SERS' Financial Overview

SERS was established in 1923 and is one of the nation's oldest and largest statewide retirement plans for public employees. SERS operates three plans. The Defined Benefit Plan and the Defined Contribution Plan are mandatory for most employees. A third plan – the Deferred Compensation Plan, is a voluntary supplemental plan. The plans had $35.0 billion, $40.5 million and $4.4 billion of net assets, respectfully, as of SERS' most recent fiscal year-end date of December 31, 2020.

State Employees Retirement System – Defined Benefit Plan

Plan Design

Defined benefit plans are long-term propositions designed to pay a pension benefit to each member for their lifetime – in other words, until the last member dies.

When the underlying principles of defined benefit plan design remain intact, defined benefit plans offer efficient, stable and sustainable models for growing assets and delivering benefits through complete economic cycles, indefinitely.

That includes "mature" pension systems like SERS which was established in 1923. As predicted and planned for, in 2010 the number of retirees and beneficiaries receiving benefit payments from the system overtook the number of active members contributing to the system. As a plan continues to mature, the amount it pays out in benefits will continue to rise, as expected for SERS over the next 30 years.

While this has implications for all aspects of SERS' operations, it isn't unexpected and is, in fact, common and part of the underlying principles built into the defined benefit plan structure.

Annual Actuarial Valuations

Every year, an independent actuary conducts a valuation of the pension system to determine the amount of money the fund will need to pay pension benefits to our members for their expected lifetimes.

The valuation is based on financial and member data prepared by our staff and makes use of many economic and demographic assumptions – including life expectancy, salary increases, inflation rates, and assumed investment rate of return – to calculate the employer contributions necessary to adequately fund the plan. Those calculations are made according to the specific actuarial methods outlined in the Retirement Code.

For example, the financial and member data provided as of December 31, 2020 is used for the December 31, 2021 measurement date for the valuation – meaning that the most up-to date information is being used in the valuation.

Because actual economic and demographic factors change over time, the actuary also conducts in-depth experience studies every five years. These studies scrutinize and document SERS' actual experience across a wide range of actuarial factors, such as those listed earlier, so that future assumptions can be adjusted to take recent experience into account. The most recent five-year experience study was delivered to the board in July 2020, with assumption changes effective with the 2020 actuarial valuation. Some notable assumption changes were:

- Reducing the assumed investment rate of return and inflation to 7.00% and 2.5%
- Reducing rates of career salary growth
- More favorable annuitant mortality assumptions

The assumed investment rate of return assumption is reviewed annually, in addition to being analyzed as part of the normal five-year experience study, to ensure it remains appropriate. Each year, SERS investment office staff, investment consultants, and our actuary conduct the evaluation and present a range of acceptable options to the SERS Board. The goal is to determine a rate that is reasonable to achieve over 20-30 years given current market conditions, assets and liabilities, and future market and demographic expectations. The SERS Board makes any changes, if necessary, when conditions warrant.

There has been a steady decline in capital market expectations over the last 10+ years. This trend has been reflected in the SERS Board's adjustments to the assumption as follows:

- 2008 valuation – Reduced from 8.50% to 8.00%
- 2011 valuation – Reduced to 7.50%
- 2016 valuation – Reduced to 7.25%
- 2019 valuation – Reduced to 7.125%
- 2020 valuation – Reduced to 7.00%

Likewise, this trend is reflected in the investment return assumptions used by our peer systems.

It is important to note that a decrease in the assumption leads to increases in liabilities and employer costs while an increase in the assumption leads to decreases in liabilities and employer costs. According to SERS' actuary, a .25% reduction in SERS' assumed investment rate of return increases employer contributions by approximately $150 million annually based on projections over a 30-year amortization period.

There are several key components to the robust actuarial valuation. However, the most critical when evaluating the health of a plan are the actuarial accrued liability (AAL), Actuarial Assets (AA), Unfunded Actuarial Accrued Liability (UAL = AAL-AA), funded ratio (AA/AAL). Key information from over the past ten years' is as follows:

Funded Status ($ in thousands)				
Valuation Year Ended December 31	**Actuarial Value of Assets**	**Actuarial Accrued Liabilities**	**Unfunded Actuarial Accrued Liability**	**Funded Ratio**
2020	$ 32,703,275	$ 55,098,758	$ 22,395,483	59.40%
2019	$ 29,934,024	$ 52,972,575	$ 23,038,551	56.50%
2018	$ 28,989,607	$ 51,782,205	$ 22,792,598	56.00%
2017	$ 28,776,939	$ 48,439,403	$ 19,662,464	59.40%
2016	$ 27,596,048	$ 47,518,964	$ 19,922,916	58.10%
2015	$ 26,877,127	$ 46,328,929	$ 19,451,802	58.00%
2014	$ 26,584,948	$ 44,750,670	$ 18,165,722	59.40%
2013	$ 25,975,185	$ 43,874,580	$ 17,899,395	59.20%
2012	$ 25,302,688	$ 43,055,564	$ 17,752,876	58.80%
2011	$ 27,618,461	$ 42,281,862	$ 14,663,401	65.30%

