment performance for the ten-year period ended June 30, 2016, which is below the investment rate of return assumption during that time period, and employer contributions below the actuarially recommended level, the funded ratio at June 30, 2016, is expected to decrease.

The decreasing trend in PSERS funded status since 2000 is primarily the result of legislated underfunding by employers and the Commonwealth; unfunded benefit increases enacted in Act 9 of 2001, Act 38 of 2002, and Act 40 of 2003; funding collars in Act 120 of 2010; and the downturn in the investment markets after 9/11 and the Great Recession of 2008.

Dramatic progress, however, has been made toward addressing the annual funding shortfall of PSERS. Thanks to the General Assembly's enactment of the Act 120 pension reforms in 2010, employer contributions increased to the System in defined increments and for the first time in 15 years, the employer contribution rate (ECR) for the fiscal year beginning July 1, 2016, will provide 100% of the actuarially required rate based on sound actuarial practices and principles. As a result of the increased funding, in approximately two years, PSERS' funded ratio is projected to slowly improve after declining for many years and PSERS is now on a path to full funding.

Condensed Statements of Fiduciary Net Position
June 30, 2016 and 2015 ($ in millions)

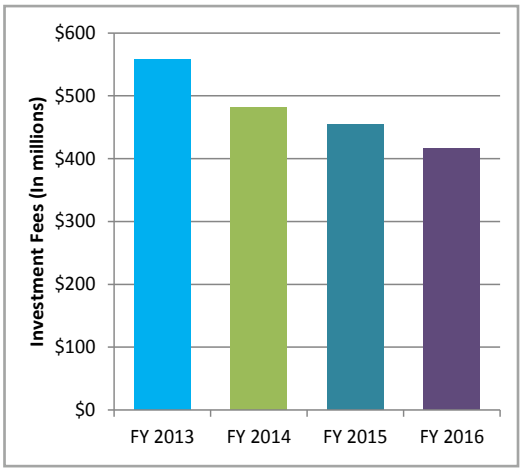
	2016	2015
Total Assets & Deferred outflows of resources	$ 53,321	$ 54,149
Total Liabilities & Deferred outflows of resources	3,170	2,264
Net Position restricted for pension and postemployment healthcare benefits	$ 50,151	$ 51,885

Condensed Statements of Changes in Fiduciary Net Position
Years ended June 30, 2016 and 2015 ($ in millions)

	2016	2015
Total Additions	$ 5,125	$ 5,351
Total Deductions	6,859	6,687
Change in Net Position restricted for pension and postemployment healthcare benefits	$ (1,734)	$ (1,336)

Financial Highlights (continued)

Investment Fees Continue to Decline



In addition to internal investment staff, PSERS also hires external investment managers to manage and invest the Fund's assets. PSERS will hire external managers in asset classes where we believe they will add value above index returns from both a risk and return perspective and in areas where PSERS does not have the staff or expertise to manage those assets.

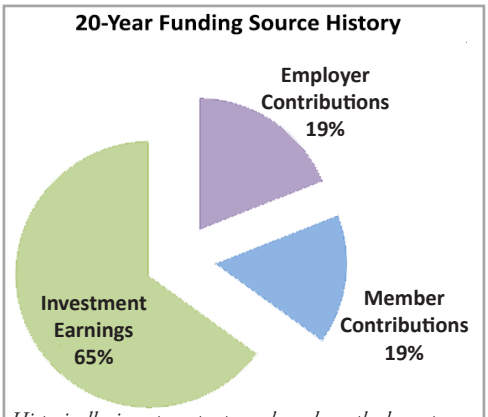
PSERS closely monitors external investment manager fees on an ongoing basis, as well as return expectations, investment risk, diversification, and cash flow needs of the Fund.

For the third year in a row, PSERS' investment manager fees have declined. PSERS' investment expenses decreased by over $142 million, from $558 million in FY 2013 to $416 million in FY 2016, which is a reduction of over 25%.

