



BUCK

# Public School Employees' Retirement System of Pennsylvania

## June 30, 2008 Actuarial Valuation Board Presentation

*December 12, 2008*

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# Agenda

Overview of 2007 - 2008 plan year

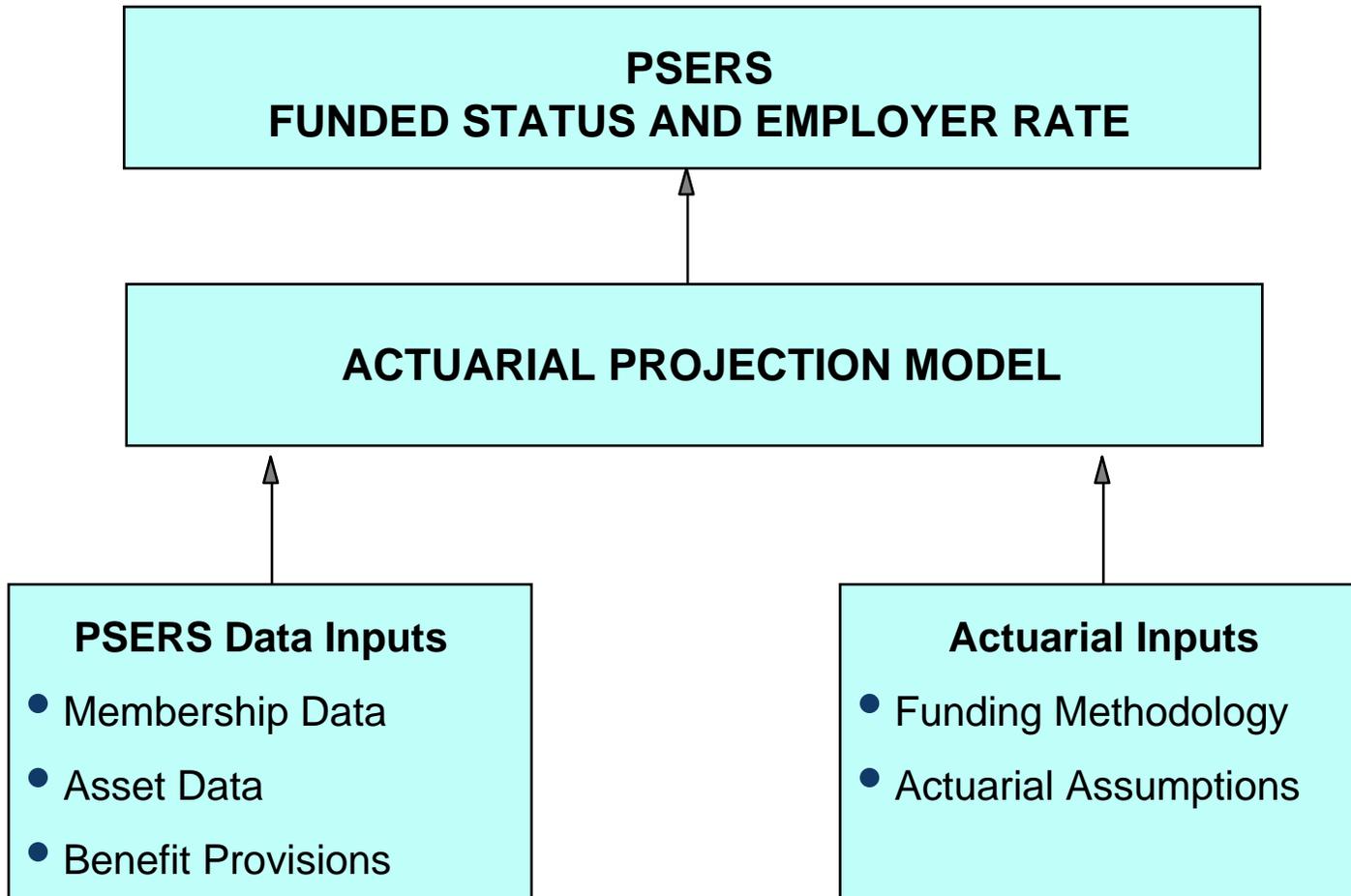
Report on June 30, 2008 valuation results