NOTE - 2020 includes one-time lump sum payment towards UAL from PSU

Another important component of the actuarial valuation is the determination of the employer contribution rates for the fiscal year beginning July 1 following the valuation date. *(Additional information regarding key data points and employer contributions will be covered in the following pages.)*

The most recent actuarial reports and experience study are posted on the SERS website:

- *2020 Actuarial Valuation -* http://www.sers.pa.gov/pdf/Actuarial_Valuations/ActuarialValuation2020.pdf

- *19th Investigation of Actuarial Experience - January 1, 2015 to December 31, 2019 -* http://www.sers.pa.gov/pdf/2015-2019-InvestigationOfActuarialExp.pdf

Funding into the Pension System

Defined benefit pension systems are designed to be funded through three sources

- Member Contributions
- Investment Earnings
- Employer Contributions

Over the past 10 years, investment earnings added 54% to the fund, employer contributions added 37%, and member contributions added 9%.

Member Contributions

Each member contributes a percentage of their pay, as set by the Retirement Code, based on their class of service in the system. While contribution rates vary, with the vast majority contributing between 5% to 9.3% based on the member's class of service in the system, most members contribute 6.25% of their pay toward their SERS pension. Member contributions are withheld automatically by their employers and, in most cases, sent to SERS each pay day.

Investment Earnings

The basic objectives of the Defined Benefit Plan Fund are to provide benefit payments to members and beneficiaries at the lowest cost to the commonwealth and to fund the program through a carefully planned and executed investment program.

The fund seeks to produce the highest return on investment that is consistent with acceptable investment risks while at the same time providing sufficient liquidity that will permit the fund to meet the system's benefit obligations.

The fund is invested in a diverse portfolio with work toward achieving investment objectives being guided by SERS' Defined Benefit Plan Investment Policy Statement.

It is important to note that according to PA law, the difference between SERS' actual investment performance and our assumed investment rate of return is recognized over a five-year period at 20% per year. This is known as "smoothing" and is an actuarial concept that minimizes the impact of year-to-year investment return volatility when valuing long-term obligations, such as the lifetime obligations of a pension plan.

SERS Investment Office has compiled an in-depth power point presentation covering the Investment Program, which is being submitted to the subcommittee under separate cover.

Employer Contributions

SERS is a multi-employer plan and employers contribute a percentage of their payroll toward their employees' pensions. The amount they contribute each year is determined by the annual actuarial valuation of the system (discussed above) and is most often discussed as a composite rate reflecting separate rates for about 20 different classes of service in the system.

If the actuary finds that earnings rise and expenses fall (for instance, investment returns exceed the return assumption and employees experience lower-than expected salary growth) then fewer employer contributions are needed to fund the pension plan. Conversely, if earnings fall or expenses rise, more employer contributions are needed to fund the pension plan.

Each April, the SERS Board typically certifies the composite employer contribution rate that employers will begin paying in July, in conjunction with the commonwealth's fiscal year

The employer contribution rate has two parts:

- *The Normal Cost* – an amount to pay for the retirement benefits earned by the new members who entered the system that year. Starting with the 2021 actuarial valuation, it will change to the amount to pay for the retirement benefits earned by a blend of all active members in the system that year.

- *The Unfunded Liability* – an amount to pay toward any existing debt. The unfunded liability is a debt for benefits that have already been earned. It must be paid. Even if the commonwealth decided that, beginning tomorrow, there would be no retirement benefit offered to new employees, employers would face a period of high contribution rates due to the already existing liability.

