Actuarial Sound Contribution Rates

Kevin Spanier

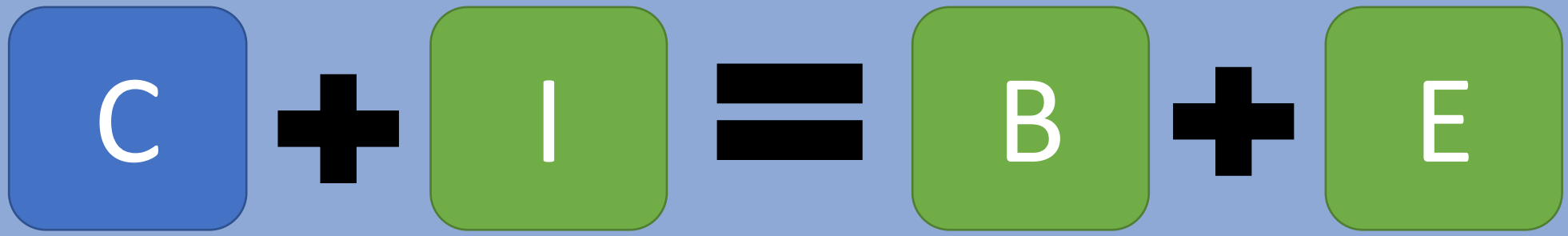
BUCK
A Gallagher Company

FPPTA
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Table of Contents

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Background



- Over the lifetime of the pension plan, the contributions made into the plan along with the investment returns will equal the benefit payments and expense paid out of the trust.
- Actuaries role is to help allocate the contributions over time, but the total cost of the plan is driven by the plan provisions.

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Background

Actuarial Valuation

Liabilities

- Actuarial Methods
- Member Data
- Plan Provisions
- Actuarial Assumptions

Assets

- Smoothing Methods
- Trust Statements

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Actuarial Standards of Practice

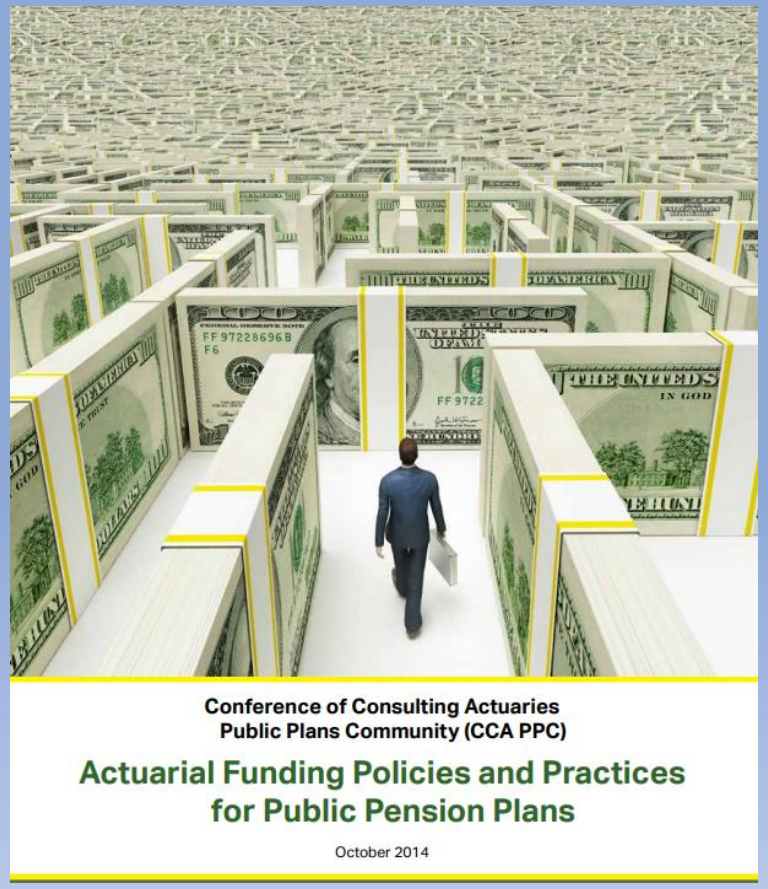
- Actuaries are governed by Actuarial Standards of Practice (“ASOPs”), which describe the procedures an actuary should follow when performing actuarial services.
- ASOP 4 governs measuring pension obligations and determining pension plan costs or contributions

