Pennsylvania Association of Public Employee Retirement Systems

Fall Conference

PAPERS

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The Liability Side of the Equation: A Closer Look at Unfunded Actuarial Liabilities

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Today's Topics:

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I. Pension Funding Background

II. What is a Shortfall?

III. What to Do About The Unfunded Liability

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I. BACKGROUND: How Does Pension Funding Work?

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How It Works

HIRE

Assets needed: $0

Annual Cost: 8% of pay ($4,000)

Active Working Career

How It Works

MID CAREER

Assets needed: $150,000

Annual Cost: 8% of pay (now $5,500)

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How It Works

RETIREMENT

Assets needed: $400,000

Annual Cost: $0

Actuarial Terms: Assets Needed = “Actuarial Accrued Liability”
Annual Cost = “Normal Cost”

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II. Funding Shortfalls: What is it, and how does it happen?

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Funding Shortfalls

HIRE

Assets needed: $0

Actual: $0

MID CAREER

Assets needed: $150,000

Actual: $50,000

RETIREMENT

Assets needed: $400,000

Actual: $250,000

Shortfall, aka Unfunded Liability

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What Impacts Plan Funding?

Factor	More than Expected	Less than Expected
Investment Performance	HELPS	HURTS
Salaries	HURTS	HELPS
Retiree longevity	HURTS	HELPS
Retirements	HURTS	HELPS
Terminations	HELPS	HURTS
Disabilities	HURTS	HELPS

Definitions

(for this presentation)

- Unfunded Liability: Shortfall
- Underfunding: Paying less than required/needed for actuarial funding

Primary Causes of Shortfalls

Explicit Underfunding	Implicit Underfunding
"ARC" = $10 million	1. Return Assumption Too High
	2. Did not plan for longer lifetimes
	3. Benefit Increases not properly funded
Actual Contribution = $8 million	4. Actuarial methods too liberal, most commonly amortization
	** These are often unintentional, but sometimes not

