

# Funding Risk and Risk Mitigation Workshop

CalPERS Board of Administration

February 18, 2015

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# Today's Objective

- Discuss funding risks and funding risk mitigation strategy
- Hear expert opinions and feedback
- Obtain input from the Board on funding risk mitigation and next steps

*Pension Belief 1 – A retirement system must meet the needs of members and employers to be successful*

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*Pension Belief 5 – Funding policies should be applied in a fair, consistent manner, accommodate investment return fluctuations and support rate stability.*

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*Pension Belief 9 – Sound understanding and deployment of enterprise-wide risk management is essential to the ongoing success of a retirement system.*

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# Agenda

Part I: Brief Discussion of Funding Risk

Part II: Risk Mitigation Strategy

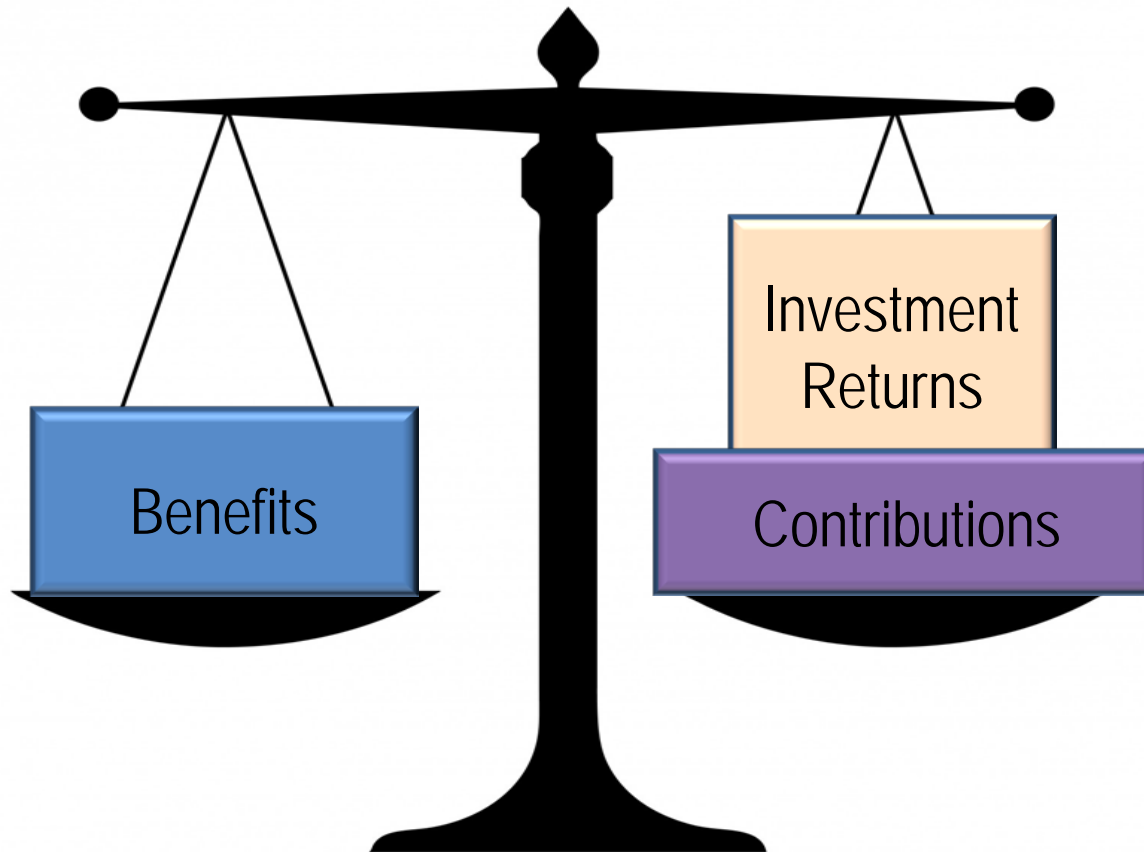
Part III: Expert Panel

Part IV: Board Discussion

Part V: Next Steps

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# Balancing the Fund



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# Factors Driving Funding Risk

## Plan Demographics

- Plans are maturing
- Public employees are living longer
- Increase cash outflows

