Wisconsin Retirement System

Entry Age Normal Cost Method

December 2016

GRS
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Actuarial Cost Methods

The Actuarial Cost Method determines the allocation of cost between past and future

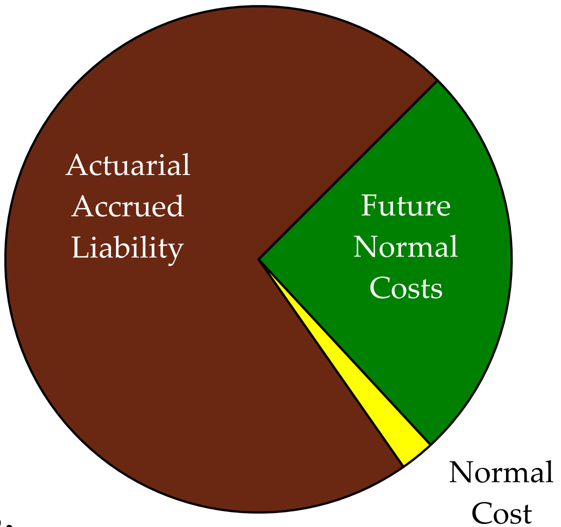
Types of Cost Methods are:

- Entry Age Normal Cost
- (Projected) Unit Credit Normal Cost
- Aggregate Cost Method
- Frozen Initial Liability Method (Current WRS method)

Actuarial Valuation Terminology

- **<u>Present Value of Future Benefits</u> -** Present Value of all future benefits payable to current participants (active, retired, terminated vested).

Present Value of Future Benefits



- **<u>Actuarial Accrued Liability</u> -** Portion of PV of Future Benefits allocated to prior years.

- **<u>Normal Cost</u> -** Portion of PV of Future Benefits allocated to current year.

- **<u>Future Normal Costs</u> -** Portion of PV of Future Benefits allocated to future years.

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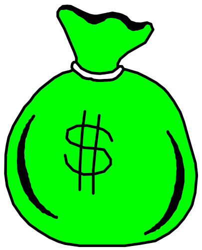
Funding a $10,000 Annual Pension for a Person