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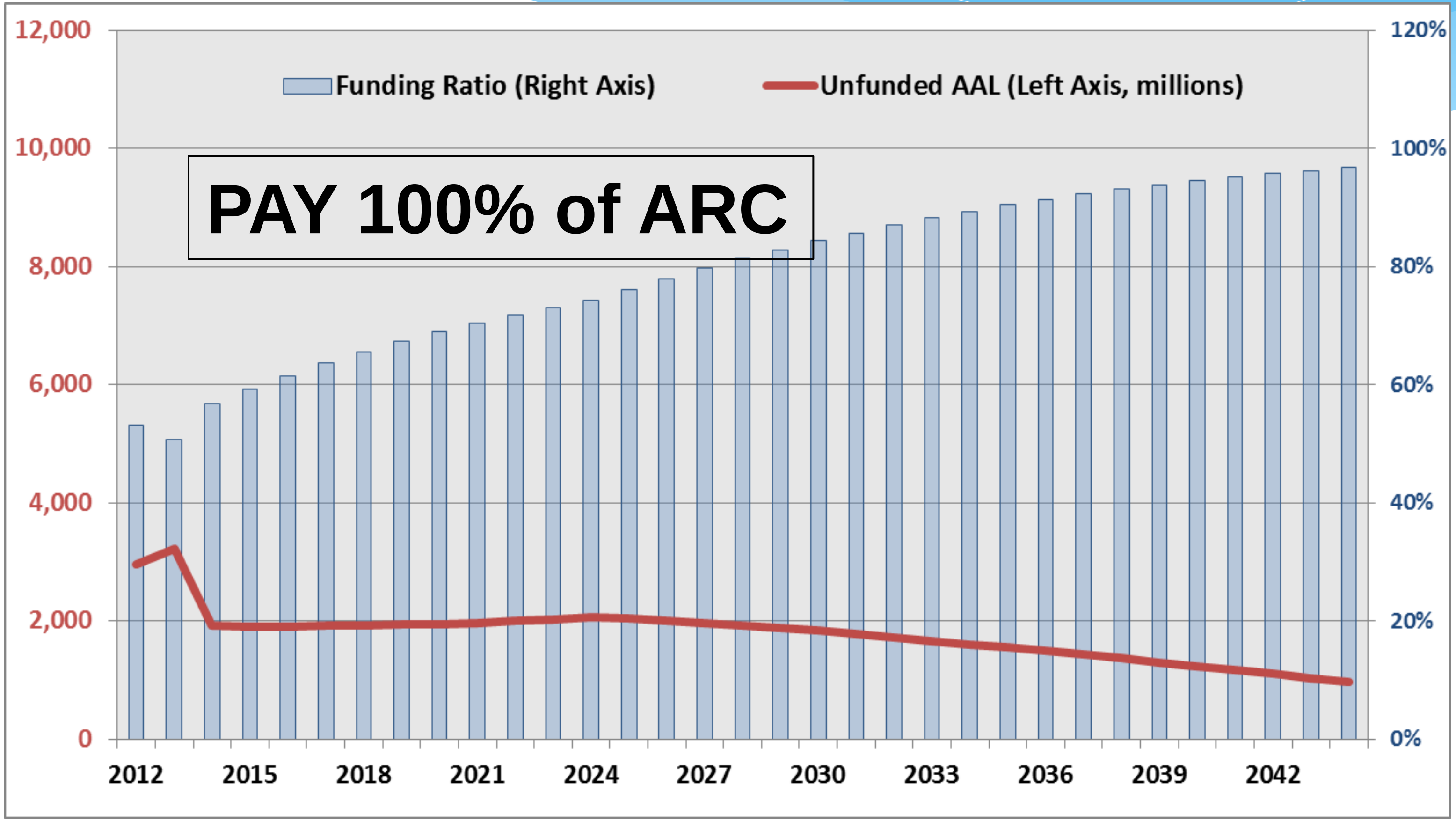
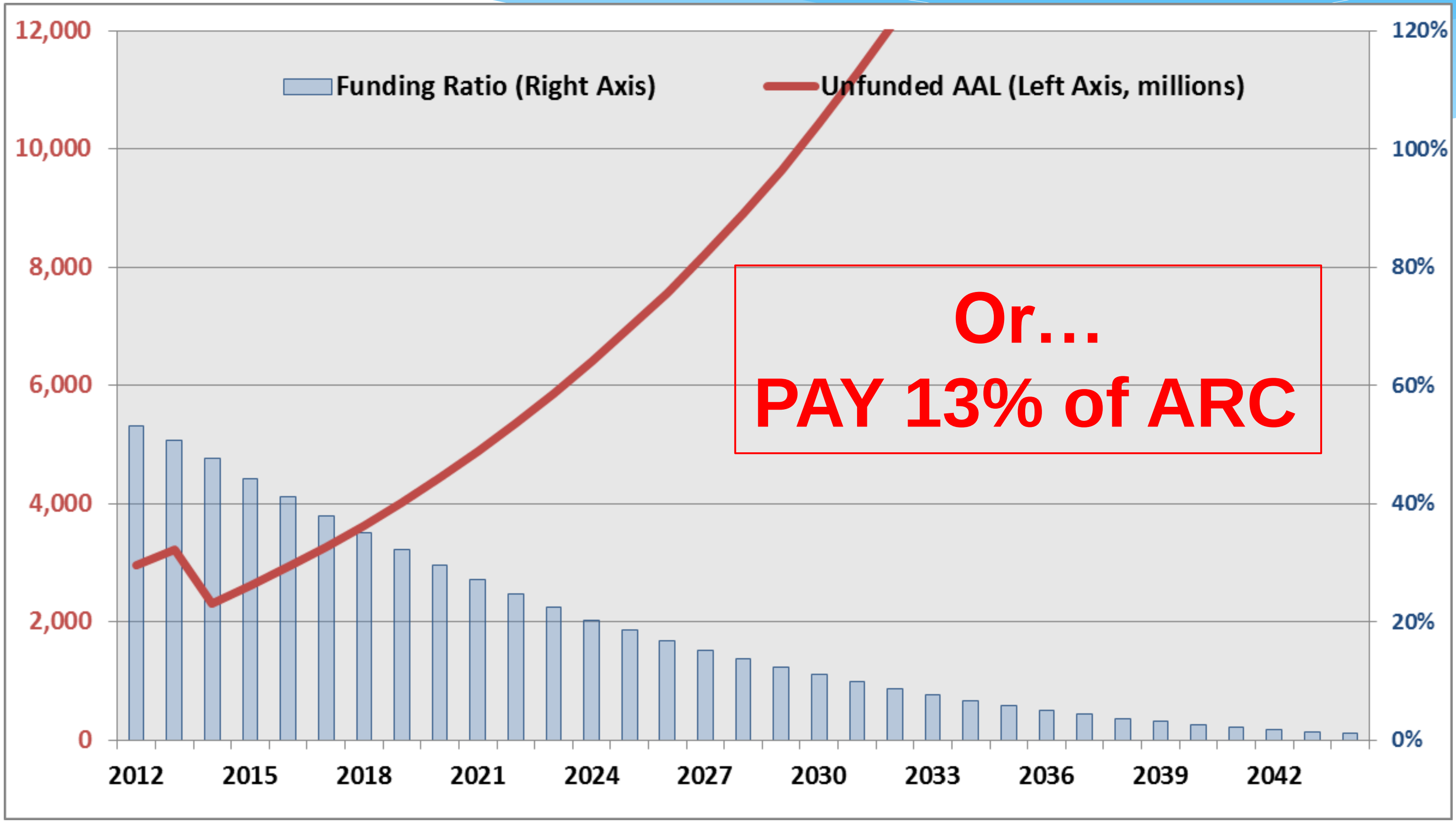
Explicit Underfunding Example



