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# Public School Employees' Retirement System of Pennsylvania

## June 30, 2009 Actuarial Valuation Board Presentation

*December 11, 2009*

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# Agenda

Overview of 2008 - 2009 plan year

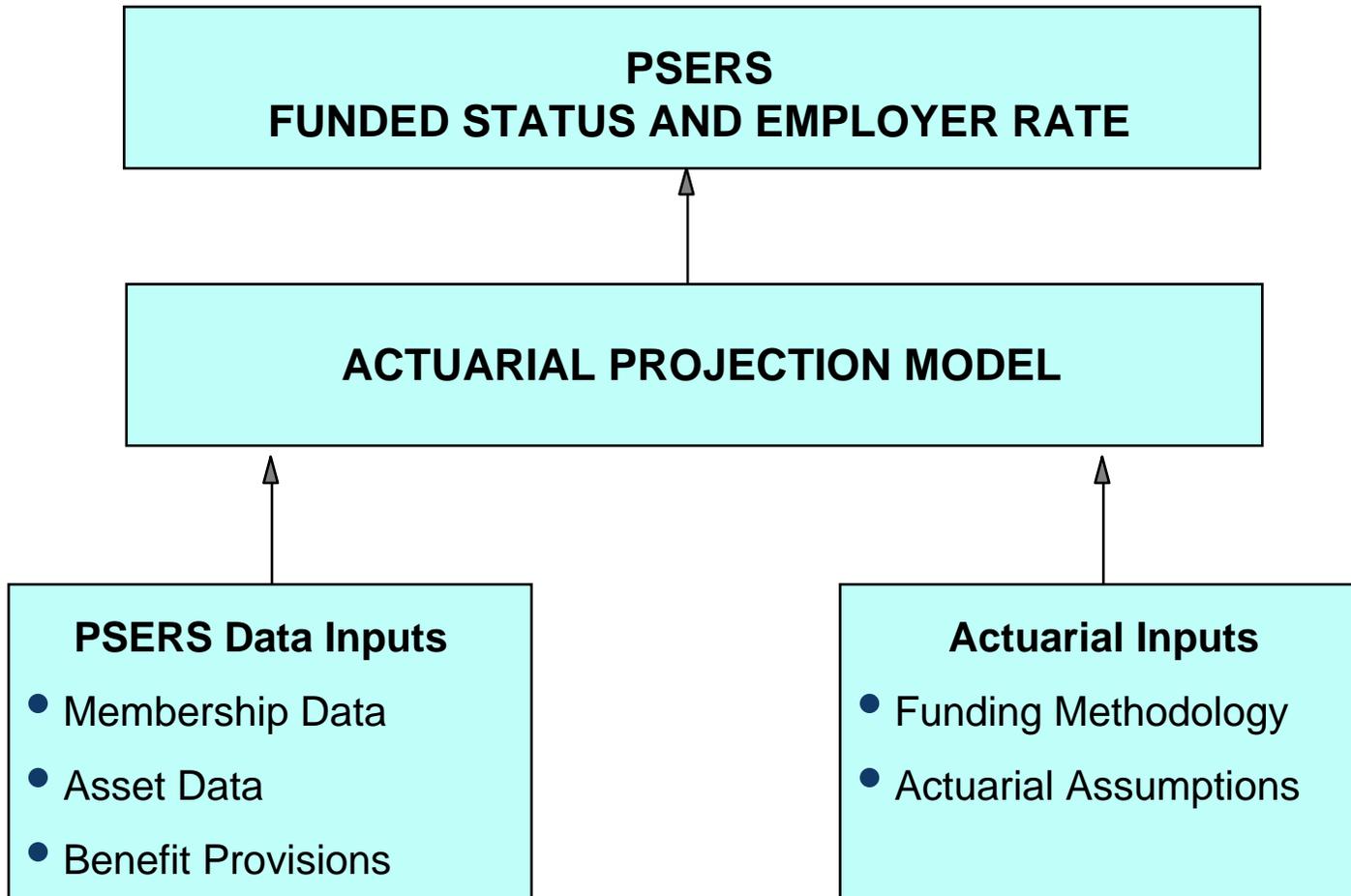
Report on June 30, 2009 valuation results

## Overview of 2008/2009 Plan Year

- Rate of return on market value of assets was (26.54)%  
*(per Wilshire)*
  - Expected return was 8.25%
- The interest rate assumption was changed from the 8.25% used for the 2008 valuation to 8.00% for the 2009 valuation
- No plan changes

# Results of Actuarial Valuation

- Employer contribution rate for fiscal 2010/2011
  - Final Rate is 8.22%
    - 7.58% Pension plus 0.64% Premium Assistance
  - The actual pension rate exceeds the 4% Pension Rate Floor
  