Present Value of Benefits

At Retirement Date $90,000



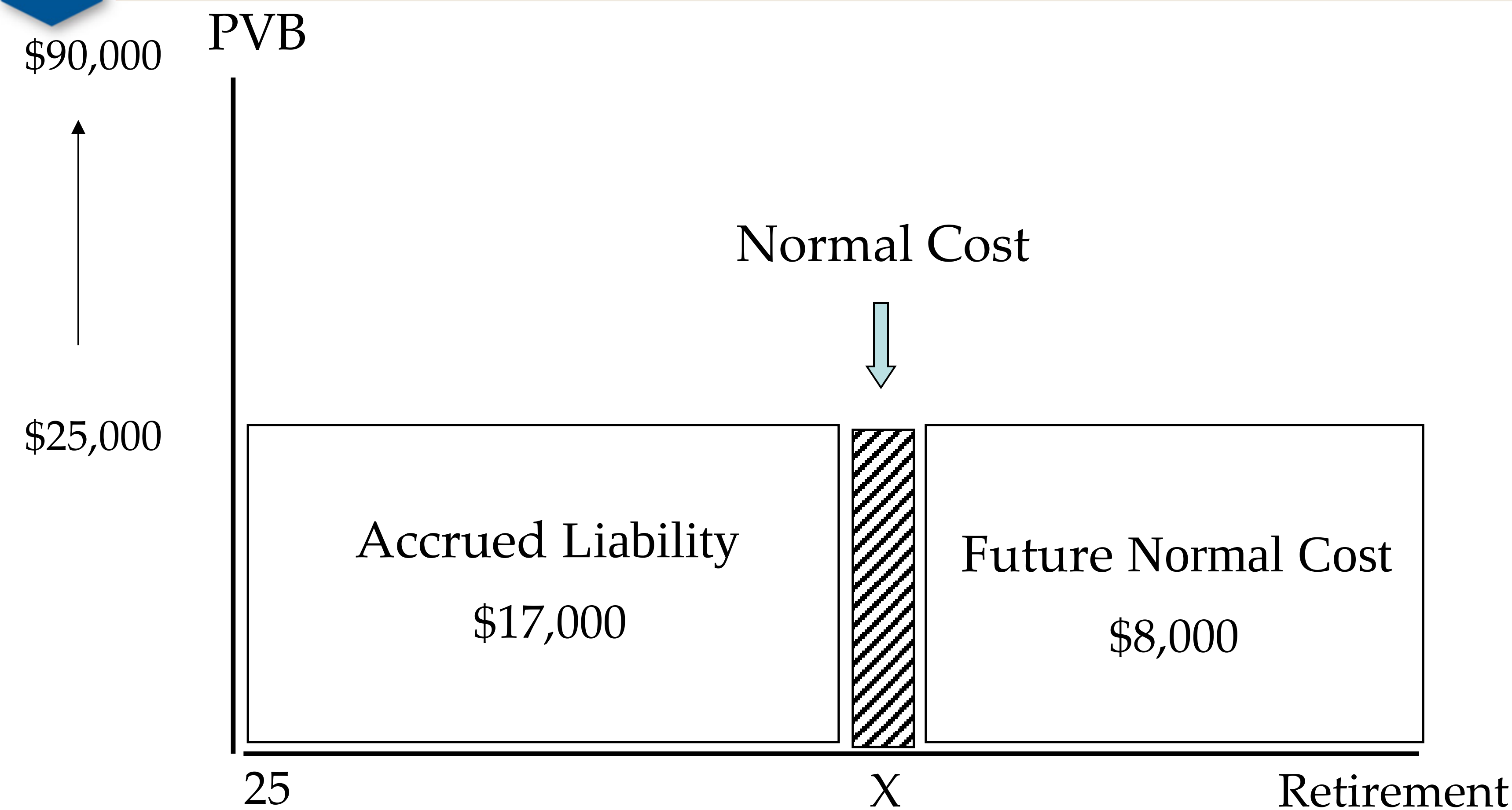
At Valuation Date $25,000

Allocated to Past and Future Service

$17,000 Actuarial Accrued Liability	$8,000 Present Value of Future Normal Costs

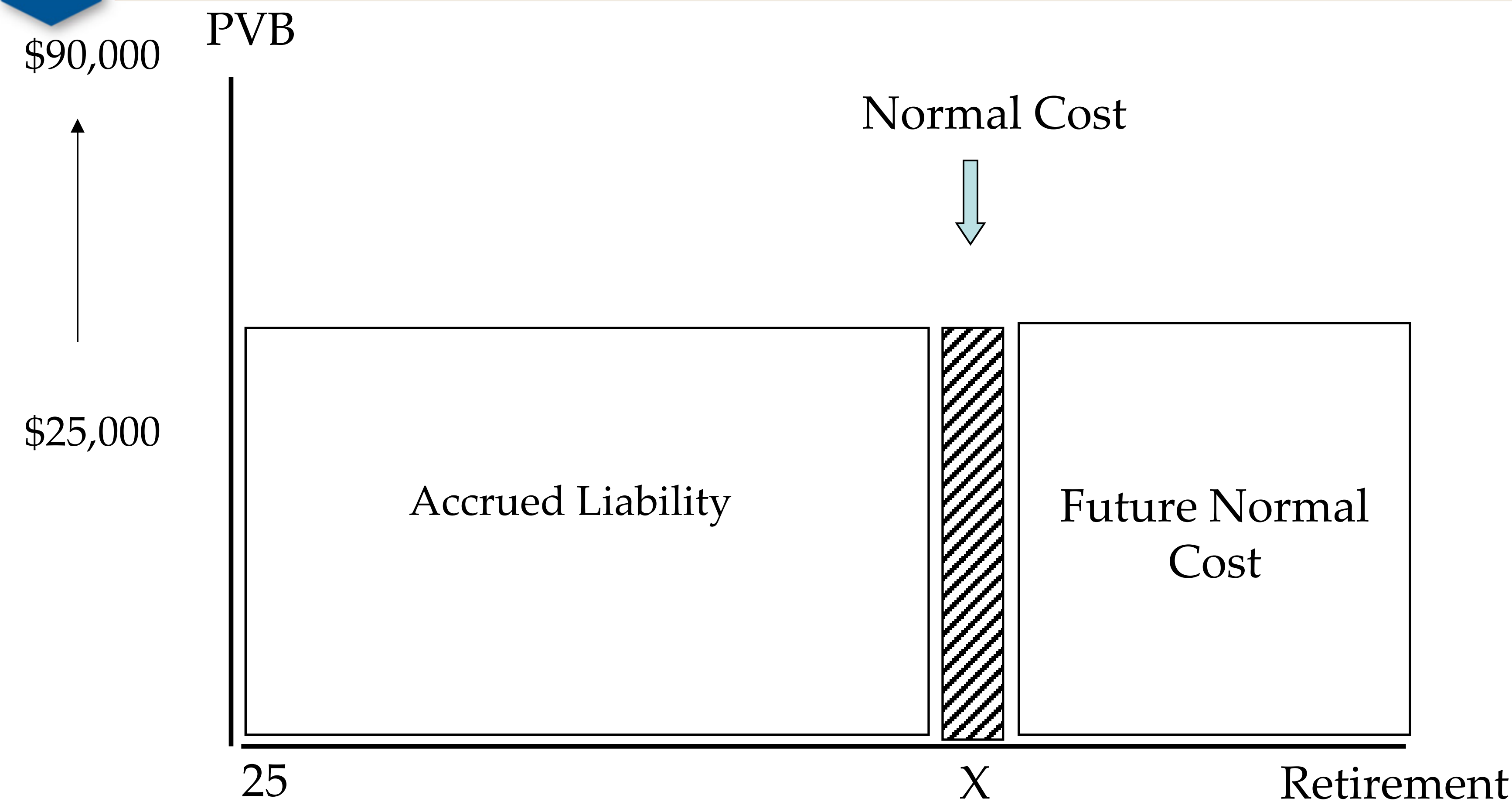
Actuarial Accrued Liabilities
\- Accrued Assets
Unfunded Actuarial Accrued Liabilities

Completing the Pension Funding



As the person ages, the boxes grow Northward until the PVB becomes $90,000. At the same time, the normal cost layer moves to the right. At retirement, there is one big square box; the accrued liability and the PVB are both $90,000, and the Future Normal Cost is $0.

