

CALSTRS

# Review of Actuarial Assumptions

January 2024 Board Meeting



# CalSTRS experience analysis - Overview

An **Experience analysis** is performed periodically to evaluate and update actuarial assumptions

- Assumptions are used in an actuarial valuation to project future experience and estimate plan costs for **budgeting purposes**
- **Actual plan costs** will be determined by *actual* – not expected – future experience

Assumptions **adopted by the board** based on advice of actuaries and other professionals

- Two main types of assumptions:

Economic  
assumptions

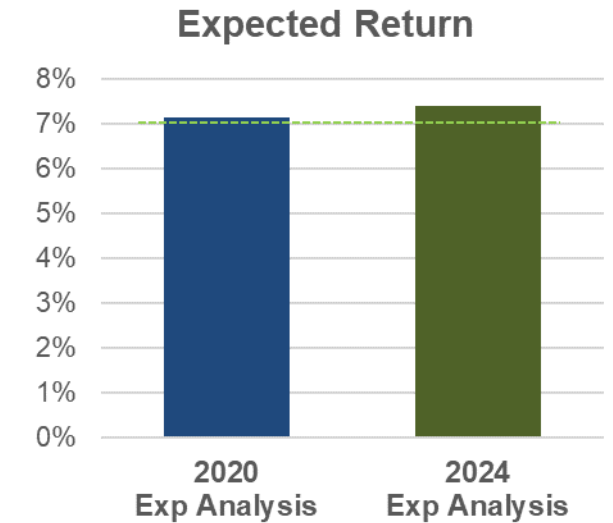
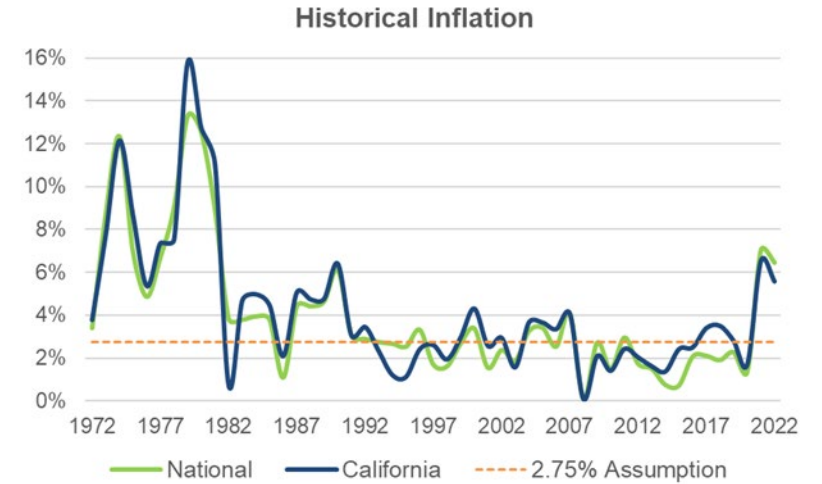
Based on expert forecasts of  
future macroeconomic outcomes