## Overview of 2007/2008 Plan Year

- Rate of return on market value of assets was (2.82)%  
*(per Wilshire)*
  - Expected return was 8.5%
- No plan changes

# Results of Actuarial Valuation

- Employer contribution rate for fiscal 2009/2010
  - Final Rate is 4.78%
    - 4.00% Pension plus 0.78% Premium Assistance
  - Rate without 4% Pension Rate Floor would be 2.69%
    - 1.91% Pension plus 0.78% Premium Assistance
  
- Security of promised benefits
  - Accrued liability exceeds assets by \$8.4 billion
  - Funded status is 87.9%
    - Funded status as of June 30, 2007 was 85.8%
  
- Net actuarial gain or loss
  - Comparison of actual experience to expected
  - Gain for fiscal year ended June 30, 2008 is \$1.894 billion
    - Asset gain of \$2.186 billion
    - Liability loss of \$0.292 billion



## Active Membership Statistics

<u>Item</u>	<u>June 2008</u>	<u>June 2007</u>
Number	272,690 +3.28 %	264,023
Annual salaries	\$ 11.921 Bil +4.5 %	\$ 11.410 Bil
Average compensation	\$ 43,718 +1.2 %	\$ 43,217
Average age	45.2 Yrs.	45.1 Yrs.
Average service	11.1 Yrs.	11.2 Yrs.
Funding Year	2009-2010	2008-2009
Appropriation Payroll	\$ 12.899 Bil	\$12.500 Bil

# Annuitant Membership Statistics

<u>Item</u>	<u>June 2008</u>	<u>June 2007</u>
Number		
Annuitants	157,656	152,361
Survivors and beneficiaries	8,449	8,266
Disabled annuitants	<u>7,435</u>	<u>7,399</u>
Total	173,540	168,026
	3.3%	
Annual annuities		
Annuitants	\$ 3.586 Bil	\$ 3.327 Bil
Survivors and beneficiaries	0.083 Bil	0.076 Bil
Disabled annuitants	<u>0.142 Bil</u>	<u>0.120 Bil</u>
Total	\$ 3.811 Bil	\$ 3.523 Bil
	8.2%	
Average annuities		
Annuitants	\$ 22,747	\$ 21,836
Survivors and beneficiaries	\$ 9,805	\$ 9,201
Disabled annuitants	\$ 19,144	\$ 16,266
Total	\$ 21,963	\$ 20,970
	4.7%	

## Market Value of Assets

<u>Item</u>	<u>June 2008</u>	<u>June 2007</u>
Beginning of year	\$ 67.438 Bil	\$ 57.328 Bil
Contributions	1.714	1.602
Benefits	(4.766)	(4.151)
Investment return	<u>(1.817)</u>	<u>12.659</u>
End of year	\$ 62.569 Bil	\$ 67.438 Bil
Rate of return <i>(per Wilshire)</i>	(2.82)%	22.93%
Expected rate of return	8.50%	8.50%

# Actuarial Value of Assets

1. Market value of assets 6/30/2008 \$ 62.569 Bil

2. Determination of deferred gain (loss)

Fiscal Year	Gain (Loss)	Percent Deferred	Deferred Amount
2007/2008	\$ (6.545) Bil	80 %	\$ (5.236) Bil
2006/2007	8.300	60	4.980
2005/2006	3.658	40	1.463
2004/2005	1.722	20	.344
	<u>\$ 7.135 Bil</u>		<u>\$ 1.551 Bil</u>

3. Actuarial value of assets 6/30/2008  
(1) - (2) \$ 61.018 Bil

4. Rate of return on actuarial value 12.43 %

5. Expected rate of return 8.50 %

# Actuarial Cost Method

- PSERS cost method
  - Entry age normal
  - Required by code
- Entry age normal method - allocation of reserve over members' working lifetime
  - Pension benefit earned during year (normal cost)
  - Payment toward unfunded accrued liability
- Goal - full reserve at retirement

## Accrued Liability

<u>Item</u>	<u>June 2008</u>	<u>June 2007</u>
Annuitants and inactives	\$ 35.038 Bil	\$ 33.193 Bil
Active members	34.260	33.303
Health care payments	<u>.096</u>	<u>.097</u>
Accrued liability	\$ 69.394 Bil	\$ 66.593 Bil