## Benefit Structure

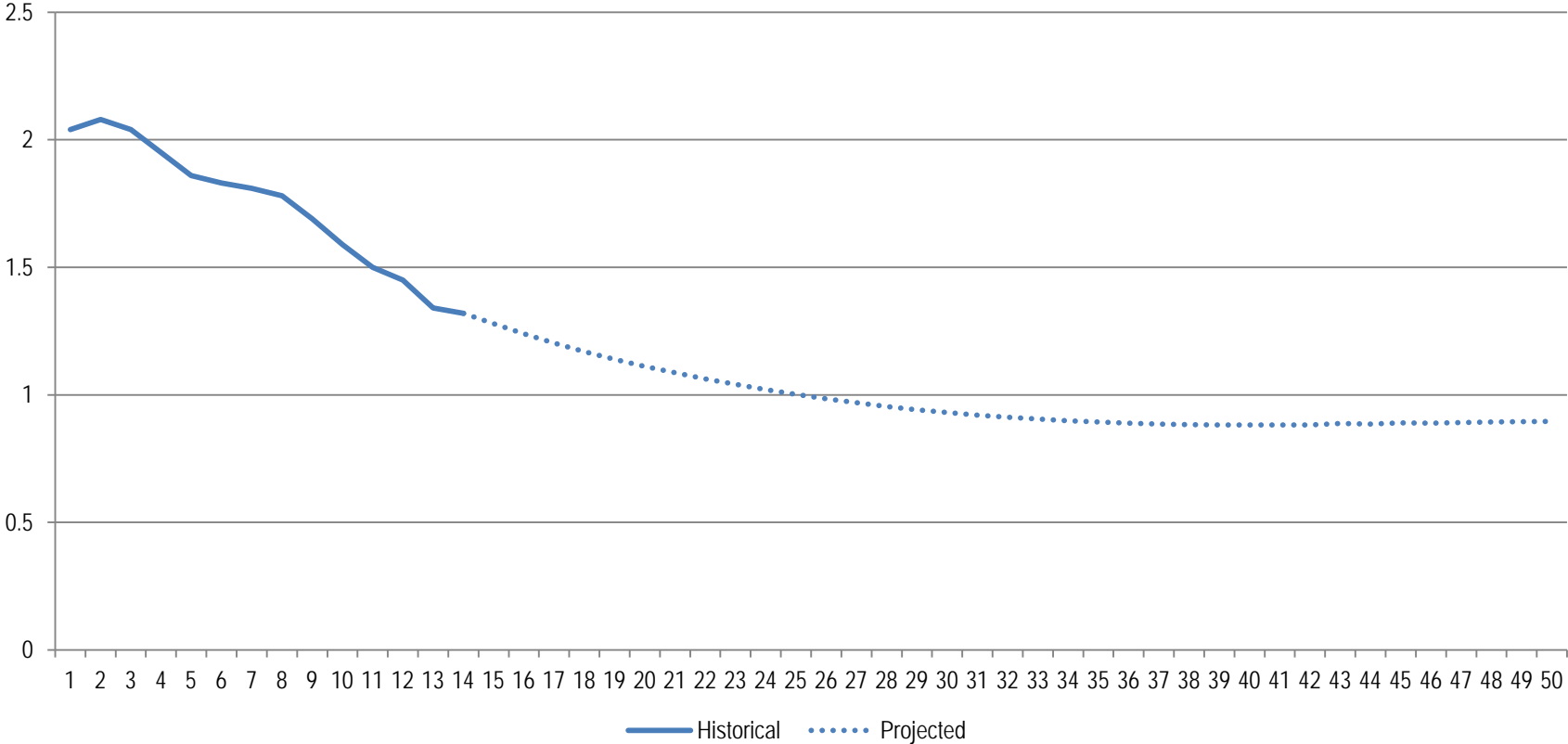
- Asset and liability to payroll ratios increase with higher benefit formulas

## Investment Volatility

- Current Risk-Return includes significant volatility
- Market return expectations

# CalPERS Pension Funds Are Maturing

## Ratio of Actives to Retirees



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# Funding Risk Considerations

## Funded Status

- Probability of funding status falling below a certain level

## Contribution Rates

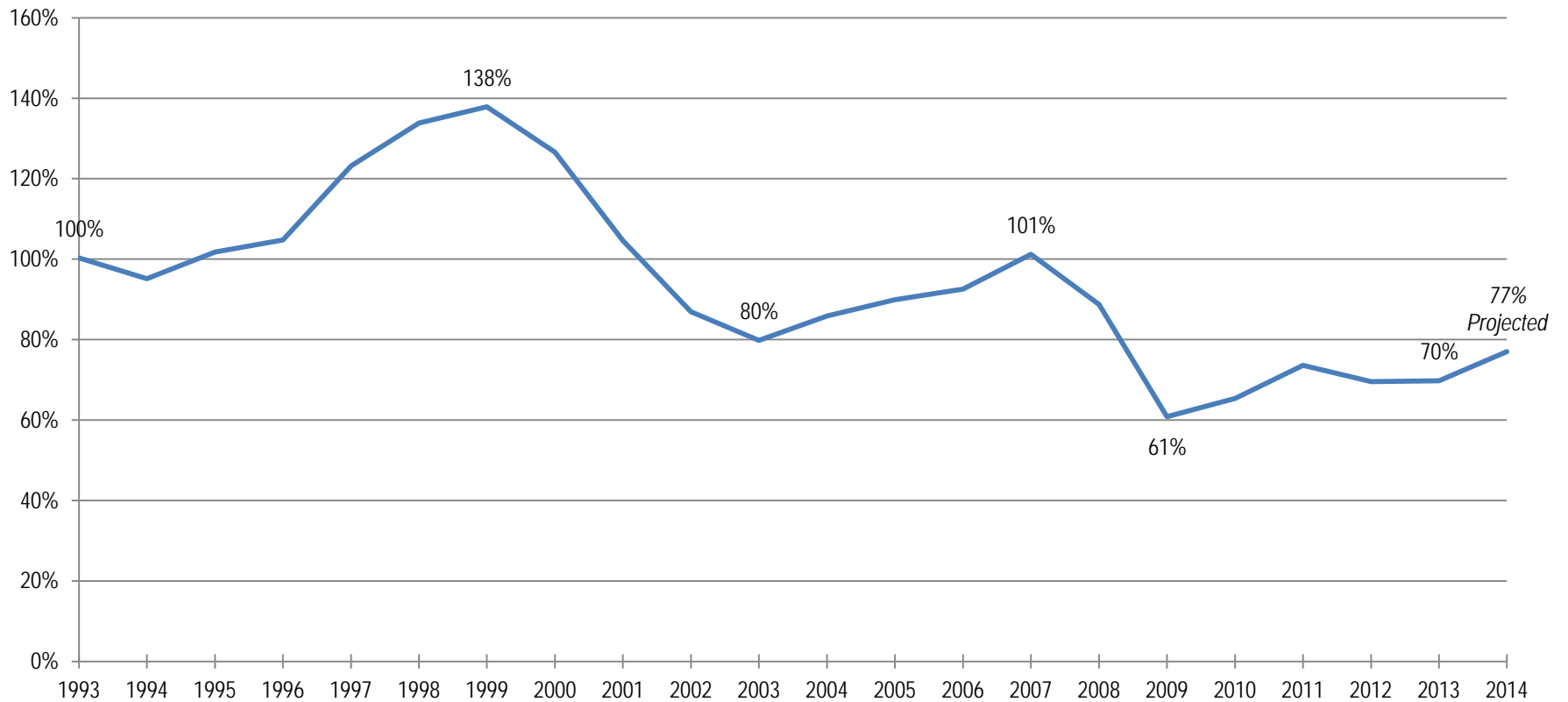
- Probability of contribution rates exceeding a certain level