This was accomplished by reducing external investment management fees through strategically decreasing PSERS' alternative investment and real estate allocations through secondary market sales, continued careful negotiation of fees, and by increasing the amount of assets being managed in-house by PSERS' internal investment staff.

Note: Investment returns are always shown net of manager fees.

PSERS Funding Sources



Historically, investment returns have been the largest source of funding, accounting for 65% of total revenues over the 20-year period from FY 1997 to FY 2016.

PSERS is funded through three sources:

- Contributions from employees (members)
- Employer contribution rate, which includes contributions from school employers and the Commonwealth
- Investment earnings from the System

Employer contributions increased from $2.7 billion in FY 2015 to $3.3 billion in FY 2016 due to the increase in the total employer contribution rate from 21.40% in FY 2015 to 25.84% in FY 2016.

Total member contributions increased from $984.6 million in FY 2015 to $989.3 million in FY 2016. The increase was mainly due to an increase in member contributions from active member payroll and member contributions to purchase service credits.

During FY 2016, net investment income was $474 million. Net investment income in FY 2016 decreased from a net investment income of $1.3 billion in FY 2015 due to a lower total return.

PSERS Internal Controls and Reporting

PSERS is considered a component unit of the Commonwealth of Pennsylvania as defined by the Governmental Accounting Standards Board (GASB). An annual audit of the System by an independent certified public accounting firm is required by the Retirement Code. PSERS has received an unmodified opinion as evidenced in the Report of Independent Public Accountants in the Financial Section of the CAFR. An unmodified opinion means that PSERS' financial statements fairly present, in all material respects, its financial condition. In addition, no significant findings were noted during the audit and therefore, a management letter was not issued. This is the seventh consecutive year that a management letter was not issued and is reflective of the hard work and dedication of PSERS' staff to continue to improve the internal controls, operations, and efficiency of the System.

Investment Highlights

Long-Term Investment Performance Exceeds PSERS' Return Assumption

PSERS is a long-term investor and manages the Fund with long-term objectives (i.e., 25 to 30 years) in mind. The System has built a diversified allocation that positions the Fund to earn its return assumption of 7.50% over the long-term although annual fluctuations will occur. PSERS believes the best way to achieve its long-term objectives is to maintain a very diversified portfolio which includes all asset classes available to it, such as equities, fixed income, real assets, risk parity and absolute return.