Demographic  
assumptions

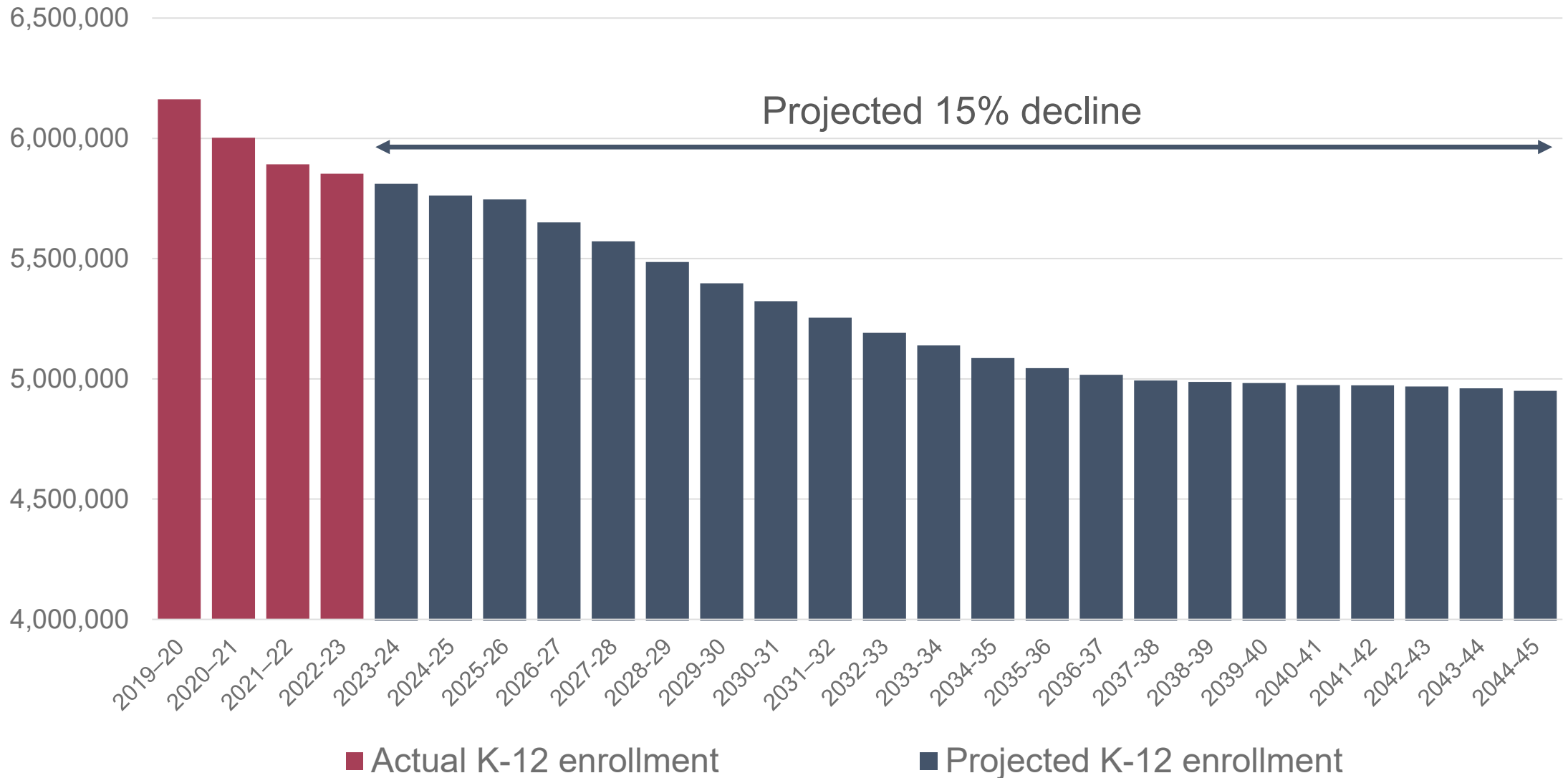
Based on actual CalSTRS experience  
during study period; used to predict  
anticipated future member behavior

# Economic assumptions

	DB Program		CBB / DBS Programs	
	Current	Recommended	Current	Recommended
Consumer Price Inflation	2.75 %	2.75 %	2.75 %	2.75 %
Net Real Rate of Return	<u>4.25</u>	<u>4.25</u>	<u>3.75 / 4.25</u>	<u>4.25 / 4.25</u>
Investment Return <sup>(1)</sup>	7.00 %	7.00 %	6.50 / 7.00 %	7.00 / 7.00 %
Interest on Member Accounts	3.00 %	3.00 %	6.50 / 7.00 %	7.00 / 7.00 %
Consumer Price Inflation	2.75 %	2.75 %	2.75 %	2.75 %
Real Wage Inflation	<u>0.75</u>	<u>0.75</u>	<u>0.75</u>	<u>0.75</u>
Wage Growth	3.50 %	3.50 %	3.50 %	3.50 %
Payroll Growth	3.50 %	3.25 %	3.50 %	3.25 %
Portfolio Standard Deviation	N/A %	N/A %	13.10 / 11.00 %	11.30 / 11.30 %