## Contribution Rate Volatility

- Probability of seeing large contribution rate changes in one year

# Funded Status History

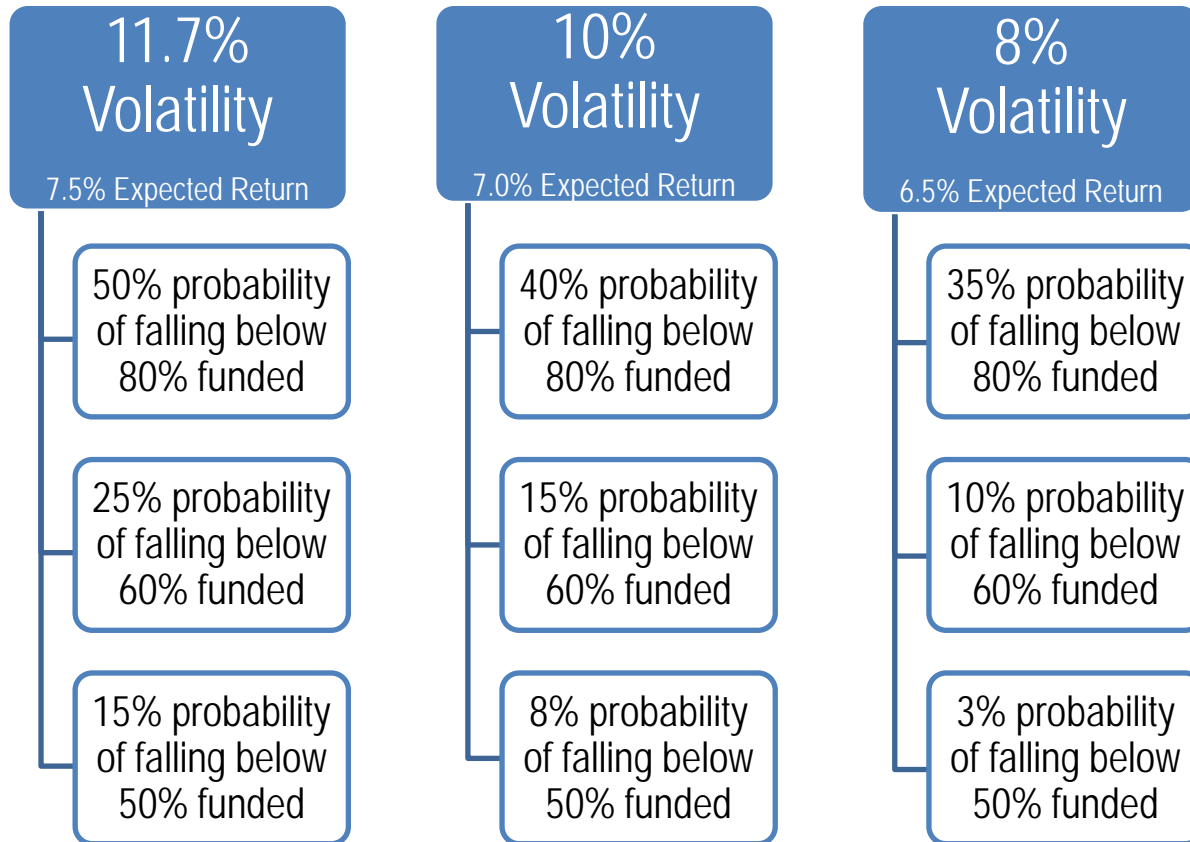
## CalPERS Funded Status





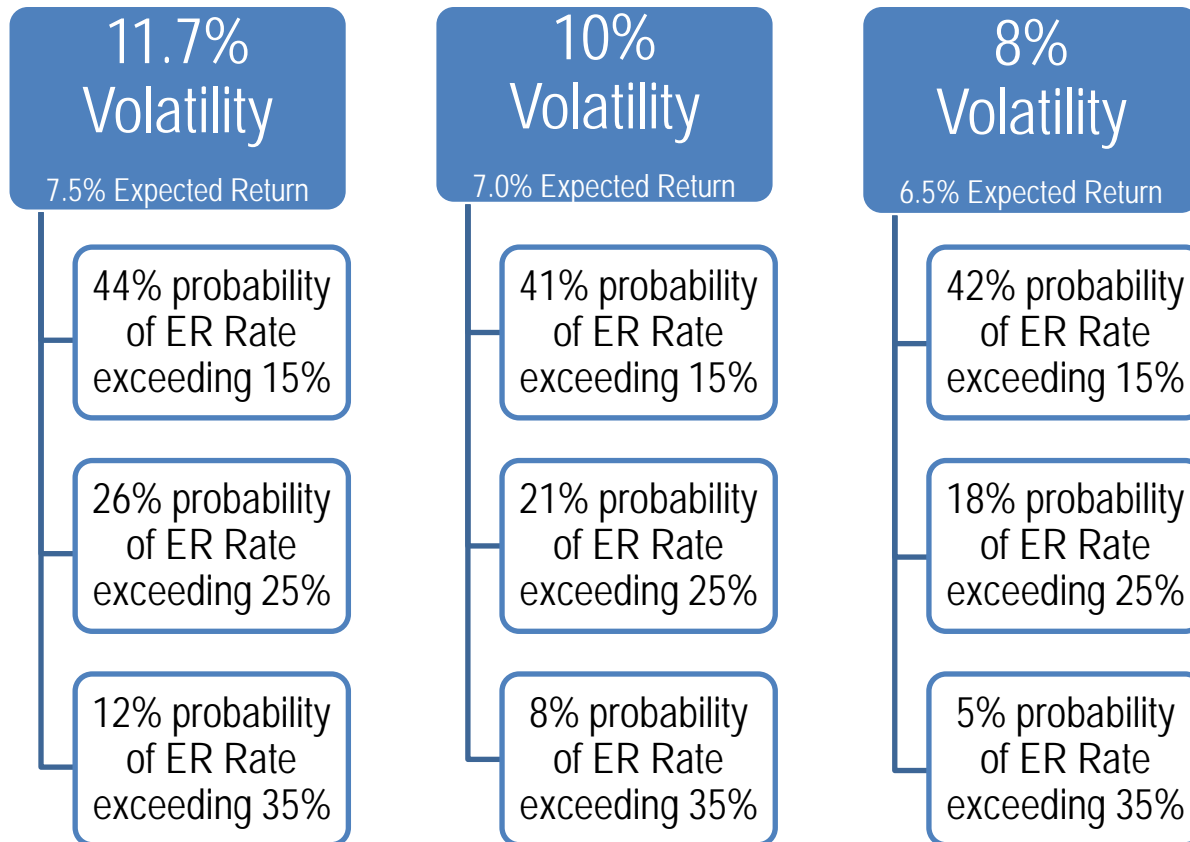
