

Presentation of the Actuaries to the Joint Committee Public Retirement & Social Security Programs

2019 Arkansas Legislative Session

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Purpose

- To provide an overview of all of the Arkansas Retirement Systems and define the terms used when discussing these systems.
- Note 1: The LOPFI and local fire and police plans are 12/31/17 year end, all others are 6/30/18 year ends.
- Note 2: The ATRS numbers shown are 6/30/2017, all other 6/30/2018

This is Important Work! Participants in Arkansas Retirement

	APERS	Judicial	State Police	Teachers	Highway	LOPFI*	Local Fire & Police*
Actives	46,207	139	43(T1) 424(T2)	68,337	3,343	6,651 P 7,341 V	4 P 15 V
Deferred Vesteds	13,856	5	84	12,401	211	3,736 P 3,778 V	0
DROPs	1,439	0	61	3,811	369	350	2
Retired	35,959	147	668	45,092	3,436	2,539 P 2,633 V 1,694 PC 1,202 VC	810 P 752 V
Total	97,461	291	1,280	129,641	7,359	29,924	1,583

* (P)aid, (V)olunteer, (C)onsolidated with LOPFI

The work of this committee affects the lives of over 267,000 Arkansans.

Arkansas Retirement Systems

- 1 out of every 9 adults directly benefits from these retirement systems
- 95,000 of the 267,000 participants (35%) are retired members receiving benefits
- ARTRS will pay over \$1.1 Billion to retired members this year
- APERS will pay over \$530 million to retired members this year
- In total, the Retirement Systems will pay retired members \$1.9 Billion this year

Arkansas Retirement Systems

- Arkansas provides benefits predominantly through Defined Benefit (DB) plans. These plans **define** a monthly benefit to be paid at retirement.
- Arkansas does not use Defined Contribution (DC) plans, like the profit sharing or 401k plans with which many people are familiar, for the primary retirement benefit.

Defined Benefit vs. Defined Contribution



Defined Benefit Plans define the amount of money that comes out of the plan (benefits)

Defined Contribution Plans define the amount of money that goes into the plan (contributions)



Arkansas Retirement Systems

- ***In addition***, most employees in Arkansas Retirement Systems have employer sponsored salary deferral plans available [457 or 403(b) type plans].
- Act 452 of 2013 changed the state employees' plan (Arkansas Diamond Plan) to automatically enroll new state employees.

Pension Actuary 101

- **$C + I = B + E$**
- **C**ontributions plus **I**nterest Income Equals
- **B**enefits plus **E**xpenses
Or written another way,
- **$B = C + I - E$**

Pension Actuary 101 Defined Benefit Efficiencies

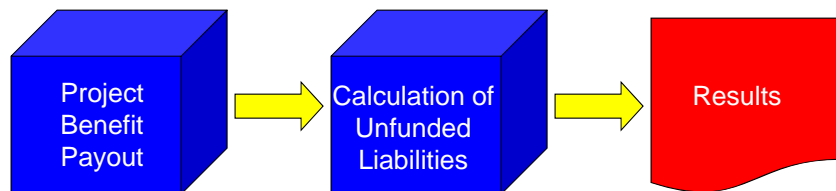
- **B = C + I - E**
- If we had a Defined Contribution system, where **C** is the same or smaller
- **I** would be smaller, usually about 1%/year
- **E** would be larger, usually 1%-1.5%/year
- Then: **B**enefits would be reduced
- Estimates suggest **B**enefits would only be about 70-75% of what they are now.

