

2007 Emerging Issues Forum

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Panel One: The National Pension Crisis

Funding Progress: It's Not Just the Assets



Funding Progress – It's Not Just The Assets

Steve Ricci
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PERAC Emerging Issues Forum 2007



Basic Principle of Funding

Contributions + Investment Return = Benefit Payments

Assets = Liabilities



Applications

- Pensions (PERAC)
 - Massachusetts – mandated funding rules in Chapter 32
 - Fully funded by 2028

- Retiree Medical
 - Don't necessarily need to pre-fund
 - Can continue to contribute on a pay-as-you-go basis
 - GAS 45 requires accrual accounting so that cost is recognized before the time benefits commence for those not currently receiving benefits



Actuarial Terminology

Present Value of Future Benefits	Value on the valuation date of all future benefits expected to be paid. Value reflects interest rate discount, turnover, mortality, salary scale (if applicable) and other relevant assumptions.
Actuarial Accrued Liability	Portion of Present Value of Future Benefits allocated to service as of the valuation date.
Normal Cost	Present Value of Future Benefits allocated to service in the current year.
Actuarial Asset Value	A smoothing of the market value and asset experience over a fixed period of time, anywhere from zero to five years.
Unfunded Actuarial Accrued Liability	The excess of the Actuarial Accrued Liability over the Actuarial Asset Value.
Funded Ratio	The ratio of the Actuarial Asset Value to the Actuarial Accrued Liability.

Annual Market Value Asset Returns

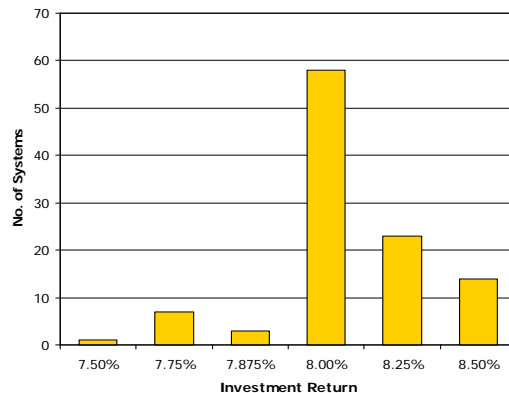
Period	Range	Median	Average	Composite
2006	7.5% - 18.1%	14.0%	14.0%	16.1%
2002 - 2006	5.5% - 11.7%	8.8%	9.0%	10.8%
1997 - 2006	6.2% - 11.4%	9.0%	9.1%	10.1%
1985 - 2006	7.9% - 12.2%	10.2%	10.2%	11.0%

Information is from the 2006 Investment Report.

