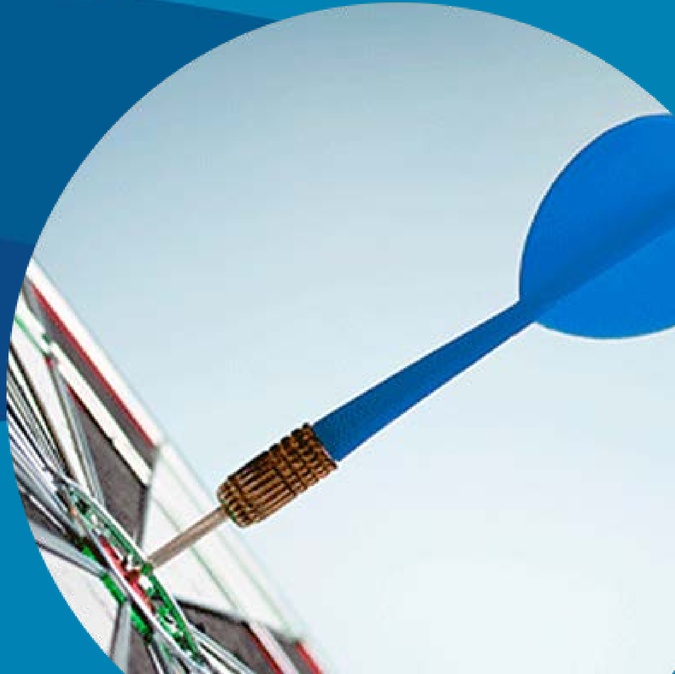
State Employees' Retirement System of Illinois

Valuation Results as of June 30, 2018

October 30, 2018



Agenda

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- Appendix B: Membership Data

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Valuation Results: Change in Actuarial Assumptions

- The SERS Board approved the following assumptions for use in the current valuation:
  - **Price inflation**: The rate of price inflation was reduced from 2.75 percent to 2.50 percent.
  - **Wage inflation assumption**: The wage inflation assumption was reduced from 3.25 percent to 3.00 percent, which reflects an underlying general price inflation assumption of 2.50 percent.
- The change in actuarial assumptions decreased the actuarial accrued liability as of June 30, 2018, by $214.0 million.

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Valuation Results: Public Act 100-0587

- Public Act 100-0587 (Effective June 4, 2018):
  - Create two voluntary buyout programs (Accelerated Pension Benefit Payment Program) for vested inactive members and Tier 1 members eligible for retirement
  - Program available to eligible members beginning on the implementation date and ending June 30, 2021
  - Participation in the program will be monitored as experience emerges and an assumption will be developed regarding the buyout election percentage for use in future valuations

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Valuation Results: Funded Status ($ in millions)

	June 30, 2018	June 30, 2017
Actuarial Accrued Liability	$ 47,926	$ 46,701
Market Value of Assets (MVA)	$ 17,462	$ 16,530
Unfunded Actuarial Accrued Liability - MVA Basis	$ 30,464	$ 30,171
Funded Ratio - MVA Basis	36.44%	35.40%
Actuarial Value of Assets (AVA)	$ 17,480	$ 16,559
Unfunded Actuarial Accrued Liability - AVA Basis	$ 30,446	$ 30,142
Funded Ratio - AVA Basis	36.47%	35.46%

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Valuation Results: Change in Funded Ratio

Change in Funded Ratio

Funded Ratio 6/30/2017	**35.46%**
Expected [1]	**2.17%**
Contribution Shortfall	**-1.66%**
Liability Experience	**0.14%**
Assumption Changes	**0.16%**
Asset Experience (7.58% Return on AVA)	**0.20%**
Funded Ratio 6/30/2018	**36.47%**

[1] *Assumes total contributions equal to normal cost plus interest*

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Valuation Results: Cash Flow Comparison ($ in millions)

Cash Flow Comparison

	FYE 2018	Projected FYE 2019	Projected FYE 2020	Projected FYE 2021	Projected FYE 2022
Employer Contribution	$ 1,931	$ 2,136	$ 2,291	$ 2,359	$ 2,405
Employee Contribution	$ 254	$ 243	$ 247	$ 251	$ 255
Benefits	$ (2,492)	$ (2,573)	$ (2,712)	$ (2,849)	$ (2,992)
Expenses	$ (15)	$ (18)	$ (18)	$ (18)	$ (19)
Net Cash Flow	$ (322)	$ (212)	$ (192)	$ (257)	$ (351)