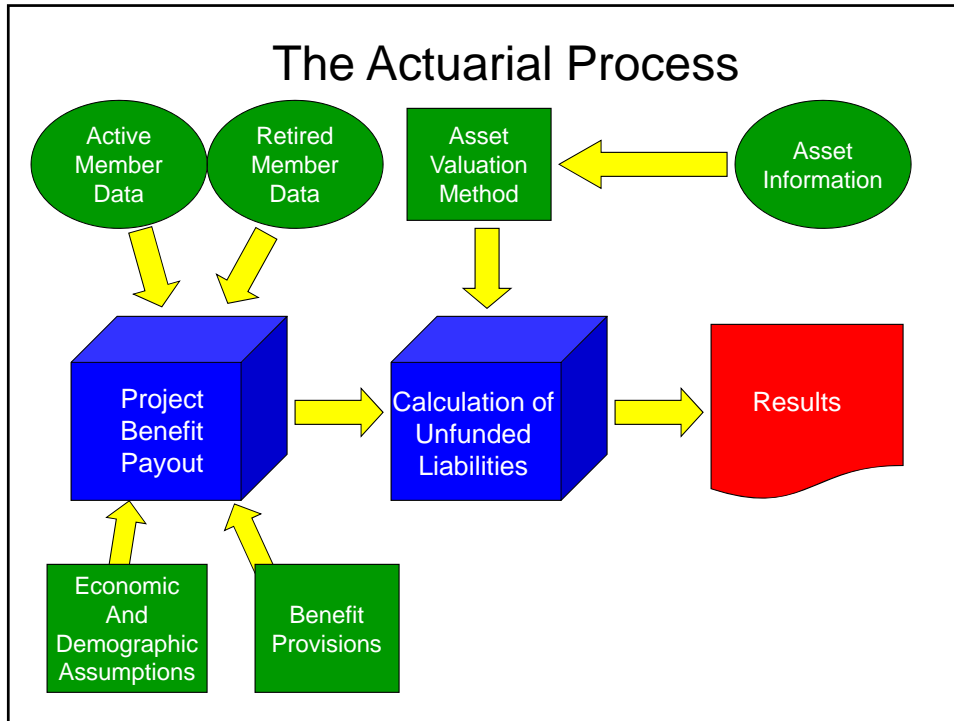
**When properly managed,
Defined Benefit Plans
are the most efficient use
of taxpayer money to
provide retirement benefits**

Pension Actuary 101 Example of APERS

- Arkansas Public Employees Retirement System, 7/1/1999 – 6/30/2016
- Over these 17 years, the state has put in about \$3.0 billion
- For every \$1 state contribution, \$1.63 (\$4.8 billion) was paid back to Arkansans in benefits
- Another \$1.17 (\$3.5 billion) was put aside for future benefits.

The Actuarial Process





Actuarial Assumptions

Assumption	Type of Assumption	If this changes	Cost of Plan goes
Interest (Discount) Rate	Economic	↑	↓
Price Inflation	Economic	↑	↑
Salary Increases	Economic	↑	↑
Retirement Age	Demographic	↑	↓
Life Expectancy	Demographic	↑	↑
Turnover Rate	Demographic	↑	↓
Disability Rate	Demographic	↑	↑

Key Assumptions of Arkansas Retirement Systems

	APERS	Judicial	State Police	Teacher	Highway	LOPFI	Local Fire & Police
Interest Rate	7.15%	5.75%	7.15%	7.50%	8.00%	7.50%	5.00%
Inflation Rate/ Payroll Growth	2.50%/ 3.25%	2.50%/ 3.25%	2.50%/ 3.25%	2.50%/ 2.75%	2.50%/ 3.00%	2.50%/ 3.25%	3.00%
Mortality	125/135/ RP2014 MP2017 Inprov	RP2014 MP2016 Improv	125/135 RP2014 MP2017 Inprov	101/91% RP2014 MP2017 Inprov	105%BC RP2000 ScaleAA	125/135 RP2014 MP2016 Inprov	83 GAM

Do the methods and
assumptions change the ultimate
cost of the Pension Plan?

NO

Do the methods and
assumptions really matter?

