Public School Employees' Retirement System of Pennsylvania

Five-Year Experience Review

March 9, 2011

A Xerox Company

buckconsultants

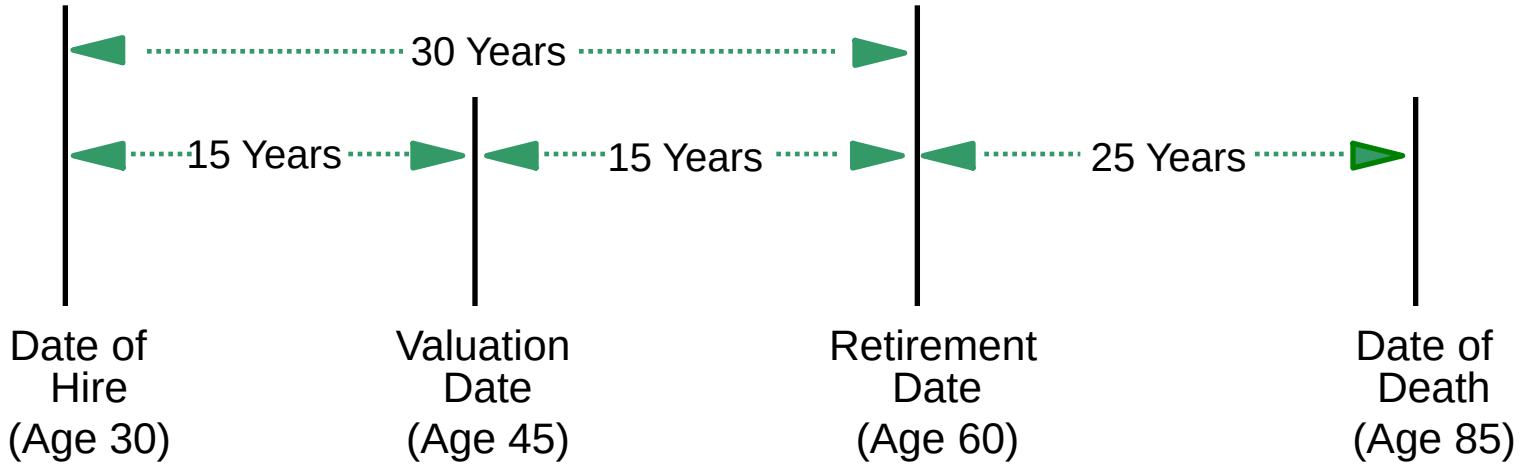
Experience Review

- Experience review results based on 5 years of data

Things That Happen to Members (Demographics Assumptions)

- **KNOWN at valuation date:**
  1. Age
  2. Gender
  3. Service to date
  4. Occupation

- **ASSUMED at valuation date:**
  1. Retirement date(s)
  2. Death rates before and after retirement
  3. Disability rates
  4. Other termination rates



Things That Happen to Members – Salary Increases (Economic Assumptions)

- **KNOWN at valuation date:**

Salary History

Age 43	$ 41,168
Age 44	43,638
Age 45	46,147
Total	$130,953

Current FAS

$130,953/3 = $43,651

- **ASSUMED at valuation date:**

Projected Salary at Retirement

Age 57	$ 80,916
Age 58	84,557
Age 59	88,151
Total	$253,624

Projected FAS

$253,624/3 = $84,541

Things That Happen to Money (Economic Assumptions)

- **KNOWN at valuation date:**

  1. Market value of System assets
  2. Composition of System assets
     - Stocks
     - Bonds
     - Short term
     - Long term
     - International
     - Real estate
     - Alternative investments

- **ASSUMED at valuation date:**

  1. Future rates of investment return
  2. Future rates of inflation

Selection of Assumptions

What Assumption

- Investment return
- Inflation
- Retirement rates
- Individual salary increases
- Disability
- Withdrawal
- Mortality

Who Decides

- Mostly Board with input from Actuary and Investment Consultant
- Mostly Actuary