- Beginning in 2019, benefits exceed State and employee contributions
- From 2019 to 2033, the percentage of investment income needed to pay ongoing benefits is projected to increase from approximately 17.4 percent to 48.5 percent
  - This implies that a lower level of investment income is projected to be a available for potential asset growth

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Valuation Results: Contribution Requirements ($ in millions)

FY 2020 State contribution	Amount	Rate
Basic Funding	$ 2,291	52.152%
Debt Service	94	2.140%
Total	$ 2,385	54.292%

Compares to FY 2019 contribution	Amount	Rate
Basic Funding	$ 2,136	49.593%
Debt Service	87	2.021%
Total	$ 2,223	51.614%

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Valuation Results: Contribution Shortfalls ($ in millions)

FY 2018	Amount	Rate
Actuarially Determined Contribution	$ 2,834	64.509%
Basic funding	2,291	52.152%
Shortfall	$ 543	12.357%

FY 2017	Amount	Rate
Actuarially Determined Contribution	$ 2,819	65.439%
Basic funding	2,136	49.593%
Shortfall	$ 683	15.846%

- The Actuarially Determined Contribution (ADC) is equal to the Normal Cost plus a 25-year level percent of capped payroll closed-period amortization of the Unfunded Actuarial Accrued Liability. As of June 30, 2018, the remaining amortization period is 22 years.

Experience Study

- Pursuant to Public Act 99-0232, SERS is required to conduct an actuarial experience review once every three years. Under this schedule, an experience review for the period from July 1, 2015 through June 30, 2018, will be performed after completion of the June 30, 2018, actuarial valuation with expected implementation of the recommended assumptions beginning with the June 30, 2019, actuarial valuation.

Summary

- A contribution shortfall decreased the funded ratio and increased the State's contribution requirement
- Funded ratio is projected to increase slowly from 36.5% in 2018 to 52.4% in 2033, and then increases rapidly to 90% by 2045

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Appendix A: Projection Results: Phase-in of investment losses in the AVA and Contribution Rate Variances due to Smoothing of Changes in Assumptions

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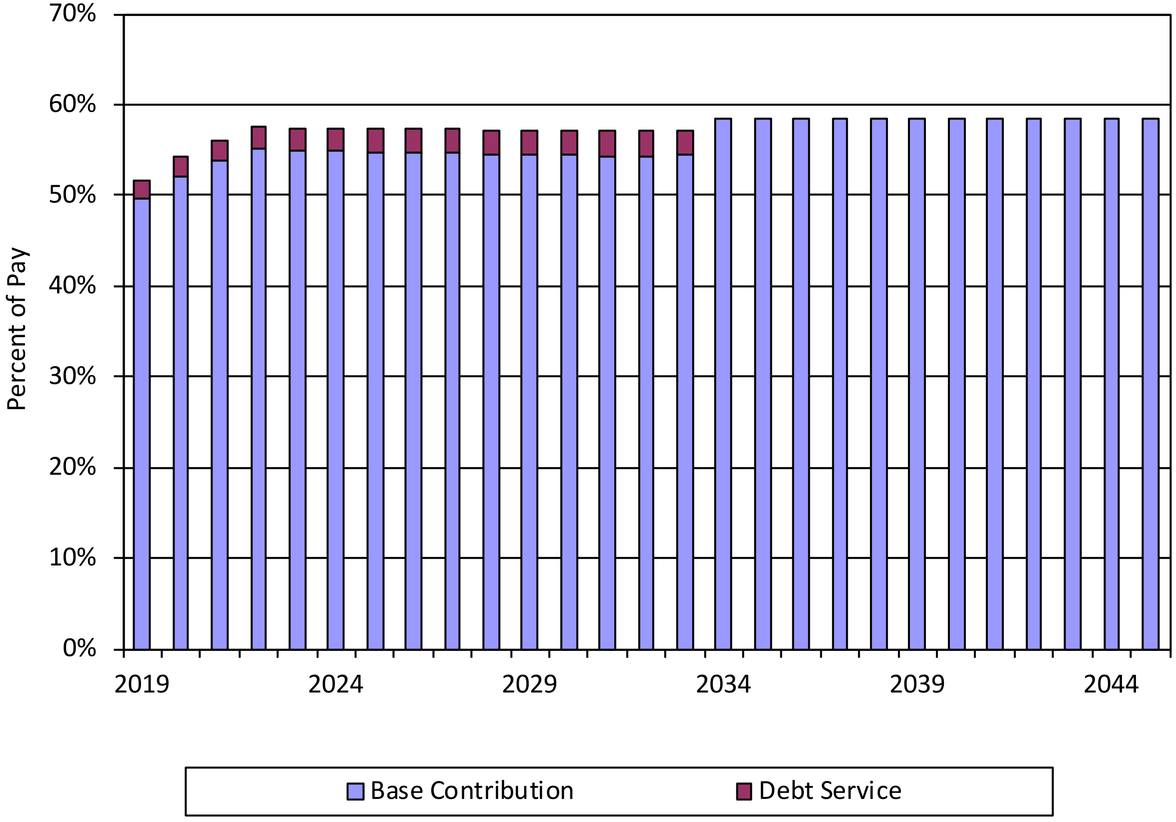
Projection Results: Phase-in of investment losses in the AVA and Contribution Rate Variances due to Smoothing of Changes in Assumptions: Contributions – Rate