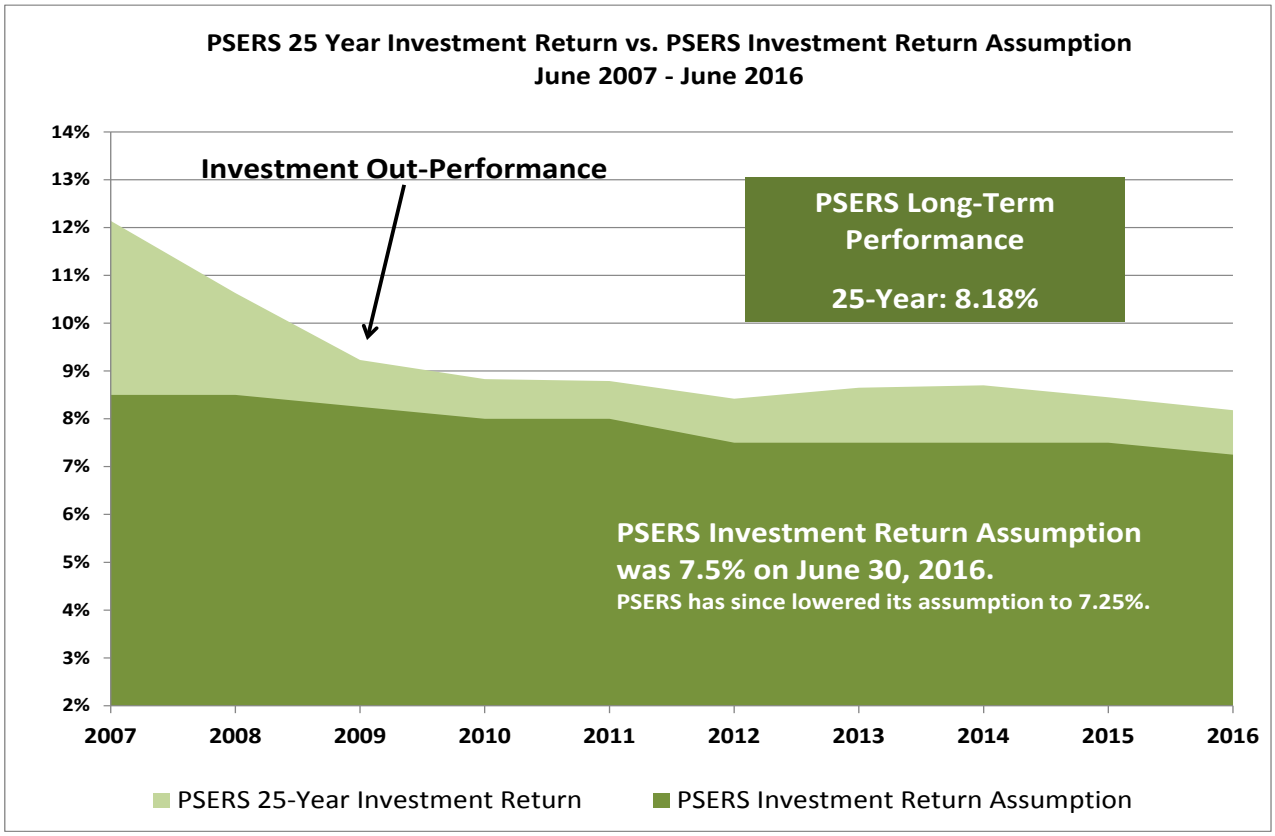
In the short-term, PSERS expects to go through periods of time when the Fund may not earn its return assumption. This past fiscal year was a challenging return environment for most investors as evidenced by PSERS' one-year investment return.

For the period ended June 30, 2016, PSERS posted returns of:

- One-year: 1.29%, added $474 million in net investment income
- Five-year: 6.01%, added $14.1 billion in net investment income
- 10-year: 4.94%, added $24.2 billion in net investment income

In any given year, PSERS expects some assets to perform well, such as U.S. long-term treasuries, real estate, and gold did this past fiscal year, and some to not do as well, such as commodities. Over the long run, however, the System expects each of its asset classes to generate a positive return commensurate with the risks taken.

Long-term returns remain above PSERS' return assumption. PSERS posted positive returns of 8.18% for the 25-year and 8.32% for the 30-year period ended June 30, 2016. PSERS' focus remains on maintaining a well-diversified asset allocation that can withstand the volatility in the markets, provide enough liquidity to meet cash flow obligations (primarily monthly benefit payments), and meet PSERS' earnings assumption over the long-term which the Fund has consistently done.

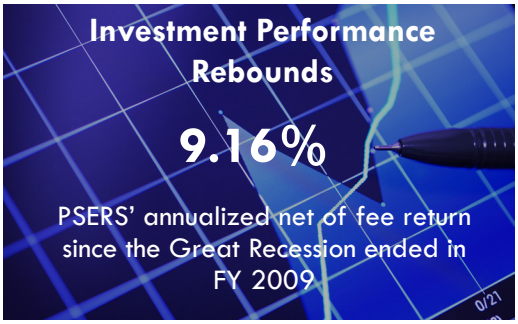


The chart above displays PSERS' twenty-five year return for each of the past 10 fiscal years. Historically, PSERS has consistently outperformed and exceeded its long-term return assumption.

Investment Highlights (continued)

PSERS Responds to Great Recession through Risk Reduction Strategies

PSERS Board reviews and approves the long-term asset allocation annually. The Board consults with its actuary, investment consultants, and PSERS investment staff to formulate the asset allocation plan. With interest rates on cash investments below 1%, PSERS needs to take prudent risks to achieve its long-term goal of a 7.50% return. The level of risk taken by PSERS is largely determined by the Board's strategic asset allocation plan.