Explicit Underfunding Example



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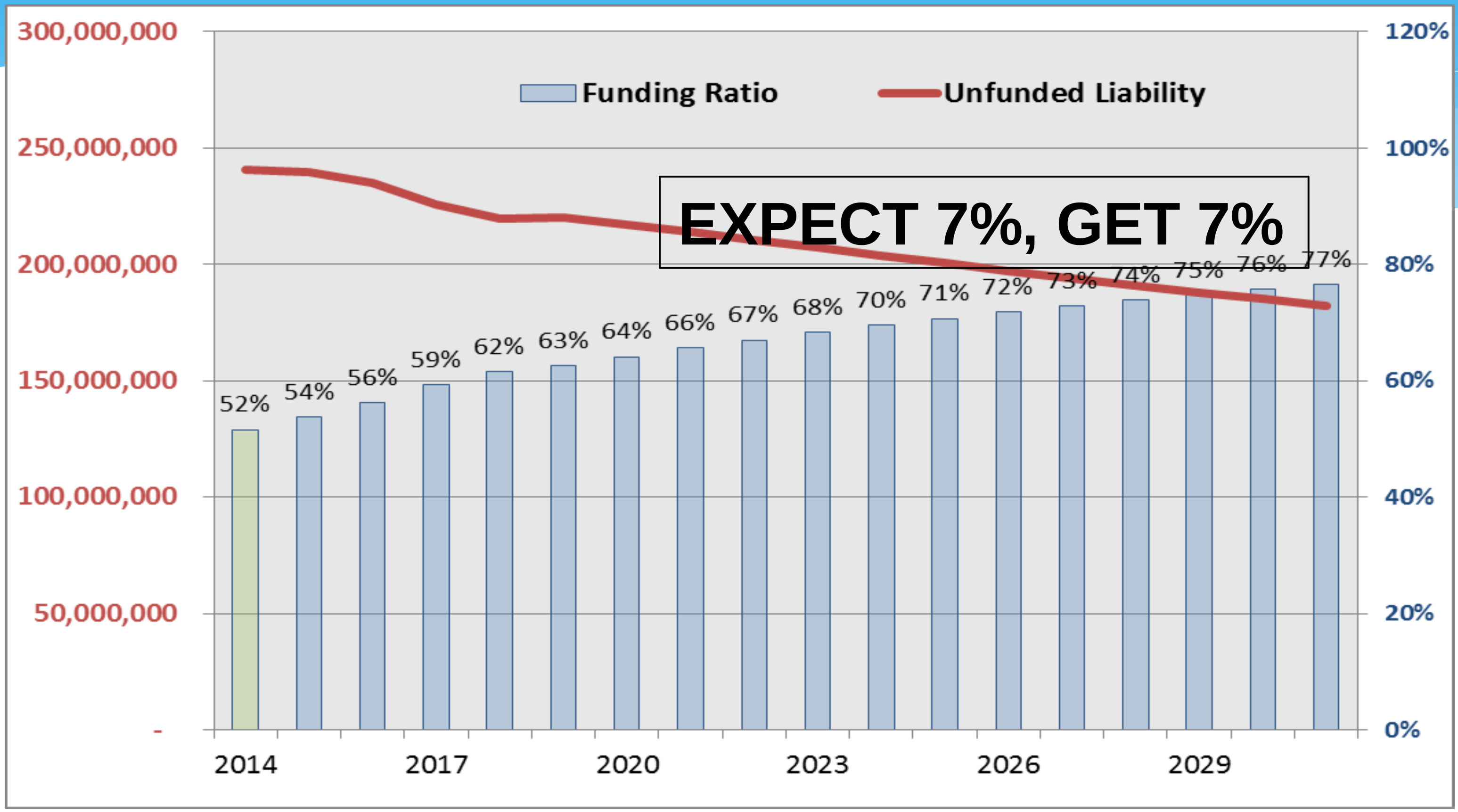
Implicit Underfunding Example



Aka, the "What If We Are Right?" Scenario

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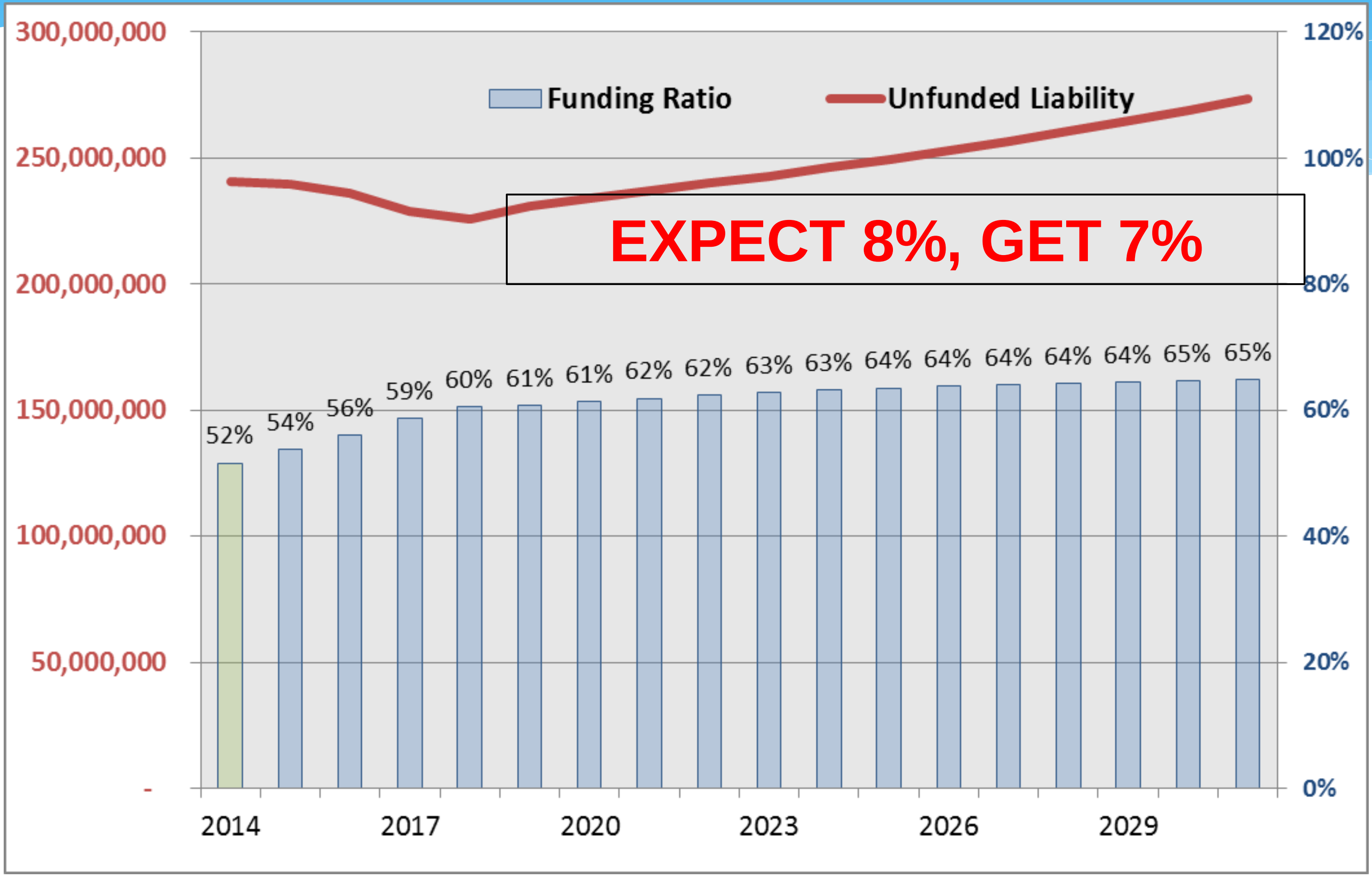
Implicit Underfunding Example



