

# Understanding Actuarial Valuations and their Impact

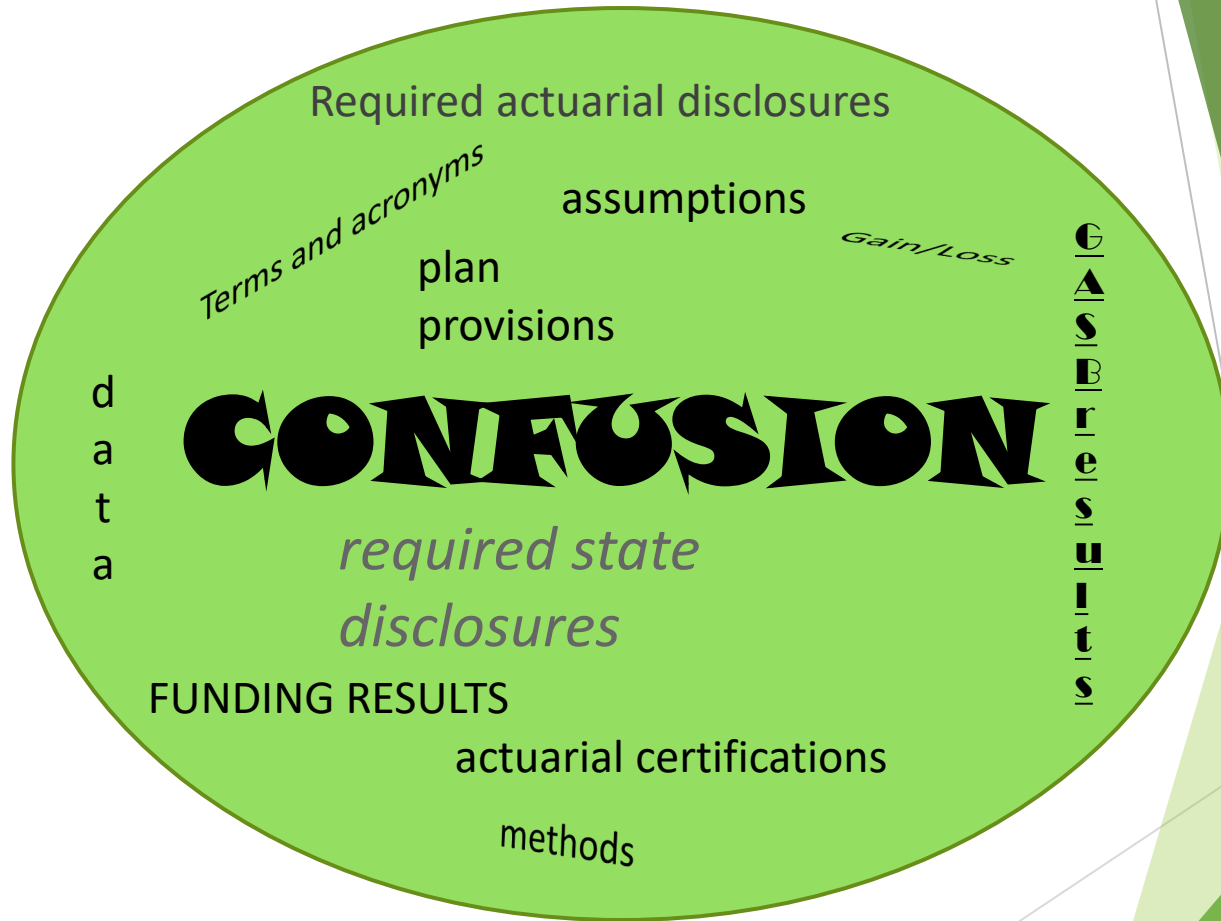
*Presented By:*

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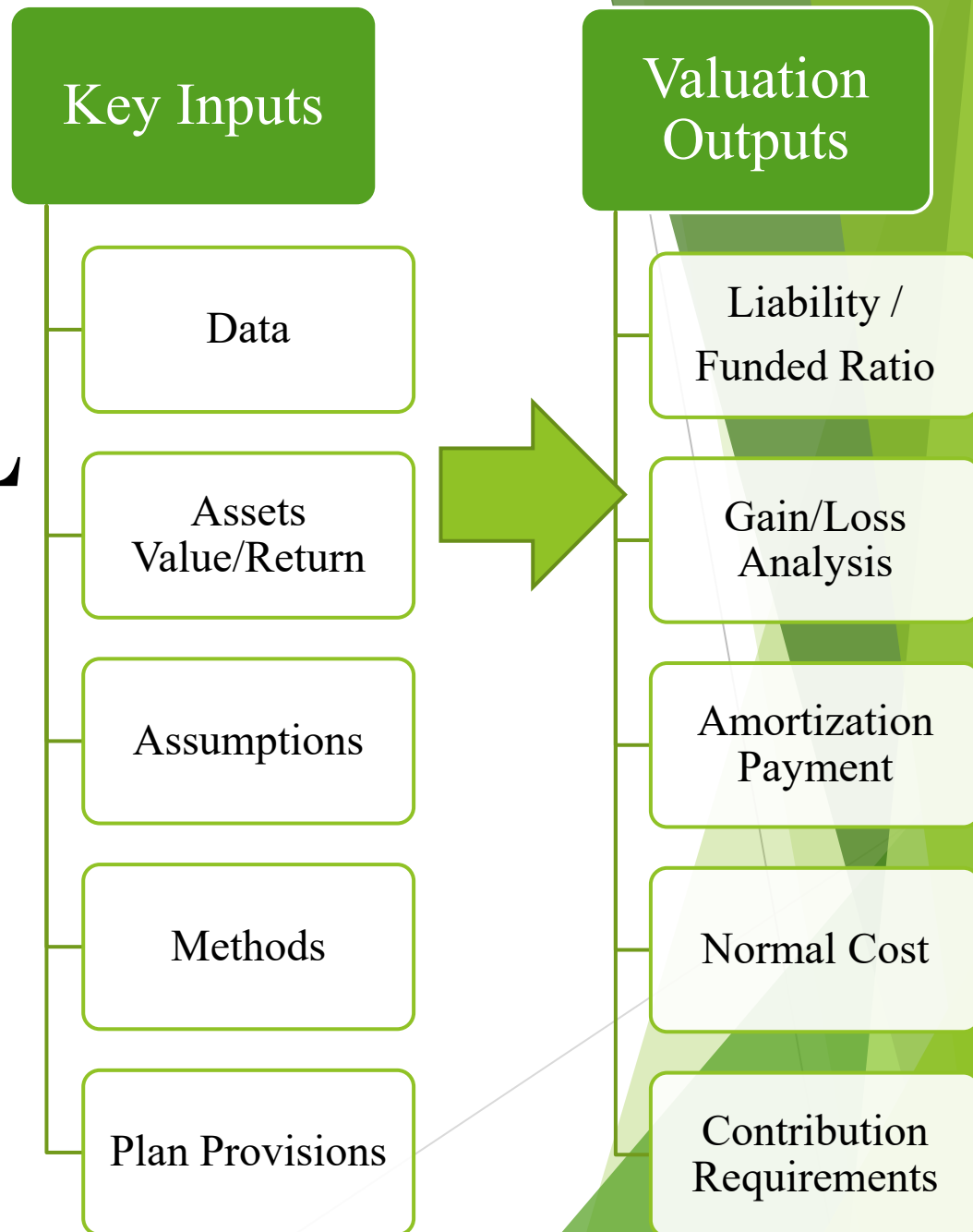


**FOSTER & FOSTER**  
ACTUARIES AND CONSULTANTS

# WHAT DOES AN ACTUARIAL VALUATION PRODUCE?



# ACTUARIAL VALUATION PIPELINE



# DATA

- Census data requested from plan sponsor around fiscal year end (9/30)



# DATA

- Lots of data checks!

	2023 Earnings	2022 Earnings	% Difference
Joe Actuary	50,000	70,000	-28.57%
Jane Actuary	100,000	50,000	100.00%

- Confirm salary increases/decreases
- Breaks in service?

# DATA

- Lots of data checks!

	2024 Birth Date	2023 Birth Date
Jane Actuary	10/1/1990	10/1/2000

- Confirm birth date changes

# DATA

- Lots of data checks!