Actuarial Assumptions - Demographic

- Death After Retirement
- Death in Active Service
- Disability with at least 5 years
- Withdrawal – prior to Act 120 (HB 2497)
  - Non-Vested with less than 5 years
  - Vested with at least 5 years but less than 10 years
  - Vested with at least 10 years
- Early Retirement
  - Age 55 with 25 Years
- Superannuation Retirement - prior to Act 120 (HB 2497)
  - Age 62
  - Age 60 with 30 Years
  - 35 Years

Actuarial Assumptions - Economic

Current Assumptions

- Rate of Return - 8.0%
  - Components:
    - Inflation 3.25%
    - Real Rate of Return 4.75%
- Annual Salary Increase - 6.0% (Average)
  - Components:
    - Inflation 3.25%
    - Real Wage Growth 1%
    - Career Scale 1.75%
- PSERS Assumptions Shown in Table 12 of Valuation Report

Setting Demographic Assumptions

- Based on 5-year Experience Review
- Full review covers July 1, 2005 - June 30, 2010
- Compare past experience (“actual”) with assumptions (“expected”)
- Determine trends
- Make judgments about future

Setting Demographic Assumptions

- The expected number of separations from service on account of withdrawal, death, disability and service retirement is calculated by multiplying the rates of separation used as a basis for the active service tables by the number of those exposed to risk.

- The actual number of those who had separated from service is then compared with the expected number.

- If the ratio of actual to expected is 100%, the table has exactly predicted what actually occurred. If the ratio of actual to expected is greater than 100%, then the table has underestimated actual experience. If the ratio is less than 100%, then the table has overstated actual experience.

- The ideal adjustment to the current non-mortality related rates is to produce an expected number that falls between the current expected number caused by the assumption and the actual number of separations.

- For mortality related separations, mortality trends among the general population are examined in combination with the relationship of current expected deaths versus the actual number of deaths. In general, mortality has continually been improving over the last decade and is expected to improve in the future.

Actuarial Cost Methods

- Cost method - entry age normal
  - Required by PSERS Code

- Actuarial asset valuation method
  - 5-year moving average
  - Required by PSERS Code

    (10-year moving average effective with the June 30, 2010 valuation in accordance with Act 120 (HB 2497))

Post-Retirement Mortality

Number of Deaths
Males - All Ages

Type of Retirement	Actual	Expected		Actual ÷ Expected	
		Current	Proposed	Current	Proposed
Age & Service	7,113	7,592	6,529	94%	109%
Disability	479	455	436	105%	110%

Number of Deaths
Males – Ages 50-90

Type of Retirement	Actual	Expected		Actual ÷ Expected	
		Current	Proposed	Current	Proposed
Age & Service	6,222	6,795	5,768	92%	108%
Disability	453	433	414	105%	109%

Post-Retirement Mortality

Number of Deaths
Females - All Ages

Type of Retirement	Actual	Expected		Actual ÷ Expected	
		Current	Proposed	Current	Proposed
Age & Service	12,550	13,096	11,965	96%	105%
Disability	703	871	682	81%	103%

Number of Deaths
Females – Ages 50-90

Type of Retirement	Actual	Expected		Actual ÷ Expected	
		Current	Proposed	Current	Proposed
Age & Service	8,730	9,632	8,985	91%	97%
Disability	619	777	629	80%	98%

Post-Retirement Mortality

- Mortality has continually been improving over the last decade
- Mortality expected to improve in the future
- The UP94 Mortality Table is no longer widely used since it is now considered an older table
- For corporate plans, IRS requires the use of an updated RP2000 Mortality Table
- Based on 21 public retirement systems which Buck surveyed, nine use the RP2000 Mortality Table and the others use older tables with built in mortality improvement assumptions
  - Seven of the systems using older tables are considering adopting a more recent table
- Recommendations
  - Update the male and female annuitant mortality table to the RP-2000 Combined Healthy Annuitant Tables (Male and Female) with age set back 3 years for both genders
  - Update the male and female disability annuitant mortality rates to the RP-2000 Disabled Tables (Male and Female) with age set back 7 years for males and age set back 3 years for females