- Security of promised benefits
  - Accrued liability exceeds assets by \$15.7 billion
  - Funded status is 79.2%
    - Funded status as of June 30, 2008 was 86.0%
  
- Net actuarial gain or loss
  - Comparison of actual experience to expected
  - Loss for fiscal year ended June 30, 2009 is \$4.550 billion
    - Asset loss of \$2.801 billion
    - Liability gain of \$0.036 billion
    - Interest rate change loss of \$1.785 billion



## Active Membership Statistics

<u>Item</u>	<u>June 2009</u>	<u>June 2008</u>
Number	279,701 +2.57 %	272,690
Annual salaries	\$ 12.525 Bil +5.1 %	\$11.921 Bil
Average compensation	\$ 44,779 +2.4 %	\$ 43,718
Average age	45.1 Yrs.	45.2 Yrs.
Average service	11.0 Yrs.	11.1 Yrs.
Funding Year	2010-2011	2009-2010
Appropriation Payroll	\$ 13.510 Bil	\$12.899 Bil

# Annuitant Membership Statistics

<u>Item</u>	<u>June 2009</u>	<u>June 2008</u>
Number		
Annuitants	162,206	157,656
Survivors and beneficiaries	8,044	8,449
Disabled annuitants	<u>7,713</u>	<u>7,435</u>
Total	177,963	173,540
	2.5%	
Annual annuities		
Annuitants	\$ 3.786 Bil	\$ 3.586 Bil
Survivors and beneficiaries	0.079 Bil	0.083 Bil
Disabled annuitants	<u>0.131 Bil</u>	<u>0.142 Bil</u>
Total	\$ 3.996 Bil	\$ 3.811 Bil
	4.9%	
Average annuities		
Annuitants	\$ 23,343	\$ 22,748
Survivors and beneficiaries	\$ 9,836	\$ 9,805
Disabled annuitants	\$ 16,948	\$ 19,144
Total	\$ 22,456	\$ 21,963
	2.2%	

## Market Value of Assets

<u>Item</u>	<u>June 2009</u>	<u>June 2008</u>
Beginning of year	\$ 62.569 Bil	\$ 67.438 Bil
Contributions	1.520	1.714
Benefits	(4.751)	(4.766)
Investment return	<u>(16.237)</u>	<u>(1.817)</u>
End of year	\$ 43.101 Bil	\$ 62.569 Bil
Rate of return <i>(per Wilshire)</i>	(26.54)%	(2.82)%
Expected rate of return	8.25%	8.50%

# Actuarial Value of Assets

1. Market value of assets 6/30/2009 \$ 43.101 Bil

2. Determination of deferred gain (loss)

Fiscal Year	Gain (Loss)	Percent Deferred	Deferred Amount
2008/2009	\$ (21.138) Bil	80 %	\$ (16.910) Bil
2007/2008	(6.545)	60	(3.927)
2006/2007	8.300	40	3.320
2005/2006	<u>3.658</u>	20	<u>.731</u>
	\$ (15.725) Bil		\$ (16.786) Bil

3. Actuarial value of assets 6/30/2009  
(1) - (2) \$ 59.887 Bil

4. Rate of return on actuarial value 3.54 %

5. Expected rate of return 8.25 %

# 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 2009</u>	<u>June 2008</u>
Annuitants and inactives	\$ 38.043 Bil	\$ 35.559 Bil
Active members	37.478	35.286
Health care payments	<u>.105</u>	<u>.096</u>
Accrued liability	\$ 75.626 Bil	\$ 70.941 Bil

## Unfunded Accrued Liability and Funded Status

<u>Item</u>	<u>June 2009</u>	<u>June 2008</u>
Accrued liability	\$ 75.626 Bil	\$70.941 Bil
Actuarial assets	<u>59.887</u>	<u>61.018</u>
Unfunded accrued liability	\$ 15.739 Bil	\$ 9.923 Bil
Funding period range*	2 yrs - 30 yrs	3 yrs – 30yrs
Funded status	79.2 %	86.0 %

