



Review of Actuarial Assumptions and Discount Rate Selection

December 19, 2017
Finance & Administration Committee

Decisions Needed

1. Approve Demographic and Economic Assumptions (other than discount rate)
 - First reading in November
 - Proposed changes result in minimal impact on required contributions
2. Approve Discount Rate
 - Equal to Long-term Expected Investment Return
 - Four Candidate Asset Portfolios
 - Larger potential impact on required contributions

Proposed Assumptions (other than the discount rate)

Impact of Proposed Assumptions on Normal Cost State and Schools

Category	Assumptions (other than the discount rate)						Net Result
	Post Retirement Mortality	Termination	Salary Increases	Service Retirement	Disability Retirement	Inflation	
State Misc.	↓	↑	↔	↓	↓	↓	(0.1%)
State Industrial	↓	↔	↔	↔	↓	↓	(1.1%)
State Safety	↑	↑	↔	↔	↓	↓	0.4%
State CHP	↑	↑	↑	↑	↓	↓	0.2%
State POFF	↑	↑	↔	↑	↓	↓	0.0%
Schools	↓	↔	↑	↓	↓	↓	(0.1%)

Impact of Proposed Assumptions on Normal Cost Public Agency Miscellaneous Plans

Category	Assumptions (other than the discount rate)						Average Net Result
	Post Retirement Mortality	Termination	Salary Increases	Service Retirement	Disability Retirement	Inflation	
Misc. 3% at 60	↓	↑	↔	↔	↓	↓	0.20%
Misc. 2.7% at 55	↓	↑	↔	↔	↓	↓	0.30%
Misc. 2.5% at 55	↓	↑	↔	↔	↓	↓	0.15%
Misc. 2% at 55	↓	↑	↔	↔	↓	↓	0.15%
Misc. 2% at 60	↓	↑	↔	↔	↓	↓	(0.15%)

Impact of Proposed Assumptions on Normal Cost Public Agency Safety Plans

Category	Assumptions (other than the discount rate)						Average Net Result
	Post Retirement Mortality	Termination	Salary Increases	Service Retirement	Disability Retirement	Inflation	
Safety CPO	↑	↑	↔	↔	↔	↓	0.35%
Safety Fire	↑	↑	↔	↔	↓	↓	(0.35%)
Safety Police	↑	↑	↑	↓	↔	↓	(0.15%)

Impact on PEPRA Normal Cost

- Recommended assumptions changes will increase Normal Cost for some groups and decrease for others
 - Ranges from (1.0%) to 0.1%
 - Change to the member rates not likely
- Change in discount rate has a larger impact on the Normal Cost
 - Change to the member rates likely

Mortality Contingency Load

- Mortality contingency load is applied to termination liabilities when an agency enters the Terminated Agency Pool (TAP)
 - Protects TAP from members living longer than expected
 - Propose decrease from **7%** to **5%**
 - Proposed decrease due to the inclusion of future assumed mortality improvements in the regular actuarial valuations
 - Will reduce termination liabilities for agencies entering the TAP

Discount Rate Assumption

Discount Rate

- Equal to price inflation plus real rate of return
- Price Inflation assumption reduced 0.25% (2.75% to 2.50%)
 - 2.625% on 6/30/2017
 - 2.50% on 6/30/2018
 - Phase-in consistent with current discount rate phase-in
- Expected real rate of return depends on:
 - Asset allocation
 - Capital Market Assumptions (CMAs)
 - Duration of liability

Candidate Portfolios

Expected Returns and Volatility

	Portfolio			
	A	B	C	D
Global Equity % (excluding private equity)	34%	42%	50%	59%
Expected Compound Return (1 - 10 years)	5.6%	5.8%	6.1%	6.4%
Long Term Expected Return (11 - 60 years)	7.8%	8.0%	8.3%	8.5%
Blended Return (1 - 60 years)	6.50%	6.75%	7.00%	7.25%
Expected Volatility	9.1%	10.2%	11.4%	12.8%

Candidate Portfolios

Recommended discount rates for candidate portfolios

- Portfolio A: 6.50% beginning with 6/30/2017 actuarial valuation
- Portfolio B: 6.75% beginning with 6/30/2017 actuarial valuation
- Portfolio C: 7.25% for 6/30/2017 actuarial valuation; 7.00% beginning with 6/30/2018 actuarial valuation
- Portfolio D: 7.25% beginning with 6/30/2017 actuarial valuation

Candidate Portfolios

Illustrative Financial Impact (% of payroll) *

	Portfolio			
	A	B	C	D
State Misc.	6.2%	3.0%	0.0%	(2.9%)
State CHP	11.8%	5.7%	0.0%	(5.4%)
State POFF	10.6%	5.1%	0.0%	(4.8%)
State Safety	5.1%	2.5%	0.0%	(2.3%)
Schools	5.1%	2.5%	0.0%	(2.4%)
Public Agency – Misc.	5.8%	2.8%	0.0%	(2.7%)
Public Agency - Safety	9.8%	4.7%	0.0%	(4.5%)

* Equal to change in Normal Cost (NC) plus change in Accrued Liability (AL) amortized over 20 years with no ramp. Changes in NC and AL are relative to “base” results reflecting proposed actuarial assumptions with a 7.00% discount rate.

Next Steps

- New assumptions will be used beginning with the 6/30/2017 actuarial valuations
- New assumptions will affect benefit option factors beginning December 20, 2017
 - New mortality assumption
 - New discount rate assumption if Portfolio A, Portfolio B, or Portfolio D selected

Questions