## Unfunded Accrued Liability and Funded Status

<u>Item</u>	<u>June 2008</u>	<u>June 2007</u>
Accrued liability	\$ 69.394 Bil	\$66.593 Bil
Actuarial assets	<u>61.018</u>	<u>57.155</u>
Unfunded accrued liability	\$ 8.376 Bil	\$ 9.438 Bil
Funding period range*	3 yrs - 30 yrs	4 yrs – 30yrs
Funded status	87.9 %	85.8 %

\*The UAL is made up of separate components, established on different dates. The period needed to complete the amortization of components established in prior valuations declines by one year each year. The 3 and 4 year periods above are for the 2002 COLA, which will be completely amortized by 6/30/2012. 30 years are needed to amortize new gains or losses recognized in each valuation.

# Employer Contribution Rate

<u>Rate Component</u>	<u>June 2008 (FY 2009/2010)</u>	<u>June 2007 (FY 2008/2009)</u>
Normal cost rate	13.98 %	13.97 %
Member rate (average)	<u>(7.32 )</u>	<u>(7.29 )</u>
Employer normal cost rate	6.66 %	6.68 %
Unfunded accrued liability rate	<u>(4.75 )</u>	<u>(3.37 )</u>
Preliminary pension rate	1.91 %	3.31 %
Final pension rate <i>(Includes 4% contribution floor provided by Act 40)</i>	<b>4.00 %</b>	<b>4.00 %</b>
Health insurance rate	<u>.78</u>	<u>.76</u>
Total	<b>4.78 %</b>	<b>4.76 %</b>

# Funding Methodology

## Goal - Full Reserve at Retirement

Benefit	Annual Cost	Rate Component
Projected Retirement Benefit	Constant % Pay	Normal Cost Rate
Accrued Benefit: (1) Retroactive Benefit Improvements for Active Members (Excluding Act 9 Benefits)	10-Year Amortization Level Dollar Payment	Accrued Liability Rate
Act 9 Benefits	30-Year Amortization Level Dollar Payment	
(2) Retiree COLAs	10-Year Amortization Level Dollar Payment	Supplemental Liability Rate
(3) Actuarial Gains and Losses and Assumption Changes	30-Year Amortization Level Dollar Payment	Experience Adjustment Factor

## Unfunded Accrued Liability Rate

<u>Rate Component</u>	<u>June 2008 (FY 09/10)</u>	<u>June 2007 (FY 08/09)</u>
Accrued liability rate	(12.57)%	(12.97)%
Supplemental liability rate	1.64	1.70
Experience adjustment factor	<u>6.18</u>	<u>7.90</u>
Unfunded accrued liability rate	(4.75)%	(3.37)%

## 2008 Net Actuarial (Gain)

1. Investment return (gain) (12.43% actuarial rate of return vs. 8.5% expected)	\$ (2,186) Mil
2. Experience (gains) and losses	
– New entrants and pickups	420
– Individual salary increases (average increase of 6.8% vs. 6.1% expected)	56
– Mortality	76
– Vested terminations (retirement/disability/terminations)	(80)
– Non-vested terminations	(189)
– Data/misc	<u>9</u>
– Total	\$ 292
3. Net actuarial (gain): (1) + (2)	\$ (1,894) Mil

# Health Insurance Account 2009/2010 Employer Rate

Estimated number of eligible annuitants in FY 2010/2011	122,300
Estimated number of eligible annuitants who elect coverage	80,718
1. Estimated balance at 6/30/2009	\$ 95.5 Mil
2. Disbursements FY 2009/2010	\$ 96.8
3. Disbursements FY 2010/2011	\$ 99.1
4. Required contribution: (2) + (3) – (1)	\$ 100.4
5. FY 2009/2010 membership payroll	\$ 12,899 Mil
6. Health insurance employer rate: (4) ÷ (5) (rounded up)	0.78%