\*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 2 and 3 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 2009 (FY 2010/2011)</u>	<u>June 2008 (FY 2009/2010)</u>
Normal cost rate	15.42 %	14.67 %
Member rate (average)	<u>(7.34 )</u>	<u>(7.32 )</u>
Employer normal cost rate	8.08 %	7.35 %
Unfunded accrued liability rate	<u>(0.50 )</u>	<u>(3.72 )</u>
Preliminary pension rate	7.58 %	3.63 %
Final pension rate <i>(Includes 4% contribution floor provided by Act 40)</i>	<b>7.58 %</b>	<b>4.00 %</b>
Health insurance rate	<u>.64</u>	<u>.78</u>
Total	<b>8.22 %</b>	<b>4.78 %</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 2009 (FY 10/11)</u>	<u>June 2008 (FY 09/10)</u>
Accrued liability rate	(12.05)%	(12.59)%
Supplemental liability rate	1.55	1.63
Experience adjustment factor	<u>10.00</u>	<u>7.24</u>
Unfunded accrued liability rate	(0.50)%	(3.72)%

## 2009 Net Actuarial Loss

1. Investment return loss (3.54% actuarial rate of return vs. 8.25% expected)	\$ 2,801 Mil
2. Experience (gains) and losses	
– New entrants and pickups	310
– Individual salary increases (average increase of 6.0% vs. 6.2% expected)	(225)
– Mortality	91
– Vested terminations (retirement/disability/terminations)	(72)
– Non-vested terminations	(215)
– Data/misc	<u>75</u>
– Total	\$ (36) Mil
3. Change in interest rate	\$ 1,785 Mil
4. Net actuarial loss: (1) + (2) + (3)	\$ 4,550 Mil

# Health Insurance Account 2010/2011 Employer Rate

Estimated number of eligible annuitants in FY 2011/2012	122,600
Estimated number of eligible annuitants who elect coverage	80,916
1. Estimated balance at 6/30/2010	\$ 111.5 Mil
2. Disbursements FY 2010/2011	\$ 97.2
3. Disbursements FY 2011/2012	\$ 99.4
4. Required contribution: (2) + (3) – (1)	\$ 85.1
5. FY 2010/2011 membership payroll	\$ 13,510 Mil
6. Health insurance employer rate: (4) ÷ (5) (rounded up)	0.64%

## Notes:

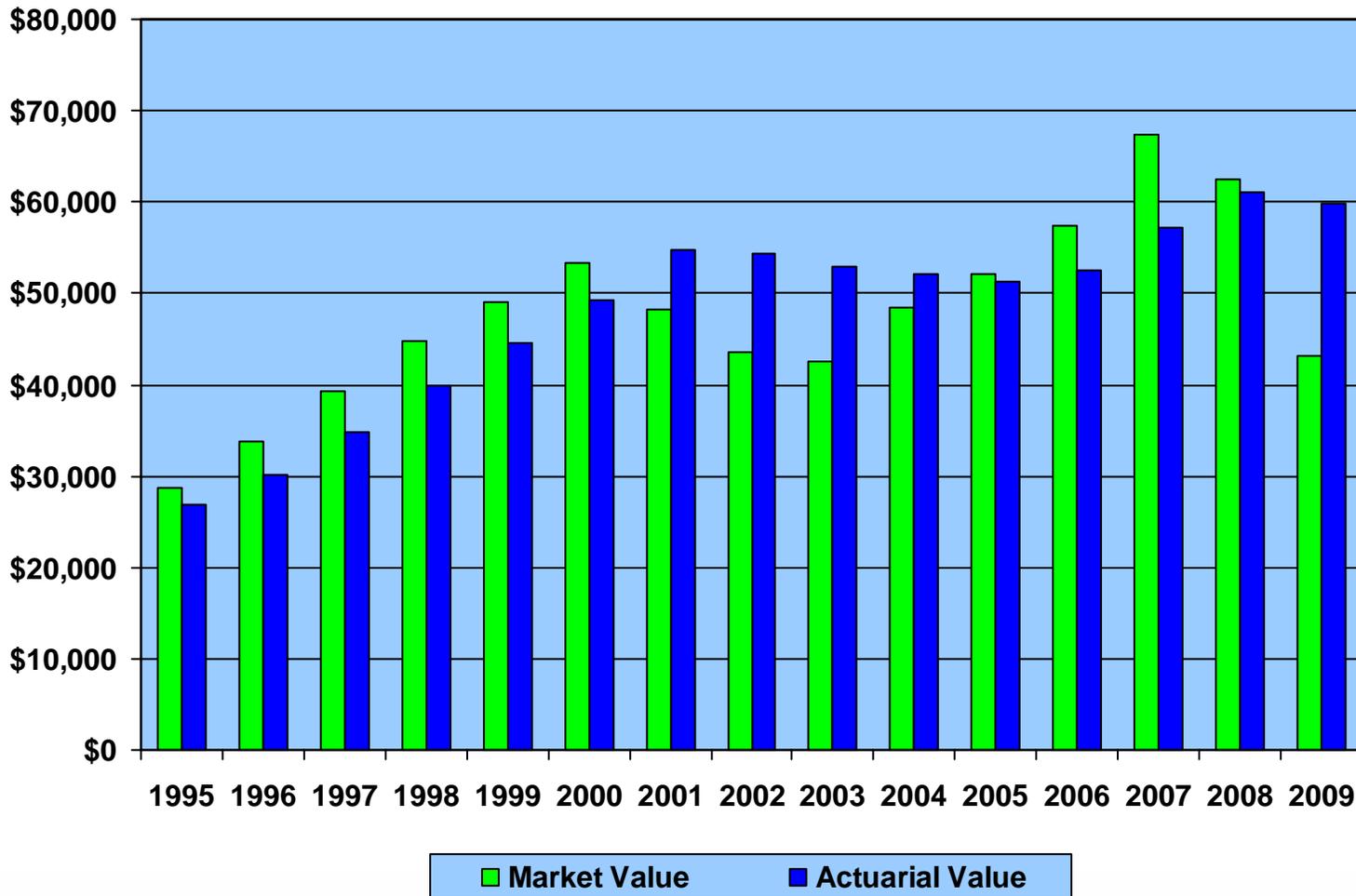
66% of eligible annuitants are assumed to elect coverage.

