

Options to resolve the rate spike



Options

- **Fundamentally, there are only three ways to address the funding issues at the Pension Fund**
 - **Increase the funding of the System**
 - **Decrease/cut the costs/liabilities of the System**
 - **Defer the liabilities of the System**

Options

- **Increase Funding to the System:**
 - **Increased employer contributions**
 - Employer rate are already projected to increase significantly in FY 2012-2013 and are expected to continue well into the future beyond FY 2012-2013
 - Unlikely the Commonwealth and School Employers can afford these increased costs without significant and perhaps prohibitive tax increases at the State and/or Local levels
 - **Increased employee contributions**
 - Can only occur prospectively for new employees due to constitutional impairment of contract issues, therefore not a significant impact on current unfunded liabilities
 - **Significant increased investment returns**
 - Unlikely, under current market conditions

Wilshire's Expected Return Assumptions

	<u>May-09</u>	<u>January-10</u>	<u>Change</u>	<u>Risk</u> <u>(Std. Dev.)</u>
U.S. Stocks	8.00%	7.50%	-0.50%	16.0%
Core Bonds	4.25%	4.25%	0.00%	5.0%
Cash Equivalents	2.25%	3.00%	0.75%	1.25%
DEV ex U.S. Stocks	8.00%	7.50%	-0.50%	17.0%
Emerging Mkt. Stks	8.00%	7.50%	-0.50%	24.0%
Non-U.S. Bonds	3.90%	3.90%	0.00%	4.0%
High-Yield Debt	6.75%	6.00%	-0.75%	10.0%
TIPS	3.50%	3.75%	0.25%	6.0%
Public Real Estate	7.25%	6.50%	-0.75%	15.0%
Private Real Estate	7.90%	7.35%	-0.55%	12.25%
Private Markets	11.15%	10.00%	-1.15%	26.0%
Commodities	3.75%	4.50%	0.75%	13.0%
<u>Inflation:</u>	1.75%	2.50%	0.75%	1.75%
<u>Real Returns:</u>				
U.S. Stocks	6.25%	5.00%	-1.25%	
U.S. Bonds	2.50%	1.75%	-0.75%	
Cash Equivalents	0.50%	0.50%	0.00%	

Options

- **Seek another source of funding:**
 - **Use of Federal stimulus funds**
 - Unclear if these funds can legally be directly used to fund pension contributions
 - Obtain a formal Federal bailout of public pension funds
 - Little or no discussion of this option is occurring
 - **Use the proceeds of a pension obligation bond (POB)**
 - POB's are debt instruments issued by a governmental entity to fund all or a portion of the Unfunded Actuarially Accrued Liabilities for pension and/or Other Post Employment Benefits
 - Significant risk involved to the Plan Sponsor/Bond issuer if the pension plan's investment returns are less than the debt costs
 - Potential legal issue whether the Commonwealth can issue a POB
 - May require the approval of the voters via a referendum

Options

- **Decrease/cut the costs or liabilities of the System to potentially solve funding issues**
 - **Convert PSERS to a Defined Contribution or Hybrid plan**
 - A Hybrid plan typically is a combination of both DC and DB components
 - Proposed by PSBA
 - **Maintain the existing Defined Benefit plan with benefit modifications/cuts, e.g.:**
 - Reduce multiplier/repeal Act 2001-9
 - Change terms of retirement
 - Return to a 10-year vesting period
 - Prohibit the withdrawal of a member's contribution

Options

- Each of these would have limited impact on current funding issues because it could only be done prospectively for new employees
 - Any such changes would have to be prospective only, (meaning impacting new hires after the effective date of the change), to avoid the PA Constitution's prohibition against the impairment of a contract (Article I, Section 17)
 - The courts have ruled that PSERS' pension benefits are contracts with the existing members of the System, regardless of vesting, and thus subject to the constitutional impairment of contract prohibition
 - See e.g. *Pennsylvania Federation of Teachers v. School District of Philadelphia*, 484 A.2d 751 (Pa. 1984) and *American Federation of State, County and Municipal Employees, AFL-CIO, v. Commonwealth*, 479 A.2d 962 (Pa. 1984)
- Each, however, would reduce the long term liability of the System and thus reduce the rate plateau