# Impact of Investment Volatility on Funding Status – 30 year Horizon

If our Sample Miscellaneous Plan is 100% funded today with:



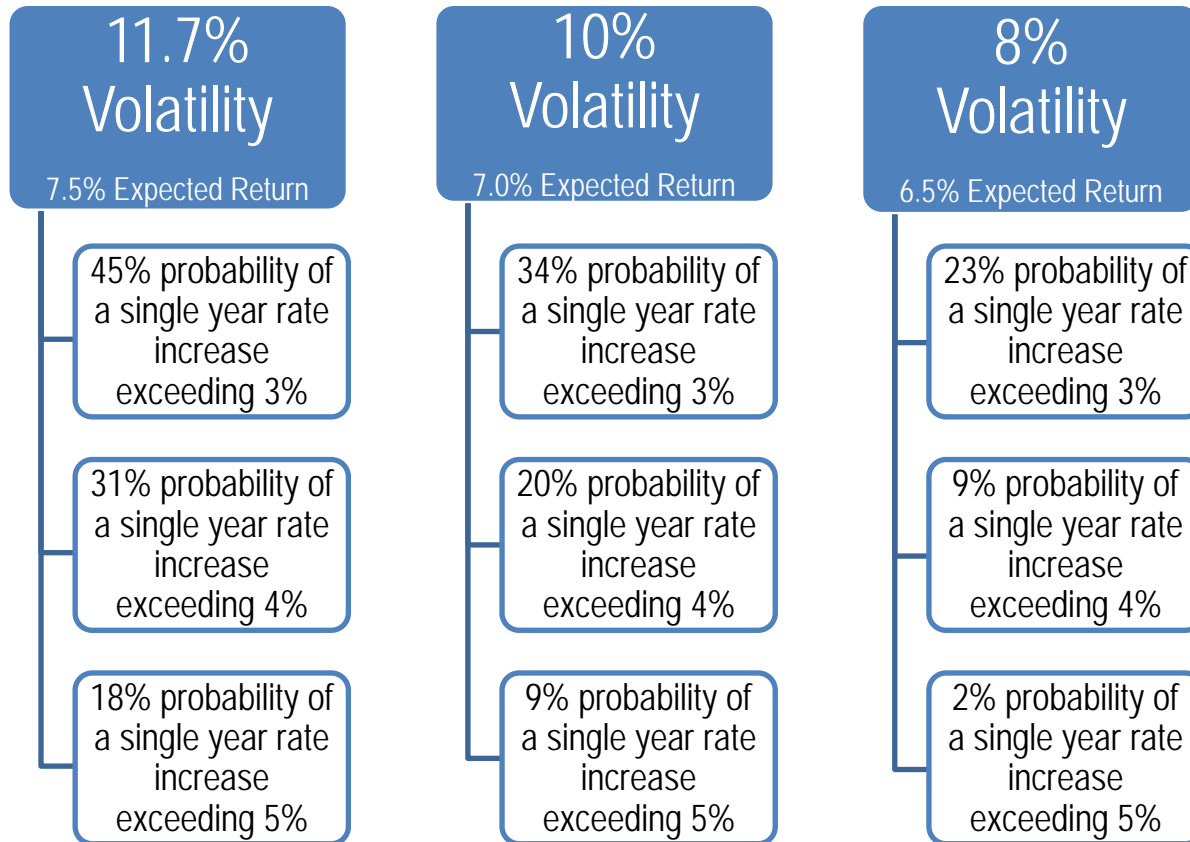
# Impact on Employer Contribution Rates – 30 year Horizon