Actuarial Accrued Liability under GASB 43 is \$1,159 million

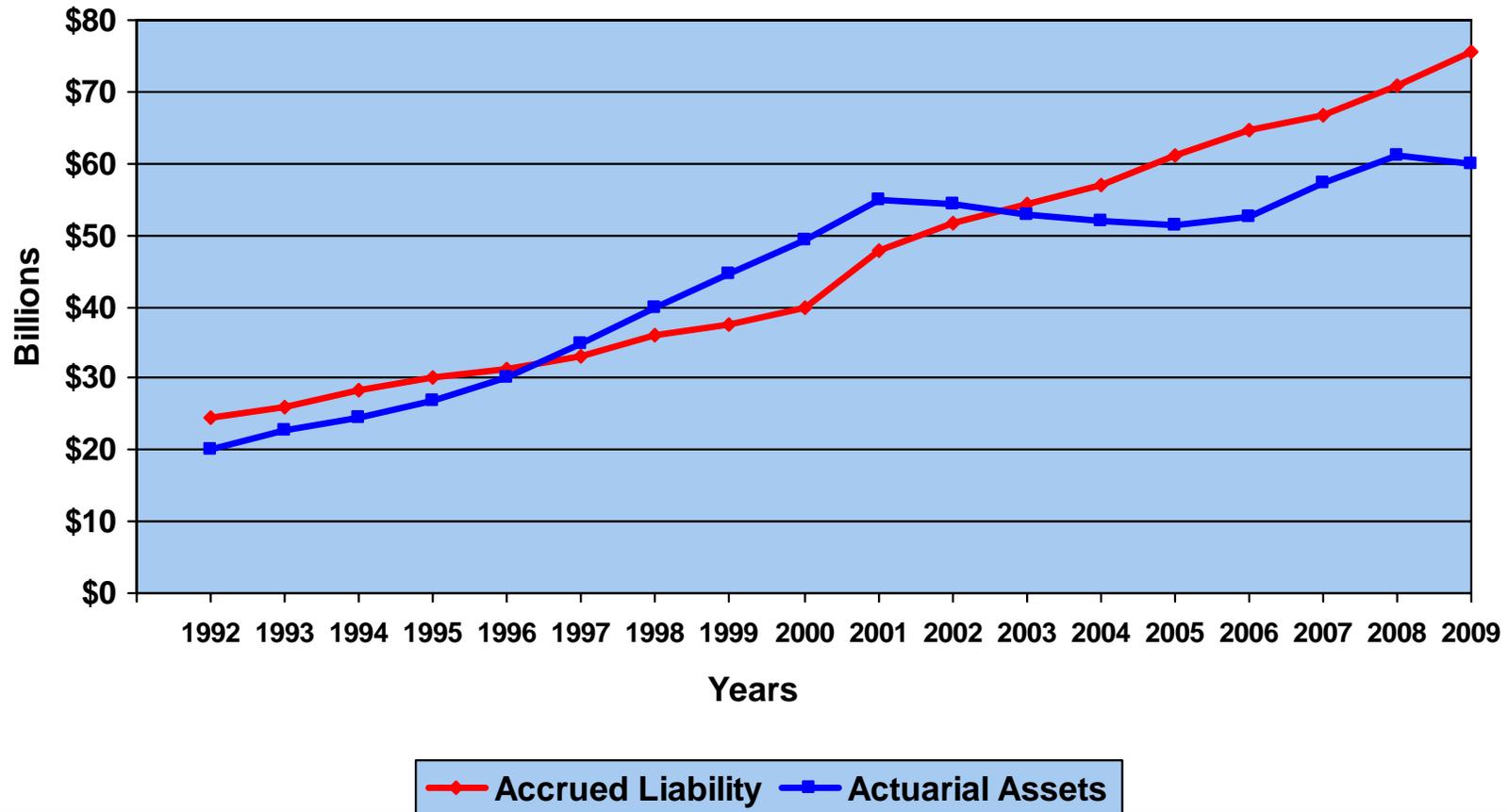
Annual Required Contribution under GASB 43 is 0.88%