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III. <u>How to Fix It:</u>

Strategies Govt's Have Used to Address Pension Funding Problems

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“There are a lot of ways to NOT pay a bill…

But only ONE way to pay it.”

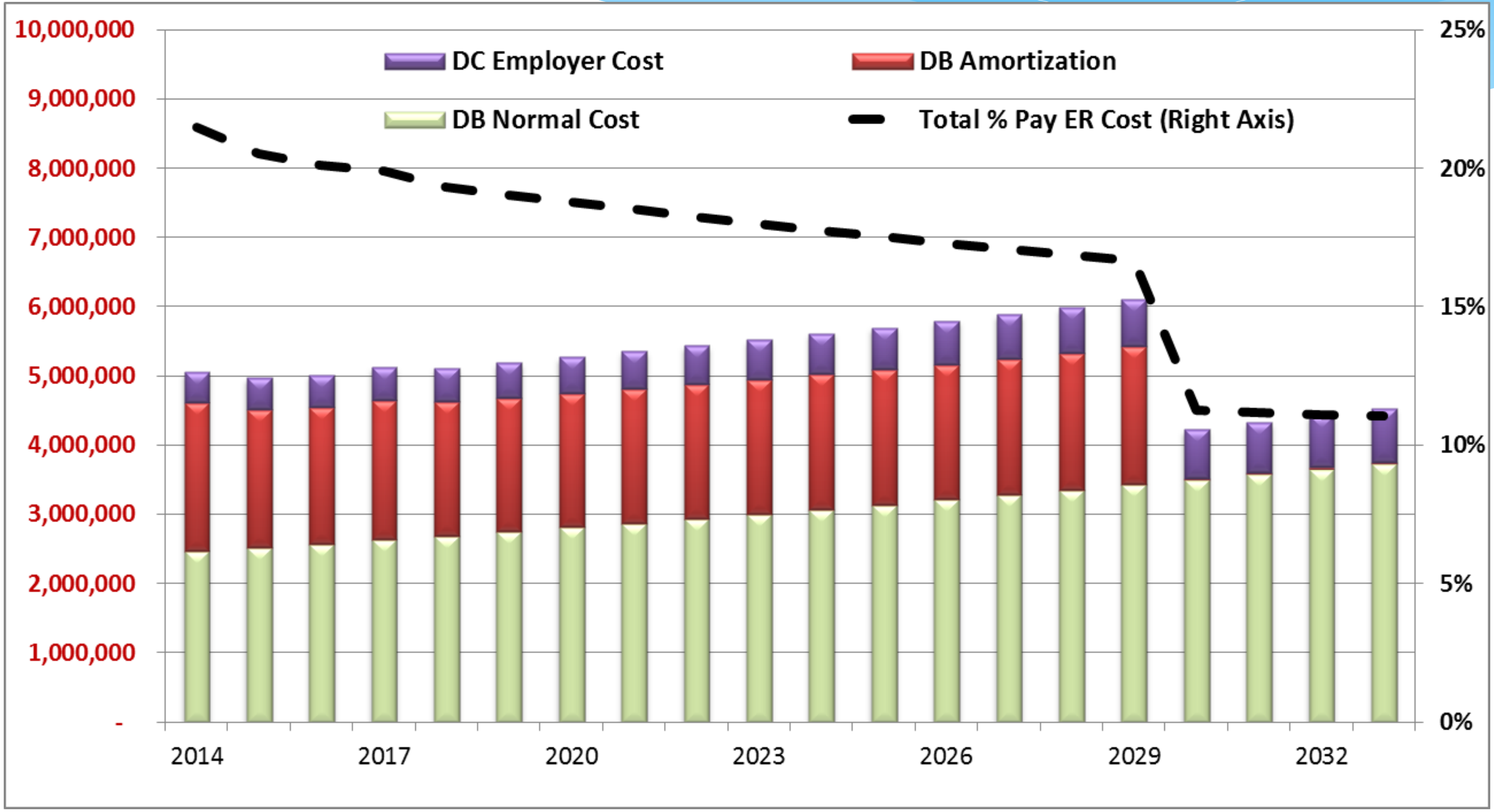
1. Benefit Changes

Common Changes	Impact
Reduce/Eliminate Retiree COLAs	Significant
Increase EE Contribs	Leverages Cost
Final Average Pay	Usually minimal
Increase Vesting Years	
Change Pensionable Earnings Definition	Can be noticeable, but doesn't affect retirees
Decrease Benefit Multiplier	
Increase Eligibility Age/Service	

