



Ventura County Employees' Retirement Association

# Discussion of Possible Projection Options for Board's Consideration

A man with a beard and glasses, wearing a grey blazer, is pointing with a yellow marker at a whiteboard. A woman with dark hair, wearing a brown top, is looking at the whiteboard. The whiteboard is covered with various mathematical formulas and diagrams, including  $\frac{a}{b} = \frac{c}{d}$ ,  $\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times d}$ , and  $\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c}$ . The background is a blurred office setting. A large blue diagonal banner is overlaid on the bottom half of the image, containing the text for the meeting.

Ventura County Employees' Retirement Association

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# | Agenda

**Projection Considerations**

**Possible Projection Options**

# Projections

## *Considerations*

### **Basic application**

- Illustrate future expected fluctuations
  - Based on asset smoothing, progression of unfunded layers, etc.
- Understand funding and contribution trajectory

### **Risk management application**

- Deterministic scenario and stress testing
  - Illustrate possible unexpected fluctuations
- Stochastic modeling
  - Used to provide probabilities of certain future adverse scenarios

# Option 1

*The expected*

## Basic short projection

- 5-year roll-out of deferred investment gains/losses
  - Displays employer contribution rate changes
  - Assumes all assumptions are met

<https://www.kcera.org/files/805ea040c/24-02-14+BOR+Agenda.pdf>

\*item 23

## Basic long projection

- Full projection to the end of the current funding period
  - Includes asset smoothing, unfunded layers, employee turnover, etc.
  - Assumes all assumptions are met

# Option 2

*More than just what is expected*

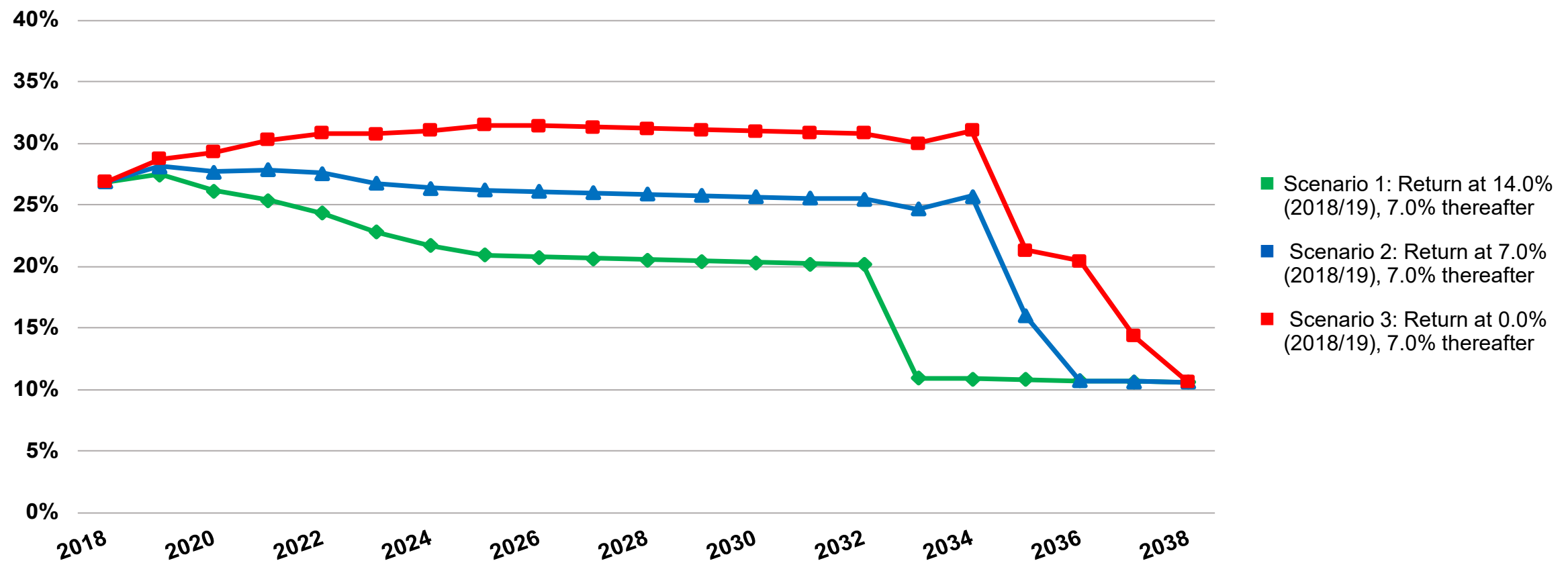
## **Deterministic scenario testing**

Illustrate the impact of one year of favorable or unfavorable market return on all future years of funding

- Metrics studied may include:
  - Employer contribution rate
  - Funded ratio
  - Unfunded actuarial accrued liability dollar amounts
- Can be useful as a budgeting tool for the employer
- Can be repeated each year to calibrate based on experience

# Option 2: Sample

Investment Return Scenarios on Future Contribution Rates



Projecting contributions based on practical, realistic investment scenarios over the very next year provides a basis for enhanced financial preparation and informed decision making.