The Board takes the following factors into consideration:

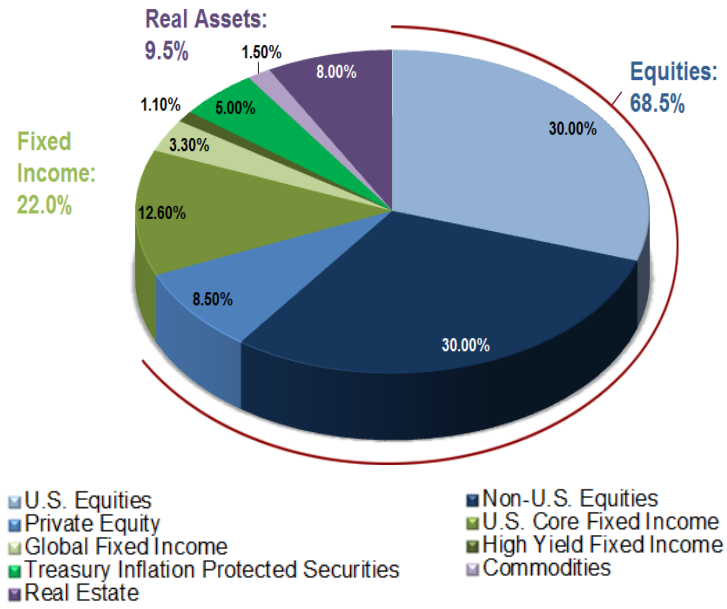
- PSERS' investment time horizon;
- Demographics of the PSERS membership;
- Cash flow needs;
- PSERS' actuarial assumptions;
- PSERS' funded status;
- School employers' and the Commonwealth's financial strength and,
- The Board's willingness to take risk.

PSERS' risk profile is, in part, driven by its cash flow needs. Over the past fifteen fiscal years when legislated underfunding of PSERS occurred, PSERS paid out $42.6 billion more in benefits than it has received in member and employer contributions (negative cash flow). In total, the negative cash flow of the System was over $2.0 billion per year during this period.

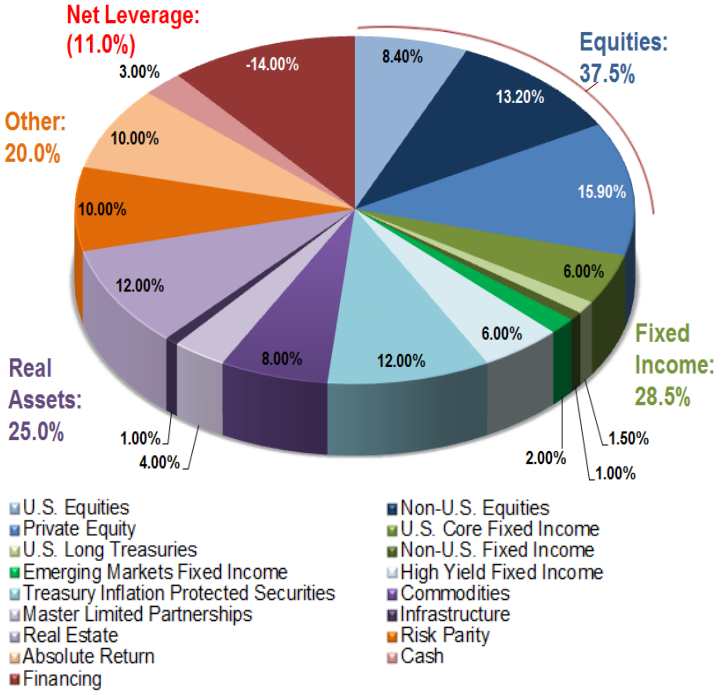
The large negative annual cash flow has improved significantly due to the implementation of Act 120 of 2010 which provided for increased employer contributions to the actuarially required contribution levels. The large annual cash flow shortfall, while much improved, will continue, and over the next few years will necessitate a larger liquidity position and lower risk profile.