Options

- **Defer liabilities at the System into the future to marginally postpone the impact of funding issues at the System**
 - **Further adjust the actuarial funding methods at the System**
 - **No single or combination of changes resolves the rate spike**
 - **The Governor's original funding proposal**
 - **Uses legislatively prescribed employer contribution rate collars and floors that are tied to the funding status of the System**
- **A copy of the proposal is available at the following link:**
 - **http://www.budget.state.pa.us/portal/server.pt/community/financial_reports/4574**

Options

- **Governor's latest funding proposal**
 - **Fresh start accrued liability over thirty years**
 - **1% rate cap for FY 2010-2011**
 - **Will require the PSERB to re-certify the employer contribution rate established in December 2009**
 - **3% rate cap for FY 2011-2012 and thereafter**
- **For more information on the Governor's proposal see pages 20-21 in the Governor's 2010-2011 Budget in Brief available at the following link:**
 - **http://www.governor.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_24980_2985_368304_43/http%3B/pubcontent.state.pa.us/publishedcontent/publicsh/cop_general_government_operations/pagov/media/latest_news/budget_in_brief_2010_11_final.pdf**

Options

- **Observations concerning the Governor's latest proposal:**
 - **Next year's rate of 8.22% would be reduced to 5.64%**
 - **The rate spike in FY 2012-2013 would be reduced from 29.22% to 11.72%**
 - **The proposal provides short term cash flow relief by significant additional deferral of liability and thus significant additional cost**
 - **The new and higher rate peak is projected to be 36.48% in FY 2021-2022 as opposed to 33.60% in FY 2014-2015**
 - **PSERS' funding level will be driven below 50% for seven years, presuming PSERS meets its 8% investment return assumption**
 - **The proposal will aggravate PSERS' current liquidity concerns**
 - **The proposal makes PSERS more vulnerable to a future downturn in the investment markets**

**Employer Contribution projections using salary projections from June 30, 2009 actuarial valuation
Governor's Proposal vs Current Law Actuarial Projections**