# Appendices

# Comparison of Asset Values (\$ Millions)

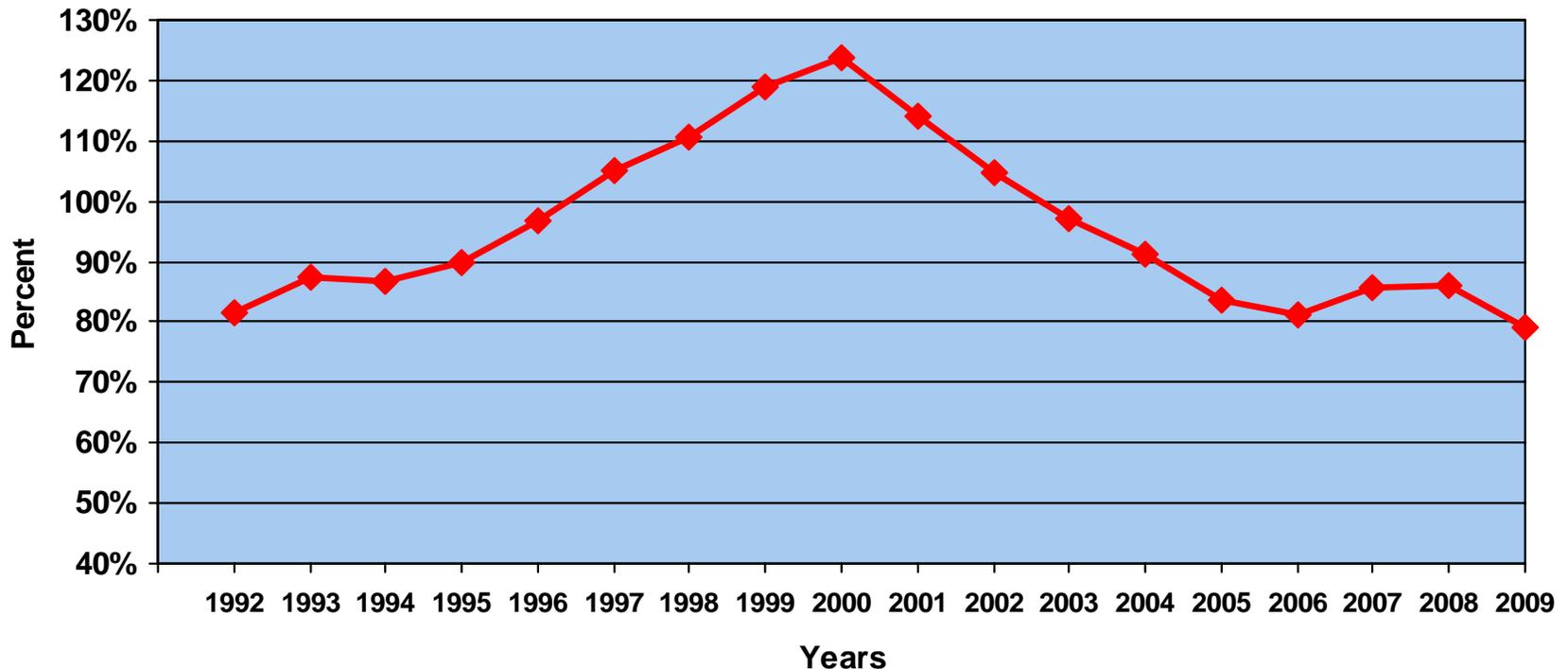


# Accrued Liability and Actuarial Assets – 1992 - 2009



# Financial Position Funded Status

## Assets as % of Accrued Liability - 1992 - 2009



# Total Contribution Rate

Fiscal Year	Normal Cost	Unfunded Accrued Liability	Health Care Contribution	Total Employer	Member Contribution (Average)*	Total Contribution Rate
10/11	8.08%	(0.50)%	.64%	8.22%	7.34%	15.56%
09/10	7.35	(3.72)	.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

# 17-Year History of Member and Employer Contribution Rates