## Notes:

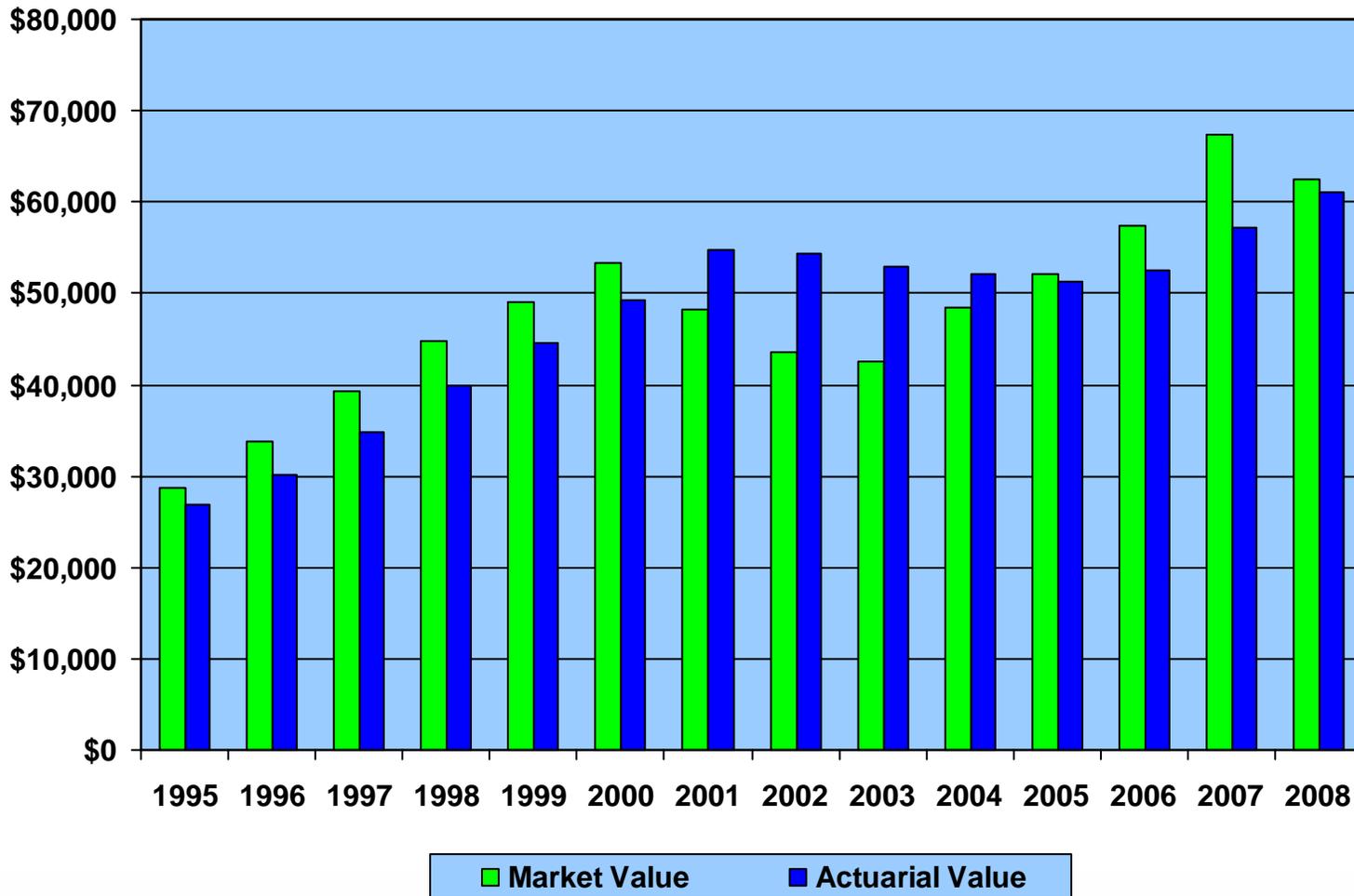
66% of eligible annuitants are assumed to elect coverage.