Absolutely YES

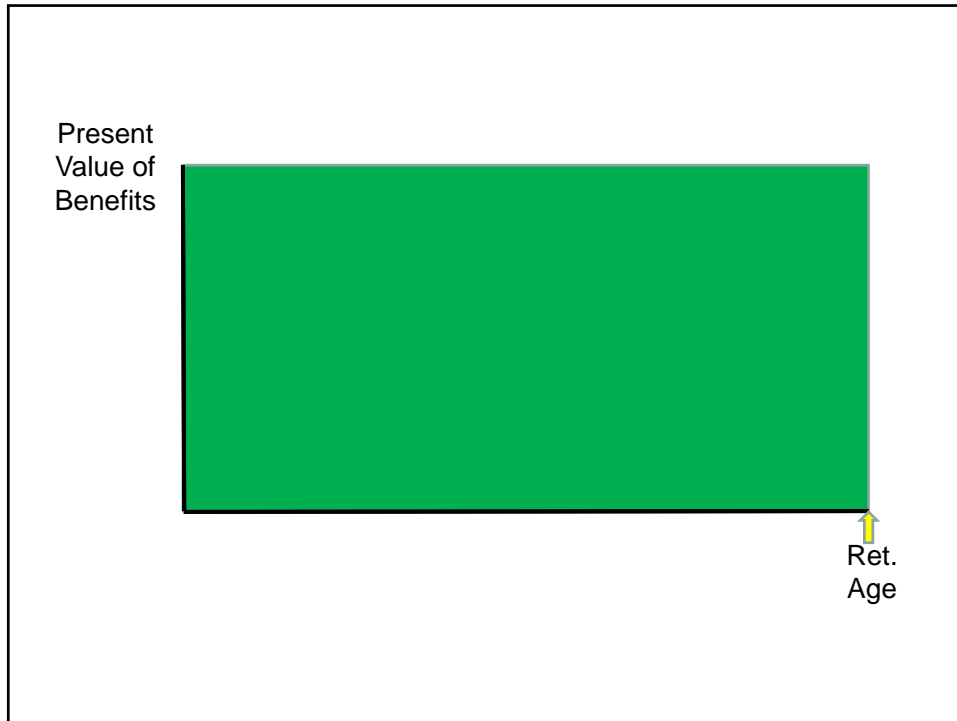
Financial Objective, A.C.A. 24-2-701

- “to establish and receive contributions that, expressed as percentages of active member payroll, will remain approximately level from generation to generation of state citizens.”
- Contribution sufficient to cover:
 - Cost of benefit commitments made that year
 - Level payment over reasonable number of years to pay for unfunded commitments

Key Terms:

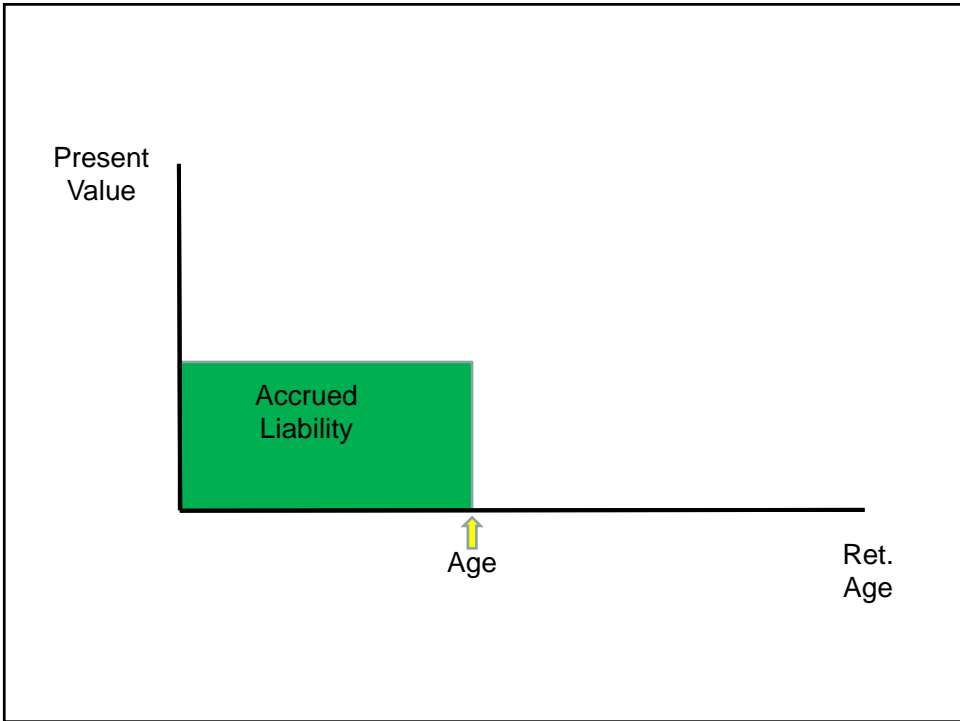
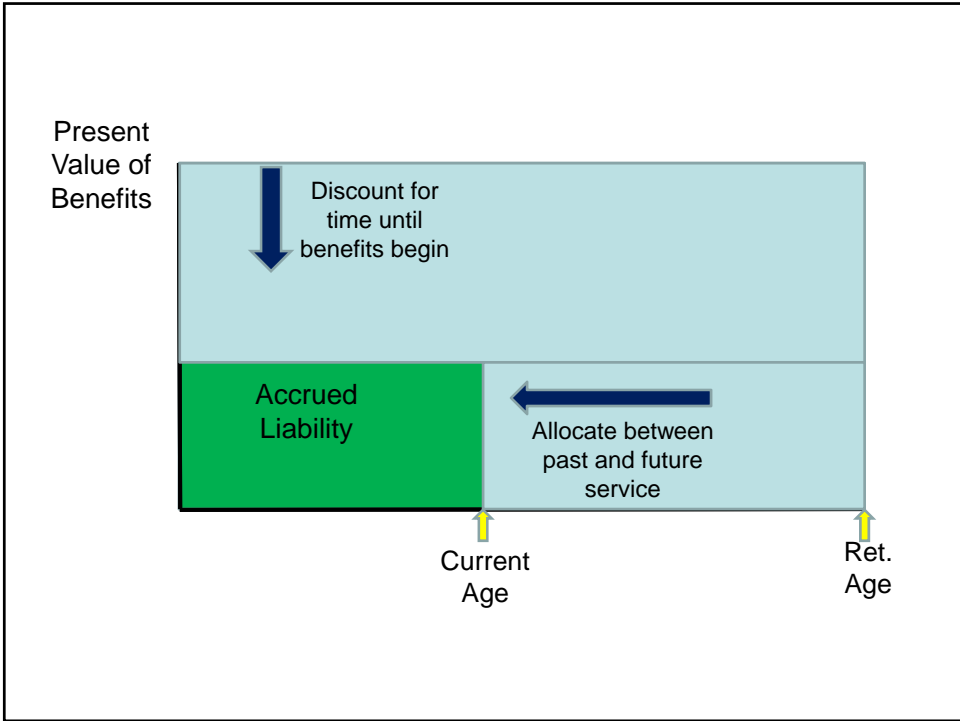
Present Value of Benefits