If our Sample Miscellaneous Plan is 100% funded today with:



## Impact on Single Year Increase on Employer Contribution Rates – 30 year Horizon

If our Sample Miscellaneous Plan is 100% funded today with:

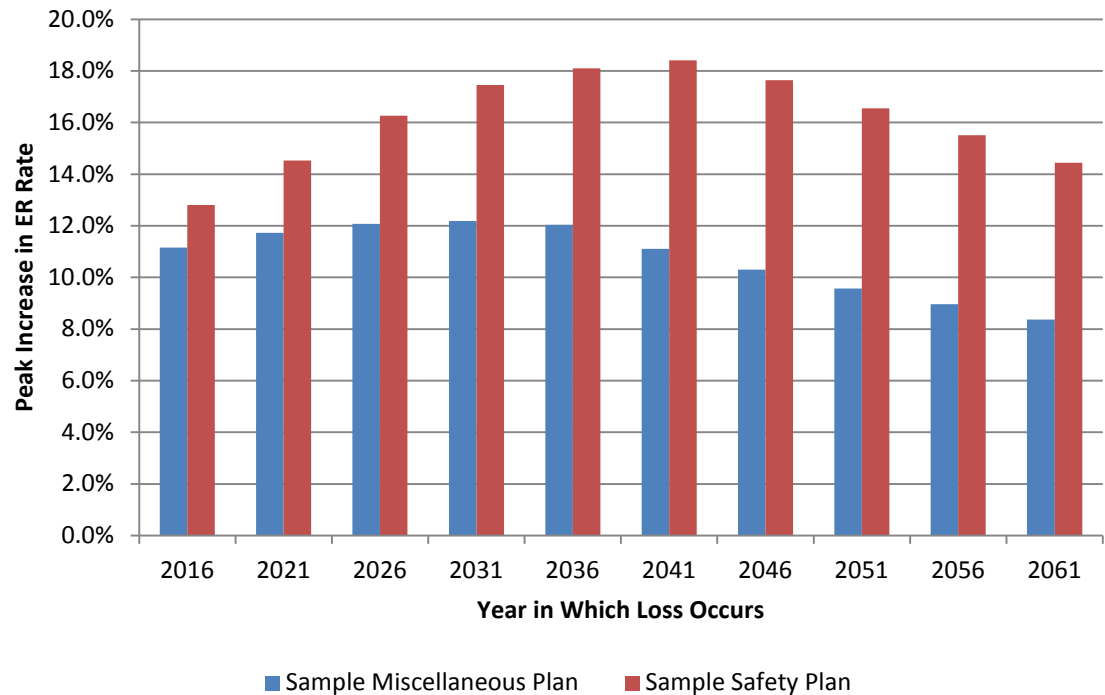


# Impact on Employer Contribution Rate Increases with Change in Investment Return

## Contribution Volatility

- Impact on employer contributions of a -16% investment return
- Contribution rate volatility changes with the asset to payroll ratio
- Safety plans have much higher contribution volatility due to higher asset to payroll ratio