2/26/2010

A	B	C	D=B*C	E	F=B*E	G=D-F	H	I=H*F	J	K=J*I	L=I*.2875	M=K+L	N	O=N-M
Fiscal Year	Approp Payroll Projected (\$)	Current Law Projected Employer Contribution Rate	Current Law Total Employer Contributions \$	Governor's Proposal Projected Employer Contribution Rate	Governor's Proposal Total Employer Contributions \$	Total Employer Contributions Difference between Current Law and Governor's Proposal (\$)	Est. State Share	Governor's Proposal State Share before Quarter Lag \$	**	Governor's Proposal 3 qtrs of current fiscal year (\$)	Governor's Proposal 4th Qtr Prior * Fiscal year (\$)	Governor's Proposal Commonwealth Share \$	Current Law June 30, 2009 Actuarial Projections Commonwealth Share \$	Commonwealth Share Difference between Current Law and Governor's Proposal (\$)
2008-2009	12,500,000,000	4.76%	595,000,000	4.76%	595,000,000	-	54.00%	321,300,000	0.7125	228,926,250	142,586,676	371,512,926	371,512,926	-
2009-2010	12,899,000,000	4.78%	616,572,200	4.78%	616,572,200	-	54.88%	338,374,823	0.7125	241,082,062	92,373,750	333,465,812	333,465,812	-
2010-2011	13,510,000,000	8.22%	1,110,522,000	5.64%	761,964,000	348,558,000	55.21%	420,680,324	0.7125	299,734,731	97,282,762	397,017,493	534,130,109	137,112,696
2011-2012	13,921,000,000	10.59%	1,474,233,900	8.72%	1,213,911,200	260,322,700	55.54%	674,206,280	0.7125	480,371,975	120,945,593	601,317,568	759,659,293	158,341,725
2012-2013	14,345,000,000	29.22%	4,191,609,000	11.72%	1,681,234,000	2,510,375,000	55.87%	939,305,436	0.7125	669,255,123	193,894,306	863,089,429	1,903,971,497	1,040,882,088
2013-2014	14,798,000,000	32.09%	4,748,678,200	14.71%	2,176,785,800	2,571,892,400	56.20%	1,223,353,620	0.7125	871,639,454	270,050,313	1,141,689,767	2,574,771,903	1,433,082,137
2014-2015	15,280,000,000	33.60%	5,134,080,000	17.70%	2,704,560,000	2,429,520,000	56.53%	1,528,887,768	0.7125	1,089,332,535	351,714,166	1,441,046,700	2,835,153,170	1,394,106,469
2015-2016	15,795,000,000	33.27%	5,254,996,500	20.68%	3,266,406,000	1,988,590,500	56.86%	1,857,278,452	0.7125	1,323,310,897	439,555,233	1,762,866,130	2,963,353,529	1,200,487,399
2016-2017	16,341,000,000	32.74%	5,350,043,400	23.67%	3,867,914,700	1,482,128,700	57.19%	2,212,060,417	0.7125	1,576,093,047	533,967,555	2,110,060,602	3,039,076,412	929,015,811
2017-2018	16,927,000,000	32.06%	5,426,796,200	26.65%	4,511,045,500	915,750,700	57.32%	2,594,753,372	0.7125	1,848,761,777	635,967,370	2,484,729,147	3,103,724,710	618,965,563
2018-2019	17,558,000,000	31.27%	5,490,386,600	29.64%	5,204,191,200	286,195,400	57.85%	3,010,624,609	0.7125	2,145,070,034	745,991,594	2,891,061,628	3,160,463,699	269,402,071
2019-2020	18,232,000,000	30.42%	5,546,174,400	32.61%	5,945,455,200	(399,280,800)	58.18%	3,459,065,835	0.7125	2,464,594,408	865,554,575	3,330,138,983	3,212,223,776	(117,915,207)
						12,394,052,600								
						Cumulative Difference Gov. vs. Current								
						4,904,496,001								
						Cumulative Cost of Deferral								
						(calculated based on 8% return)								
						7,063,510,732								
						Cumulative Difference Gov. vs. Current								

* - For Commonwealth budgetary purposes there is a one quarter lag in the collection of employer contributions
 ** - Estimate percentage based on the 1 - 28.75%, which is the historical average of the 4th qtr of the fiscal year salaries
 *** - Governor's 2009-2010 Budget amount is \$334,476,000
 **** - Assumes annual investment rate of return of 8%

Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding

Market Returns Scenario 1

***Alternative Funding assumptions:**

- Fresh-start accrued liability payments over 30 years.

- If applicable, the FYE 2011 rate is limited to the FYE 2010 pension rate + 1% and all succeeding years are limited to the prior FYE's pension rate + 3%.