Actual employer contributions compared to the actuarially determined contribution rates over the past ten years are as follows:

Valuation Year Ended December 31	Employer Contribution Rate	Actuarially Determined Contribution	Actual Contribution	Percentage Contributed
2011	11.5%	$ 913,778	$ 391,189	42.80%
2012	16.0%	$ 1,044,632	$ 562,883	53.90%
2013	20.5%	$ 1,314,925	$ 790,996	60.20%
2014	25.0%	$ 1,407,361	$ 1,081,826	76.90%
2015	29.5%	$ 1,469,116	$ 1,359,246	92.50%
2016	33.2%	$ 1,613,626	$ 1,613,626	100.00%
2017	32.9%	$ 1,883,541	$ 1,883,541	100.00%
2018	33.5%	$ 2,040,434	$ 2,040,434	100.00%
2019	33.5%	$ 2,106,138	$ 2,106,138	100.00%
2020	33.8%	$ 2,164,144	$ 3,174,854	146.70%

NOTE - Underfunding due to Act 120 collars, overfunding due to advance payment from PSU (see below)

<u>Factors Influencing the Unfunded Actuarial Liability</u>

SERS current Unfunded Actuarial Liability is $22.4 billion, and the funded ratio is 59.4%. Factors influencing the UAL have been building over time, including but not limited to:

- Sustained periods of employer contributions below normal costs: 1992 through 2009, and the associated loss of compound returns
- Losses that neutralized investment gains: -10.9% in 2002 and -28.7% in 2008
- Benefit increases that were not pre-funded – including increased accrual rates and cost of living adjustments: Act 2001-9 and Act 2002-38

- Legislatively mandated actuarial changes that extended the time over which liabilities be paid or artificially suppressed employer contribution rates: Act 2003-40 and Act 2010-120
- Gradual reductions in assumed rates of return over the past several years, from 8.5% in 2008 to 7.0% effective with the December 31, 2020, actuarial valuation to reflect changing market conditions

In recent years employers made considerable progress restoring funding to their employees' pensions. The steadily increased contributions supplemented by strong investment returns, despite turbulent market conditions over the past several years, are working to steadily strengthen the health of the fund.

Also, it is important to keep in mind that the annual cost of the plan continues to drop as the number of members in the newer classes of service, including the A-3 and A-4 classes, and the new A-5 and A-6 classes that opened Jan. 1, 2019, increases. At the end of 2020, approximately 45% of the active membership was in the A-3, A-4, A-5, and A-6 classes of service.

Benefit Payments

SERS mission is to "Prepare our members and participants to achieve financial success and security in retirement".

SERS was established in 1923 but did not pay more than $1 billion in annual pension benefits until 1997. Benefit payments reached $2 billion in 2007 and $3 billion in 2015. Based on recent actuarial projections, the SERS Defined Benefit Plan annual benefit payments will reach $4 billion by 2024.

Out of the $3.6 billion in benefit payments paid in 2020, approximately $3.2 billion or 89% went to Pennsylvania addresses. According to the National Institute on Retirement Security, these benefit payments serve as a significant source of economic stimulus as spending by recipients on a wide range of goods and services ripples through the economy. It is estimated that SERS' pension benefit payments generated an overall economic impact for Pennsylvania of approximately $5.3 billion in 2020.

An ongoing challenge is that SERS has more people drawing from the plan than paying into it. In 2021, SERS is projected to pay out approximately $107 million more each month than it is taking in through member and employer contributions. The $107 million projected shortfall in 2021 is more than the approximately $90 million a month shortfall forecasted in 2020. Since SERS is a mature plan, liquidity remains a concern. Assets continue to be rebalanced to meet the liquidity needs of the fund.

Recent Law Changes Impacting the Funded Status of the Plan

On November 27, 2019, Governor Wolf signed Act 2019-105 into law, allowing eligible employers to enter into an agreement with the SERS Board to make a one-time, lump-sum payment of between 75% to 100% of their unfunded liability.

The first employer to take advantage of this opportunity was Penn State University. In April 2020, Penn State University submitted a payment of $1.06 billion toward its unfunded liabilities. In April 2021, the State System of Higher Education made a payment of $825 million. In return for the respective lump sum payments, the employers will receive annual setoff credits against their contributions for 30 years.

Projection Estimates of Key Actuarial Data

The following table shows projections over the next 10 years for key actuarial components based on the most recent actuarial valuation and assumptions in place as of December 31, 2021.