# Option 3

## *Actuarial Standards of Practice No. 51 Risk Report*

### **Both historical analysis and projections**

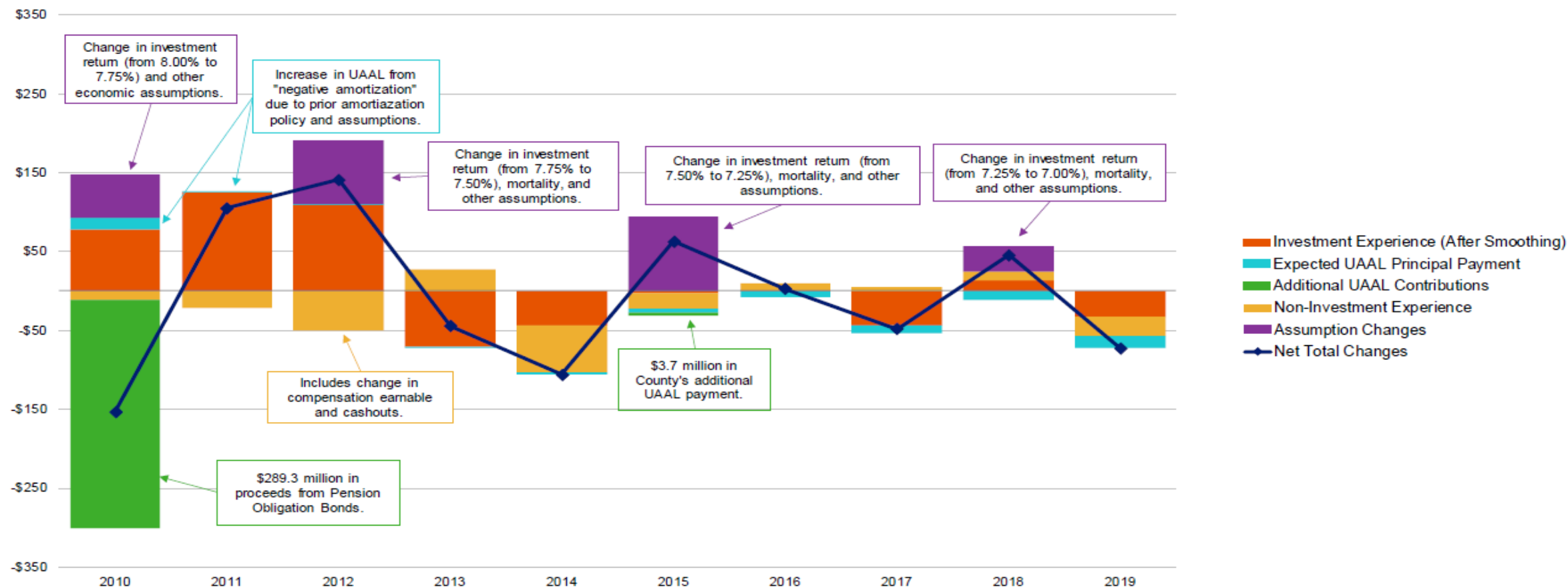
Includes detailed analysis of historical events affecting the unfunded actuarial accrued liability and employer contribution rate

- Useful in understanding how VCERA got to where they are now
  - Looks at impact of strengthening assumptions, investment and non-investment experience, annual contributions, etc.
  - Important for education and future decision making

<https://scretire.org/Microsites/SCERA/Documents/Financial/SCERA%202022%20ASOP%2051%20Risk%20Report.pdf>

# Option 3: Partial Sample

Factors that changed UAAL in December 31, 2010 to 2019 Valuations (\$ Millions)



Stakeholders should know what decisions were made in the past, why, and what they have led to today. Then we can examine decisions being made today and better understand the path ahead.