Fiscal Year Ending June	Appropriation Payroll (thousands)	Fiscal Year Market Rate of Return	Employee Contribution Rate	Current Law		Alternative Funding*		Health Care Contribution	Total Employee Rate		Funded Ratio	
				Employer Normal Cost	Unfunded Liability Rate	Employer Normal Cost	Unfunded Liability Rate		Current Law	Alternative Funding*	Current Law	Alternative Funding*
2008	\$ 12,881,244	(2.82) %	7.25 %	6.68 %	(0.24) %	6.68 %	(0.24) %	4.00 %	7.13 %	7.13 %	86.0 %	86.0 %
2009	12,500,000	(26.54)	7.29	6.68	(3.37)	6.68	(3.37)	4.00	4.76	4.76	79.2	79.2
2010	12,899,000	8.00	7.32	7.35	(3.72)	7.35	(3.72)	4.00	4.78	4.78	73.4	73.4
2011	13,510,000	8.00	7.34	8.08	(0.50)	8.08	11.51	4.00	8.22	5.64	66.8	66.3
2012	13,920,859	8.00	7.37	8.02	1.85	8.02	13.51	4.00	10.59	8.72	58.3	57.4
2013	14,345,321	8.00	7.38	8.00	20.50	8.00	17.43	4.00	29.22	11.72	54.2	50.3
2014	14,797,664	8.00	7.40	7.96	23.42	7.96	22.22	4.00	32.09	14.71	55.1	48.1
2015	15,280,148	8.00	7.42	7.93	24.97	7.93	26.04	4.00	33.60	17.70	56.7	46.7
2016	15,794,512	8.00	7.43	7.91	24.68	7.91	27.22	4.00	33.27	20.68	58.5	46.0
2017	16,341,270	8.00	7.44	7.89	24.18	7.89	28.23	4.00	32.74	23.67	60.5	45.9
2018	16,926,735	8.00	7.45	7.87	23.54	7.87	28.85	4.00	32.06	26.65	62.6	46.5
2019	17,557,664	8.00	7.46	7.85	22.78	7.85	29.12	4.00	31.27	29.64	64.7	47.6
2020	18,232,076	8.00	7.46	7.84	21.97	7.84	29.07	4.00	30.42	32.61	66.8	49.4
2021	18,948,040	8.00	7.47	7.82	21.15	7.82	28.72	4.00	29.56	35.59	68.9	51.7
2022	19,703,172	8.00	7.47	7.81	20.35	7.81	28.08	4.00	28.75	36.48	71.0	54.4
2023	20,493,701	8.00	7.48	7.79	19.57	7.79	27.14	4.00	27.95	35.52	73.0	57.0
2024	21,321,539	8.00	7.48	7.78	18.81	7.78	26.09	4.00	27.18	34.46	75.0	59.6
2025	22,185,011	8.00	7.48	7.77	18.08	7.77	25.08	4.00	26.44	33.44	77.0	62.2
2026	23,081,835	8.00	7.48	7.77	17.38	7.77	24.10	4.00	25.74	32.46	79.0	64.6
2027	24,006,797	8.00	7.49	7.75	16.71	7.75	23.17	4.00	25.05	31.51	80.9	67.1
2028	24,958,599	8.00	7.49	7.74	16.07	7.74	22.29	4.00	24.40	30.62	82.8	69.4
2029	25,937,456	8.00	7.49	7.73	15.46	7.73	21.45	4.00	23.78	29.77	84.6	71.8
2030	26,943,962	8.00	7.49	7.72	14.88	7.72	20.65	4.00	23.19	28.96	86.5	74.0
2031	27,978,093	8.00	7.49	7.71	14.33	7.71	19.88	4.00	22.63	28.18	88.2	76.2
2032	29,041,527	8.00	7.49	7.70	13.81	7.70	19.16	4.00	22.10	27.45	90.0	78.4
2033	30,136,493	8.00	7.49	7.69	11.18	7.69	18.46	4.00	19.46	26.74	91.4	80.5
2034	31,268,441	8.00	7.49	7.68	9.89	7.68	17.79	4.00	18.16	26.06	92.7	82.6
2035	32,446,271	8.00	7.50	7.66	8.57	7.66	17.15	4.00	16.82	25.40	93.8	84.6
2036	33,675,824	8.00	7.50	7.64	7.42	7.64	16.52	4.00	15.65	24.75	94.7	86.6
2037	34,956,565	8.00	7.50	7.63	6.11	7.63	15.91	4.00	14.33	24.13	95.5	88.6
2038	36,292,078	8.00	7.50	7.62	5.67	7.62	15.33	4.00	13.88	23.54	96.2	90.6
2039	37,690,635	8.00	7.50	7.60	6.45	7.60	14.76	4.00	14.64	22.95	97.1	92.5

The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.