These have often been applied to NEW HIRES only…

NEW HIRE Changes

BEFORE



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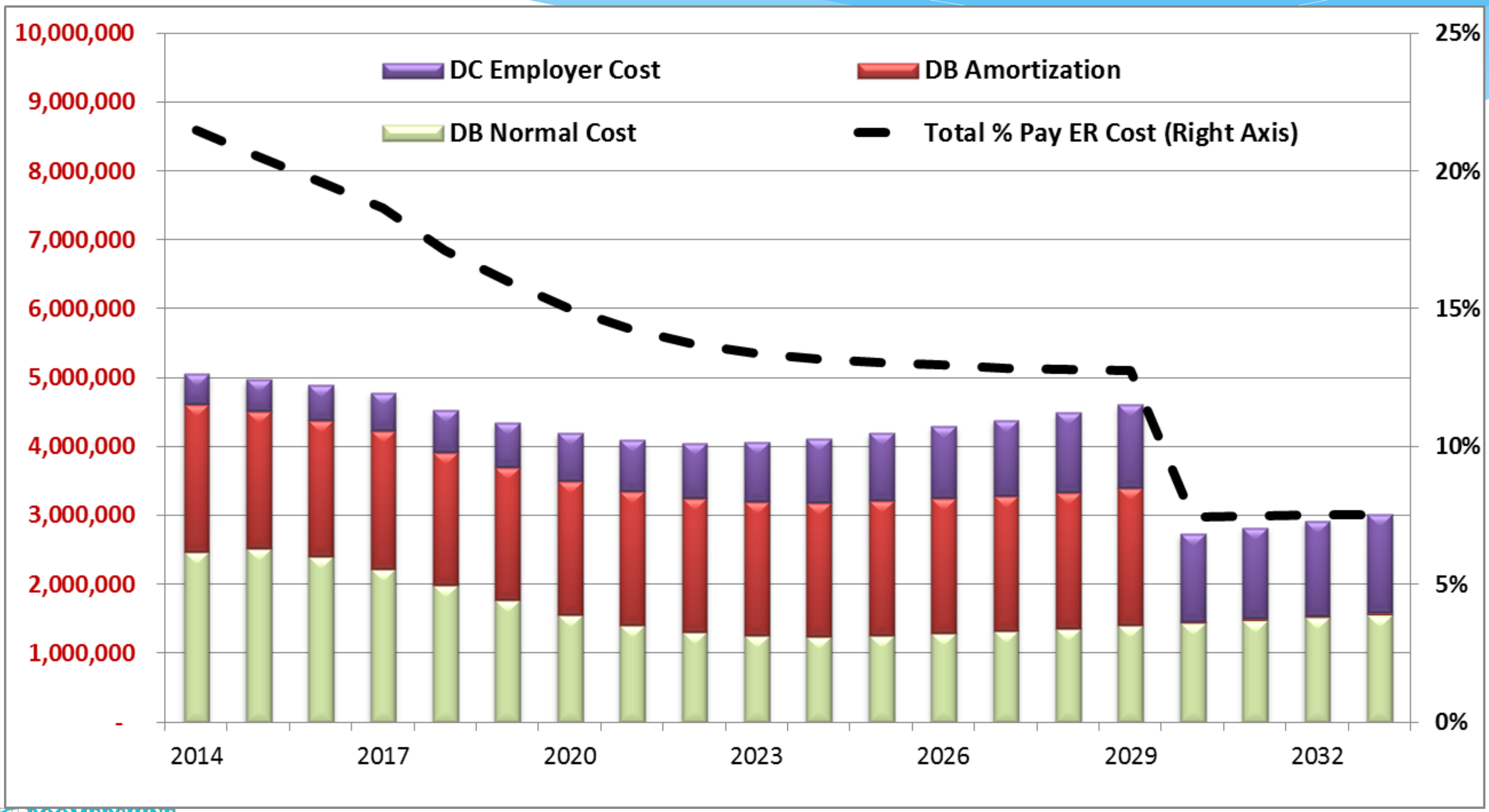
NEW HIRE Changes

AFTER



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NEW HIRE Changes

- PROBLEM: Does NOT address unfunded liability
- DOES change expected pension contributions, but…
- Does NOT change expected funding progress in most cases

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Closed Plan

- Closed Plan: NO new entrants at all after a certain date
- Decreasing payroll
  - Normal cost will go along with it
- Benefit payments will peak, then decline
- Larger portion of plan (eventually 100%) will be retiree liabilities
  - **Asset allocation likely to be revised eventually**