# Option 4

## *Stochastic modeling*

### **The only projection that includes probabilities**

Performs 10,000 trial outcomes of future market returns

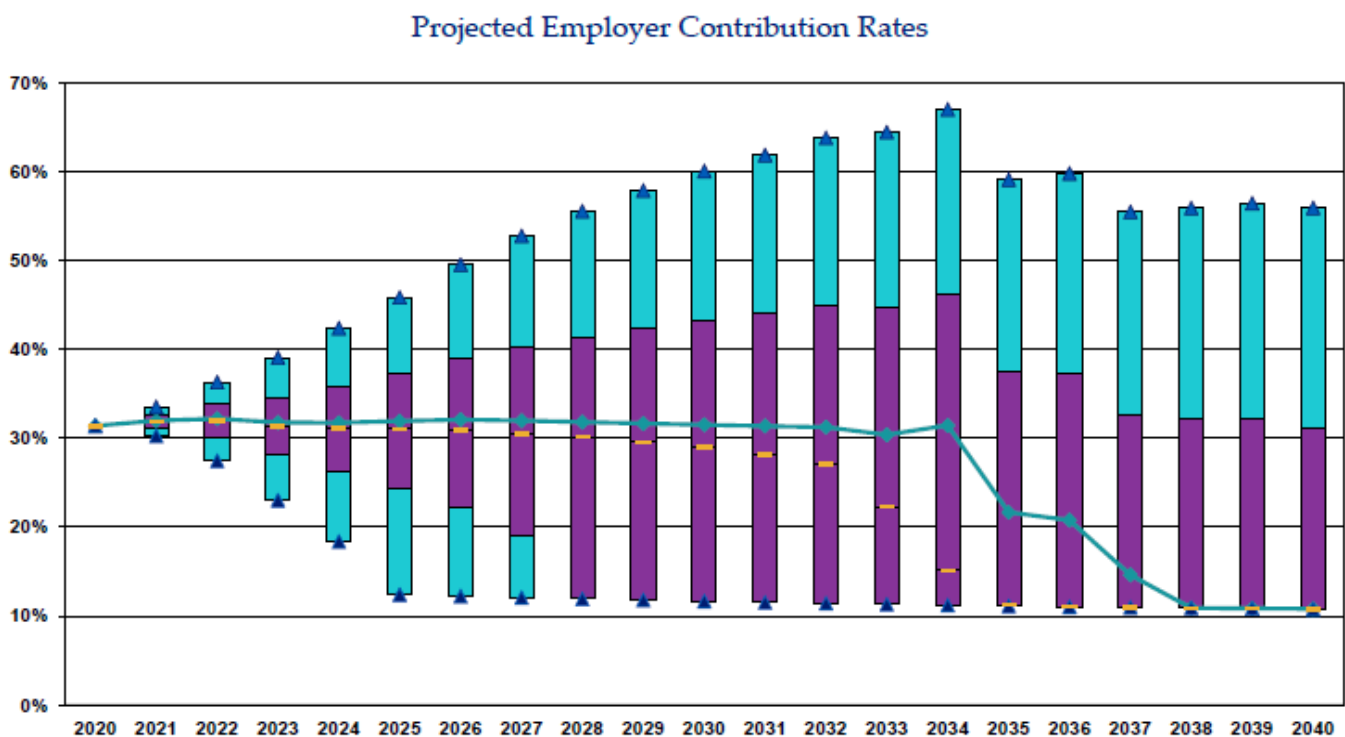
- Metrics studied may include:
  - Employer contribution rate
  - Funded ratio
  - Unfunded actuarial accrued liability
- Includes percentiles of possible future results

[https://www.lacERS.org/sites/main/files/file-attachments/board\\_agenda\\_03262024\\_combined.pdf?1711046493](https://www.lacERS.org/sites/main/files/file-attachments/board_agenda_03262024_combined.pdf?1711046493)

\*item VI.A.

# Option 4: Sample

## Probability Based Modeling



Funded Ratio			
	Below 70%	Below 60%	Below 50%
Probability	25%	9%	2%

Total Employer Rate Increases by at least			
	5% of Payroll (to 36% of Payroll)	10% of Payroll (to 41% of Payroll)	15% of Payroll (to 46% of Payroll)
Probability	54%	43%	33%

Total Employer Rate Spike in a Single Year by			
	2% of Payroll	4% of Payroll	6% of Payroll
Probability	15%	4%	2%

Stochastic modeling can provide a probabilistic perspective on possible futures, reveal weaknesses in funding policies in extreme cases, and help facilitate the creation of plan specific risk tolerances.

# Projections

## *Practical considerations for VCERA*

- VCERA is approaching full funding
  - Especially on the Safety side
- Recommend formal Surplus Management Policy (SMP)
  - Strengthens funding position and mitigates future contribution rate volatility

## **Projection Recommendation**

- Deterministic scenario and stress testing to illustrate SMP value (Option 2)
  - Demonstrate possible unexpected fluctuations
  - Show how the SMP can stabilize contribution rates given volatility
  - Could tie into a Risk Report for fuller assessment of history and risks (Option 3)

# Thank You

**Todd Tauzer, FSA, MAAA, FCA, CERA**  
Senior Vice President and Actuary  
[ttauzer@segalco.com](mailto:ttauzer@segalco.com)

**Molly Calcagno, ASA, MAAA, EA**  
Senior Actuary  
[mcalcagno@segalco.com](mailto:mcalcagno@segalco.com)