Public School Employees' Retirement System of Pennsylvania
 Projection of Contribution Rates and Funded Ratios As of June 30, 2009
 Market Returns and Pension Rate Floors Set by User
 Contributions Determined under Current Law

Market Returns Scenario 1

Fiscal Year Ending June	Appropriation Payroll (thousands)	Fiscal Year Market Rate of Return	Pension Rate Floor	Employee Contribution Rate	Employer Normal Cost	Unfunded Liability Rate	Preliminary Employer Pension Rate	Health Care Contribution	Total Employer Contribution Rate	Projected Total Employer Contribution (thousands)	Funded Ratio	Unfunded Accrued Liability (\$ Millions)	GASB Compliant?
2008	\$ 12,881,244	(2.82) %	4.00 %	7.25 %	6.68 %	(0.24) %	6.44 %	0.69 %	7.13 %	\$ 616,572	86.0 %	\$ 9,923.0	
2009	12,500,000	(26.54)	4.00	7.29	6.68	(3.37)	3.31	0.76	4.76		79.2	15,739.2	
2010	12,899,000	8.00	4.00	7.32	7.35	(3.72)	3.63	0.78	4.78		73.4	20,898.6	
2011	13,510,000	8.00	4.00	7.34	8.08	(0.50)	7.58	0.64	8.22	1,110,522	66.8	27,049.9	
2012	13,920,859	8.00	4.00	7.37	8.02	1.85	9.87	0.72	10.59	1,474,219	58.3	35,213.4	
2013	14,345,321	8.00	4.00	7.38	8.00	20.50	28.50	0.72	29.22	4,191,703	54.2	40,138.3	yes
2014	14,797,664	8.00	4.00	7.40	7.96	23.42	31.38	0.71	32.09	4,748,570	55.1	40,732.8	yes
2015	15,280,148	8.00	4.00	7.42	7.93	24.97	32.90	0.70	33.60	5,134,130	56.7	40,743.0	yes
2016	15,794,512	8.00	4.00	7.43	7.91	24.68	32.59	0.68	33.27	5,254,834	58.5	40,443.9	yes
2017	16,341,270	8.00	4.00	7.44	7.89	24.18	32.07	0.67	32.74	5,350,132	60.5	39,884.5	yes
2018	16,926,735	8.00	4.00	7.45	7.87	23.54	31.41	0.65	32.06	5,426,711	62.6	39,149.0	yes
2019	17,557,664	8.00	4.00	7.46	7.85	22.78	30.63	0.64	31.27	5,490,282	64.7	38,312.8	yes
2020	18,232,076	8.00	4.00	7.46	7.84	21.97	29.81	0.61	30.42	5,546,198	66.8	37,388.2	yes
2021	18,948,040	8.00	4.00	7.47	7.82	21.15	28.97	0.59	29.56	5,601,041	68.9	36,378.2	yes
2022	19,703,172	8.00	4.00	7.47	7.81	20.35	28.16	0.59	28.75	5,664,662	71.0	35,282.2	yes
2023	20,493,701	8.00	4.00	7.48	7.79	19.57	27.36	0.59	27.95	5,727,989	73.0	34,096.3	yes
2024	21,321,539	8.00	4.00	7.48	7.78	18.81	26.59	0.59	27.18	5,795,194	75.0	32,814.5	yes
2025	22,185,011	8.00	4.00	7.48	7.77	18.08	25.85	0.59	26.44	5,865,717	77.0	31,429.6	yes
2026	23,081,835	8.00	4.00	7.48	7.77	17.38	25.15	0.59	25.74	5,941,264	79.0	29,933.6	yes
2027	24,006,797	8.00	4.00	7.49	7.75	16.71	24.46	0.59	25.05	6,013,703	80.9	28,317.8	yes
2028	24,958,599	8.00	4.00	7.49	7.74	16.07	23.81	0.59	24.40	6,089,898	82.8	26,572.8	yes
2029	25,937,456	8.00	4.00	7.49	7.73	15.46	23.19	0.59	23.78	6,167,927	84.6	24,688.1	yes
2030	26,943,962	8.00	4.00	7.49	7.72	14.88	22.60	0.59	23.19	6,248,305	86.5	22,652.6	yes
2031	27,978,093	8.00	4.00	7.49	7.71	14.33	22.04	0.59	22.63	6,331,442	88.2	20,454.2	yes
2032	29,041,527	8.00	4.00	7.49	7.70	13.81	21.51	0.59	22.10	6,418,177	90.0	18,080.0	yes
2033	30,136,493	8.00	4.00	7.49	7.69	11.18	18.87	0.59	19.46	5,864,562	91.4	16,158.1	yes
2034	31,268,441	8.00	4.00	7.49	7.68	9.89	17.57	0.59	18.16	5,678,349	92.7	14,357.1	yes
2035	32,446,271	8.00	4.00	7.50	7.66	8.57	16.23	0.59	16.82	5,457,463	93.8	12,724.7	yes
2036	33,675,824	8.00	4.00	7.50	7.64	7.42	15.06	0.59	15.65	5,270,266	94.7	11,242.6	yes
2037	34,956,565	8.00	4.00	7.50	7.63	6.11	13.74	0.59	14.33	5,009,276	95.5	10,006.0	yes
2038	36,292,078	8.00	4.00	7.50	7.62	5.67	13.29	0.59	13.88	5,037,340	96.2	8,748.9	yes
2039	37,690,635	8.00	4.00	7.50	7.60	6.45	14.05	0.59	14.64	5,517,909	97.1	7,017.7	yes

