

# VALUATION ISSUES YOU MAKE THE CALL

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August, 2008



# ISSUE ONE

## Investment Return Assumption

# FACT PATTERN

- Your actuary has used an 8.5% investment return assumption since 1990.
- Your board issued a Request for Proposals for actuarial services.
- One of the actuaries bidding has proposed using an 8.0% assumption.

# CURRENT ASSET ALLOCATION

Cash	1%
Domestic Equity	40%
International Equity	15%
Fixed Income	25%
Real Estate	8%
Hedge Funds	7%
Alternative Investments	<u>4%</u>
	100%

# ASSET ALLOCATION PROJECTION

	<b>Allocation</b>	<b>Expected Return</b>	<b>Return by Category</b>
Cash	1%	2.0%	.02%
Domestic Equity	40%	8.0%	3.20%
International Equity	15%	8.0%	1.20%
Fixed Income	25%	6.0%	1.50%
Real Estate	8%	7.5%	.60%
Hedge Funds	7%	8.0%	.56%
Alternative Investments	4%	11.0%	.44%
	100%		7.52%

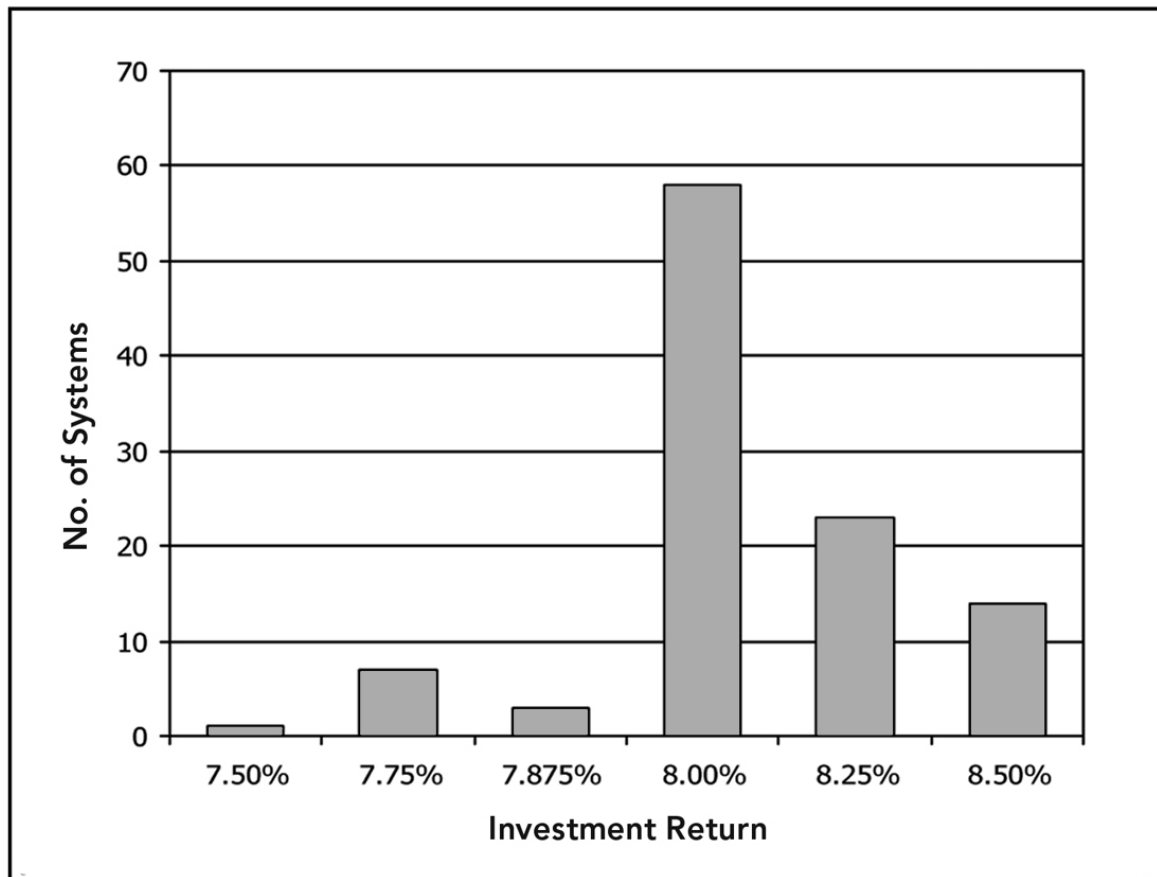
# REASONS TO MAINTAIN AN 8.5% ASSUMPTION

- Return has averaged 10% for 20 years.
- Asset allocation projections are short-term. Use them only as a guide.
- The cost!