Given the negative cash outflows, the Board has prudently reduced the risk profile since the financial crisis in 2008 as depicted in the asset allocation pie chart as compared to the 2007 asset allocation pie chart below. It has done so by decreasing its return dependence on the equity markets and increasing its risk exposures to asset classes that are less correlated to equity markets such as global inflation-linked securities and commodities. The goal of such an allocation is to generate desired returns with less volatility. While such an allocation will not provide for a large upside in returns, it is expected to minimize downside risks to PSERS' assets in the event of a large equity market drawdown as experienced during the financial crisis in 2008.

PSERS' 2007 Asset Allocation



PSERS' Asset Allocation As of June 30, 2016

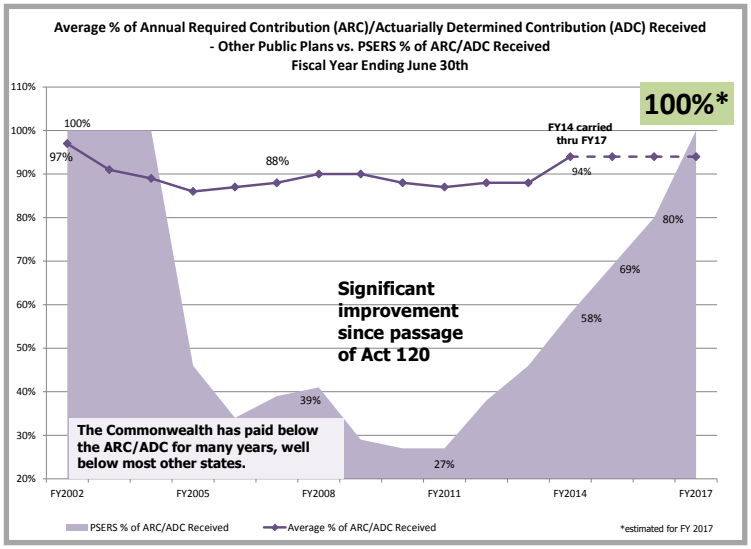


Status of Pension Reform Legislation (Act 120 of 2010)

Act 120 at a glance:

On November 23, 2010, pension reform legislation known as Act 120 of 2010 was signed into law. Act 120 preserved the benefits of existing members and included a series of actuarial and funding changes to PSERS and benefit reductions for individuals who became new members of PSERS on or after July 1, 2011. Some of the changes included:

- Put in place short-term employer contribution rate relief "collars" to help school budgets while increasing funding.
- Created two new membership classes and reduced the defined benefit plan multiplier. Members have a one-time opportunity to elect to contribute a higher percentage of their pay in return for a higher pension multiplier.
    - Members who contribute a 7.5% base rate will receive a 2.0% pension multiplier.
    - Members who contribute a 10.3% base rate will receive a 2.5% pension multiplier.
- Put in place an innovative "Shared Investment Risk" formula, which transfers some investment risk to the member. The member contribution rate will fluctuate within a specified range based on PSERS' investment performance giving PSERS a defined contribution element.
- Increased normal retirement age to 65 for a full, unreduced benefit.
- Increased vesting from 5 years to 10 years.
- Eliminated the lump-sum withdrawal option of members' contributions and interest.



Funding Progress under Act 120 of 2010

- Act 120 addressed the pending employer contribution rate spike projected for FY 2013 by smoothing the projected rate increases over a five- to nine-year time period. Instead of a large rate spike in one year, under Act 120, the employer contribution rate has increased steadily each year from the 5.64% in effect when Act 120 became law to the 25.84% rate in FY 2016.

- During that time, PSERS' Annual Required Contribution (ARC) percentage under Governmental Accounting Standards Board (GASB) standards increased from 27% to 80%.

- On July 1, 2016, PSERS began receiving 100% of actuarially required contributions for the first time in 15 years. This marks a significant milestone in PSERS' contribution history and establishes a path to full funding (see graph on this page).