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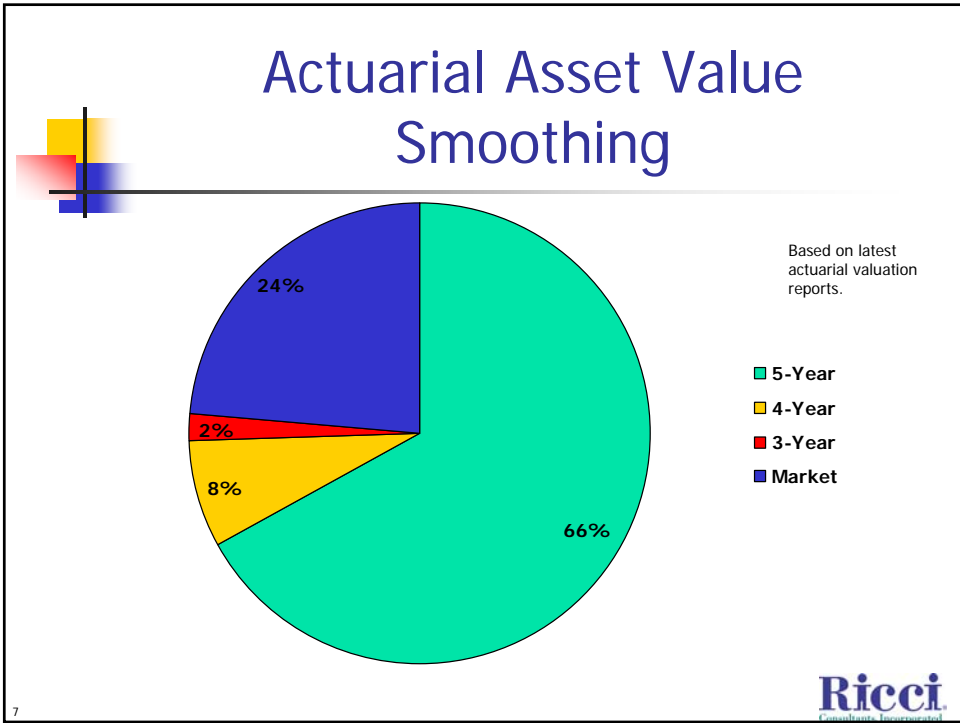
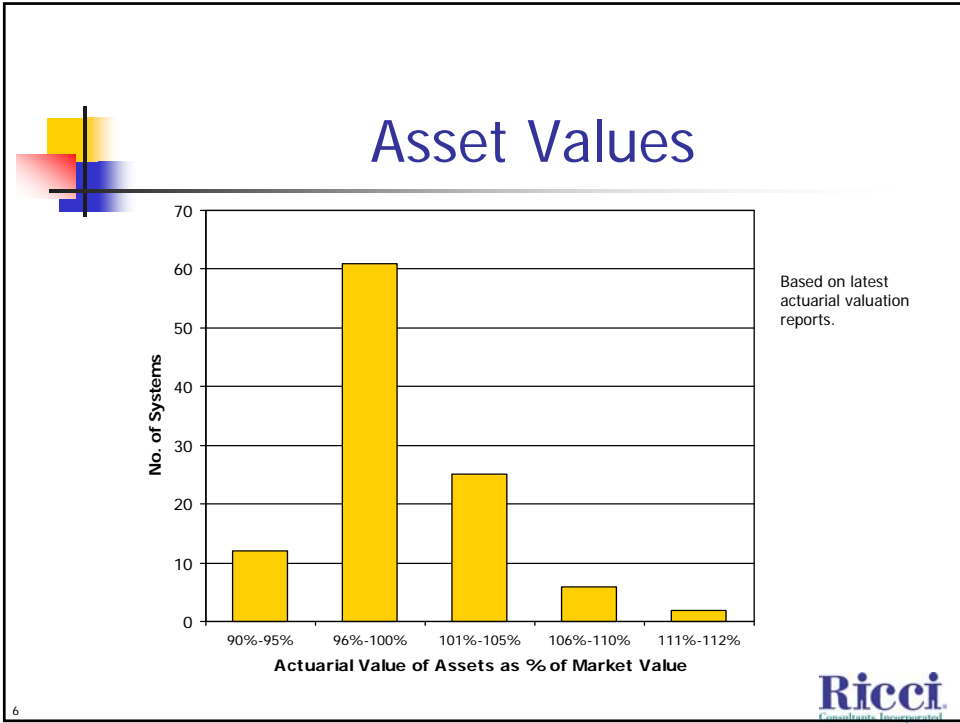
Investment Return Assumption



Based on latest actuarial valuation reports.

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Chapter 32 Funding

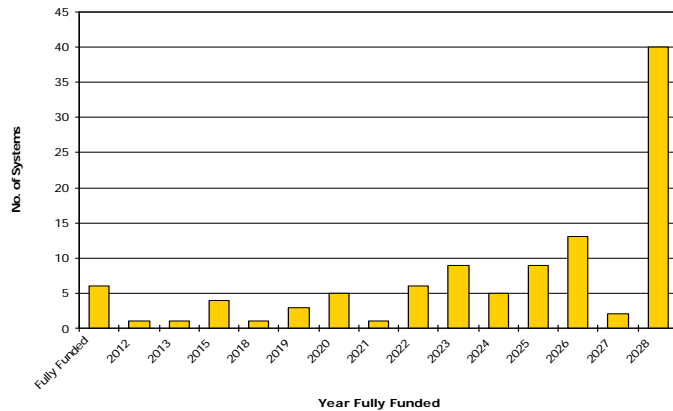
- Annual Contribution
 - Normal Cost plus
 - Amortization of the Unfunded Actuarial Accrued Liability
- Amortization with or without annual increases with the funding target date on or before 2028