Post-Retirement Life Expectancy

	Current		Proposed		Increase	
Age	Male	Female	Male	Female	Male	Female
60	23.0	26.3	24.4	27.1	1.4	0.8
65	18.9	22.0	20.0	22.6	1.1	0.6

Current: UP94 Mortality Table with mortality improvements projected 10 years, set back 1 year for males and females

Proposed: RP-2000 Combined Healthy Male Table set back 3 years
RP-2000 Combined Healthy Female Table set back 3 years

Deaths in Active Service

Number of Deaths – All Ages

		Expected			Actual ÷ Expected	
Sex	Actual	Current	Proposed	Exposed	Current	Proposed
Males	680	719	630	352,781	95%	108%
Females	844	1,072	817	929,232	79%	103%
Total	1,524	1,791	1,447	1,282,013	85%	105%

Mortality Trend:	Mortality has continually been improving over the last decade and is expected to improve in the future.
Current Assumption:	72% of the UP94 Mortality Table with mortality improvements projected 10 years set back 1 year for males and females.
Recommendation:	RP-2000 Employee Pre-retirement Mortality Tables. The Male table set back 3 years and the Female table set back 8 years.

Disability Retirement – Male

With at Least 5 Years of Service

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
Under 33	4	8	8	22,183	50%	50%
35	9	32	32	31,195	28	28
40	25	54	54	31,746	46	46
45	65	61	61	31,455	107	107
50	156	114	114	39,341	137	137
55	227	218	218	50,644	104	104
60	140	143	143	29.782	98	98
65	19	19	19	12,712	100	100
70	9	4	4	3,527	225	225
Total	654	653	653	252,585	100%	100%

Recommendation: No change to the rates since the total incidence of actual disability retirements is close to expected.

Disability Retirement – Female

With at Least 5 Years of Service

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
Under 33	14	22	19	49,479	64%	74%
35	34	48	35	58,922	71	97
40	39	86	66	65,904	45	59
45	124	154	125	83,606	81	99
50	254	310	242	121,181	82	105
55	415	626	495	146,245	66	84
60	239	352	280	82,548	68	85
65	18	41	33	25,482	44	55
70	8	9	6	5,456	89	133
Total	1,145	1,648	1,301	638,823	69%	88%

Recommendation: Decrease rates since the incidence of actual disability retirements is less than expected.

Non-Vested Withdrawals - Male

With Less Than 5 Years of Service

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
20	752	327	350	2,502	230%	230%
25	3,022	3,000	3,102	24,812	101	97
30	1,860	1,818	1,866	17,767	102	100
35	1,284	1,160	1,172	10,656	111	110
40	1,147	931	1,100	8,464	123	104
45	1,206	967	1,143	8,790	125	106
50	1,139	996	1,177	9,054	114	97
55	963	848	947	8,148	114	102
60	614	546	590	5,770	112	104
Total	11,987	10,593	11,447	95,963	113%	105%

Recommendation: Increase the rates since the total incidence of actual non-vested withdrawals is more than expected. Actual withdrawals in the age 20 group were 230% of the number expected. However, due to the relative size of exposures we recommend a minor increase to the rates to smooth the progression of the rates in to the higher ages.

Non-Vested Withdrawals – Female

With Less Than 5 Years of Service

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
20	866	390	390	2,768	222%	222%
25	7,787	9,797	9,033	69,482	79	86
30	5,127	5,749	5,300	40,771	89	97
35	3,910	4,040	3,837	29,514	97	102
40	4,561	4,316	4,316	38,356	106	106
45	4,597	4,639	4,639	42,560	99	99
50	3,540	3,521	3,521	32,305	101	101
55	2,092	2,090	2,090	19,174	100	100
60	1,155	1,004	1,004	9,215	115	115
Total	33,635	35,546	34,141	284,145	95%	99%

Recommendation: Actual withdrawals in the age 20 group were 222% of the number expected. However, due to the relative size of exposures we recommend no adjustments be made to the current rates. Actual withdrawals during ages 25 through 35 were lower than expected and we recommend decreasing the rates at these ages. Actual experience above age 35 are within an acceptable range of that expected and no changes are recommended.