Actuarial Standards of Practice

- According to ASOP 4:
  - “When selecting a contribution allocation procedure, the actuary should select a contribution allocation procedure that, in the **actuary’s professional judgment**, is consistent with the plan accumulating adequate assets to make benefit payments when due, assuming that all assumptions will be realized and that the plan sponsor or other contributing entity will make actuarially determined contributions when due.”
- *But what guidance do actuaries have to help them make this judgement??*

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

CCA Whitepaper



The Conference of Consulting Actuaries ("CCA") issued a whitepaper in 2014 to *"provide guidance to policymakers and other interested parties on the development of actuarially based funding policies for public pension plans."*

Actuaries generally will use this whitepaper as guidance in determining their "**professional judgment"**

https://www.ccactuaries.org/docs/default-source/papers/cca-ppc_actuarial-funding-policies-and-practices-for-public-pension-plans.pdf

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

CCA Whitepaper

General Policy Objectives

1. **Sufficient Assets:** Future contributions and current plan assets should be sufficient to provide for future benefits
2. **Demographic Matching:** Should seek reasonable allocation of cost of benefits and the required funding to years of service
3. **Volatility Management:** Should seek to manage and control contribution volatility
4. **Accountability and Transparency**
5. **Sound Governance:** Consideration for the nature of public sector pension plans and their governance

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Principal Elements of Funding Policy

1. **Actuarial Cost Method:** Allocates the total present value of benefits to each year (Normal Cost) including all past years (Actuarial Accrued Liability)
2. **Asset Smoothing Method:** Smooths gains and losses over defined period of time which reduces the effect of short-term market volatility
3. **Amortization Policy:** Determines the length of time and the structure of the contributions to either:
   - Fund any Unfunded Actuarial Accrued Liability
   - Recognize any Overfunded Actuarial Accrued Liability

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Possible Additional Elements of Funding Policy

1. **Output Smoothing:** Method used to reduce volatility of contributions. For example:
   - Phasing in impact of assumption changes
   - Blending prior and subsequent valuations
   - Applying corridor around changes in contribution
2. **Risk Mitigation and/or Risk Sharing:** Consideration given to adjusting contributions to manage risk. For example:
   - Increasing contributions funded ratio is below a threshold
   - Holding excess contributions in a reserve fund to be used under specific rules / circumstances for future contribution requirements

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Actuarial Cost Method

1. Each participant's benefit should be funded under a reasonable allocation method
2. Pay-related benefit costs should reflect anticipated pay at expected decrement
3. Expected annual cost of service should be reasonably related to the expected cost of benefit
4. No gains/losses should occur if all assumptions are met
5. Should allow for comparison between Plan Assets and Actuarial Accrued Liability

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Actuarial Cost Method

- Florida State Statute Chapter 112 provides rules and regulations regarding the funding of public pension plans in the state.
- Under Florida State Statute Chapter 112.63, the actuarial cost method must be those “methods approved in the Employee Retirement Income Security Act of 1974”
  - Majority of plans use Entry Age Normal Method, which is preferred method in the CCA Whitepaper

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Asset Smoothing Method

- Asset Smoothing Method determines:
  - Amount of return subject to deferred recognition
  - Smoothing period
  - Market Value Corridor (if any)
  - Method of recognizing deferred amounts
- Method should be unbiased relative to market

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Asset Smoothing Method

- Method should not be selectively reset to market value
- Method should:
  - Likely return to market in a reasonable period and likely to stay within a reasonable range of market or
  - Sufficiently short period to return to market or sufficiently narrow range around market

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Asset Smoothing Method

- Under Florida State Statute Chapter 112.625, the asset smoothing method must be in accordance with the Employee Retirement Income Security Act of 1974 in effect on August 16, 2006:
  - 5-year maximum smoothing
  - 20% maximum corridor

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Asset Smoothing Method

- CCA Whitepaper provides some model best practices:
  - Deferrals based on total return relative to assumed earning rate
  - Deferrals recognized over periods not less than 3 years
  - Maximum market value corridors:
    - 5 or fewer years, 50%/150% corridor
    - 7 years, 60%/140% corridor
  - Combine smoothing periods/restart smoothing only to manage tail volatility
- Florida Statutes are in line with CCA best practices