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Funding Target

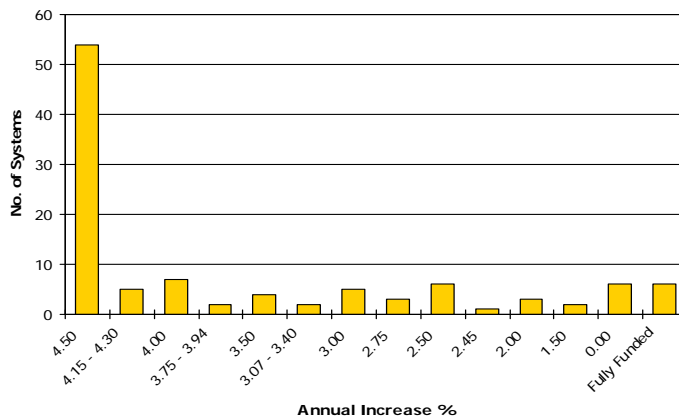


Based on latest actuarial valuation reports.

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Amortization of Unfunded



Based on latest actuarial valuation reports.

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Unfunded Liability and Funded Ratio

90%
Funded Ratio

System A

Liability = \$8,000,000
Assets = \$7,200,000
Unfunded Liability = \$800,000

System B

Liability = \$1,000,000,000
Assets = \$900,000,000
Unfunded Liability = \$100,000,000

System C

Liability = \$28,000,000,000
Assets = \$25,200,000,000
Unfunded Liability = \$2,800,000,000

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Liabilities, Assets and Funded Ratios

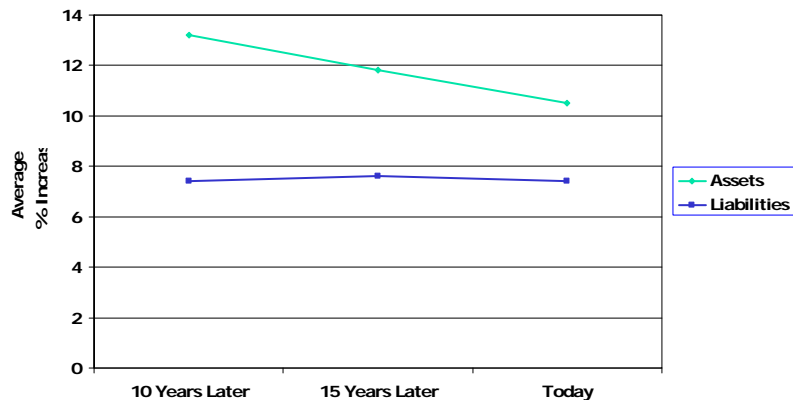
Annualized Growth From Year 1			
	Liability	Assets	Funded Ratio
Median			
Year 1			35.4%
Year 2	6.7%	12.8%	63.4%
Year 3	7.2%	11.6%	66.1%
Year 4	6.9%	10.3%	63.8%
Average			
Year 1			40.3%
Year 2	7.4%	13.2%	67.3%
Year 3	7.6%	11.8%	69.1%
Year 4	7.4%	10.5%	66.3%
Minimum			
Year 1			22.6%
Year 2	2.7%	7.0%	43.1%
Year 3	1.7%	6.6%	36.9%
Year 4	4.6%	6.0%	33.6%
Maximum			
Year 1			159.4%
Year 2	29.2%	38.5%	137.0%
Year 3	22.8%	28.6%	122.5%
Year 4	20.5%	25.3%	108.6%

- Based on historical information for 1987 – 2006
- Year 1 is the first year for reported information
- Year 2 is a year that has reported information and is approximately 10 years after Year 1
- Year 3 is a year that has reported information and is approximately 15 years after Year 2
- Year 4 is the most recent year for reported information

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Liability and Asset Growth From Year 1



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Liabilities, Assets and Funded Ratios