				For FY Beginning July 1 Following Valuation Year ($ billions)		
Valuation Year Ended Dec 31	Funded Ratio	UAL	Employer Normal Cost Rate	Unfunded Liability Rate	Employer Contribution Rate	Employer Contributions
2021	67.2%	$ 17.22	8.29%	26.22%	34.51%	$ 2.20
2022	69.1%	$ 16.44	8.12%	25.10%	33.22%	$ 2.18
2023	72.3%	$ 14.93	7.96%	23.24%	31.20%	$ 2.10
2024	74.3%	$ 14.02	7.81%	22.13%	29.94%	$ 2.07
2025	75.6%	$ 13.44	7.66%	21.44%	29.10%	$ 2.06
2026	76.9%	$ 12.85	7.53%	20.79%	28.32%	$ 2.06
2027	78.2%	$ 12.25	7.40%	20.19%	27.59%	$ 2.07
2028	79.4%	$ 11.63	7.27%	19.63%	26.90%	$ 2.07
2029	80.7%	$ 10.98	7.15%	19.09%	26.24%	$ 2.08
2030	82.0%	$ 10.29	7.04%	18.56%	25.60%	$ 2.10

NOTE - Projections include impacts of PSU and PASSHE one-time lump sum payments.

A funded ratio of 80% or better is generally considered “healthy” for a pension system. As employers continue to make their actuarially determined contributions and assumptions are met, the system is projected to surpass that threshold in 2029.

Stress Testing and Risk Assessment of the Plan

Starting in 2019, SERS' finance and investment staff worked with SERS’ actuary to produce *a Stress Testing and Risk Assessment* report. The report was in response to Actuarial Standards of Practice (ASOP) No. 51 and Public Pension Management and Asset Investment Review Commission (PPMAIRC) recommendations. The report identifies and assesses major factors that contribute to the risk that the actual future value of benefits paid from the SERS Defined Benefit Plan will differ from the estimated value provided by the annual actuarial valuation and the actuarially determined contributions. This report includes an analysis of “What if?” scenarios to determine the effect on future employer contributions and the availability of assets to pay benefits when due to members. These “What if?” scenarios are referred to as stress tests or scenario tests. The “What if?” scenarios are illustrative and do not represent current expectations of future experience or recommendations for changes in current policies. In each scenario, the effect on the actuarially determined contribution (ADC) and funded ratio are projected over a period of 20 years and compared to the baseline expectations. The report covers a wide range of investment-related, demographic-related and contribution-related risks that could affect the long-term health and stability of the SERS fund.

In the report, SERS’ actuary notes that SERS is well-positioned to adjust to the risks analyzed if SERS employers consistently contribute the full actuarially determined contributions to the plan. They believe the current policies and practices utilized by SERS contain mechanisms to help control the volatility of the employer contribution rates and can help ensure assets will be available to pay all benefits when due to members. They also assessed the potential effect if employers were unable to contribute the full contribution due to unexpected circumstances, such as those that may be caused by a global pandemic.

SERS believes this is a very robust report. It is also important to note that it received positive recognition from the PEW Charitable Trusts. The report is issued annually and is now required by law, under Act 2020-128, which was signed November 25, 2020.

You can see the most recent Stress Testing and Risk Assessment report on SERS website:

http://www.sers.pa.gov/pdf/2020-SERS-StressTestingandRiskAssessmentReport.pdf

State Employees Retirement System – Defined Contribution Plan

On June 12, 2017, Governor Wolf signed Act 2017- 5 into law. The law established two new side-by-side hybrid defined benefit/defined contribution benefit options and a new defined contribution only option for all state employees, excluding most hazardous duty employees, who first enter SERS membership on or after January 1, 2019. Additionally, all legacy SERS members had a one-time, irrevocable option to select one of the three new retirement benefit options.

Unlike the Defined Benefit Plan, where contributions are defined and a member's benefit is guaranteed based on a formula, the contributions into the Defined Contribution Plan are defined for both the participant and the employer – but any amount of ultimate benefit is not. Thus, investment risk lies with the participant (who is selecting the investment option from an available menu).

The SERS Board selects the investment options offered through the Defined Contribution Plan, and contracts with investment managers and with a third-party administrator (TPA) for the plan. The employee defined contribution accounts are maintained by the TPA. Employee and employer contributions for the Defined Contribution Plan are deposited into participants' individual investment accounts. Employees may invest their money in several investment options including a range of target date funds, equity funds, fixed income funds, a short-term investment fund, and the self- directed brokerage option. If no active selection is made, contributions are defaulted into one of the target date funds. Most participants are invested in the target date funds. The benefit to which a participant is entitled is their vested account balance at termination. The Defined Contribution Plan has a three-year vesting period for employer contributions and immediate vesting for employee contributions.

The Defined Contribution Plan continued to grow in its second year of existence. There were approximately 13,200 and 8,000 defined contribution accounts as of December 31, 2020 and 2019, respectively. The net position of the Defined Contribution Plan was approximately $40.5 million as of December 31, 2020, and $12.4 million as of December 31, 2019.

The fees, costs, and expenses of administering this plan were paid by the commonwealth and other participating employers. There is no administrative charge to participants.