	2024 Entry Date	2023 Entry Date
Joe Actuary	10/1/2023	10/1/2021
Jane Popo	10/1/2022	10/1/2023

- Confirm hire date / entry date changes
- Breaks in service? Buybacks?

# DATA

- Timing to finalize data significantly impacts the rest of the valuation process and ultimate delivery
- Could spend most of valuation process on data!





# ASSET VALUES

- Compiled from financial statements provided by custodian and asset managers



# ASSET VALUES

- **45-90 day delay** in reporting typical for alternative asset classes, including:
  - Private Equity
  - Infrastructure
  - Real Estate
- **Potential delay in actuarial valuation!**

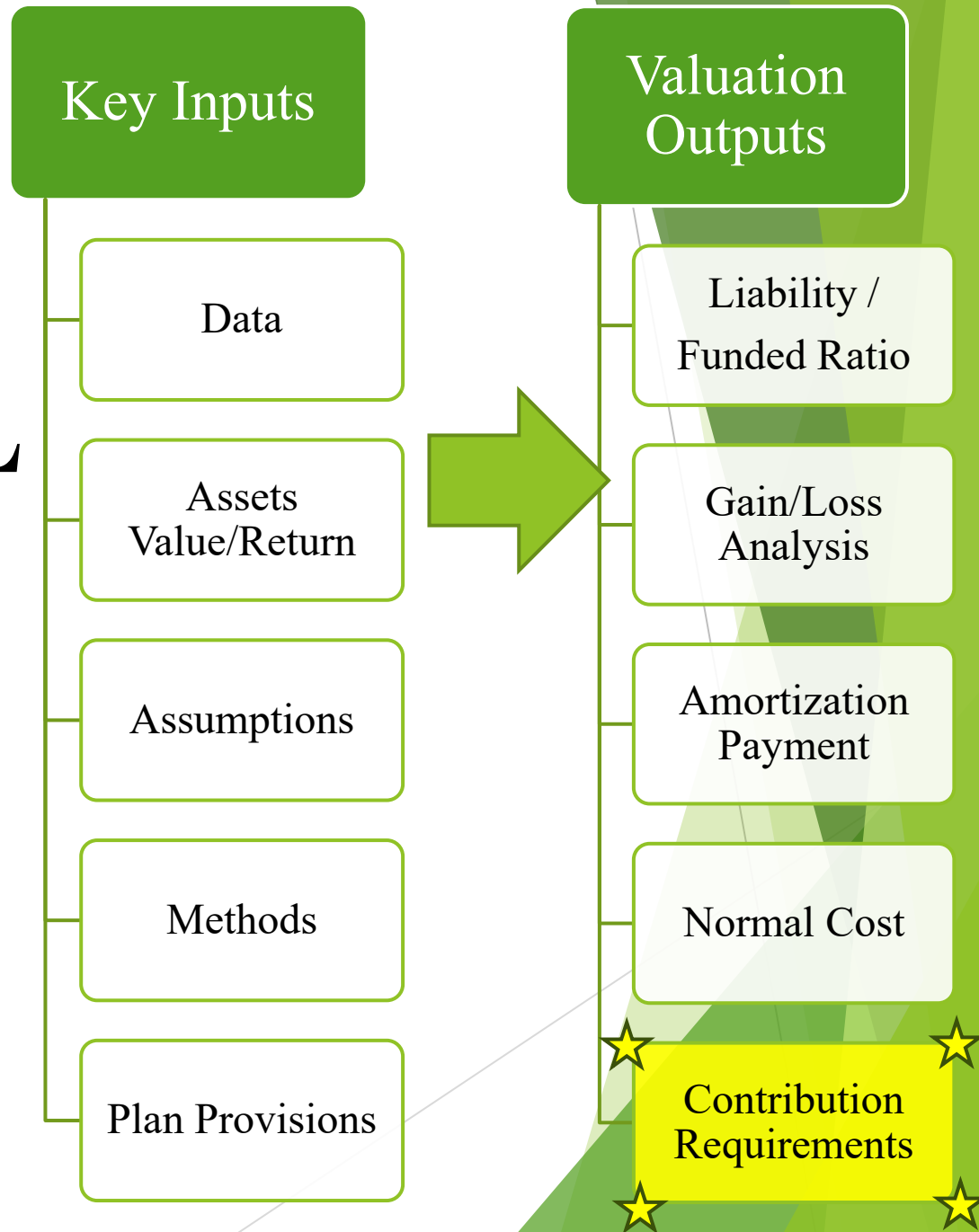
# ASSUMPTIONS AND METHODS

- Set prior to working on the actuarial valuation
- Investment return assumption discussions can take place at any Board meeting
- Other actuarial assumptions and methods are typically changed following an experience study