- The Actuary must first determine the Present Value of Benefits. This is putting a single number to the value of expected payments due to the participant.
- The payments are discounted to the date they are valued using the discount (investment) assumption.
- For someone at retirement age or after retirement, we can illustrate it like this:



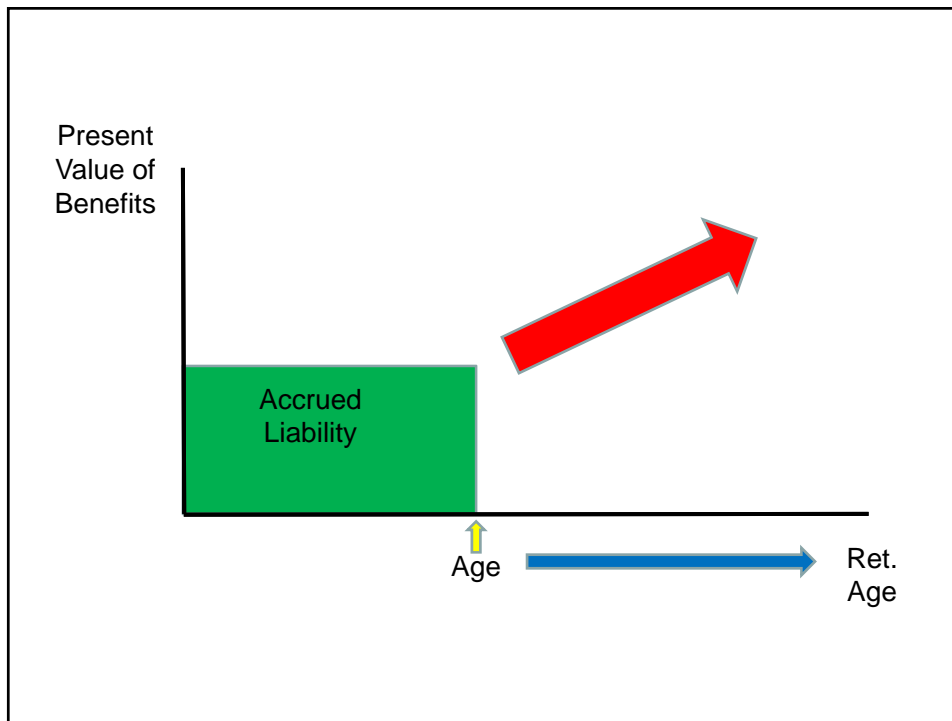
Key Terms: Accrued Liability

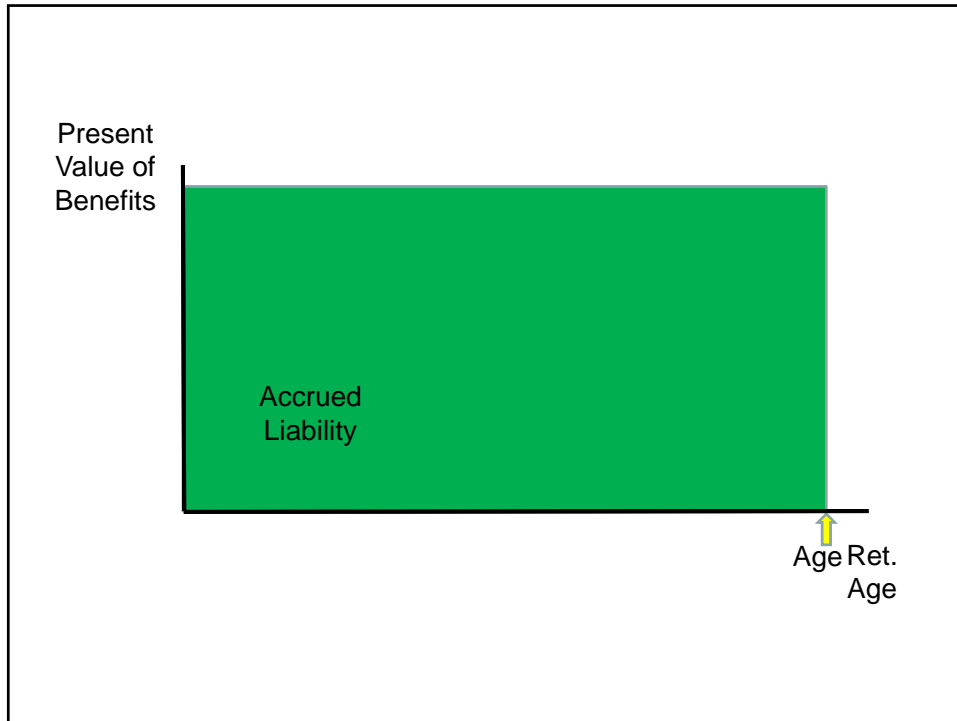
- The Actuary must then allocate (for an active participant) this present value of benefits between past service and service yet to be performed.