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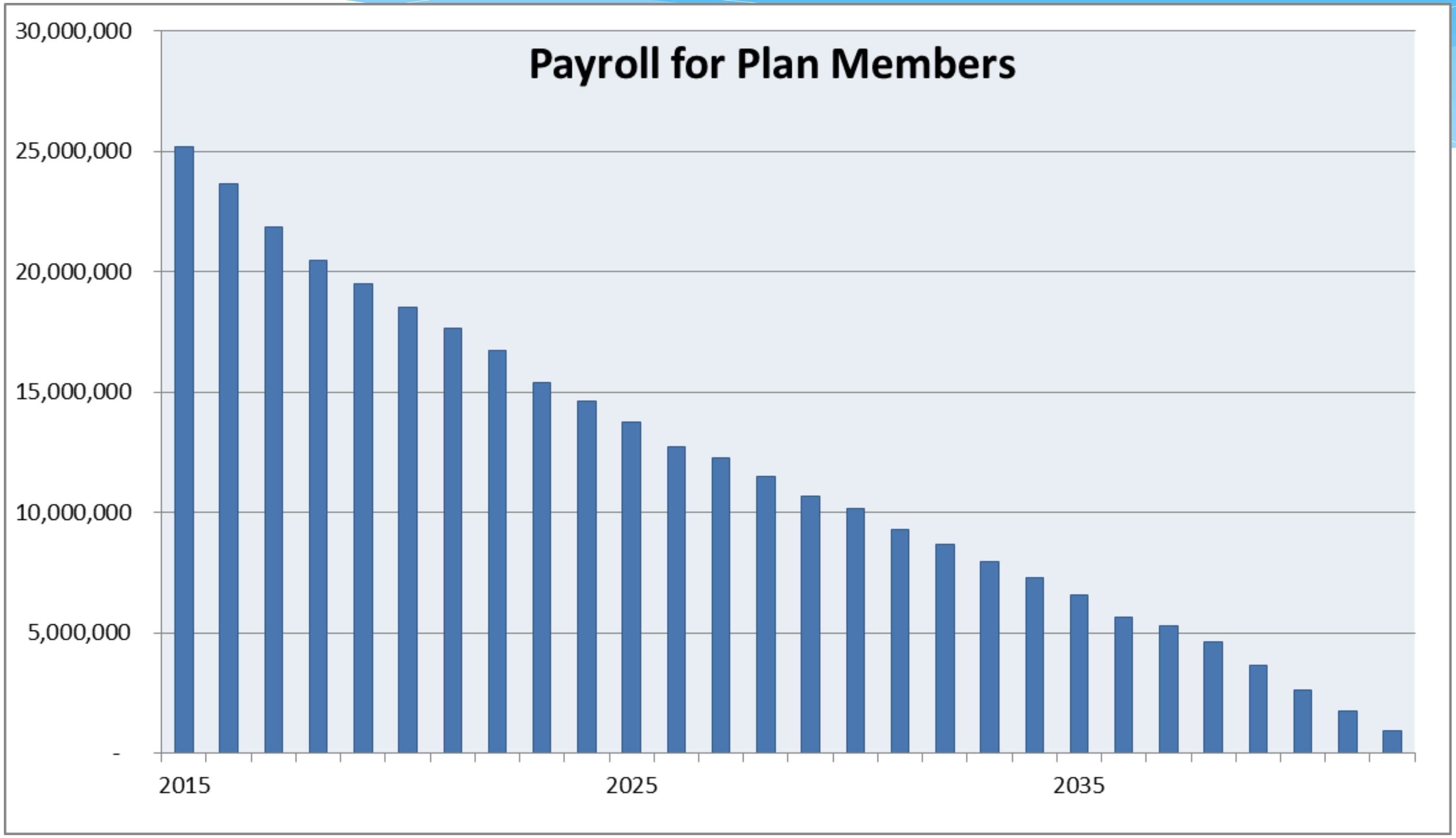
Closed Plan Implications