# PLAN PROVISIONS

- Known before working on the actuarial valuation
- Plan provisions are typically changed by ordinance
- Impact of plan changes determined with Actuarial Impact Statement

# ACTUARIAL VALUATION PIPELINE



# GOALS FOR ACTUARIAL VALUATIONS

- Prepared in accordance with Actuarial Standards of Practice
- Approved at the State level
- Determine relatively stable sponsor contributions

# ACTUARIAL STANDARDS OF PRACTICE (ASOPs)

- The Actuarial Standards Board (ASB) is responsible for determining generally accepted actuarial principles
- The ASB issues guidance in the form of the ASOPs

# ACTUARIAL STANDARDS OF PRACTICE (ASOP)

- The ASOPs provide a framework to be used in the completion of all actuarial work
- Identifies what the actuary should consider, document and disclose when performing actuarial assignments



# IMPACT OF ASOPs ON ACTUARIAL VALUATIONS

- If Actuarial Standards Board updates an ASOP, the actuarial valuation must be updated to comply
- Potentially lengthier and more expensive actuarial valuations
- Most recent updates were ASOP 51 and ASOP 4

# IMPACT OF ASOPs ON ACTUARIAL VALUATIONS

- ASOP 51 – Risk Metrics
  - Support Ratio
  - Accrued Liability Ratio
  - Funded Ratio
  - Net Cash Flow Ratio

# IMPACT OF ASOPs ON ACTUARIAL VALUATIONS

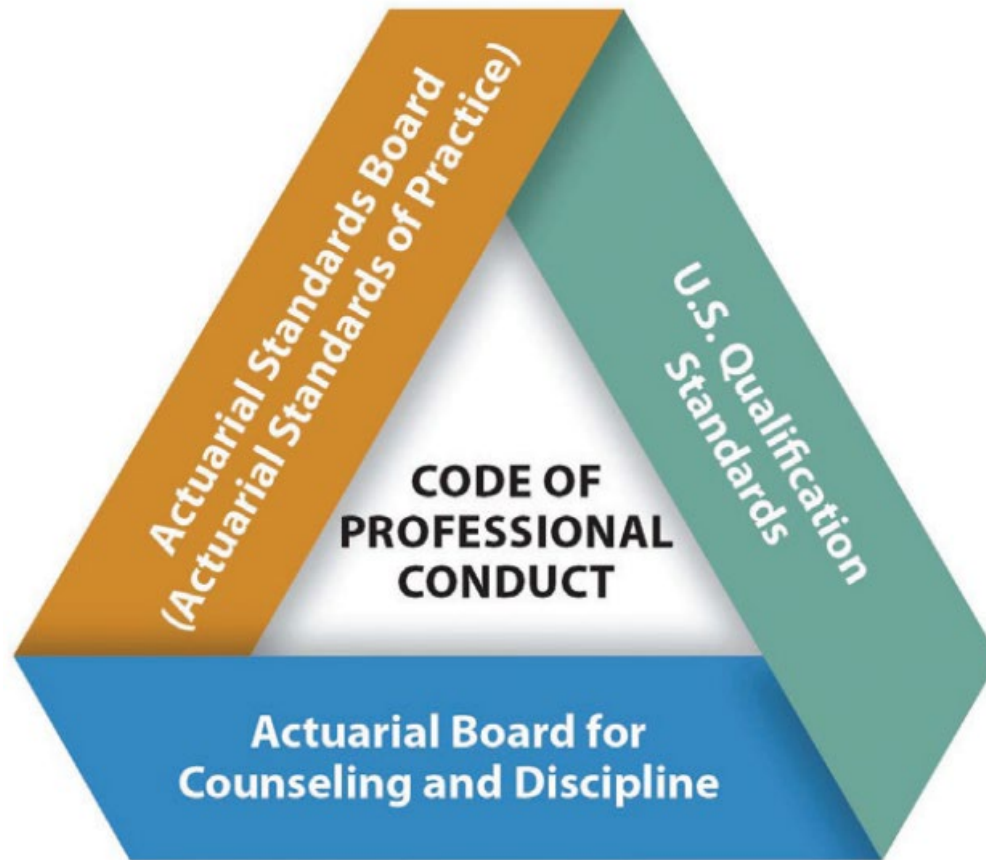
- ASOP 4 Update – Low Default-Risk Obligation Measure (“LDRM”)
  - Recalculates liabilities with an interest rate tied to low-default-risk fixed income securities (e.g.: S&P Muni Bond)
  - Just a reporting – not used for any other purposes
  - Taxpayer savings?