- The payments are discounted to the date they are valued using the discount (investment) assumption. They also recognize other decrements (e.g. death or disability)
- Our illustration would look like this:



Key Terms: Accrued Liability

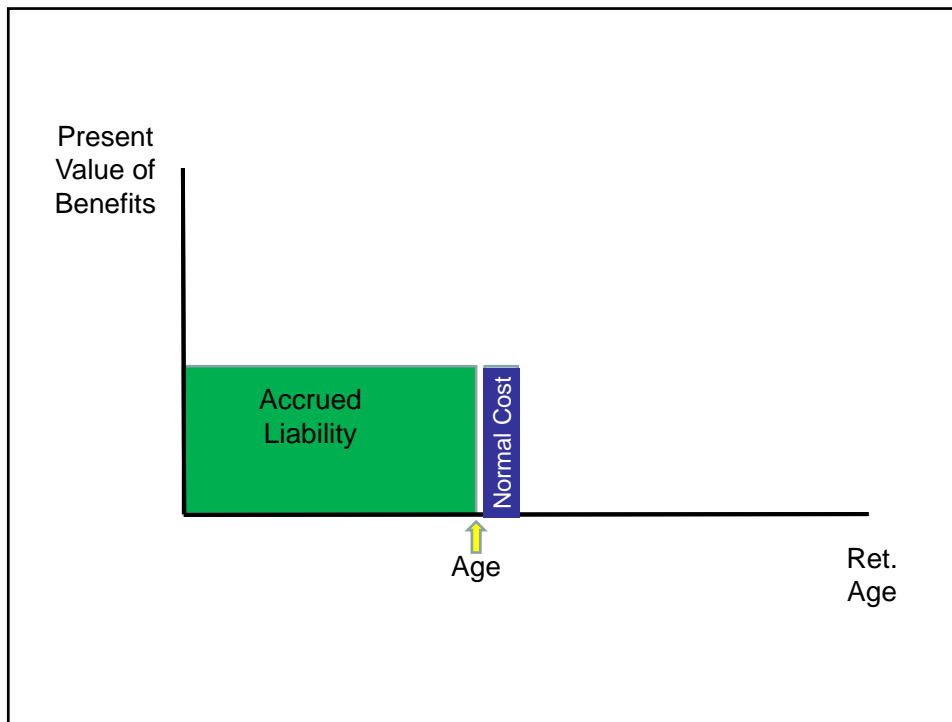
- This Accrued Liability (AL) or Actuarial Accrued Liability (AAL), sometimes Past Service Liability, would then grow over time of service until retirement.
- Over the work life of the participant, the AL grows until it is the same as the Present Value of Benefits at Retirement Age.
- Illustrated in the next slides:





Key Terms: Normal Cost

- The Normal Cost (NC) is the amount allocated to reflect the cost of the current year of service.
- Remember, “to fully cover the costs of benefit commitments being made to member for their service in that year”
- Continuing our illustration:

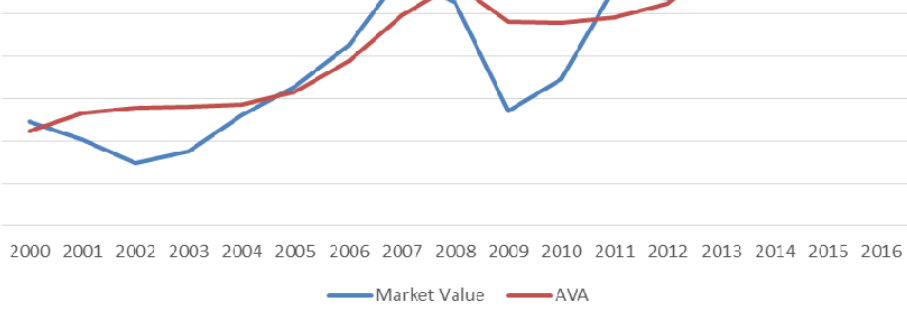


Key Terms: Actuarial Value of Assets

- The AVA is also called the Funding Value or Smoothed Value of Assets.
- This takes market gains and losses and averages or smooths them over 4 or 5 years in the Arkansas systems.
- The desired effect is that the calculated contribution is more predictable.

APERS: Market Value and Actuarial Value of Assets

The AVA (red) moves with the market (blue), but it is not as volatile as the market value of assets. As a result, contribution targets don't vary as much from year to year.



Present Value of Benefits

Accrued Liability

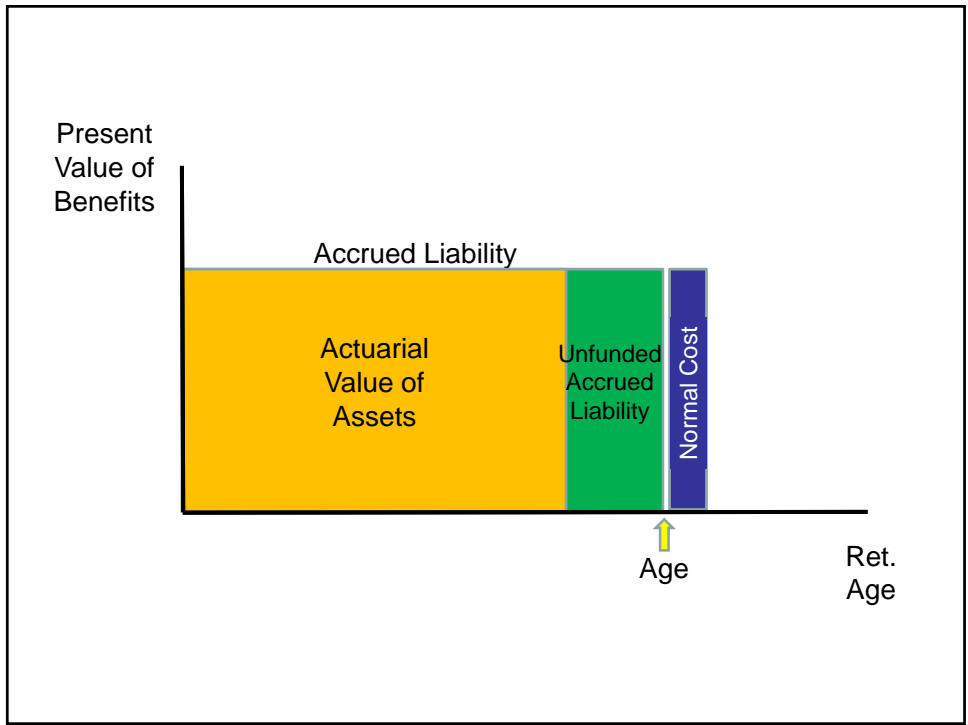
Actuarial Value of Assets

Unfunded Accrued Liability

Normal Cost

Age

Ret. Age



Key Terms:

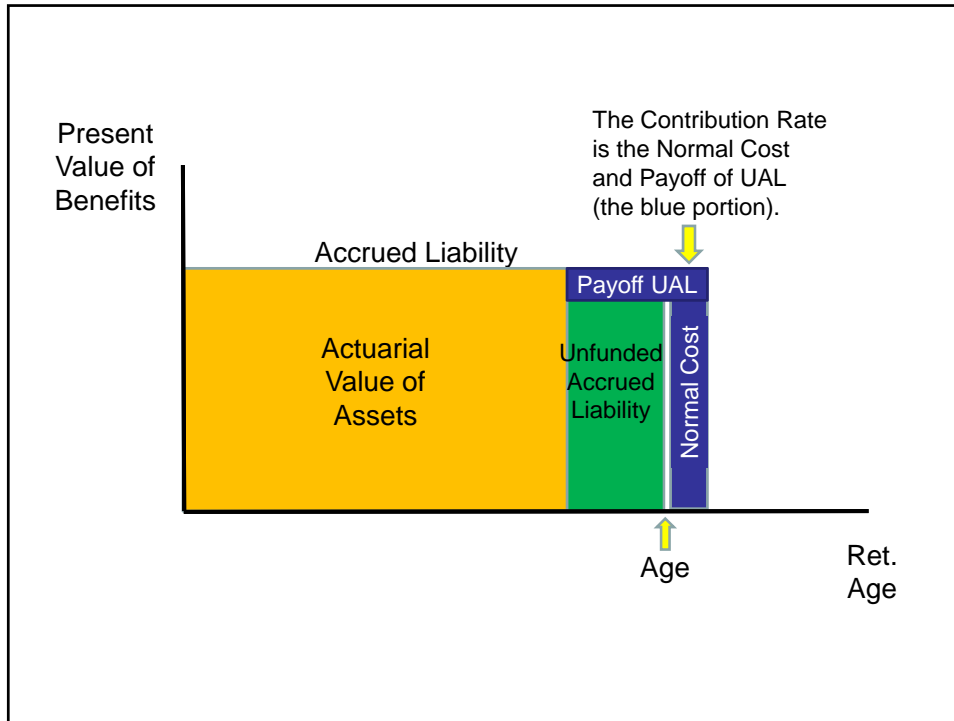
Unfunded Accrued Liability

- The Unfunded Accrued Liability (UAL) is the portion of the Accrued Liability not currently covered by the assets.
- The UAL is not a payable, as is if it were due today, but a long term obligation or target, like a variable bond.
- A payoff of the UAL over a reasonable period must be part of the funding target.