## Peak Employer Contribution Rate Increase



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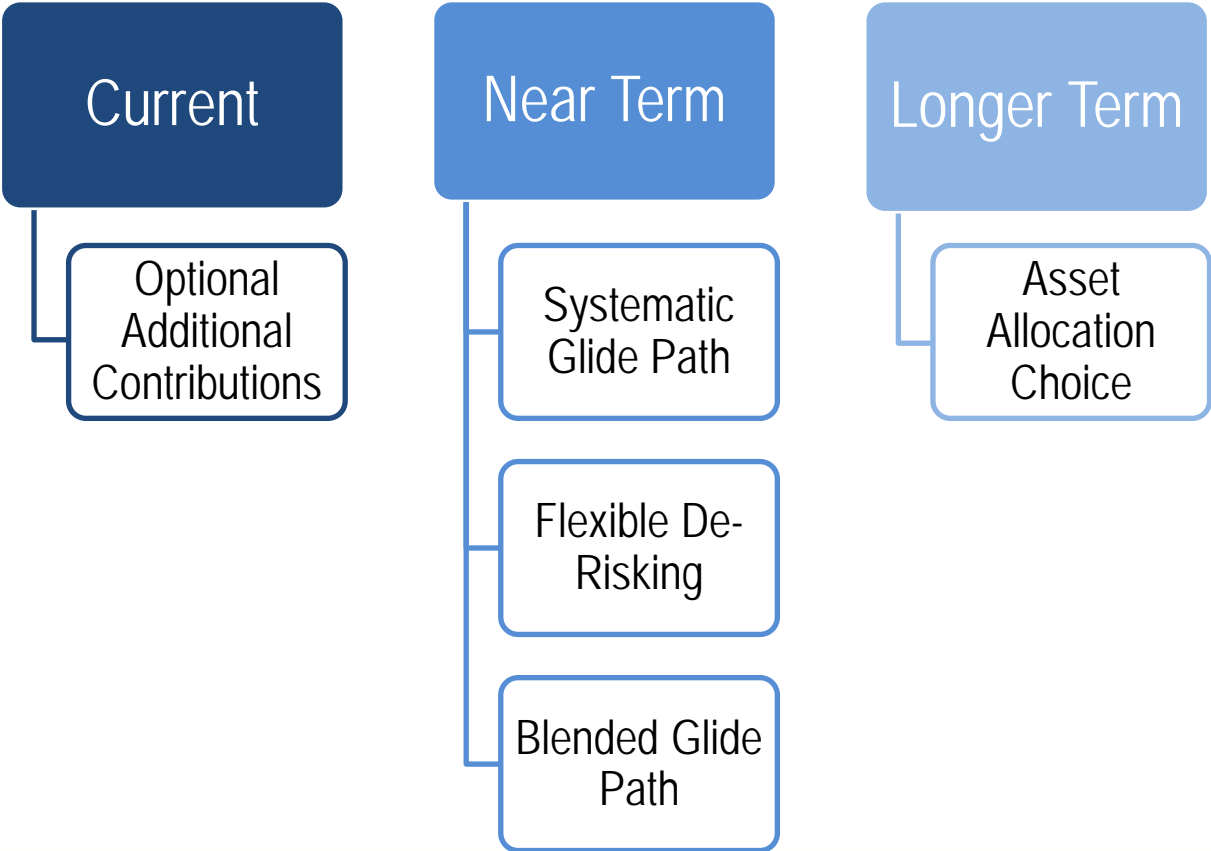
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# Risk Mitigation Strategy



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# Optional Additional Contributions

## Concept

- Encourage employers to make additional contributions toward their unfunded liabilities (more than they are currently)
- Potential to reduce funding risk quickly

## How it works

- Additional payments will lower future contribution rates, improve funded status and provide a buffer against future investment losses
- Opportunity to reduce costs over the long term for those employers with financial means to make additional contributions

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# Systematic Glide Path

## Concept

- Gradually reduce investment risk by decreasing the discount rate gradually over time in step with the asset allocation
- Predictable impact on employer rates and lower employer contribution rate volatility over time

## How it works

- Define a target risk level (expressed as a desired expected investment volatility)
- Define a time-frame for de-risking that achieves the target volatility in the specified time frame