Completing the Pension Funding



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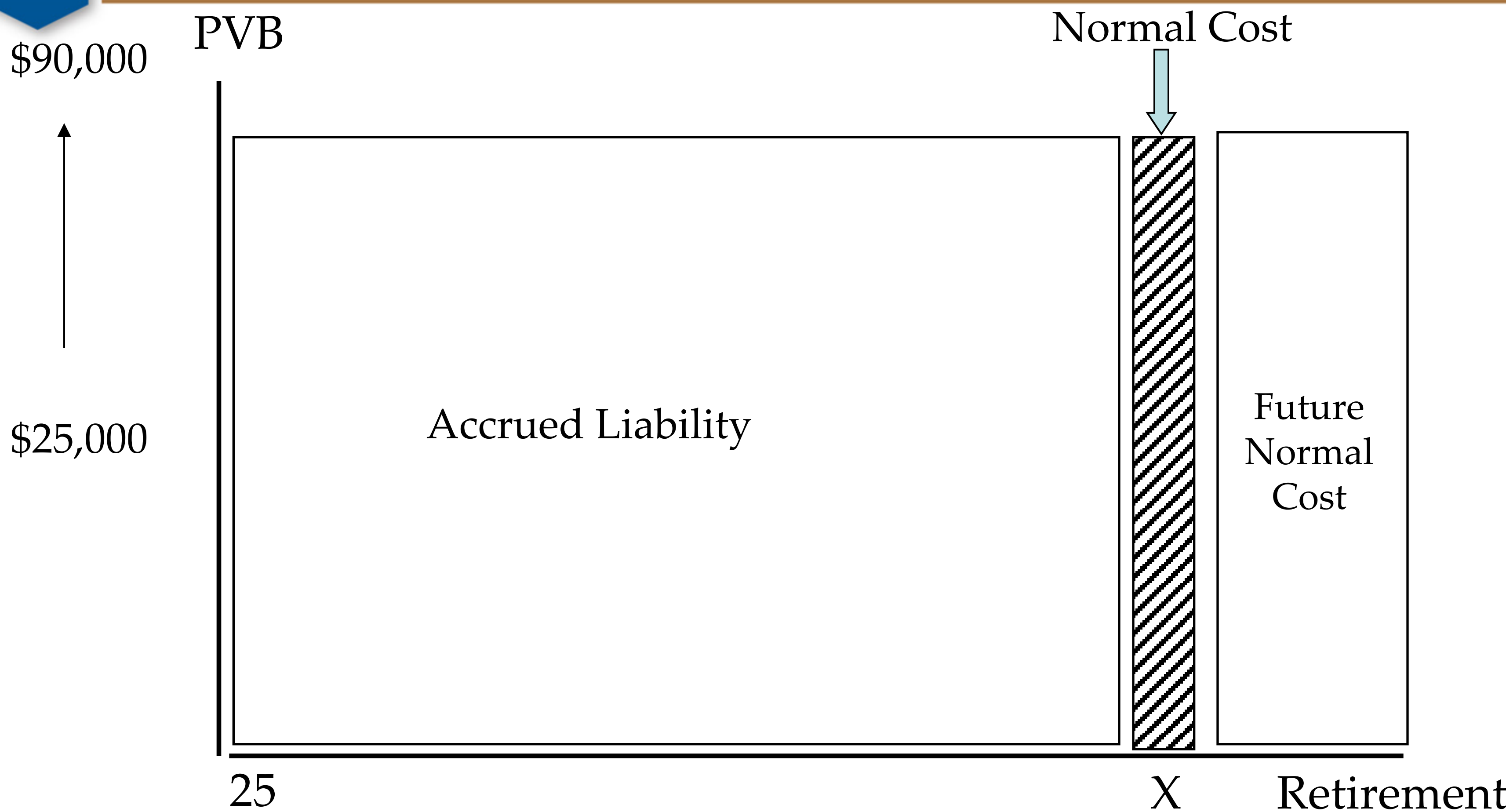

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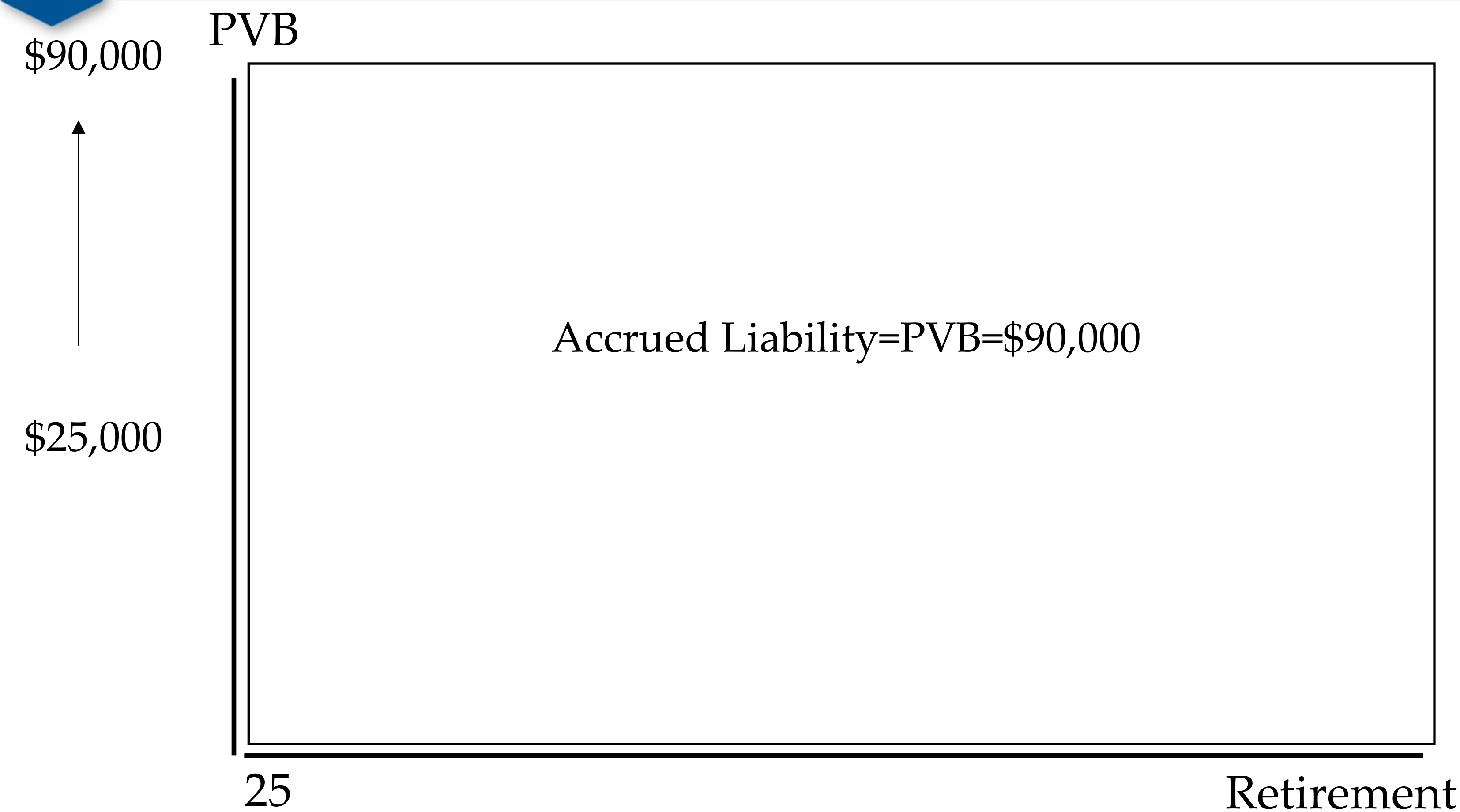