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Amortization Policy

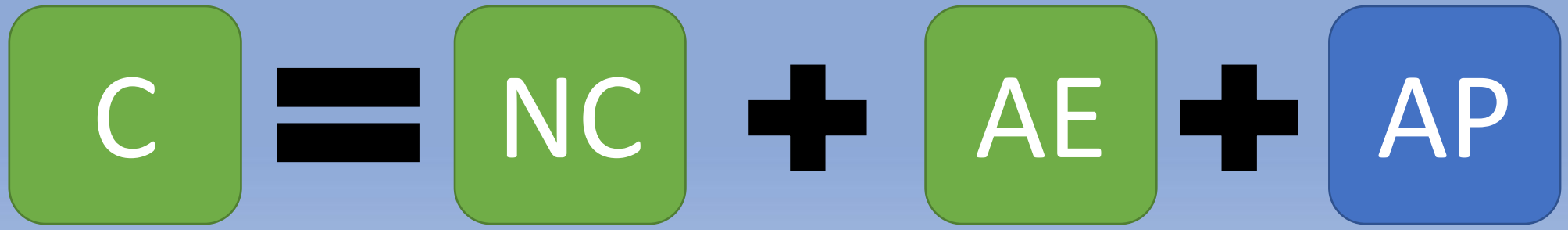
- Unfunded Actuarial Accrued Liability ("UAAL") results from:

Assumption Changes	Method Changes
Benefit Changes	Actual Experience (Actuarial G/(L))

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Amortization Policy

- Amortization policy is a plan to pay for UAAL over time



C = Contribution
NC = Normal Cost
AE = Administration Expenses
AP = Amortization Policy

FPPTA
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Amortization Policy

- Amortization policy should consider the different sources of the change in UAAL (even if the resulting policy treats different changes the same way)
- Amortization policy should consider the level and duration of negative amortization (if any)
- Amortization of surplus requires special consideration and should be considered as part of a broader discussion of surplus management techniques

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Amortization Policy

- Florida Statute 112.64 has requirements regarding the amortization requirements for public pension systems
- The initial UAAL must be amortized over a period not greater than 40 years
- Increases in UAAL due to plan changes, assumption changes, funding method changes or actuarial gains and losses must be amortized over a period not greater than 30 years

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Amortization Policy

- If amortization schedule for UAAL is based on a contribution derived in whole or part from a percentage of payroll, amortization schedule can be based on a level percentage of payroll (instead of level dollar)
- Payroll growth assumption must not be greater than average payroll growth over the past 10-years

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Amortization Policy

"An UAAL amortization schedule that includes a payroll growth assumption and is in existence on September 30, 1996, or is established thereafter, may be continued using the same payroll growth assumption, or one not exceeding the payroll growth assumption established at the start of the schedule, regardless of the actual 10-year average payroll growth rate, provided that:

1. The assumptions underlying the payroll growth rate are consistent with the actuarial assumptions used to determine unfunded liabilities, including, but not limited to, the inflation assumption; and
2. The payroll growth rate is ***reasonable*** and ***consistent*** with future expectations of payroll growth."

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Amortization Policy

- CCA White paper recommends using layered fixed period amortization that various by source:

Source	Period
Active Plan Amendment	Lesser of (i) active demographics or (ii) 15 years
Inactive Pan Amendment	Lesser of (i) inactive demographics or (ii) 10 years
Experience Gain/Loss	15 to 20 years
Assumption or Method Change	15 to 25 years
Early Retirement Incentives	5 years or less