The Board at its January 2009 meeting adapted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.

Public School Employees' Retirement System of Pennsylvania

Projection of Contribution Rates and Funded Ratios As of June 30, 2009

Market Returns and Pension Rate Floors Set by User

Market Returns Scenario 1

Alternative Funding assumptions:

- Fresh-start accrued liability payments over 30 years.

- If applicable, the FYE 2011 rate is limited to the FYE 2010 pension rate + 1% and all succeeding years are limited to the prior FYE's pension rate + 3%.

Fiscal Year Ending June	Appropriation Payroll (thousands)	Fiscal Year Market Rate of Return	Pension Rate Floor	Employee Contribution Rate	Employer Normal Cost	Unfunded Liability Rate	Preliminary Employer Pension Rate	Health Care Contribution	Total Employer Contribution Rate	Projected Total Employer Contribution (thousands)	Funded Ratio	Unfunded Accrued Liability (\$ Millions)	GASB Compliant?
2008	\$ 12,881,244	(2.82) %	4.00 %	7.25 %	6.68 %	(0.24) %	6.44 %	0.69 %	7.13 %		86.0 %	\$ 9,923.0	
2009	12,500,000	(26.54)	4.00	7.29	6.68	(3.37)	3.31	0.76	4.76		79.2	15,739.2	
2010	12,899,000	8.00	4.00	7.32	7.35	(3.72)	3.63	0.78	4.78	\$ 616,572	73.4	20,898.6	
2011	13,510,000	8.00	4.00	7.34	8.08	11.51	19.59	0.64	5.64	761,964	66.3	27,477.1	
2012	13,920,859	8.00	4.00	7.37	8.02	13.51	21.53	0.72	8.72	1,213,899	57.4	36,010.9	
2013	14,345,321	8.00	4.00	7.38	8.00	17.43	25.43	0.72	11.72	1,681,272	50.3	43,592.9	
2014	14,797,664	8.00	4.00	7.40	7.96	22.22	30.18	0.71	14.71	2,176,736	48.1	47,130.6	
2015	15,280,148	8.00	4.00	7.42	7.93	26.04	33.97	0.70	17.70	2,704,586	46.7	50,185.9	
2016	15,794,512	8.00	4.00	7.43	7.91	27.22	35.13	0.68	20.68	3,266,305	46.0	52,725.0	
2017	16,341,270	8.00	4.00	7.44	7.89	28.23	36.12	0.67	23.67	3,867,979	45.9	54,716.7	
2018	16,926,735	8.00	4.00	7.45	7.87	28.85	36.72	0.65	26.65	4,510,975	46.5	56,155.4	