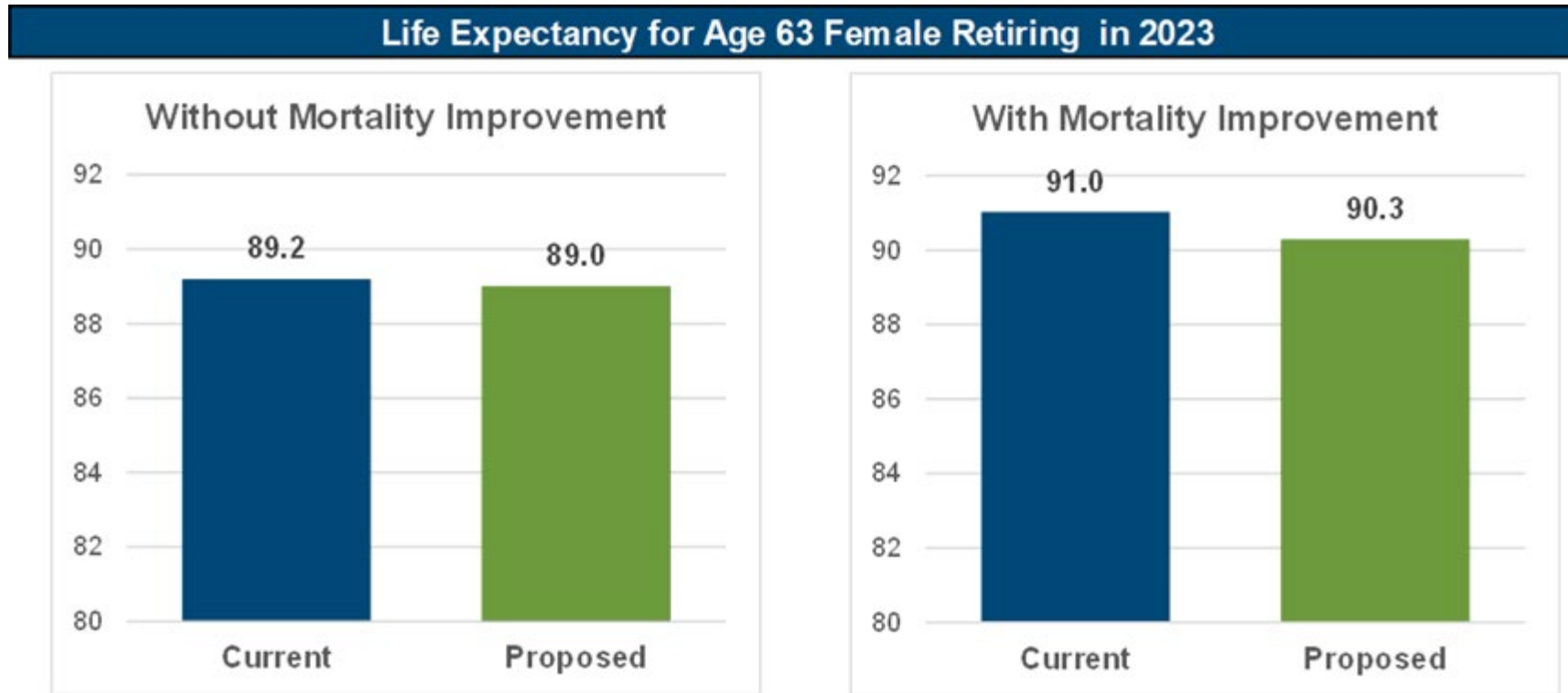
# Projected K-12 enrollment



# Demographic assumptions

Demographic Assumption	Recommended Changes
<b>Mortality</b>	
Healthy Retired Members	Decrease rates at younger ages, increase rates at older ages
Beneficiaries	Decrease rates at younger ages, increase rates at older ages
Disabled Members	Decrease rates at younger ages, increase rates at older ages
Active Members	Increase rates
<b>Service Retirement</b>	
Retirement from Active Membership	Increase rates at most ages
Retirement from Vested Membership	No change
<b>Disability</b>	
Coverage A	No change
Coverage B	Reduce rates
<b>Other Terminations of Membership</b>	
Termination	Reduce rates
Probability of Refund	Reduce rates
<b>Salary Increases for Merit</b>	
	Make small changes at some age/svc levels
<b>Miscellaneous Assumptions</b>	
Load for Sick Leave Service	Reduce
Probability of Marriage	No change
Number of Children	Increase assumption for males
Offsets for Death & Disability	No change
Valuation of Current Inactive Members	No change
Valuation of Future Inactive Members	Apply 5% load (reciprocity impact on final compensation)
Benefit Amount Split between 1990 and New Benefits for Current Retirees	Update estimates of 1990 benefit portion based on retirement year (used to allocate state/employer portion of unfunded obligation)