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

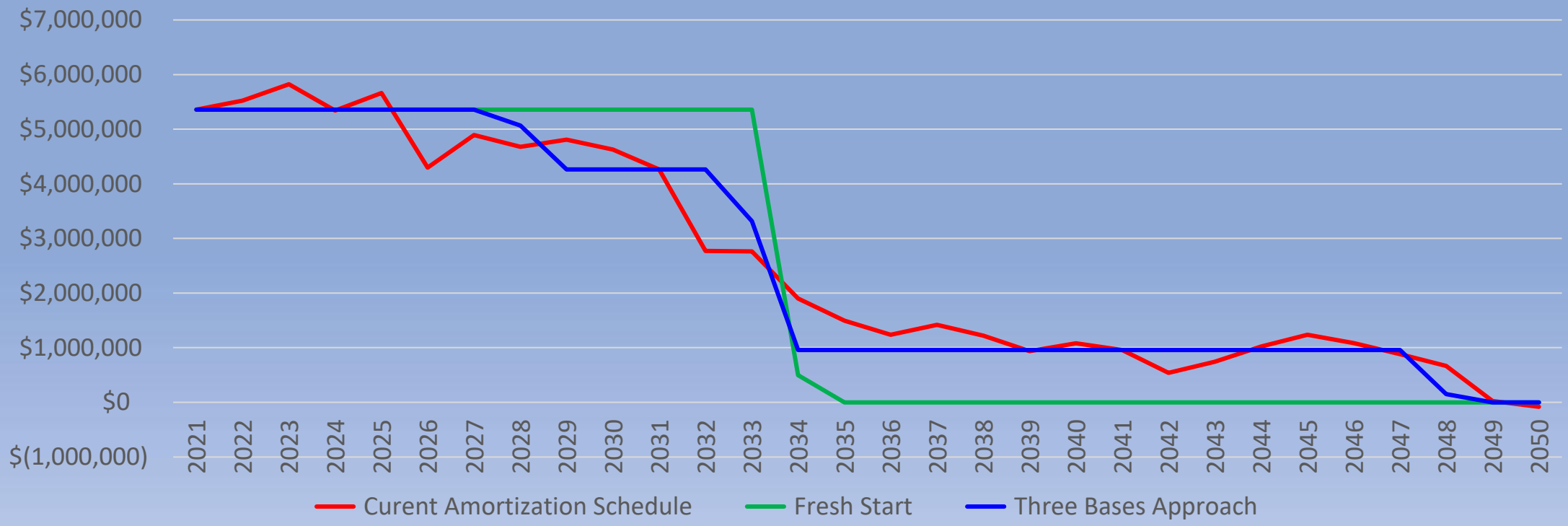
Amortization Policy

- CCA White paper also recommends:
  - Level percent of pay amortizations
  - 30-year amortization of surplus
    - Eliminate all prior UAAL layers upon going into Surplus
  - Combine gain/loss (and other) layers or restart amortization only to avoid tail volatility
    - Combination should result in substantially the same current amortization payment
    - Avoid using restart of amortization to achieve de facto rolling amortization
    - Restart amortization layers when moving from Surplus to UAAL

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Amortization Policy

- UAAL tail volatility example:



Conclusion

- The contribution policy is an important aspect to ensuring an actuarially sound pension system for years to come.
- Pension board trustees play an important role in reviewing the contribution policy.
- While Florida Statutes provide a strong framework for contribution rates, they are a minimum and trustees along with their actuaries should review their contribution policy to ensure they are aligned with their objectives.

FPPTA®
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984

Appendix

Kevin Spanier, ASA, EA, FCA, MAAA

Principal, Atlanta Wealth Practice Leader

Kevin serves as Principal and is the Atlanta Wealth Practice Leader at Buck, A Gallagher Company. Kevin has 18+ years of actuarial consulting experience helping both corporate and public plan clients in the areas of plan design, administration, plan document interpretation, processing complex benefit calculations, contribution strategy, financial reporting and disclosure requirements.

Kevin is a frequent guest speaker at various conferences leading educational sessions on many different actuarial topics. He also finds himself as a highly sought-after internal resource expert on analyzing retirement plans for clients that are assessing the impact of ERISA funding requirements, FASB/GASB accounting standards, and benefit design alternatives.

Kevin is currently pursuing his Fellowship in the Society of Actuaries. Kevin graduated with a BA in Economics from the University of Georgia prior to obtaining his BBA in Actuarial Science from Georgia State University where he was the recipient of the prestigious Eli Zubay award given to the top student of the actuarial class.

In his free time Kevin, an Eagle Scout, can be found leading his son's Boy Scout troop on many exciting camping and fishing adventures around the Southeast.

To contact me

kevin.spanier@buck.com

BUCK
A Gallagher Company

FPPTA
FLORIDA PUBLIC PENSION TRUSTEES ASSOCIATION
SINCE 1984