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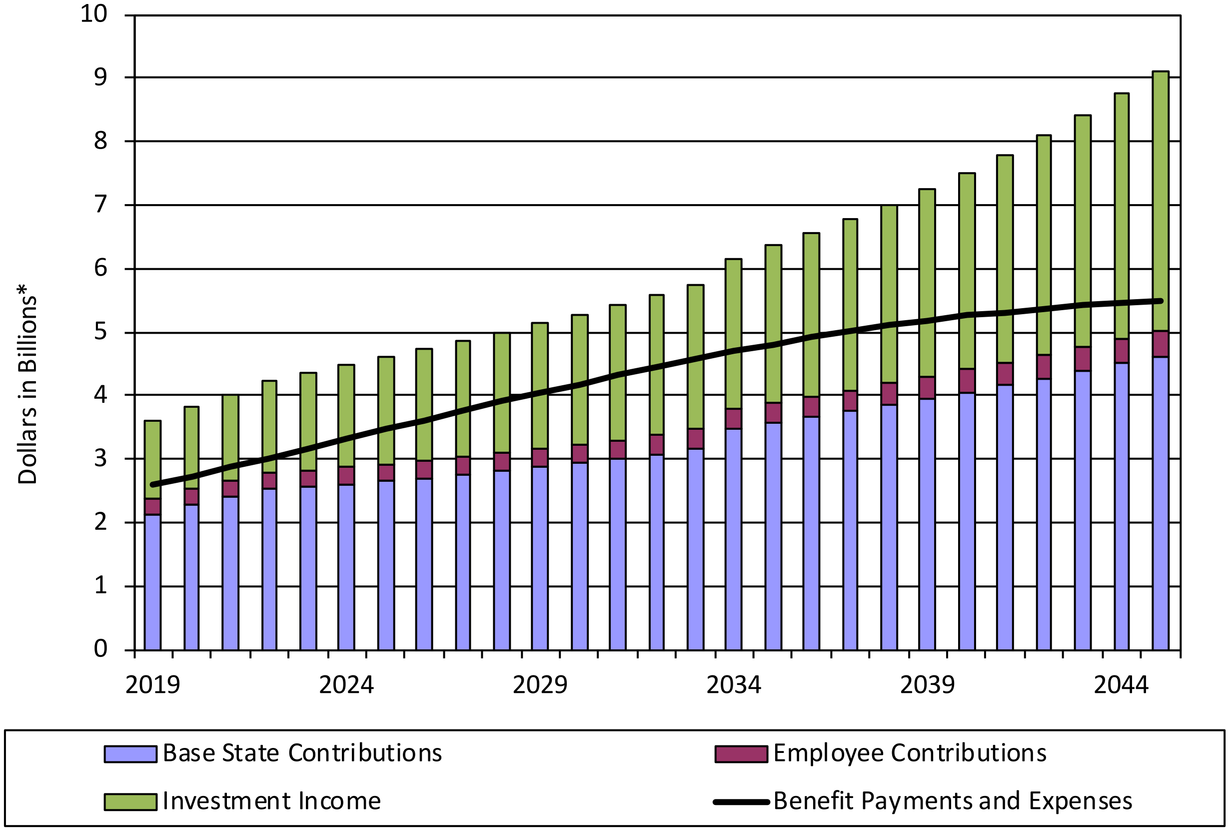
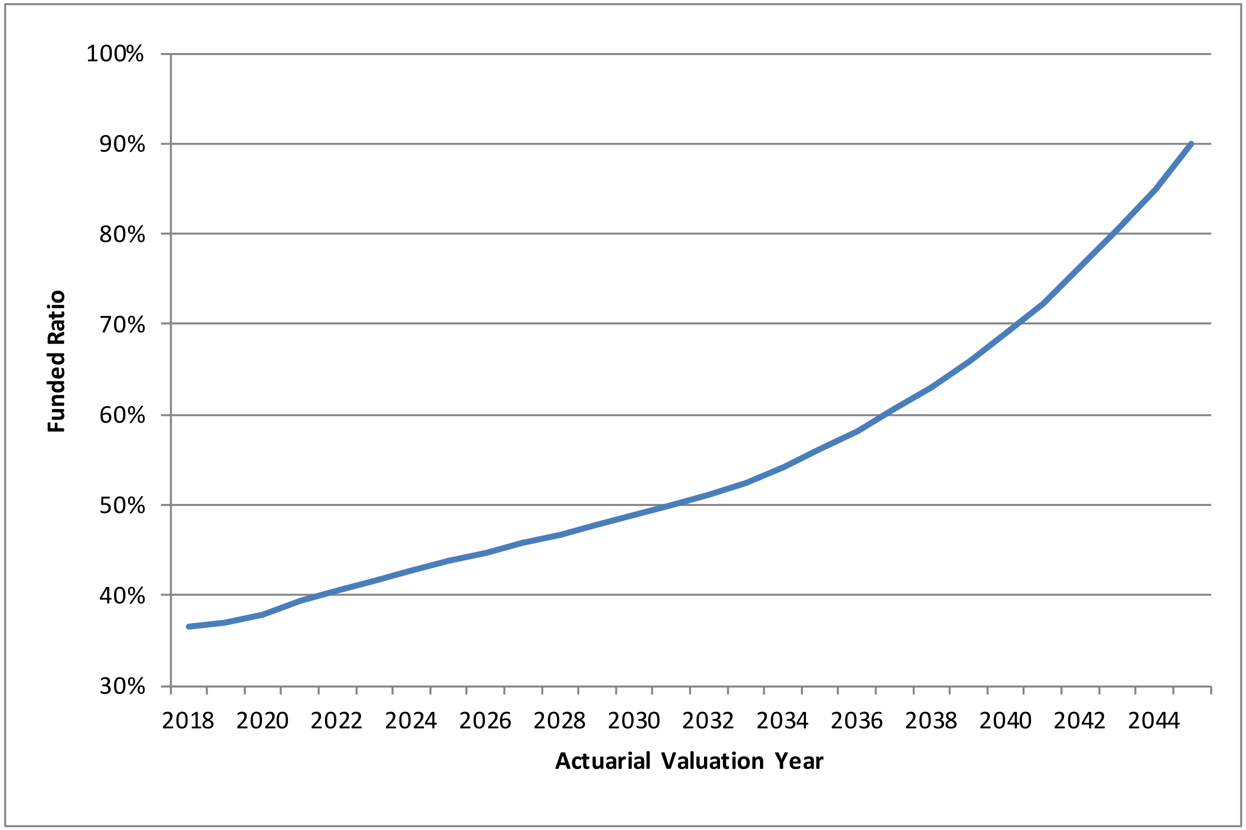
Projection Results: Phase-in of investment losses in the AVA and Contribution Rate Variances due to Smoothing of Changes in Assumptions: Cash Flow Comparison