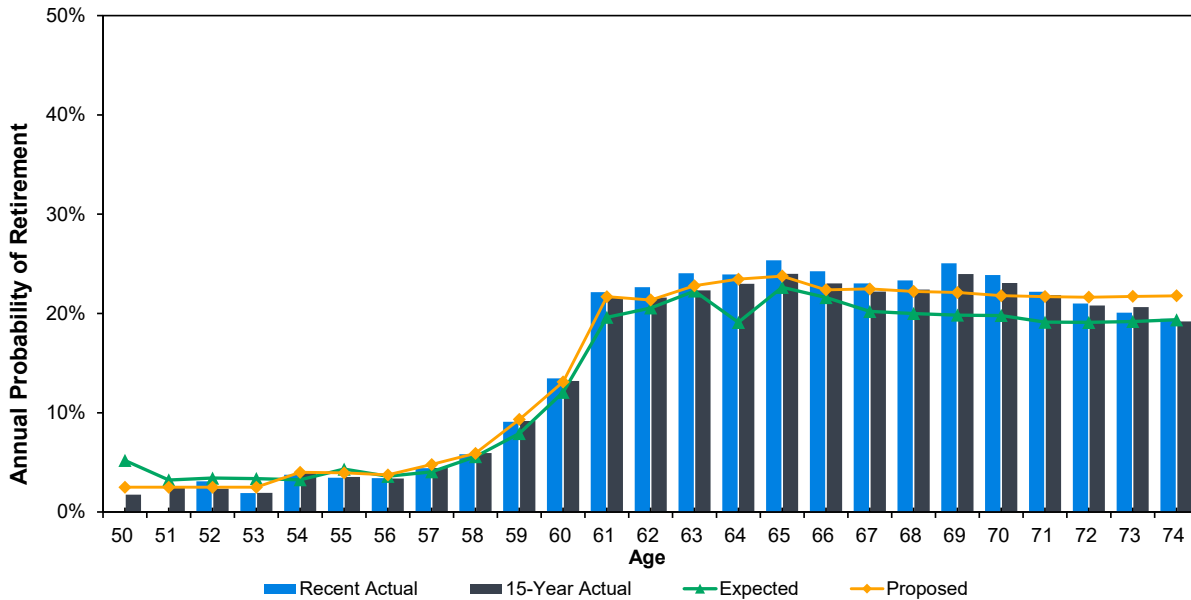
# Retiree mortality



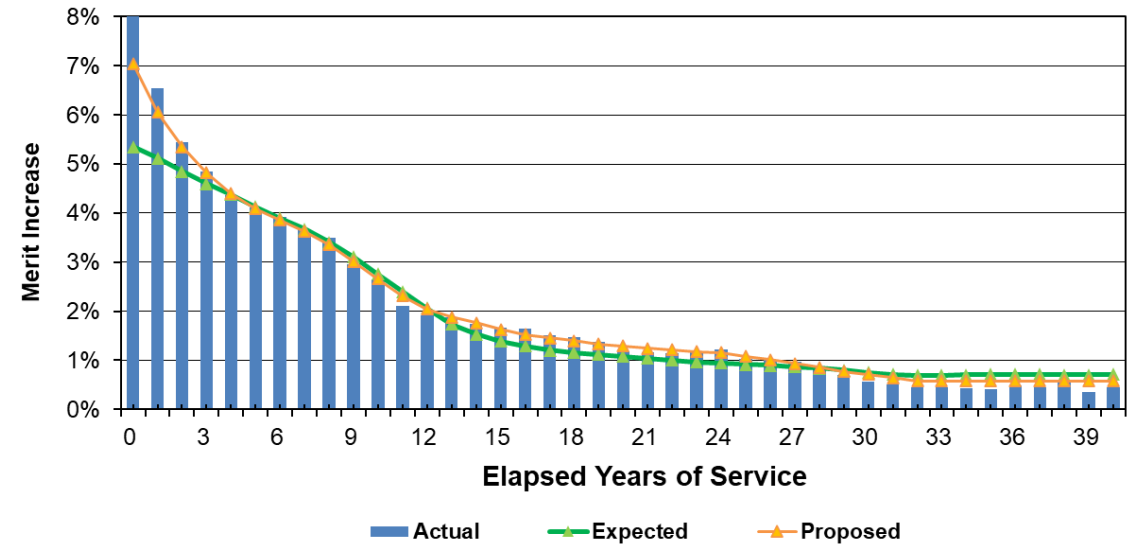
Recommendation: updating custom base mortality tables and updating the projection scale to the MP-2021 Ultimate Projection Scale.