Actuarial Accrued Liability under GASB 43 is \$1,109 million

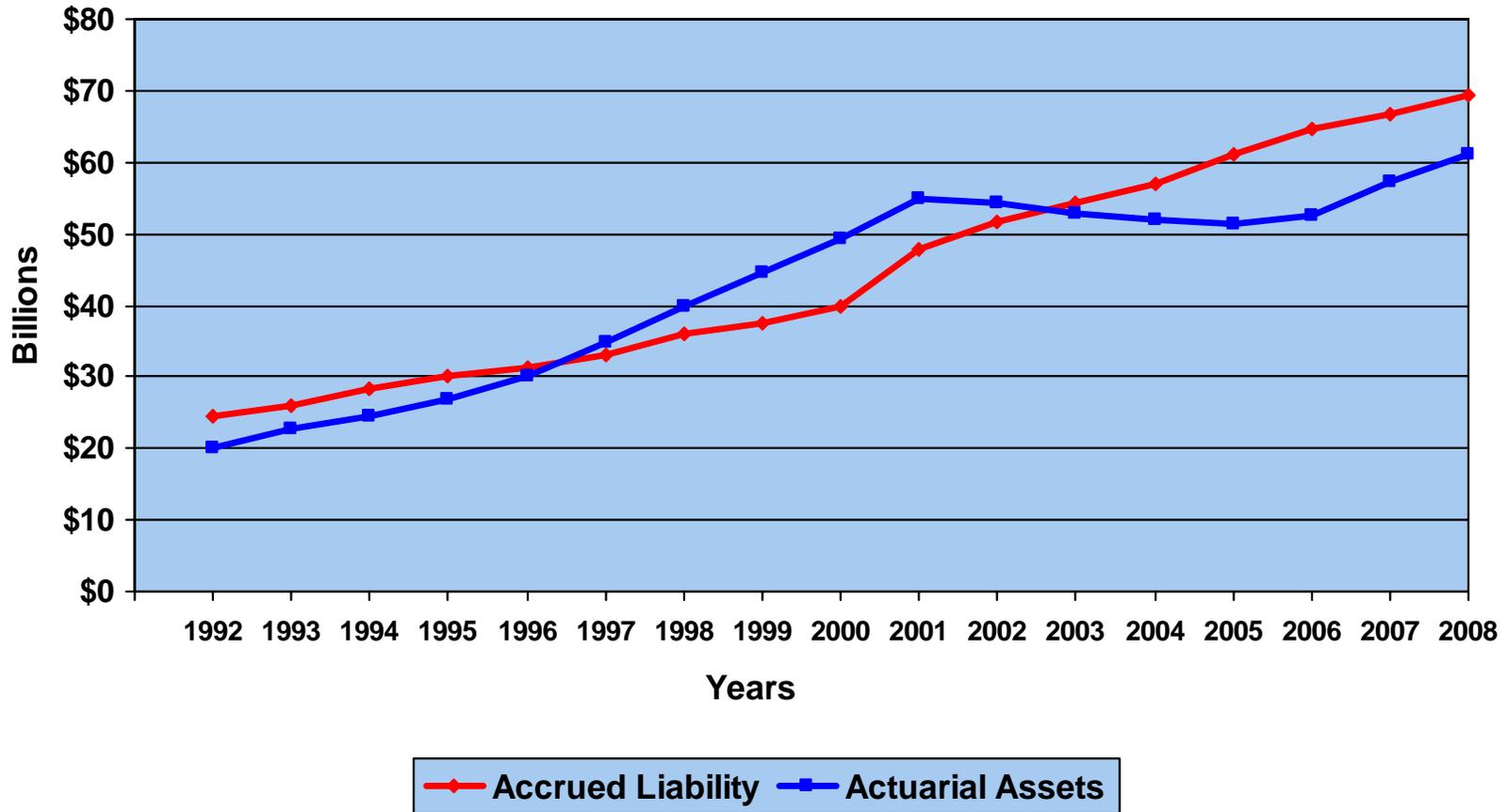
Annual Required Contribution under GASB 43 is 0.87%.