Vested Withdrawals

Terminations With 5 or More Years of Service but
Before Age 55 with 25 Years of Service and
Before Eligible for Superannuation
Can Elect Immediate Retirement with an Actuarial Reduction
or Deferred Retirement

- Current basis is one set of assumptions for members with less than 10 years of service, and a different set of assumptions for members with at least 10 years of service
- Significant differences in withdrawal rates between the two service groups warrant continuation of separate assumption sets

Vested Withdrawals – Male

With at Least 5 but Less Than 10 Years of Service
Can Elect Immediate Retirement or Deferred Retirement

Average Age	Number of Separations: Actual	Expected: Current	Expected: Proposed	Exposed	Actual ÷ Expected: Current	Actual ÷ Expected: Proposed
Under 28	116	85	98	1,777	136%	118%
30	545	617	614	19,183	88	89
35	410	471	471	15,705	87	87
40	329	275	321	9,181	120	102
45	336	221	258	7,380	152	130
50	286	227	265	7,562	126	108
55	266	179	225	6,431	149	118
60	233	103	150	4,293	226	155
Total	2,521	2,178	2,402	71,512	116%	105%

Recommendation: Actual withdrawals were higher than expected for all ages, except ages 30 and 35, and we recommend increasing the rates at these ages. Actual withdrawals at age 30 were lower than expected and we recommend decreasing the rate at that age. Actual experience at age 35 is within an acceptable range and no change is recommended

Vested Withdrawals – Female

With at Least 5 but Less Than 10 Years of Service
Can Elect Immediate Retirement or Deferred Retirement

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
Under 28	306	362	350	4,115	85%	87%
30	2,602	3,250	2,839	43,672	80	92
35	1,670	1,755	1,732	31,486	95	96
40	1,293	943	1,155	25,661	137	112
45	1,582	1,067	1,398	34,946	148	113
50	1,567	1,130	1,412	37,664	139	111
55	1,062	724	905	24,139	147	117
60	630	349	449	9,971	180	140
Total	10,712	9,580	10,240	211,654	112%	105%

Recommendation: Actual withdrawals were less than expected for all ages up to age 35 and we recommend decreasing the rates at these ages. Actual withdrawals above age 35 were higher than expected and we recommend increasing the rates at these ages.

Vested Withdrawals - Male

With at Least 10 Years of Service
Can Elect Immediate Retirement or Deferred Retirement

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
Under 33	37	16	24	1,223	231%	154%
35	235	167	232	15,490	141	101
40	326	180	282	22,565	181	116
45	346	170	301	24,075	204	115
50	530	540	540	31,757	98	98
55	909	635	602	26,606	143	151
60	409	580	480	9,196	71	85
Total	2,792	2,288	2,461	130,912	122%	113%

Recommendation: Actual total withdrawals were higher than expected. The difference occurs mostly during the younger ages. We recommend an increase to the rates through age 45 and smooth the rates after age 45 to reflect the withdrawal pattern after that age.

Vested Withdrawals - Female

With at Least 10 Years of Service
Can Elect Immediate Retirement or Deferred Retirement

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
Under 33	75	56	67	1,692	134%	112%
35	801	546	823	27,436	147	97
40	720	427	604	40,243	169	119
45	844	377	730	48,660	224	116
50	1,532	1,282	1,461	83,496	120	105
55	3,103	2,198	2,530	88,898	141	123
60	1,974	2,569	2,165	37,458	77	91
Total	9,049	7,455	8,380	327,883	121%	108%

Recommendation: Actual total withdrawals were higher than expected. The difference occurs during all ages, except at age 60. We recommend an increase to the rates through age 55 and smooth the rates after age 55 to reflect the withdrawal pattern.