# Other demographic assumptions

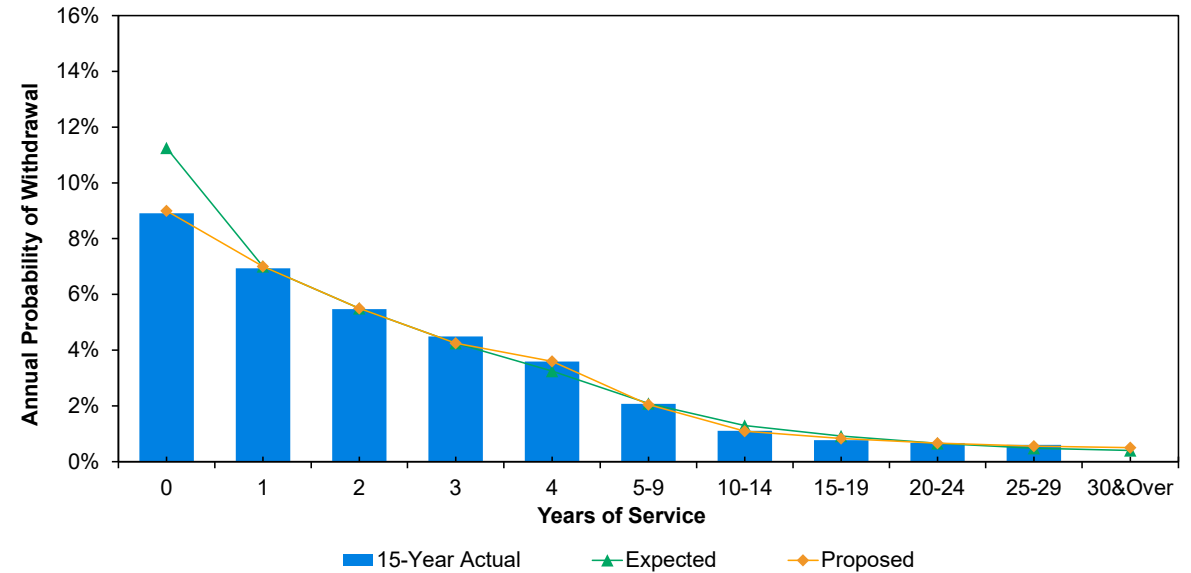
## Service Retirement Rates -- All Years of Service Females (2% at 60)