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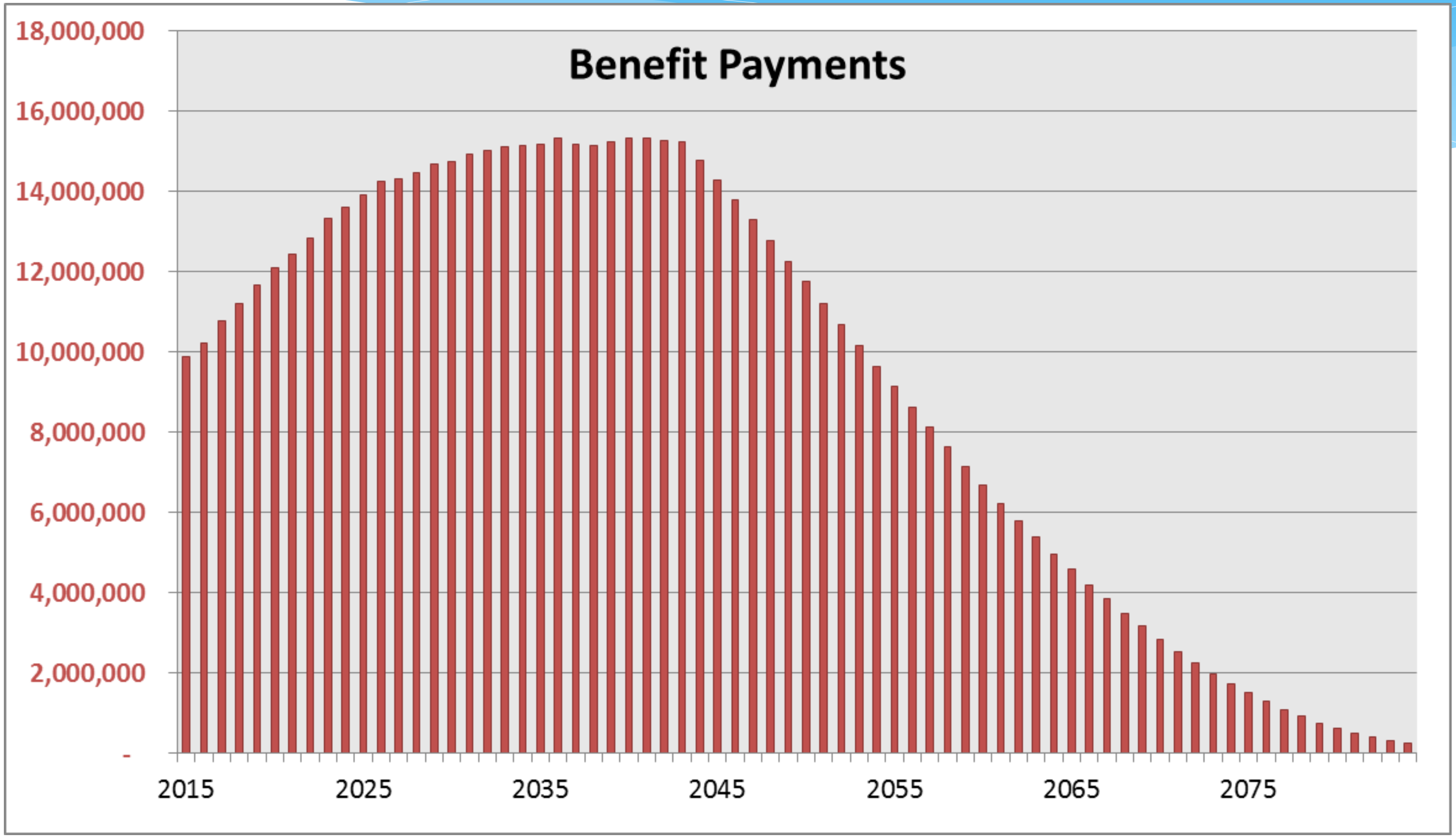
Closed Plan Implications



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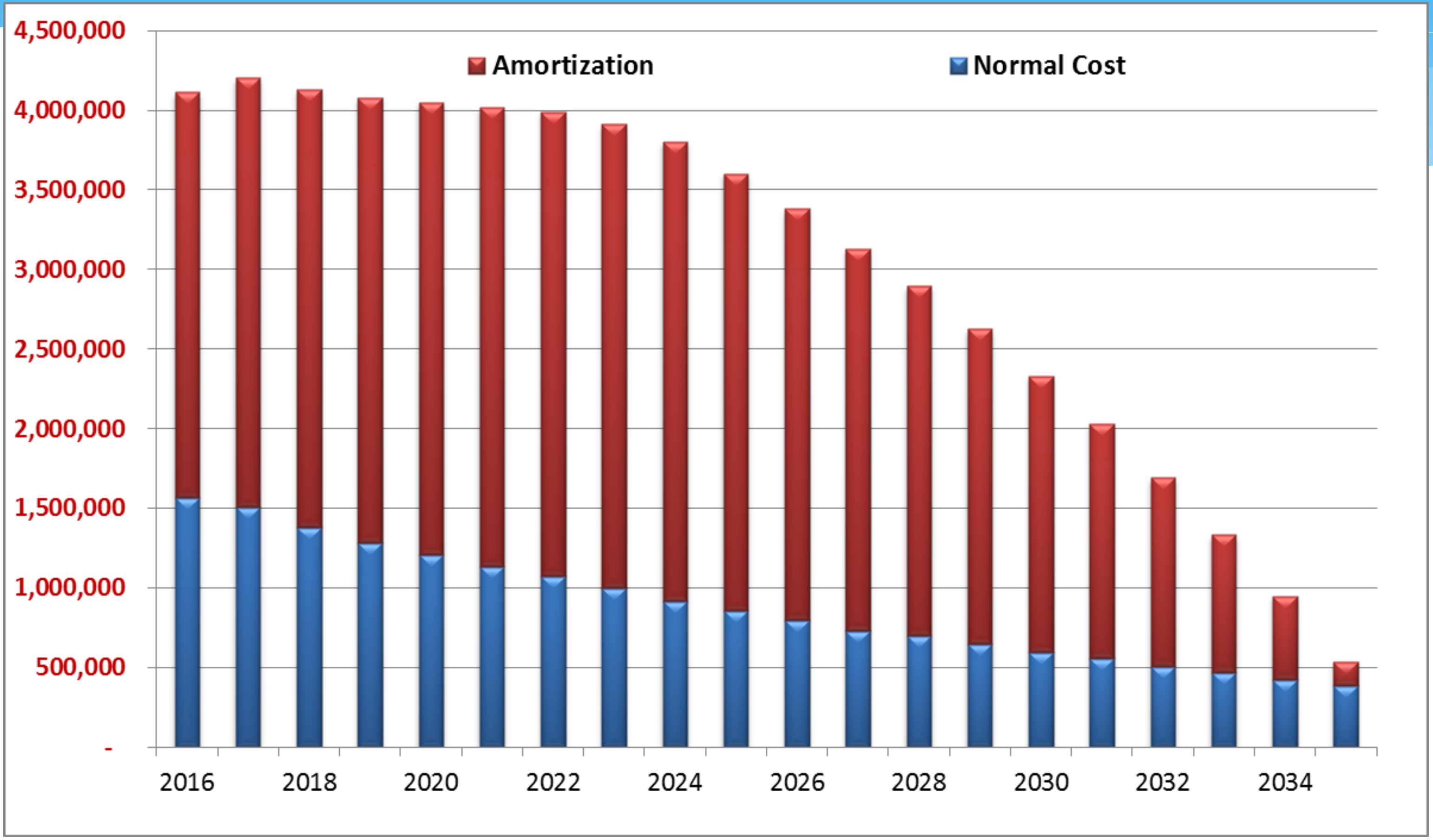
Closed Plan Cost Outlook