Early Retirement – Male

Age 55 with at Least 25 Years Service, but Not Eligible for Superannuation
Immediate Retirement with 3% per annum Early Retirement Reduction from Superannuation

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
55	911	603	904	6,029	151%	101%
56	953	861	890	5,740	111	107
57	600	560	579	3,735	107	104
58	422	390	403	2,600	108	105
59	333	323	323	1,797	103	103
60	92	52	62	518	177	148
61	58	129	107	429	45	54
Total	3,369	2,918	3,268	20,848	115%	103%

Recommendation: Actual total retirements were higher than expected. The difference occurs during all ages, except at age 61. We recommend an increase to the rates through age 58 and smooth the rates after age 58 to reflect the withdrawal pattern.

Early Retirement – Female

Age 55 with at Least 25 Years Service, but Not Eligible for Superannuation
Immediate Retirement with 3% per annum Early Retirement Reduction from Superannuation

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
55	1,813	1,173	1,759	11,725	155%	103%
56	1,707	1,276	1,649	10,636	134	104
57	1,333	917	1,184	7,641	145	113
58	894	690	892	5,752	130	100
59	832	791	791	4,653	105	105
60	402	350	350	2,330	115	115
61	331	646	539	2,154	51	61
Total	7,312	5,843	7,164	44,891	125%	102%

Recommendation: Actual total retirements were higher than expected. The difference occurs during all ages, except age 61. We recommend an increase to the rates through age 58 and smooth the rates after age 58 to reflect the withdrawal pattern.

Normal Retirement (Superannuation) - Male

Age 62, Age 60 With 30 Years, or 35 Years

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
Under 53	2	5	6	22	40%	33%
55	1,356	659	816	2,746	206	166
60	3,617	3,372	3,266	10,960	107	111
65	2,199	3,066	2,473	12,726	72	89
68	220	273	246	1,367	81	89
69	165	229	206	1,147	72	80
Subtotal under 70	7,559	7,604	7,013	28,968	99	108
70+	961	2,817	1,840	5,257	34	52
Total All Ages	8,520	10,421	8,853	34,225	82%	96%

Recommendation: Actual retirements after age 53 and prior to age 65 were higher than expected and we recommend an increase to the rates for these ages. Actual retirements after age 60 were less than expected and we recommend a decrease to these rates.

Normal Retirement (Superannuation) - Female

Age 62, Age 60 With 30 Years, or 35 Years

Number of Separations

Average Age	Actual	Expected Current	Expected Proposed	Exposed	Actual ÷ Expected Current	Actual ÷ Expected Proposed
Under 53	7	2	6	21	350%	117%
55	1,667	627	1,009	3,206	266	165
60	6,963	6,066	6,271	20,230	115	111
65	5,279	5,990	5,340	25,482	88	99
68	402	434	434	2,171	93	93
69	352	362	362	1,808	97	97
Subtotal under 70	14,670	13,481	13,422	52,918	109%	109%
70+	1,527	4,120	2,709	7,741	37	56
Total All Ages	16,197	17,601	16,131	60,659	92%	100%

Recommendation: Actual retirements prior to age 65 were higher than expected and we recommend an increase to the rates for these ages. Actual retirements after age 60 were less than expected and we recommend a decrease to these rates.

Cost Impact of Demographic Assumption Changes

Item	6/30/2010 Unfunded Accrued Liability	Funded Ratio	Normal Cost Rate	Employer Pension Rate[ø]	Employer Pension Contribution*
BEFORE CHANGES[ø]	**$19,699 Mil**	**75.1%**	**8.12%**	**18.27%**	**$2,578 Mil**
Demographic Assumptions					
(1) Post retirement mortality	1,264	(1.2)	.18	.82	116
(2) Death in-service	(96)	.2	(.03)	(.08)	(11)
(3) Disability retirement	(15)	.0	(.03)	(.04)	(6)
(4) Non-vested withdrawal	(33)	.0	.02	.00	0
(5) Withdrawal/Early retirement	(17)	.0	(.12)	(.12)	(17)
(6) Normal retirement	(34)	.0	.04	.02	3
TOTAL DEMOGRAPHIC CHANGES	**$1,069 Mil**	**(1.0)%**	**.06%**	**.60%**	**$85**
AFTER REFLECTING CHANGES[ø]	**$20,768 Mil**	**74.1%**	**8.18%**	**18.87%**	**$2,663 Mil**