## Salary Increases Less Wage Inflation -- All Members

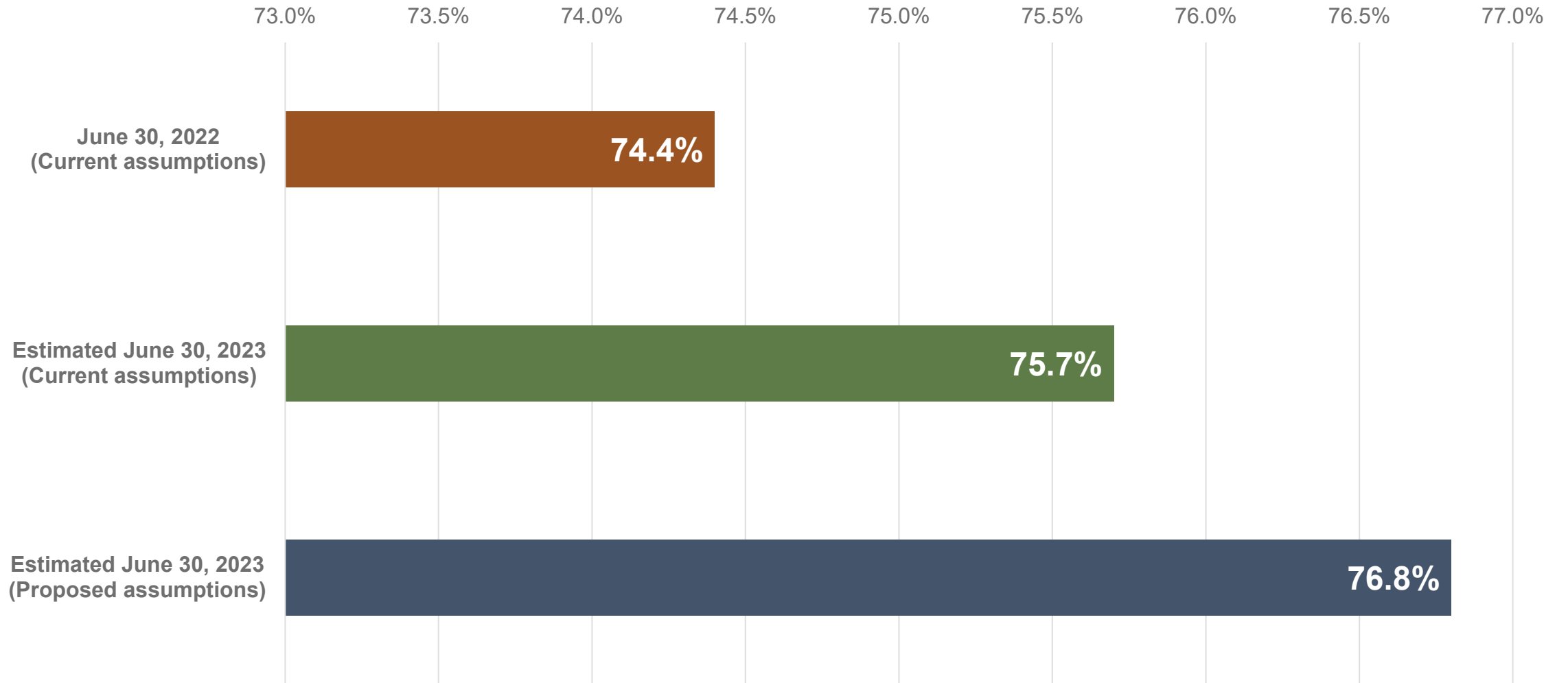


## Termination Rates - Females



# Estimated funded status

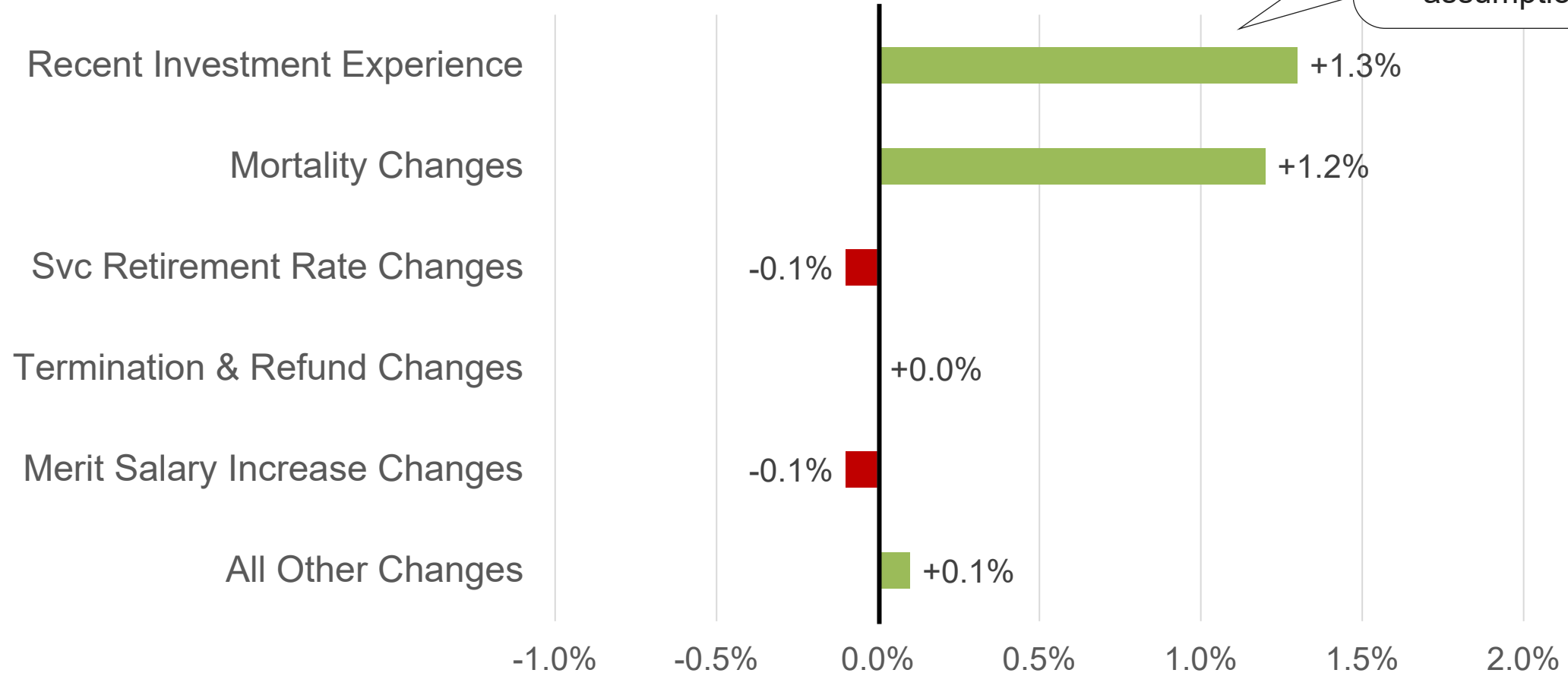
(Under current and proposed actuarial assumptions)