# Systematic Glide Path – Example

## Initial Risk Level:

- 11.7% Volatility

## Target Risk Level:

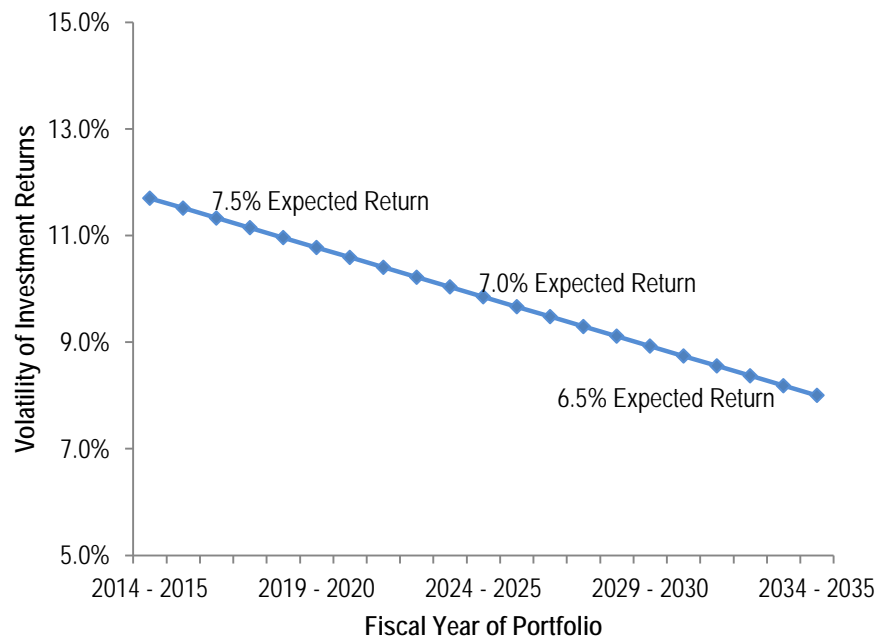
- 8% Volatility

## De-Risking Time Frame

- 20 Years



### Glide Path Schedule

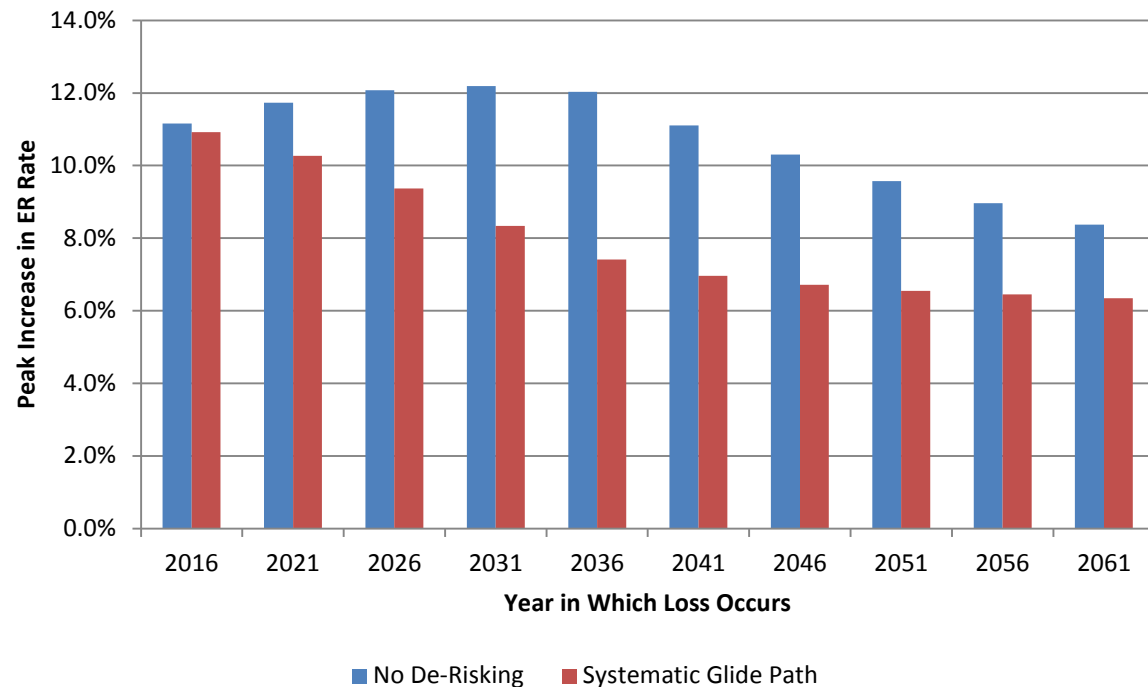


# Systematic Glide Path – Impact on Contribution Volatility

## Contribution Volatility

- Impact of an investment change
- We see a decreasing trend over the next 20 years with systematic de-risking as investment volatility decreases
- Without de-risking, we see a steady increase and then an eventual decrease as the asset to payroll ratio evolves