# REASONS TO REDUCE ASSUMPTION TO 8.0%

- Trend is to decrease:
  - Only 12 systems are using 8.5%.

# CURRENT ASSUMPTION BY BOARD



Based on  
most recent  
actuarial  
valuation reports

# REASONS TO REDUCE ASSUMPTION TO 8.0%

- Trend is to decrease:
  - Only 12 systems are using 8.5%.
- “Past performance is no guarantee of future returns.”
- Asset allocation is the best information we have.
- The cost should not determine the assumption!

# IMPACT OF INVESTMENT RETURN ASSUMPTION

January 1, 2008 Valuation (in thousands)	8.0%	8.5%
1. Total Normal Cost	1,100	1,000
2. Employee Contributions	750	750
3. Net Normal Cost	350	250
4. Actuarial Liability		
a. Active	24,000	22,400
b. Retired	20,000	19,300
c. Total	44,000	41,700
5. Assets	33,000	33,000
6. Unfunded Liability: (4c) – (5)	11,000	8,700
7. Funded Ratio: (5)/(4c)	75.0%	79.1%
8. Amortization of Unfunded Liability (20 year level)	1,037	847
9. FY09 Appropriation: (3) + (8) (assumed payment date 1/1/09)	1,498	1,190

# THE COMPLETE PICTURE

- No gain or loss since last valuation:
  - FY09 appropriation prior schedule = 1190.
- At 8.0%:
  - 4.25% increasing amortization to 2028.
  - FY09 appropriation = 1190.

# HOW ABOUT A COMPROMISE?

- Reduce assumption to 8.25%.
- Move to 8.0% at the **next** valuation.
- Mitigate the immediate cost impact.



# YOU MAKE THE CALL

# ISSUE TWO

## Selecting a Funding Schedule – Actuarial Gain

# FACT PATTERN

- Your system is performing a January 1, 2008 actuarial valuation.
- There has been an overall gain since the 2006 valuation.
- Your actuary has presented two alternative funding schedules for consideration.

# SCHEDULE PARAMETERS

- Current schedule effective FY07.
- Both proposed schedules maintain the FY09 amount from current schedule.
- Both schedules approximate the current schedule (maintain the budget).
- Neither schedule uses the gain to decrease the schedule.

# SCHEDULE PARAMETERS

- The current schedule expires FY09.
  - 3.5% increasing to 2028.
- Alternative 1: **3.5%** increasing to 2024.
- Alternative 2: 1.5% increasing to **2028**.

Footnote: The above reflects the amortization basis of the unfunded liability only.

# SCHEDULE PARAMETERS

<b>Fiscal Year</b>	<b>Current</b>	<b>Alternative 1</b>	<b>Alternative 2</b>
2008	6,450		
2009	6,700	6,700	6,700
2010	6,975	6,950	7,000
2011	7,250	7,275	7,225



# YOU MAKE THE CALL

# ISSUE THREE

## Selecting a Funding Schedule – Actuarial Loss

# FACT PATTERN

- Your system is performing a January 1, 2008 actuarial valuation.
- There has been an overall loss since the 2006 valuation.
- Your actuary has presented two alternative funding schedules for consideration.

# SCHEDULE PARAMETERS

- Current schedule effective FY07.
- Both proposed schedules maintain the FY09 amount from current schedule.
- One schedule maintains the same amortization schedule (increases cost).
- One schedule approximates the current schedule (maintain the budget).

# SCHEDULE PARAMETERS

- The current schedule expires FY09:
  - 3.5% increasing to 2024.
- Alternative 1: **3.5%** increasing to **2024**.
- Alternative 2: **3.5%** increasing to 2028.

Footnote: The above reflects the amortization basis of the unfunded liability only.

# SCHEDULE PARAMETERS

<b>Fiscal Year</b>	<b>Current</b>	<b>Alternative 1</b>	<b>Alternative 2</b>
2008	6,450		
2009	6,700	6,700	6,700
2010	6,975	7,200	6,975
2011	7,250	7,550	7,250



# YOU MAKE THE CALL

# ISSUE FOUR

## Selecting a Funding Schedule – Actuarial Loss

# FACT PATTERN

- Your system is performing a January 1, 2008 actuarial valuation.
- There has been an overall loss since the 2006 valuation.
- Your actuary first presented two alternative funding schedules.
- The Board decided to maintain the budget and requested another alternative schedule.

# SCHEDULE PARAMETERS

- Current schedule effective FY07.
- Both proposed schedules maintain the FY09 amount from current schedule.
- Both schedules approximate the current schedule (maintain the budget).
- Some flexibility because not minimum schedule.