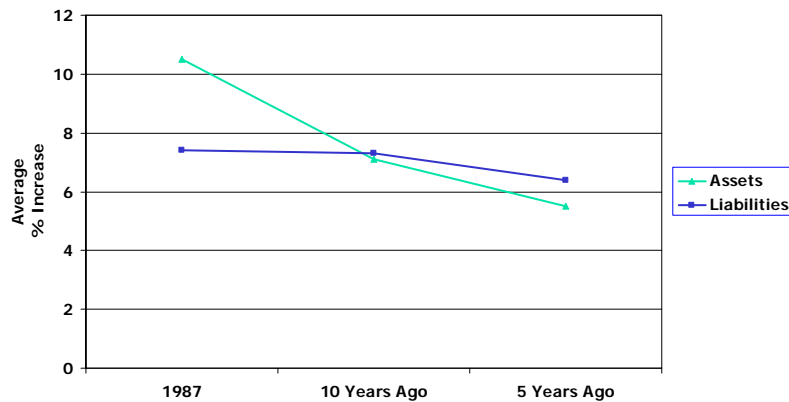
Annualized Growth To Year 4			
	Liability	Assets	Funded Ratio
Median			
Year 1	6.9%	10.3%	35.4%
Year 2	7.1%	7.2%	63.4%
Year 3	5.8%	4.4%	66.1%
Year 4			63.8%
Average			
Year 1	7.4%	10.5%	40.3%
Year 2	7.3%	7.1%	67.3%
Year 3	6.4%	5.5%	69.1%
Year 4			66.3%
Minimum			
Year 1	4.6%	6.0%	22.6%
Year 2	4.6%	-0.6%	43.1%
Year 3	2.4%	-1.4%	36.9%
Year 4			33.6%
Maximum			
Year 1	20.5%	25.3%	159.4%
Year 2	11.5%	13.7%	137.0%
Year 3	39.2%	31.5%	122.5%
Year 4			108.6%

- Based on historical information for 1987 – 2006
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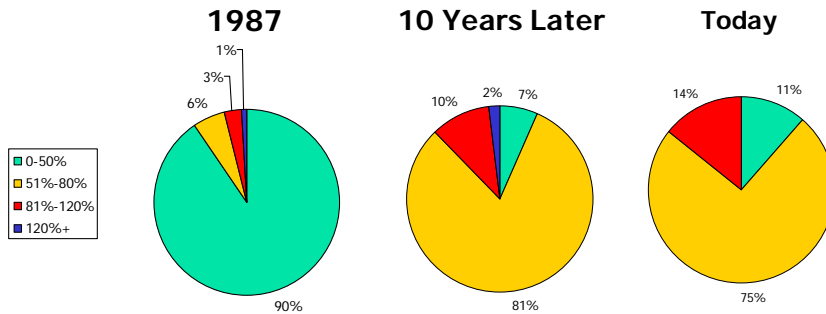
Liability and Asset Growth To Current Valuation



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Funded Ratio Analysis



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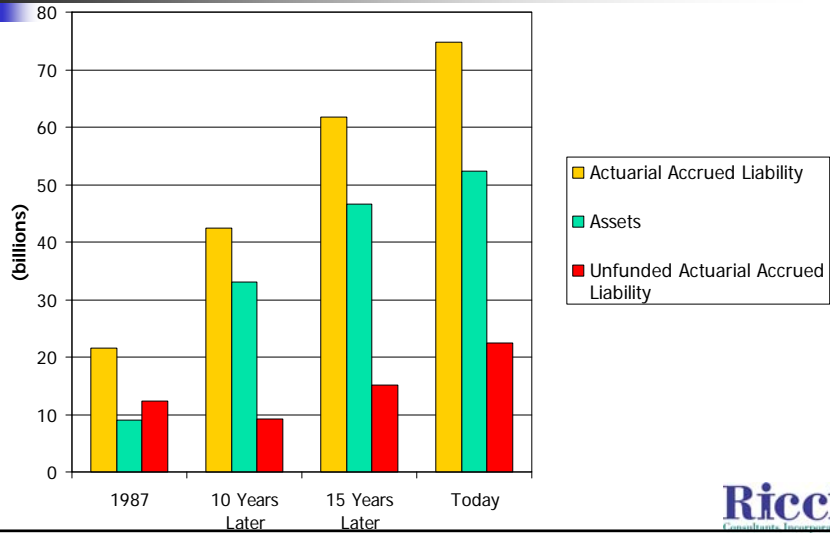
Funded Ratio Changes

Number of Systems that...	Increased	Did Not Increase
Over 20 Years	102	4
First 10 Years	104	2
Last 10 Years	44	62

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Funded Status Big Picture Summary



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Notes

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