# ASOPs

The following ASOPs are specific to pension valuations:

ASOP 4	Measuring Pension Obligations and Pension Plan Costs
ASOP 25	Credibility Procedures
ASOP 27	Selection of Economic Assumptions
ASOP 35	Selection of Demographic Assumptions
ASOP 44	Selection and Use of Asset Valuation Methods
ASOP 51	Assessment and Disclosure of Risk

# CODE OF PROFESSIONAL CONDUCT



# APPROVAL PROCESS

- Actuary presents actuarial valuation at Board meeting
- If not approved (rare), Actuary revises valuation to present at next Board meeting
- If approved, Actuary sends valuation to State
- State typically reviews on a triennial lookback period

# APPROVAL PROCESS

- State may not approve for reasons such as unreasonable actuarial assumptions or methodologies
- If State does not approve, case-by-case basis
- May have to revise past valuations, which would affect contribution requirements and sponsor's budgeting

# ACTUARIAL VALUATION

## TIMING

- Required by FL statute once every 3 years
- *Most* are done annually
- Annual actuarial valuations help prevent volatility in sponsor contributions



# ASSUMPTIONS & METHODS

- Contributions + Investment Earnings = Benefit Payments + Expenses
- Actual cost to the plan are determined by actual experience – not assumptions
- Better Assumptions = Less Volatile Contributions

# ASSUMPTIONS & METHODS

- Investment Return
- Asset Smoothing
- Salary Increases
- Demographic Assumptions
- Unfunded Actuarial Accrued Liability (UAAL) Amortization