Sample Miscellaneous Plan

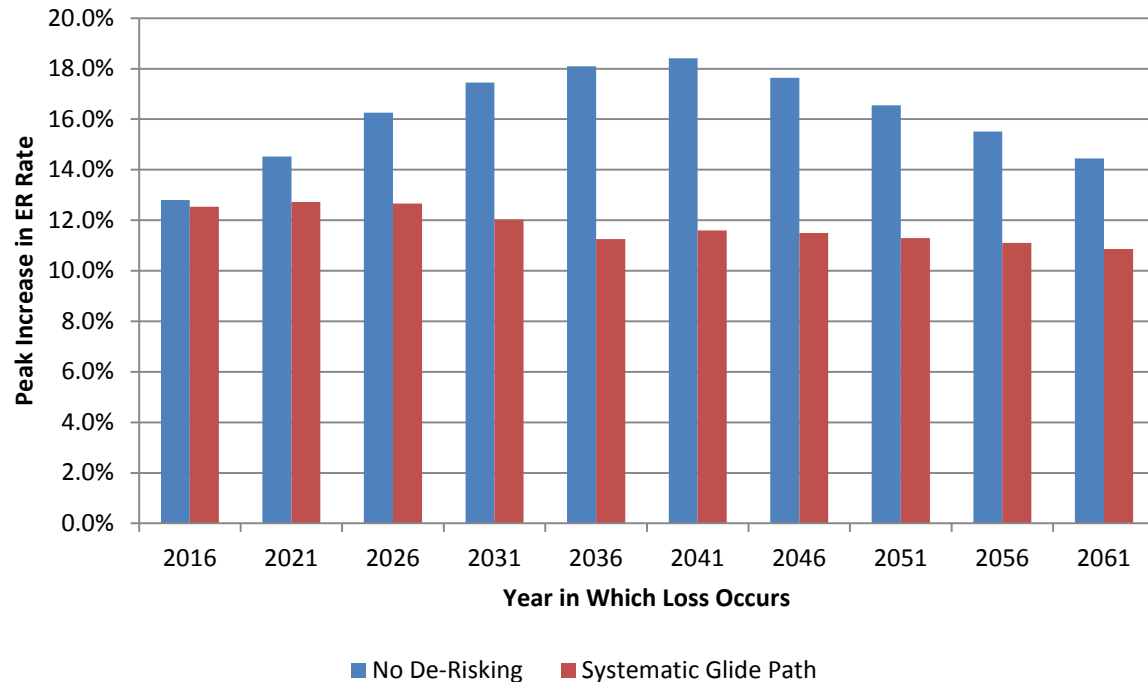


# Systematic Glide Path – Impact on Contribution Volatility

## Contribution Volatility

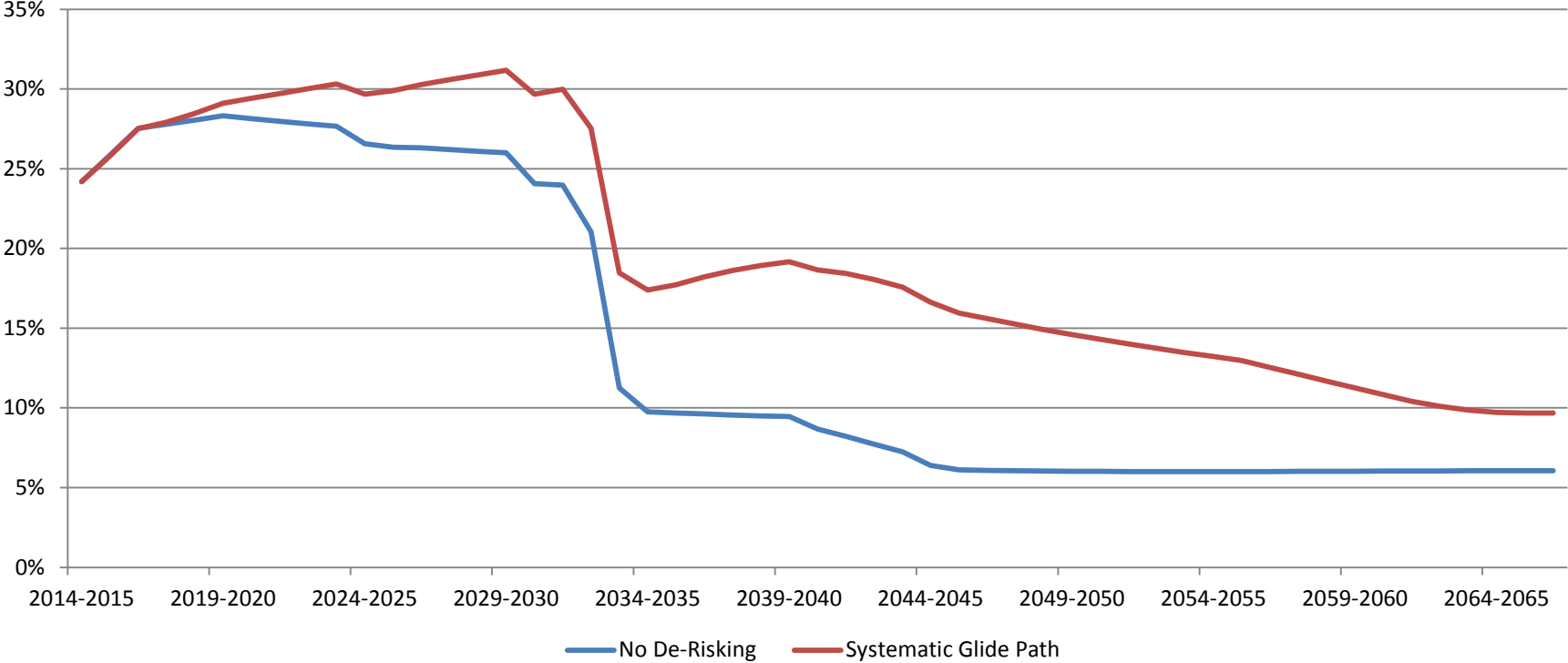
- Impact of an investment change
- For a sample safety plan, systematic de-risking helps to counteract projected increases in risk levels

Sample Safety Plan



# Systematic Glide Path – Impact on Contribution Rates

## Projected Employer Contribution Rate – Sample Miscellaneous Plan



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# Flexible De-Risking

## Concept

- Reduce funding risk by reducing the discount rate when great investment years occur
- Contribution rates would continue on their projected path

## How it works

- After a great return, first reduce the discount rate
- Then gradually modify the asset allocation to reduce contribution volatility and expected return
- Reduced volatility will lower the probability of investment changes that could jeopardize the funding of the system

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# Blended Glide Path

## Concept

- Combine the concepts of a systematic glide path and flexible de-risking
- Discount rate decreases gradually in most years but decrease more quickly following a great investment return

## How it works

- As with a systematic glide path, define a risk target, a time-frame and construct a schedule for de-risking
- Make larger discount rate reductions in years with great investment returns using the mechanism of flexible de-risking

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# Asset Allocation Choice

## Concept

- Provide asset allocation choice (one or two options) to fit employer circumstances and funding risk

## How it works

- Conduct feasibility study to address potential issues
  - Fiduciary review to ensure consistency with fiduciary duty
  - Will it work with risk pools?
  - Increased administrative complexity
- Current business plan initiative to explore options

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# Next Steps

- Continue to seek input from stakeholders
  - Webinars, meetings
- Obtain input from the Board
  - February 2015 Board Workshop (information only)
  - Bring back funding risk and risk mitigation agenda item for further discussion and input
- Additional outreach to encourage Optional Additional Contributions
- Conduct Feasibility Study for Asset Allocation Choice