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www.nelsontoons.com
AND THIS IS TOM. HE DOES OUR ACTUARIES.
I'LL BET HE'S GOOD AT IT.
Nelson © 2003

2. Pension Obligation Bonds

- How it is supposed to work:
  - Borrow large sum of money at 3% or 4%
  - Put money into pension fund to improve funding
  - Earn 7%, while paying the lower rate debt service

- Is this arbitrage?
  - NO

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Pension Obligation Bonds

* How it has worked:
  * 20 large POB issuances since 1996
  * 70% used POB to pay ARC!
  * 80% shortchanged the ARC later!
  * Not surprisingly, 80% ended up in worse shape
  * Of the 4 that did it the “right way”, only 2 ended up better off – WHY?
    * Answer: Timing

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3. Benefit Reductions

- Benefit Reduction: A decrease in the monthly pension for retirees
- This is a last resort
- Usually done in connection with, or to avoid bankruptcy
  - **Prichard, Alabama**
  - **Central Falls, Rhode Island**
  - **Detroit**
- Legal issues abound!

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IV. How to Fix It:

Any Other Ideas?

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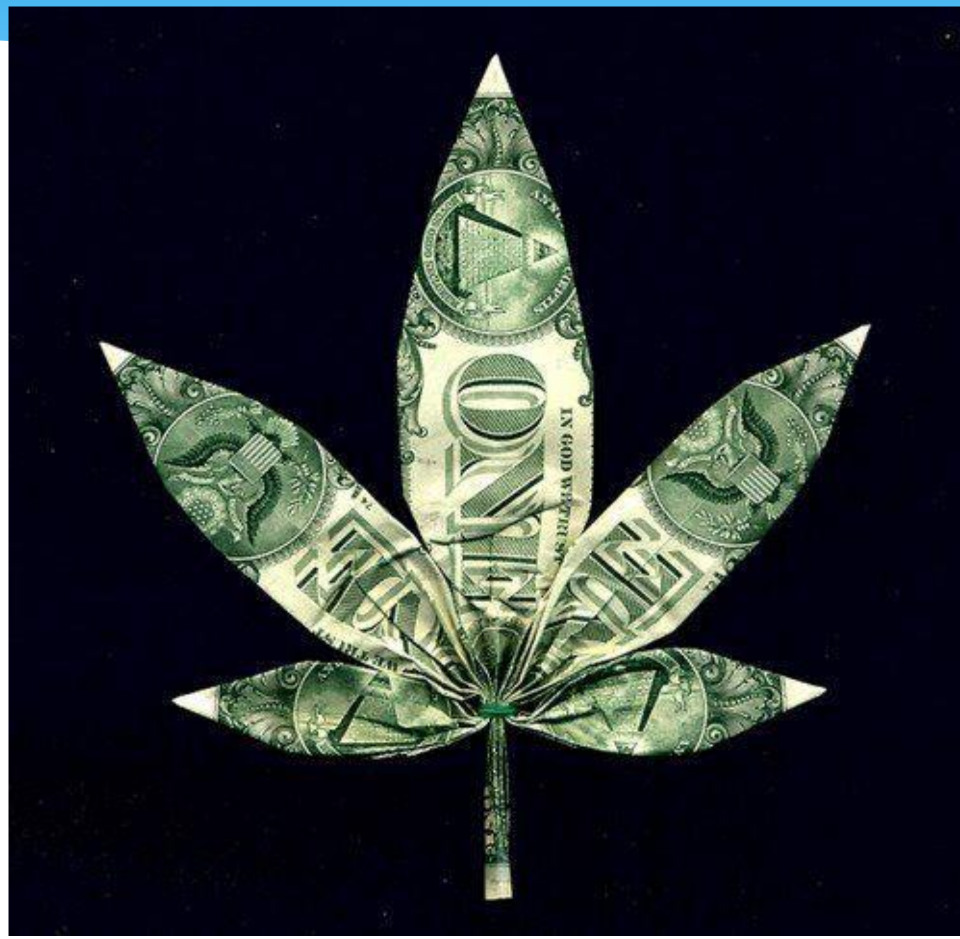
Pot for Pensions



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Gambling for Pensions

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Sell, Lease Assets

Pension Shortfalls: How to Fix It

1. Figure out <u>how you got there.</u>
2. <u>Be real</u> about assumptions.
3. Figure out what happens <u>if you are right</u> about the future.
4. Align methods with <u>funding improvement</u> goals (balancing cost considerations).
5. Bring stakeholders together to lay out and discuss <u>all options.</u>
6. Know the impact <u>before</u> implementation!

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