ø Reflects the funding provisions of Act 120 (HB 2497) except for the applicable fiscal year 2012 pension rate collar.

* Based on the fiscal year 2012 appropriation pay of $14,112,000,000.

Economic Assumptions

Current Assumptions

- Rate of return - 8.0%
- Annual pay increase - 6.0%

  (30-year career average for member hired at age 30)

Setting Economic Assumptions

- Review past experience
- Review general practice
- Develop component parts of each assumption
  - Maintain linkage with investments
  - Maintain internal consistency
- Make judgment about future

Interest Rate and Salary Increase

Actual Past Experience				
		Return on Assets		
Fiscal Year	Increase in CPI-U	Market Value*	Actuarial Value**	Individual Salary Increases
2005/2006	4.3%	15.30%	7.90%	4.0%
2006/2007	2.7	22.93	13.94	3.9
2007/2008	5.0	(2.82)	12.43	7.3
2008/2009	(1.4)	(26.54)	3.54	5.8
2009/2010	1.1	14.59	3.09	5.2
Average	2.3%	4.69%	8.18%	5.2%
Current Assumption	3.25%	8.00%		6.00%
Conclusion	Reasonable	Reconsider		High
Proposal		7.75%		5.75%
		7.50%		5.50%
		7.25%		5.25%

* Provided by Wilshire Associates Incorporated, the PSERS investment consultant.
** Based on five-year asset smoothing method.

Salary Increase Rate

Average Age	Actual Percentage Increase						Assumption	
	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Total	Current	**Proposal 1***
20	14.7%	17.7%	24.6%	15.2%	15.7%	17.6%	11.21%	11.00%
25	6.7	8.7	12.4	10.3	8.9	9.5	10.00	10.00
30	5.8	6.3	10.1	7.7	6.9	7.4	9.00	8.50
35	5.4	5.6	9.0	7.0	6.4	6.7	8.00	7.50
40	4.6	4.9	8.2	6.5	5.8	6.1	7.00	6.50
45	4.0	4.0	7.2	5.8	5.0	5.2	5.50	5.50
50	3.1	3.0	6.2	4.9	4.5	4.3	4.75	4.50
55	2.7	2.1	5.4	4.3	3.8	3.6	4.50	4.00
60	3.5	2.1	5.0	4.1	3.6	3.7	4.25	4.00
65	4.0	2.0	4.7	4.0	3.3	3.6	4.25	4.00
70+	6.8	3.0	4.3	3.9	2.7	4.0	4.25	4.00
Total	4.0%	3.9%	7.3%	5.8%	5.2%	5.2%	6.00%	5.75%

* Proposal 2: 0.25% less than Proposal 1. Proposal 3: 0.50% less than Proposal 1.

Economic Assumption Components

	Current	Proposal 1	Proposal 2	Proposal 3
Interest				
– Inflation	3.25%	3.25%	3.25%	3.25%
– Real Return	4.75	4.50	4.25	4.00
	8.00%	7.75%	7.50%	7.25%
Salary Increase				
– Inflation	3.25%	3.25%	3.25%	3.25%
– Real Wage Growth/ Career Scale	2.75	2.50	2.25	2.00
	6.00%	5.75%	5.50%	5.25%

Change in Unfunded Accrued Liability due to Economic Assumption Changes (After Reflecting Proposed Demographic Assumptions)*

Average Annual Salary Increase Assumption	Valuation Interest Rate Assumption			
	8.00%	7.75%	7.50%	7.25%
6.00% (current)	-	$2,004 Mil	$4,048 Mil	$6,175 Mil
5.75%	$(326) Mil	$1,632	$3,669	$5,789
5.50%	$(700)	$1,248	$3,275	$5,384
5.25%	$(1,086)	$850	$2,865	$4,962

* Reflects the funding provisions of Act 120 (HB 2497).