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Comparing Normal Costs

- Frozen Initial Normal Cost
  - Normal Cost funds (PVFB-Assets-Remaining Frozen Initial Liability) as a level % of pay over future service
  - Separate book keeping calculation for remaining frozen initial (unfunded) liability
- Entry Age Normal Cost
  - Funds the PVFB as a level % of Pay from Entry Age to retirement.
  - Unfunded liability determined as part of the method.

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Comparing Cost Methods

- Frozen Initial Liability Method
  - Contribution = FIL Normal Cost + Remaining Frozen Initial Liability amortization
  - Annual gains and losses are part of normal cost through the Experience Amortization Reserve (EAR)
- Entry Age Normal Method
  - Contribution = EA Normal Cost + Amortization of unfunded liability
  - Annual gains and losses are part of the unfunded liability

Impact on Total Contribution Rate

Group	FIL Cost Method	EAN Cost Method
General/Elected	13.67 %	13.74 %
Protective with Social Security	17.48 %	17.79 %
Protective without Social Security	21.84 %	22.25 %
Total	14.17 %	14.25 %

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Some Thoughts

- Current Implementation of FIL method with EAR is unusual. EAN is much more common.
- Differences are pretty small under current conditions.
- At 12/31/2015 FIL funded % is 100%. EAN funded % is 98.7%. Difference leads to confusion regarding the actual funded %.

Some Thoughts

- Original purpose of FIL may have had to do with allowing a simple path for new employers to join. Much less of that activity occurs today than in the past.
- New employers still join and will have to be accommodated. Accommodation might be a little complicated.
- Entry Age Normal Calculations are required for GASB anyway.

Summary

- Conversion to Entry Age Cost Method would have minimal impact on WRS contribution rates
  - Majority of 'Frozen Initial Liability' was paid off with Pension Obligation Bonds
- Majority of Public Retirement Systems use the Entry Age Normal Cost Method and is required for GASB calculations
  - Funded Status comparisons would be more accurate
- Implementation Issues
  - Amortization Policy would need to be incorporated into current Funding Policy (similar to Experience Amortization Reserve)
  - Need policy for newly joining employers
  - Treatment of existing 'Frozen Initial Liability' for a small amount of employers

Thank You

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