# Appendices

# Comparison of Asset Values (\$ Millions)

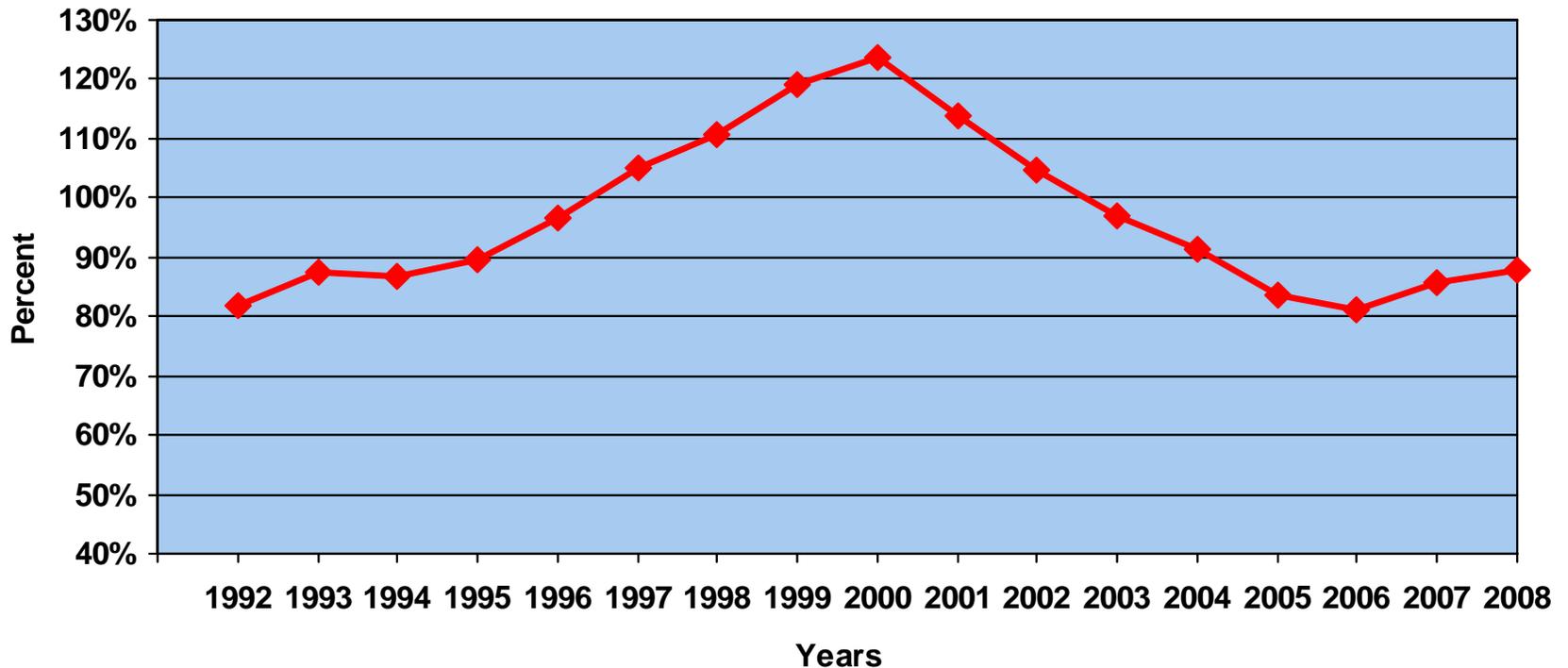


# Accrued Liability and Actuarial Assets – 1992 - 2008



# Financial Position Funded Status

## Assets as % of Accrued Liability - 1992 - 2008



# Total Contribution Rate

Fiscal Year	Normal Cost	Unfunded Accrued Liability	Health Care Contribution	Total Employer	Member Contribution (Average)*	Total Contribution Rate
09/10	6.66%	(4.75)%	.78%	4.78%	7.32%	12.10%
08/09	6.68	(3.37)	.76	4.76	7.29	12.05
07/08	6.68	(.24)	.69	7.13	7.25	14.38
06/07	6.62	(.95)	.74	6.46	7.21	13.67
05/06	7.61	(4.28)	.69	4.69	7.16	11.85
04/05	7.48	(7.10)	.23	4.23	7.12	11.35
03/04	7.25	(4.27)	.79	3.77	7.08	10.85
02/03	7.20	(10.03)	.97	1.15	7.10	8.25
01/02	5.63	(6.05)	1.09	1.09	6.43	7.52
00/01	6.29	(4.65)	.30	1.94	5.77	7.71
99/00	6.40	(2.04)	.25	4.61	5.72	10.33
98/99	6.33	(.44)	.15	6.04	5.69	11.73
97/98	6.44	2.17	.15	8.76	5.65	14.41
96/97	6.44	3.56	.60	10.60	5.62	16.22
95/96	6.43	4.67	.62	11.72	5.59	17.31
94/95	6.43	4.18	.45	11.06	5.55	16.61

\* Act 9 member rate change took effect January 1, 2002

# 16-Year History of Member and Employer Contribution Rates