# Estimated financial impact: change in funded ratio

## Sources of Estimated Change in Funded Ratio From 2022 to 2023 Valuation

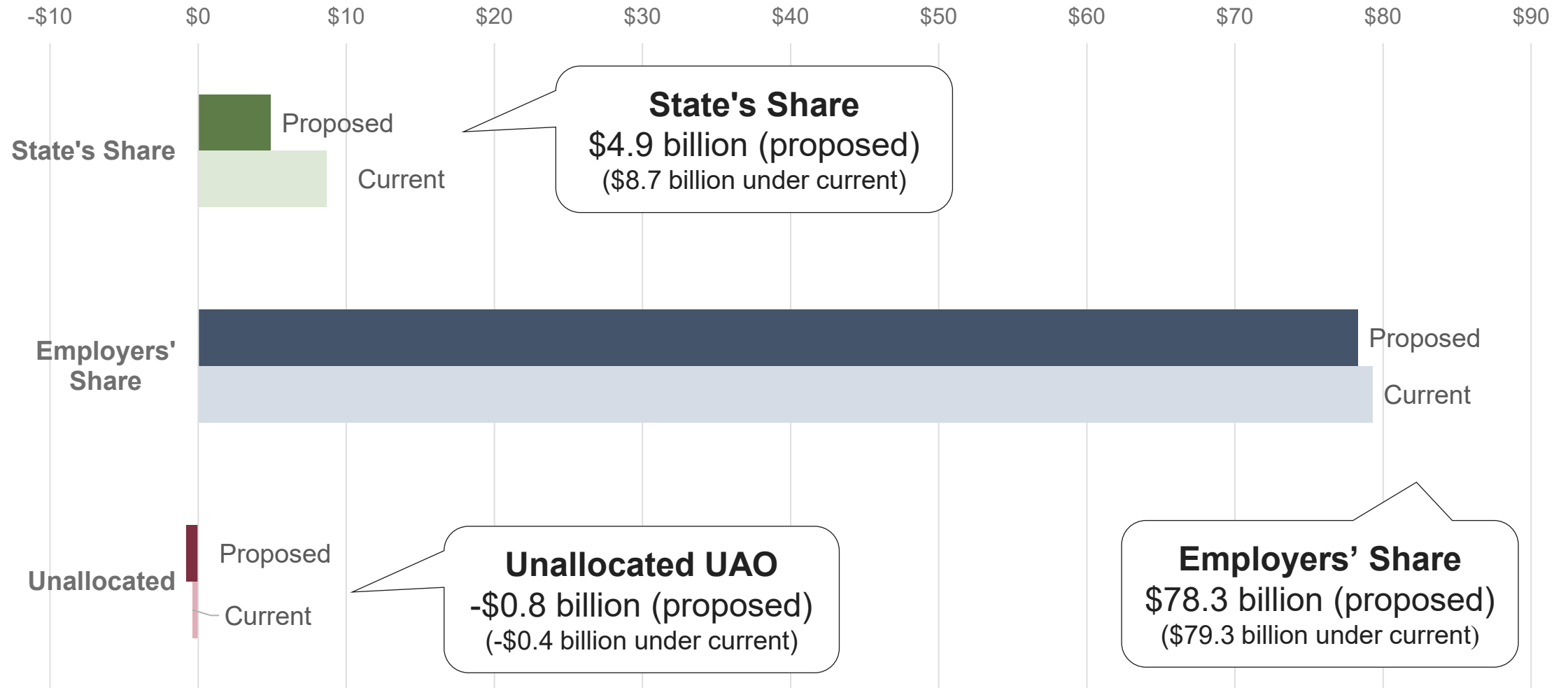


Funded Ratio projected to increase by more than 2%. About half due to proposed assumption changes