- The employer normal cost of Act 120 members is less than 3% of payroll which is over 65% less than the 8% normal cost for pre-Act 120 members. As the percentage of members under the reduced Act 120 benefit structure grows, the annual cost of benefits for current service will continue to decline steadily.

PSERS Manages a Large Portion of its Assets In-House

PSERS uses both internal staff and external investment managers to invest its assets. As of June 30, 2016, PSERS employed 34 internal investment staff with a variety of professional credentials including: Chartered Financial Analysts, Certified Public Accountants, Masters of Business Administration, Chartered Alternative Investment Analyst, and a Professional Risk Manager.

During FY2016 PSERS increased the amount of asset exposure managed internally from $16.8 billion, or 30% of PSERS' exposures, to $19.2 billion, or 34% of the System's exposures. Asset classes such as U.S. equities and infrastructure are entirely managed in-house by PSERS investment staff. Other asset classes such as non U.S. equities, private markets, commodities, real estate, risk parity and master limited partnerships are partly managed in-house by PSERS investment staff.

By bringing more assets in-house, PSERS generates investment management fee savings. When assets are assigned to PSERS' staff, the total costs (e.g., staff salary and benefits, computers and office supplies) are much lower than the largest "very low fee" index mutual fund companies, giving PSERS a significant advantage. Using conservative estimates, the management fees savings on managing $19.2 billion in-house is approximately $25 million per year.

Five-Year Experience Study Completed in FY 2016

According to the Retirement Code, every five years PSERS Board reviews the results of an experience study prepared by PSERS' actuary. The experience study includes an in-depth look at the mortality, service and compensation experience and compares the results to PSERS' assumptions. The Board reviews the actuary's recommendations and may adopt and change PSERS' demographic and economic assumptions as necessary. Reviewing assumptions is an important task for PSERS' Board. An assumption that is significantly wrong in either direction could have an unfair cost distribution on generations of taxpayers and school employers.

During the past fiscal year, PSERS' actuary, Buck Consultants LLC, completed a five-year experience study and presented the results to the Board at the June 10, 2016 Board meeting. Based on the recommendations of the actuary, the Board adopted revised demographic and economic assumptions effective with the June 30, 2016, actuarial valuation and results will be available at the end of the 2016 calendar year. The revised demographic assumptions include new mortality, retirement, and withdrawal assumptions and updated option factors to match the new mortality tables. The revised economic assumptions include:

- Reducing the salary growth from 5.50% to 5.00%;
- Reducing inflation from 3.00% to 2.75% and,
- Reducing the investment rate of return from 7.50% to 7.25%.