# INVESTMENT RETURN ASSUMPTION

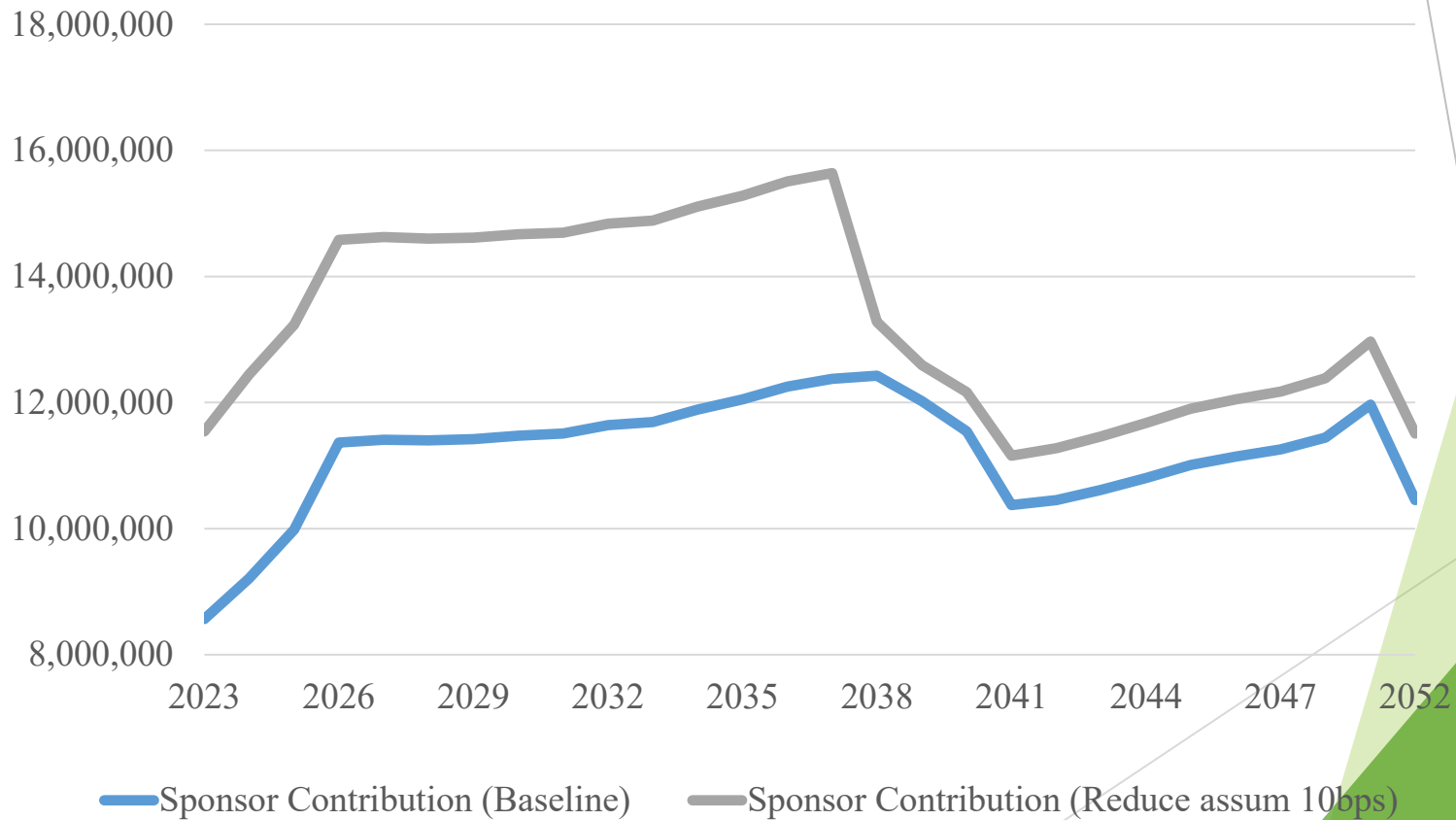
$$C + I = B + E$$

# INVESTMENT RETURN ASSUMPTION

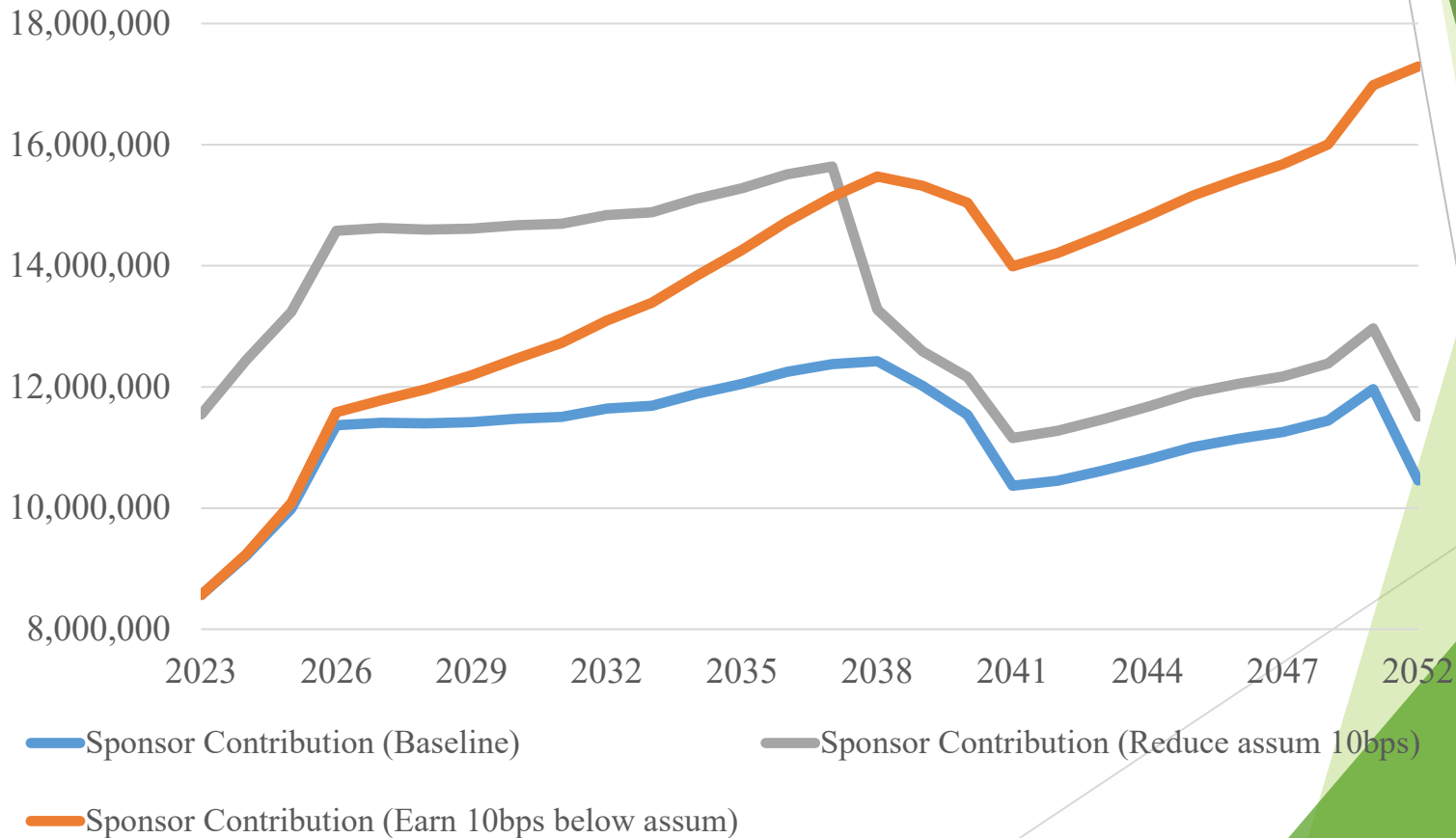
$$C + I = B + E$$

- If I decreases, then C must increase
- Lowering investment return assumption increases contribution requirements