# SCHEDULE PARAMETERS

- The current schedule expires FY09:
  - 3.5% increasing to 2024.
- Alternative 1: **3.5%** increasing to 2028.
- Alternative 2: 4.5% increasing to **2024**.

Footnote: The above reflects the amortization basis of the unfunded liability only.

# SCHEDULE PARAMETERS

<b>Fiscal Year</b>	<b>Current</b>	<b>Alternative 1</b>	<b>Alternative 2</b>
2008	6,450		
2009	6,700	6,700	6,700
2010	6,975	6,975	6,950
2011	7,250	7,250	7,275



# YOU MAKE THE CALL

# ISSUE FIVE

## Selecting a Funding Schedule – Large Actuarial Loss

# FACT PATTERN

- Your system is performing a January 1, 2008 actuarial valuation.
- There has been a significant loss since the 2006 valuation.
- The plan was already using the minimum schedule (4.5% increasing amortization to 2028).
- Your actuary has presented an updated minimum schedule.

# SCHEDULE PARAMETERS

- Current schedule effective FY07.
- Proposed schedule maintains the FY09 amount from current schedule.
- The schedule is significantly greater than the current schedule.
- After discussions with the board, a phase-in schedule is produced.

# SCHEDULE PARAMETERS

- The current schedule expires FY09:
  - 4.5% increasing to 2028 (minimum schedule).
- Alternative 1: **4.5%** increasing to **2028**.
- Alternative 2: **4.5%** increasing to **2028**  
(phase-in).

Footnote: The above reflects the amortization basis of the unfunded liability only.

# PHASE-IN APPROACH

- Allows a system to get back on track over a 3 to 5 year period.
- Less than a minimum schedule.
- Must agree to lock in minimums for phase-in period.
- Minimums could increase if losses occur.

# PHASE-IN APPROACH

- Last resort.
- About 10 systems have used at one time.

# SCHEDULE PARAMETERS

<b>Fiscal Year</b>	<b>Current</b>	<b>Alternative 1</b>
2008	6,450	
2009	6,700	6,700
2010	6,975	8,400
2011	7,250	8,800
2012	7,550	9,200
2013	7,850	9,650
2014	8,150	10,100

# SCHEDULE PARAMETERS

Fiscal Year	Current	Alternative 1	Alternative 2
2008	6,450		
2009	6,700	6,700	6,700
2010	6,975	8,400	7,500
2011	7,250	8,800	8,200
2012	7,550	9,200	9,000
2013	7,850	9,650	9,700
2014	8,150	10,100	10,400



# YOU MAKE THE CALL

# ISSUE SIX

## Fully Funded Strategies

# FLASH FORWARD TEN YEARS

- 1/1/16 Funded ratio is 88%.
- Return in 2016 & 2017 15% each year.
- Over 100% funded 1/1/18.

# COMPARISON of VALUATION RESULTS

	1/1/16
1. Total Normal Cost	1,900
2. Employee Contributions	1,300
3. Net Normal Cost	600
4. Actuarial Liability	
a. Active	45,000
b. Retired	40,000
c. Total	85,000
5. Assets	75,000
6. Unfunded (overfunded) Liability: (4c)-(5)	10,000
7. Funded Ratio: (5)/(4c)	88.2%
8. Amortization of Unfunded Liability (10 year level)	1,380
9. FY17 Appropriation: (3) + (8) (assumed payment date 1/1/17)	2,138
10. FY19 Appropriation: (3) + (8) (assumed payment date 1/1/19)	2,212

# COMPARISON of VALUATION RESULTS

	1/1/16	1/1/18
1. Total Normal Cost	1,900	2,100
2. Employee Contributions	1,300	1,450
3. Net Normal Cost	600	650
4. Actuarial Liability		
a. Active	45,000	50,000
b. Retired	40,000	45,000
c. Total	85,000	95,000
5. Assets	75,000	100,000
6. Unfunded (overfunded) Liability: (4c)-(5)	10,000	(5,000)
7. Funded Ratio: (5)/(4c)	88.2%	105.3%
8. Amortization of Unfunded Liability (10 year level)	1,380	(689)
9. FY17 Appropriation: (3) + (8) (assumed payment date 1/1/17)	2,138	N/A
10. FY19 Appropriation: (3) + (8) (assumed payment date 1/1/19)	2,212	0

# FULLY FUNDED APPROACH

- Large range in appropriation.
- What should be appropriated?
  - How does maintain the budget work now?
  - Investment strategy – change asset allocation?

# FULLY FUNDED

- Nice problem to have.
- You made it!
- Some flexibility.