Awards for Financial Reporting and Investments

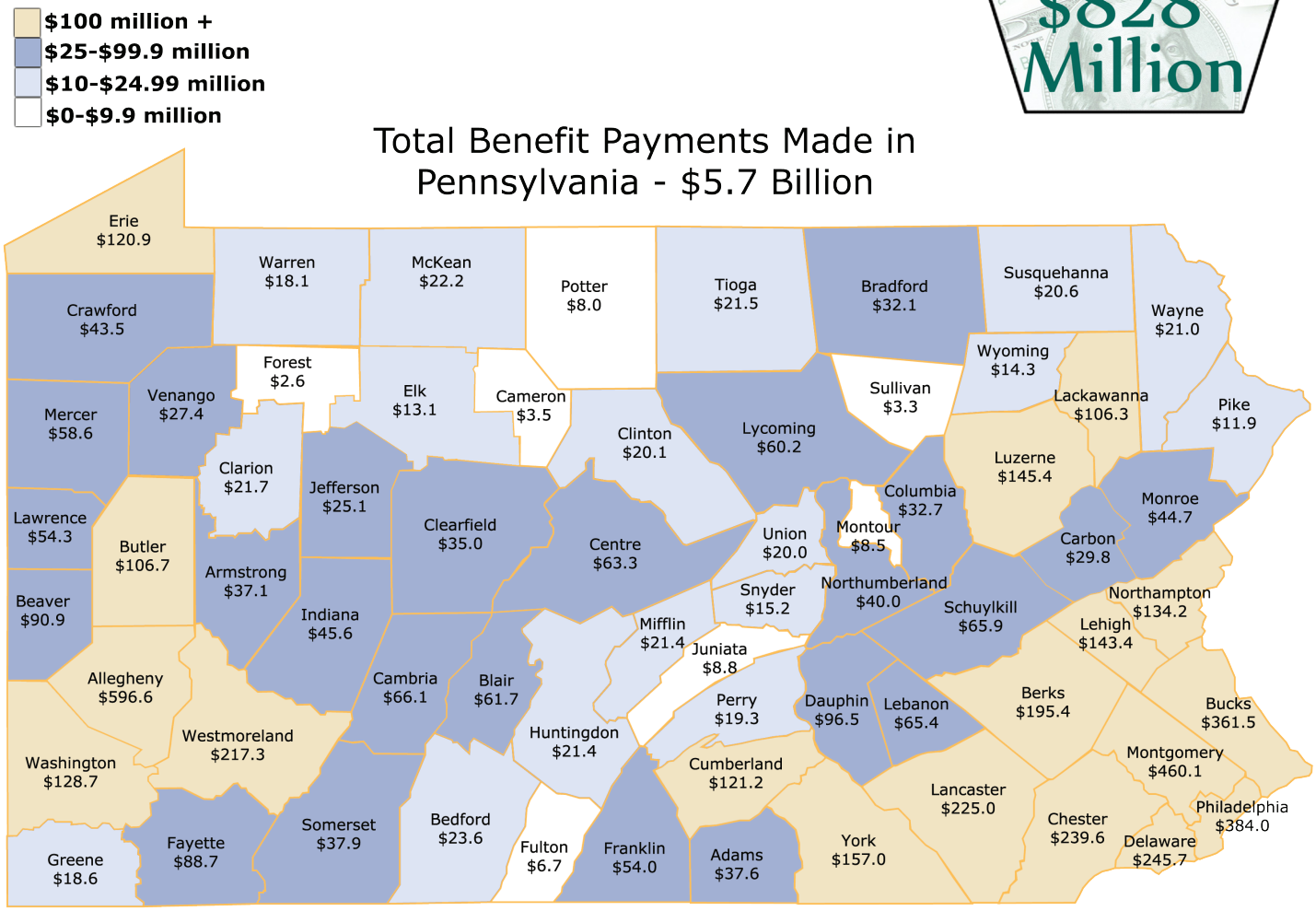
Government Finance Officers Association of the United States and Canada Certificate of Achievement for Excellence in Financial Reporting: The Certificate of Achievement awarded by the GFOA is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports. PSERS has received a Certificate of Achievement for its CAFR for 33 consecutive years.

Public Pension Coordinating Council Public Pension Standards Award: The Public Pension Coordinating Council has awarded its Public Pension Standards Award to PSERS for 2015 in recognition of meeting professional standards for plan design and administration.

Institutional Investor Asset Management Industry Award: On April 28, 2016, at the Institutional Investor's 3rd annual Investor Intelligence Awards for Public Plan Sponsors, PSERS was presented with the Asset Management Award. This award is in recognition of the most outstanding and innovative Corporate and Public Plan sponsors and Endowments and Foundations in North America.

Economic Impact in Pennsylvania

PSERS provides a stable source of revenue for local economies throughout Pennsylvania. In fiscal year 2016, PSERS pension disbursements to retirees totaled approximately $6.3 billion. Of this amount approximately 90%, or $5.7 billion, went directly into state and local economies. These pension disbursements are a significant economic driver that benefit the economy of the Commonwealth.



For more information

The information contained in this document came primarily from PSERS' Comprehensive Annual Financial Report for the fiscal year ended June 30, 2016. A copy of the CAFR and SAFR are available on our website under "Publications."

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