**Future dollar amounts are based on assumed inflationary increases.*

Projection Results: Phase-in of investment losses in the AVA and Contribution Rate Variances due to Smoothing of Changes in Assumptions: Funded Ratio



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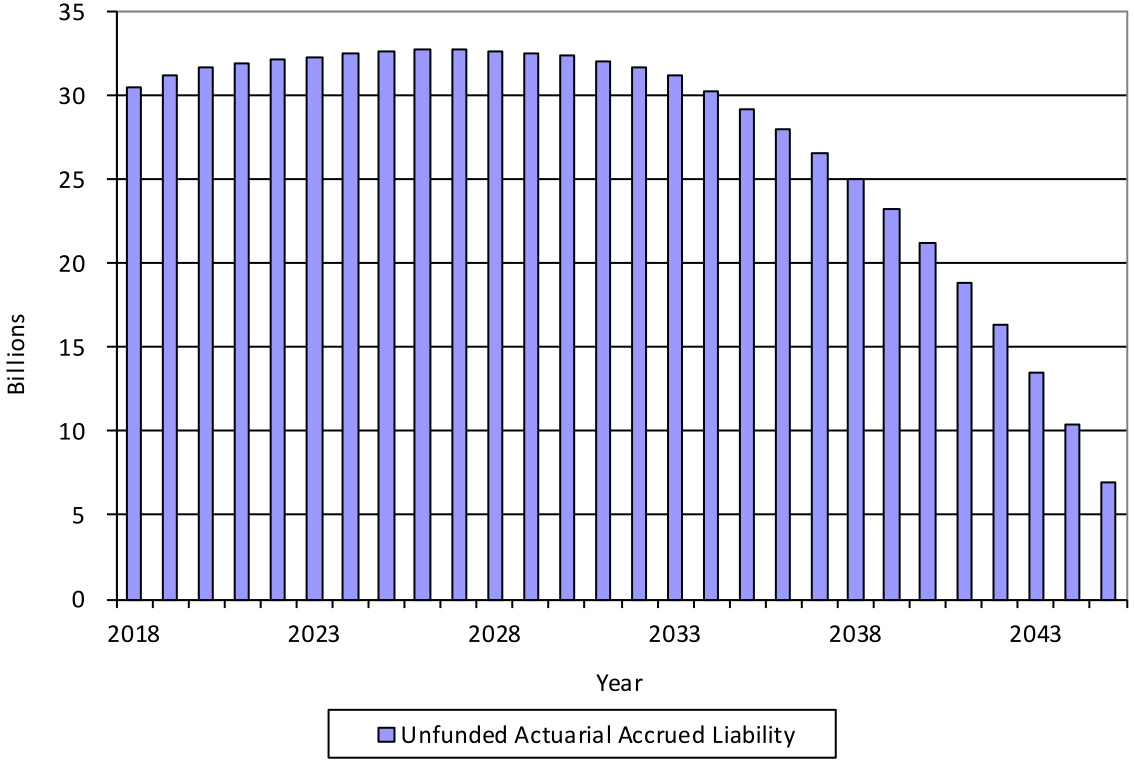
Projection Results: Phase-in of investment losses in the AVA and Contribution Rate Variances due to Smoothing of Changes in Assumptions: Unfunded Actuarial Accrued Liability



Appendix B: Membership Data

Active Members

	June 30, 2018	June 30, 2017
Number as of Valuation Date	61,397	60,612
Covered Payroll for Fiscal Year	$4.244 Billion	$4.196 Billion
Average Annual Earnings	$69,120	$69,224

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Active Members

Active Membership				
Fiscal Year Ending June 30,	Total	Annual Change in Membership	% Annual Change in Membership	Covered Payroll ($ in Millions)
2008	66,237			$3,967.70
2009	65,599	(638)	-0.96%	4,027.26
2010	64,143	(1,456)	-2.22%	4,119.36
2011	66,363	2,220	3.46%	4,211.19
2012	62,729	(3,634)	-5.48%	4,329.08
2013	61,545	(1,184)	-1.89%	4,236.19
2014	62,844	1,299	2.11%	4,416.15
2015	63,273	429	0.68%	4,453.68
2016	61,317	(1,956)	-3.09%	4,284.36
2017	60,612	(705)	-1.15%	4,195.78
2018	61,397	785	1.30%	4,243.74
Total Change		**(4,840)**	**-0.72%**	

Current Benefit Recipients

	June 30, 2018	June 30, 2017
Retirees	59,749	58,453
Survivors	11,344	11,186
Disabled	2,086	2,166
Eligible for Deferred Benefits	201	199
Total	73,380	72,004
Total Benefits	$2.499 Billion	$2.365 Billion
Average Benefits	$34,053	$32,847

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Questions

Disclosures

- Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this presentation concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- The actuary submitting this presentation (Alex Rivera, FSA, EA, MAAA, FCA) is a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.
- The primary purpose of the actuarial valuation is to measure the financial position of SERS.

Disclosures

- The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The major actuarial assumptions used in this analysis were provided by and are the responsibility of SERS. We are unable to judge the reasonableness of some of these assumptions without performing a substantial amount of additional work beyond the scope of the assignment.
- Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.
- This is one of multiple documents comprising the actuarial report for the SERS actuarial valuation. Additional information regarding actuarial assumptions and methods, and important additional disclosures are provided in the full actuarial valuation report as of June 30, 2018.
- If you need additional information to make an informed decision about the contents of this presentation, or if anything appears to be missing or incomplete, please contact us before relying on this presentation.

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