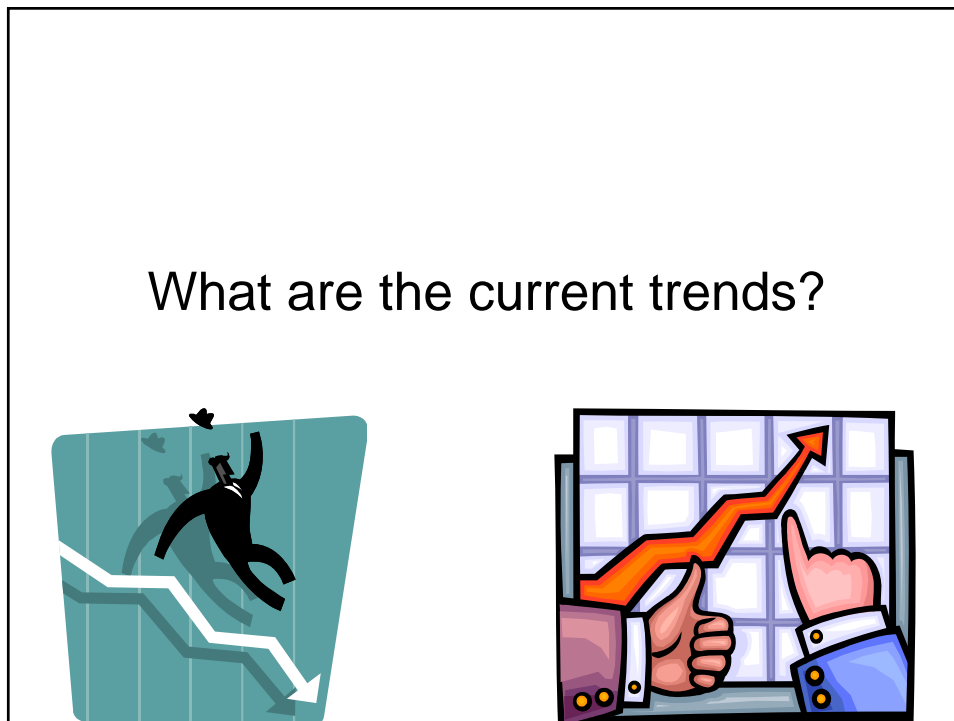
Key Terms:

Employer Contribution Rate

- A healthy plan has a Contribution Rate Policy that annually pays:
 - The Normal Cost
 - An amount to payoff the UAL in a reasonable time period (30 years or less)
- The Employer Contribution Rate is expressed as a percentage of payroll.



What are the current trends?



Public Plan Mortality

- Recently released study
- Will be considered in next round of assumption studies
- Teacher mortality found to be similar to white collar corporate mortality study
- Studied survivors separately and found mortality higher than same age retirees. That is, female widow age 75 has higher mortality rate than retired female age 75.

ASOP 51

- Actuarial Standard of Practice
- Assessment and Disclosure of Risks
- “The actuary should identify risks that, in the actuary’s professional judgment, may reasonably be anticipated to significantly affect the plan’s future financial condition.”
- “The actuary should assess the risks identified by the actuary...including the potential effects of the identified risks on the plan’s future financial condition.”

Questions?

Please call or e-mail anytime with your questions:

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GASB 67 & 68

- Government Accounting Standards Board
- Accounting Standards for Governmental plans have been implemented
- Liabilities may be valued at long-term bond interest rates
- Values assets at Market Value
- Changes amortization periods to worklife
- All for Reporting purposes, NOT Funding purposes.

GASB 68

- Net Pension Liability (usually UAL) reflected on the sponsoring entities' balance sheets
- Allocation of Net Pension Liability and Pension Expense to all participating sponsors (state, cities, counties, school districts)
- Discloses additional information: +/- 1% discount, cash flow test

Normal Retirement Age Regulation: still on hold

- Notice 2009-86 postponed effective date for Governmental Plans to plan years after 1/1/2013
- Notice 2012-29 continues postponement
- IRS is considering arguments about retirement after a number of years
- Otherwise, Rule says ages 55-62 need facts and circumstances test, and
- Less than 55 considered unreasonable.

Advantages of Qualified Plans

- Employer's contributions to the plan are tax deductible
- Participants are not taxed on contributions or earnings until distribution
- The earnings of the plan's trust are not taxable to the trust
- Often, accumulated benefits may be rolled over into another vehicle to ensure further favorable tax treatment

What is a Governmental Plan?

A plan established and maintained for its employees by:

- The U.S. Federal Government
- Any State or political subdivision thereof
- Any agency or instrumentality of the these governments
- Plans covered under the Railroad Retirement Act

So: the plans we are dealing with are Governmental Plans.

What makes a Governmental Plan Qualified?

Based on current law and earlier proposed regulations, here are 9 highlights; the plan must:

- Be established and maintained for the exclusive benefit of the employer's employees or beneficiaries
- Provide "definitely determinable benefits"
- Be operated pursuant to its terms
- Satisfy the direct rollover rules in section 401(a)(31)

What makes a Governmental Plan Qualified?

(continued) The plan must:

- Satisfy the section 401(a)(17) compensation limits
- Comply with the 401(a)(9) statutory minimum required distribution rules
- Satisfy pre-ERISA vesting requirements in 411(e)(2)
- Satisfy applicable section 415 limitations on benefits
- Satisfy the section 503 prohibited transaction rules