# INVESTMENT RETURN ASSUMPTION




# INVESTMENT RETURN ASSUMPTION



# ASSET SMOOTHING

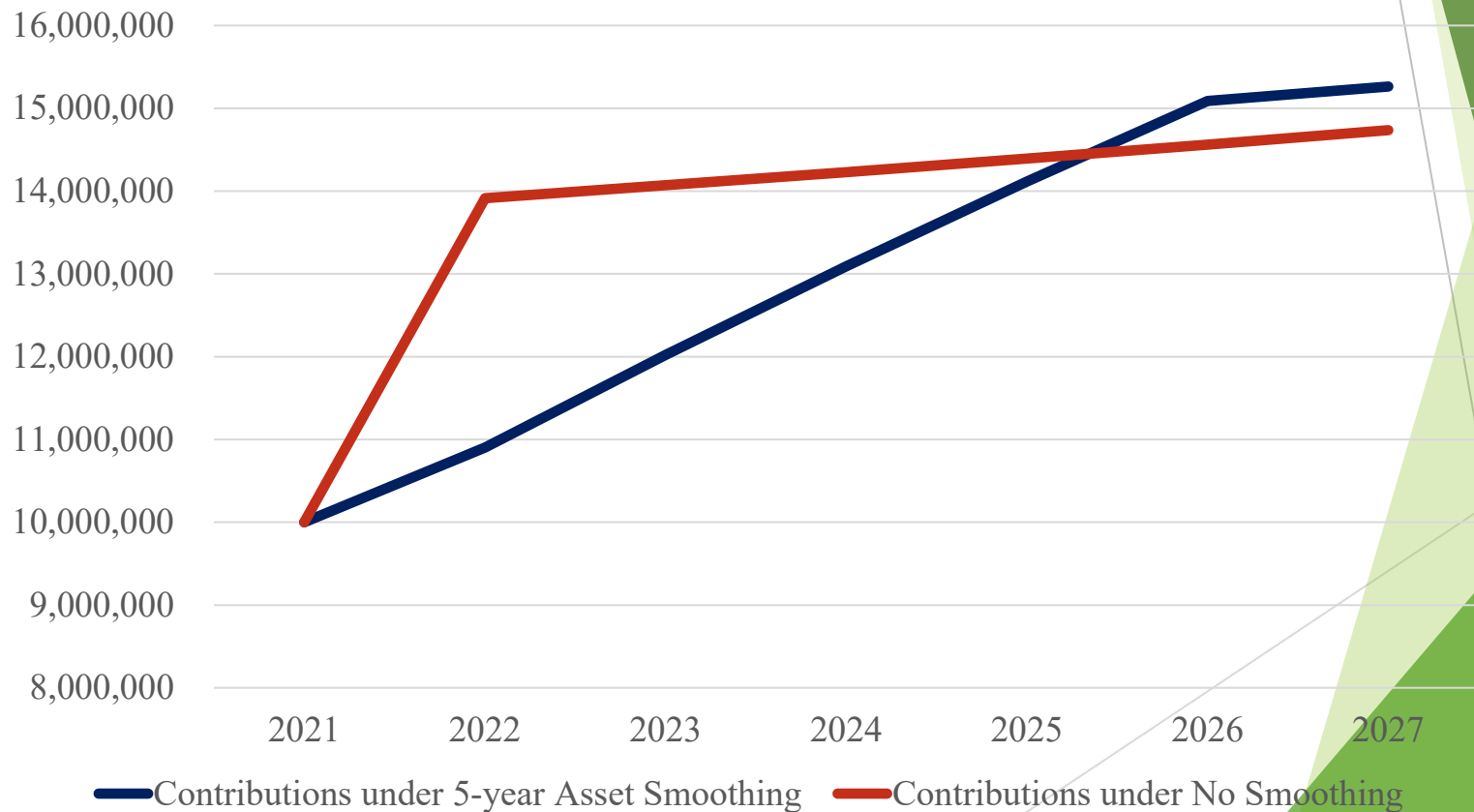
- **NEGATIVE**  
double digit return  
for **FYE 9/30/2022**  
still playing a role  
in today's actuarial  
valuations!



It's me. Hi.  
I'm the  
problem. It's  
me.

# ASSET SMOOTHING

- Smoothing helps with volatility by spreading impact to future years





# SALARY INCREASE

## ASSUMPTION

- Typically service-based
- Projects employee's salary from date of hire to expected date of retirement



# SALARY INCREASE

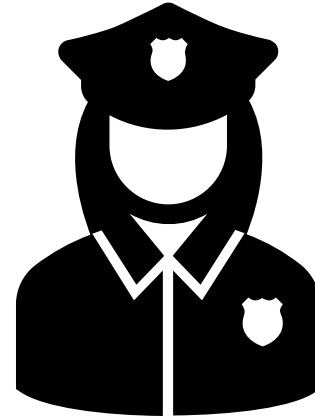
## ASSUMPTION

- Merit
- Promotions
- Inflation / Cost-of-Living Adjustments
- Negotiated Increases



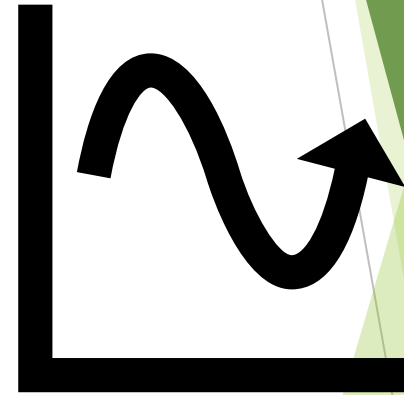
# DEMOGRAPHIC ASSUMPTIONS

- Retirement Rates
- Withdrawal Rates
- Disability Rates
- Mortality Rates



# EXPERIENCE STUDIES

- Important to perform every 5 years!
  - Stable contributions
  - State Approval
- Immediately impacts sponsor contributions, but “pay now or pay later”



# ACTUARIAL VALUATIONS

$$C + I = B + E$$

*The ultimate cost of your retirement plan is independent of any assumptions or methods.*

# *Questions?*

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