# RANGE IN APPROPRIATION

- 0
- 702 Normal cost plus negative amortization.  
Normal cost (with interest).
- 2,212 Prior schedule amount (maintain the budget).

# PERAC RECOMMENDATION

- 1,500 – 2,000, depending on circumstances.
  - Assumptions (specifically investment return).
  - Treatment of expenses:
    - Administrative.
    - Investment-related.

# FULLY FUNDED ISSUES

- Results highly leveraged.
- Changes run to the bottom line.
- Once budget is reduced, difficult to resume.
- Things can change in a hurry:
  - Assume investment return of 0% in 2018 & 2019.

# COMPARISON of VALUATION RESULTS

	1/1/16	1/1/18
1. Total Normal Cost	1,900	2,100
2. Employee Contributions	1,300	1,450
3. Net Normal Cost	600	650
4. Actuarial Liability		
a. Active	45,000	50,000
b. Retired	40,000	45,000
c. Total	85,000	95,000
5. Assets	75,000	100,000
6. Unfunded (overfunded) Liability: (4c)-(5)	10,000	(5,000)
7. Funded Ratio: (5)/(4c)	88.2%	105.3%
8. Amortization of Unfunded Liability (10 year level)	1,380	(689)
9. FY19 Appropriation: (3) + (8) (assumed payment date 1/1/19)	2,212	0
10. FY21 Appropriation: (3) + (8) (assumed payment date 1/1/21)	2,293	0

# COMPARISON of VALUATION RESULTS

	1/1/16	1/1/18	1/1/20
1. Total Normal Cost	1,900	2,100	2,330
2. Employee Contributions	1,300	1,450	1,600
3. Net Normal Cost	600	650	730
4. Actuarial Liability			
a. Active	45,000	50,000	55,000
b. Retired	40,000	45,000	51,000
c. Total	85,000	95,000	106,000
5. Assets	75,000	100,000	100,000
6. Unfunded (overfunded) Liability: (4c)-(5)	10,000	(5,000)	6,000
7. Funded Ratio: (5)/(4c)	88.2%	105.3%	94.3%
8. Amortization of Unfunded Liability (10 year level or to 2028)	1,380	(689)	967
9. FY19 Appropriation: (3) + (8) (assumed payment date 1/1/19)	2,212	0	N/A
10. FY21 Appropriation: (3) + (8) (assumed payment date 1/1/21)	2,293	0	1,833

# FY19 DECISION

- Board agrees 1,500 to 2,000 is the right thing to do.
- Several schedules being considered in this range.
- Last minute strong push by officials to reduce appropriation to 800.
- You are the deciding vote.



# YOU MAKE THE CALL

# ISSUE SEVEN

## Pension and Other Post Employment Benefits (OPEB)

# PENSION AND OPEB

- OPEB not under purview of board.
- Pension funding not in a vacuum.

# FACT PATTERN

## Current Situation

Pension (funding)	1,600	(4.5% increasing to 2023)
OPEB (pay-as-you-go)	350	
Total	1,950	

# FACT PATTERN

## Fund OPEB

Pension (funding)	1,600	(4.5% increasing to 2023)
OPEB (funding)	<u>700</u>	(4.5% increasing to 2038)
Total	2,300	

# FUNDING PENSION and OPEB

To fund both: 1,950 to 2,300 (18% increase).

Other options:

- Don't fund OPEB (short-sighted).
- Fund OPEB after pension is fully funded:
  - Maintain total budget.
- Extend pension (oversight problem).

# FACT PATTERN

## Current Situation

Pension (funding)	1,375	(4.5% increasing to 2028)
OPEB (funding)	<u>700</u>	(4.5% increasing to 2038)
Total	2,075	

# STATE vs. LOCAL

- Example reflects approximate State results:
  - Pension: State & Teachers.
  - OPEB: State.
- More difficult for local systems:
  - Teachers included.
  - Many already on minimum schedule.

# FACT PATTERN

- Appropriation payment 5.0 million (3.0% increasing to 2020).
- Board takes a vote to:
  - Reduce 5.0 million to 4.5 million by extending schedule.
  - Put 500,000 into OPEB fund.
- You are concerned town meeting will not approve 500,000 but the schedule will still be decreased.



# YOU MAKE THE CALL

# FUNDING ALTERNATIVES AND OVERSIGHT

**Who should be responsible for OPEB funding?**

- A. Retirement board responsible for OPEB funding (amend c.32)
- B. New OPEB board
- C. Comptroller/finance director/treasurer
- D. PERAC
- E. Other



# YOU MAKE THE CALL