Comparison of Funded Ratios under the Various Economic Assumptions (After Reflecting Proposed Demographic Assumptions)*

Average Annual Salary Increase Assumption	Valuation Interest Rate Assumption			
	8.00%	7.75%	7.50%	7.25%
6.00% (current)	74.1%	72.3%	70.5%	68.8%
5.75%	74.4%	72.6%	70.9%	69.1%
5.50%	74.8%	73.0%	71.2%	69.4%
5.25%	75.1%	73.3%	71.5%	69.8%

* Reflects the funding provisions of Act 120 (HB 2497).

Change in Employer Pension Contribution Rates* due to Economic Assumption Changes (After Reflecting Proposed Demographic Assumptions)

Average Annual Salary Increase Assumption	Valuation Interest Rate Assumption			
	8.00%	7.75%	7.50%	7.25%
6.00% (current)				
Normal Cost Rate		.72%	1.54%	2.41%
Unfunded Liability Rate		.76%	1.49%	2.22%
Employer Pension Rate		1.48%	3.03%	4.63%
5.75%				
Normal Cost Rate	(.49)%	.26%	1.06%	1.91%
Unfunded Liability Rate	(.16)%	.57%	1.30%	2.03%
Employer Pension Rate	(.65)%	.83%	2.36%	3.94%
5.50%				
Normal Cost Rate	(.88)%	(.15)%	.63%	1.46%
Unfunded Liability Rate	(.35)%	.38%	1.11%	1.84%
Employer Pension Rate	(1.23)%	.23%	1.74%	3.30%
5.25%				
Normal Cost Rate	(1.27)%	(.56)%	.20%	1.00%
Unfunded Liability Rate	(.55)%	.18%	.91%	1.64%
Employer Pension Rate	(1.82)%	(.38)%	1.11%	2.64%

* Reflects the funding provisions of Act 120 (HB 2497) except for the applicable fiscal year 2012 pension rate collar.

Change in Employer Pension Contribution Amount* due to Economic Assumption Changes (After Reflecting Proposed Demographic Assumptions)

Average Annual Salary Increase Assumption	Valuation Interest Rate Assumption			
	8.00%	7.75%	7.50%	7.25%
6.00% (current)	-	$209 Mil	$428 Mil	$654 Mil
5.75%	$(92) Mil	$117	$333	$556
5.50%	$(173)	$33	$246	$465
5.25%	$(257)	$(53)	$156	$372

* Based on fiscal year 2012 appropriation payroll of $14,112,000,000.

Actuarial Cost Method

Current Method

- Each year when the valuation is performed, the employer contribution rate for the second succeeding fiscal year is determined
  - The July 2010 valuation sets the contribution rate for fiscal 2011/2012
- One step in determining the employer rate is the calculation of an average normal contribution rate for all members active on the valuation date
- A normal contribution rate for each member is determined individually
- Calculate individual member normal contribution rates by determining a pay-weighted average normal contribution rate

Actuarial Cost Method

Recommendation

- Continue to calculate individual member normal contribution rates by determining a pay-weighted average normal contribution rate

- The cost method complies with the pension code and is a very common method among other public retirement systems

Assumption Setting

- Actuary advises Board on adequacy of assumptions
  - Experience study
  - Judgment about future
- Board sets assumptions based on information provided

Next Steps for the March 9, 2011 Board Meeting

- Buck presentation on how changes to the option factors impact benefits
- Buck presentation on interest rates used by other large public retirement systems
- Wilshire presentation on interest rates
- Any additional information requested by the Board
- Board to vote on
  - Recommended assumption changes
  - Effective valuation date of assumption changes