Act 2020-94, which was passed in the fall of 2020, retroactively allows the plan to use unvested employer contributions occurring after June 30, 2020, to offset administrative costs to the plan. These monies are kept in a plan-level forfeiture account with the TPA and will offset future administrative charges to employers. Prior to this act, the monies were set aside for employers to use to offset future contributions to the plan.

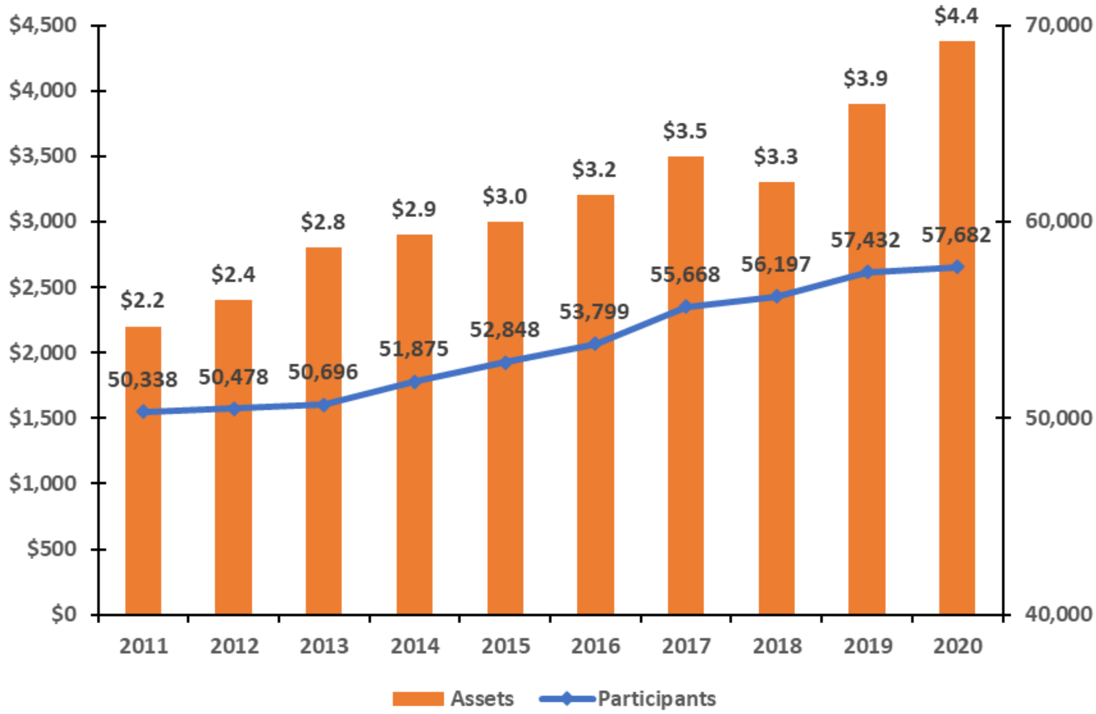
State Employees Retirement System – Deferred Compensation Plan

Most state employees are eligible to participate in the voluntary Deferred Compensation Plan, commonly referred to as "deferred comp." The plan allows participants to have some of their pay automatically deducted on a before- and/or after-tax basis and invested for retirement.

The SERS Board selects the investment options offered through this plan, contracts with investment managers, and contracts a third-party administrator for the plan through a competitive bid process (RFP).

Investment options comprise a series of target date funds, equity funds, fixed income funds, a money market fund, and a self-directed brokerage option.

In 2020, more than 57,000 participants had a total of approximately $4.4 billion invested in deferred comp. The ten-year growth of the plan ($ billions) is as follows:



Annual Financial Reporting

SERS completes and submits annual budgets through the Governor's Budget Office. The latest Budget Book can be found at:

http://www.sers.pa.gov/pdf/Supplemental_Budget_Book/budgetbinder2021.pdf

Annually, SERS Office of Financial Management produces financial statements as of and for the year ended December 31, XXXX for each of the three plans – Defined Benefit Plan, Defined Contribution Plan, and Deferred Compensation Plan. The financial statements are audited by an independent auditor each year and the Annual Comprehensive Financial Report receives award recognition from the PPCC and GFOA. The most recent annual reports for the December 31, 2020 year-end can be found at:

Annual Comprehensive Financial Report
http://www.sers.pa.gov/pdf/CAFR/2020-Annual-Report.pdf

Deferred Compensation Plan Financial Statements
http://www.sers.pa.gov/pdf/Deferred_Compensation/Financial%20Statement-2020.pdf