# Breakdown of the unfunded actuarial obligation

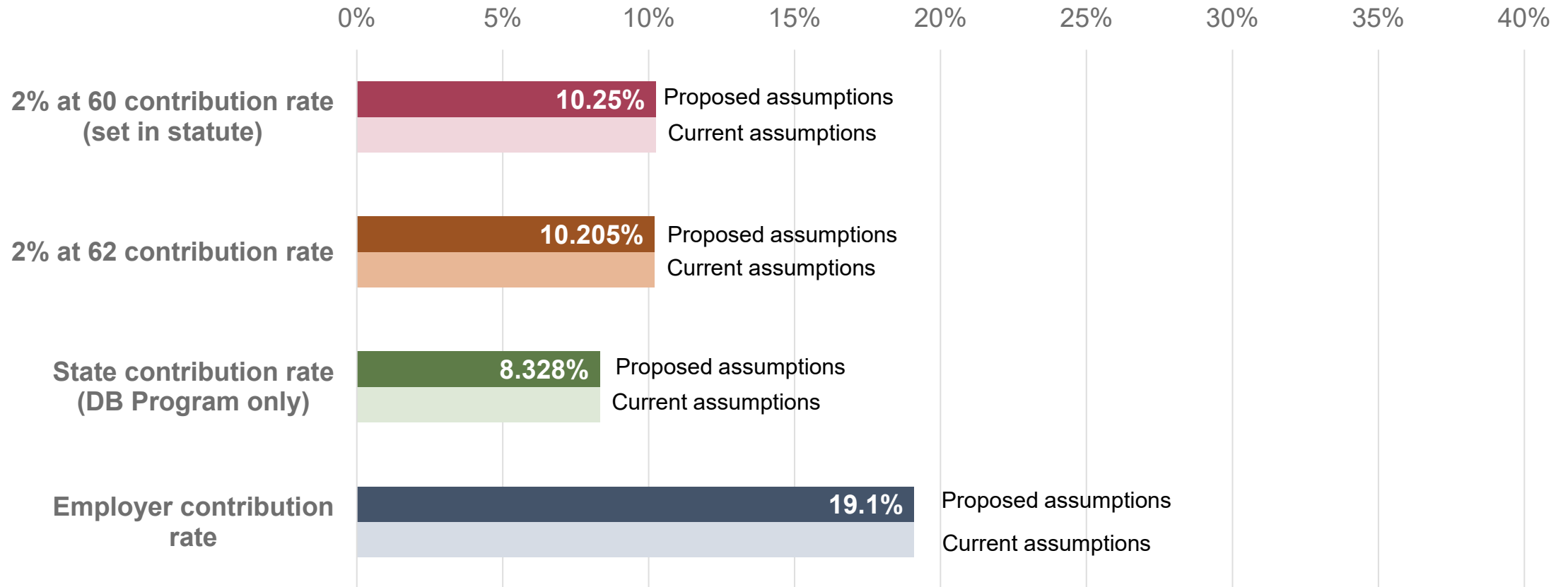
(Estimated as of June 30, 2023)

(Under current and proposed actuarial assumptions)



# Contribution Rates - Defined Benefit Program

(Under current and proposed actuarial assumptions)



Note: The state contributes an additional 2.5% of payroll to fund the Supplemental Benefit Maintenance Account (SBMA) that is used to provide inflation protection to CalSTRS retirees and their beneficiaries.

## Recommendation and effective date

- **Recommendation:** adopt all actuarial assumptions and methods listed in the experience analysis report
- Actuarial valuations
  - Effective with the June 30, 2023 valuations
  - Will be presented in May 2024
- Member calculations
  - Effective July 1, 2024 for service credit purchases
  - Effective September 1, 2024 for option and present value factors

**Questions?**

# Caveats and Limitations

This presentation is based on the data, methods, assumptions and plan provisions described in Milliman's 2024 Experience Analysis report. The statements of reliance and limitations on the use of this material is reflected in that report and still apply to this presentation.

These statements include reliance on data provided, on actuarial certification, and the purpose of the report.

Milliman's work product was prepared exclusively for CalSTRS for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning CalSTRS's operations, and uses CalSTRS's data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third-party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product but should engage qualified professionals for advice appropriate to its own specific needs.