2019	17,557,664	8.00	4.00	7.46	7.85	29.12	36.97	0.64	29.64	5,204,092	47.6	57,021.6	yes
2020	18,232,076	8.00	4.00	7.46	7.84	29.07	36.91	0.61	32.61	5,945,480	49.4	57,230.2	yes
2021	18,948,040	8.00	4.00	7.47	7.82	28.72	36.54	0.59	35.59	6,743,607	51.7	56,676.9	yes
2022	19,703,172	8.00	4.00	7.47	7.81	28.08	35.89	0.59	36.48	7,187,717	54.4	55,681.4	yes
2023	20,493,701	8.00	4.00	7.48	7.79	27.14	34.93	0.59	35.52	7,279,363	57.0	54,574.9	yes
2024	21,321,539	8.00	4.00	7.48	7.78	26.09	33.87	0.59	34.46	7,347,402	59.6	53,378.8	yes
2025	22,185,011	8.00	4.00	7.48	7.77	25.08	32.85	0.59	33.44	7,418,668	62.2	52,086.5	yes
2026	23,081,835	8.00	4.00	7.48	7.77	24.10	31.87	0.59	32.46	7,492,364	64.6	50,690.5	yes
2027	24,006,797	8.00	4.00	7.49	7.75	23.17	30.92	0.59	31.51	7,564,542	67.1	49,182.8	yes
2028	24,958,599	8.00	4.00	7.49	7.74	22.29	30.03	0.59	30.62	7,642,323	69.4	47,554.4	yes
2029	25,937,456	8.00	4.00	7.49	7.73	21.45	29.18	0.59	29.77	7,721,581	71.8	45,795.6	yes
2030	26,943,962	8.00	4.00	7.49	7.72	20.65	28.37	0.59	28.96	7,802,971	74.0	43,896.2	yes
2031	27,978,093	8.00	4.00	7.49	7.71	19.88	27.59	0.59	28.18	7,884,227	76.2	41,844.8	yes
2032	29,041,527	8.00	4.00	7.49	7.70	19.16	26.86	0.59	27.45	7,971,899	78.4	39,629.3	yes
2033	30,136,493	8.00	4.00	7.49	7.69	18.46	26.15	0.59	26.74	8,058,498	80.5	37,236.6	yes
2034	31,268,441	8.00	4.00	7.49	7.68	17.79	25.47	0.59	26.06	8,148,556	82.6	34,652.5	yes
2035	32,446,271	8.00	4.00	7.50	7.66	17.15	24.81	0.59	25.40	8,241,353	84.6	31,861.6	yes
2036	33,675,824	8.00	4.00	7.50	7.64	16.52	24.16	0.59	24.75	8,334,766	86.6	28,847.4	yes
2037	34,956,565	8.00	4.00	7.50	7.63	15.91	23.54	0.59	24.13	8,435,019	88.6	25,592.1	yes
2038	36,292,078	8.00	4.00	7.50	7.62	15.33	22.95	0.59	23.54	8,543,155	90.6	22,076.4	yes
2039	37,690,635	8.00	4.00	7.50	7.60	14.76	22.36	0.59	22.95	8,650,001	92.5	18,279.4	yes

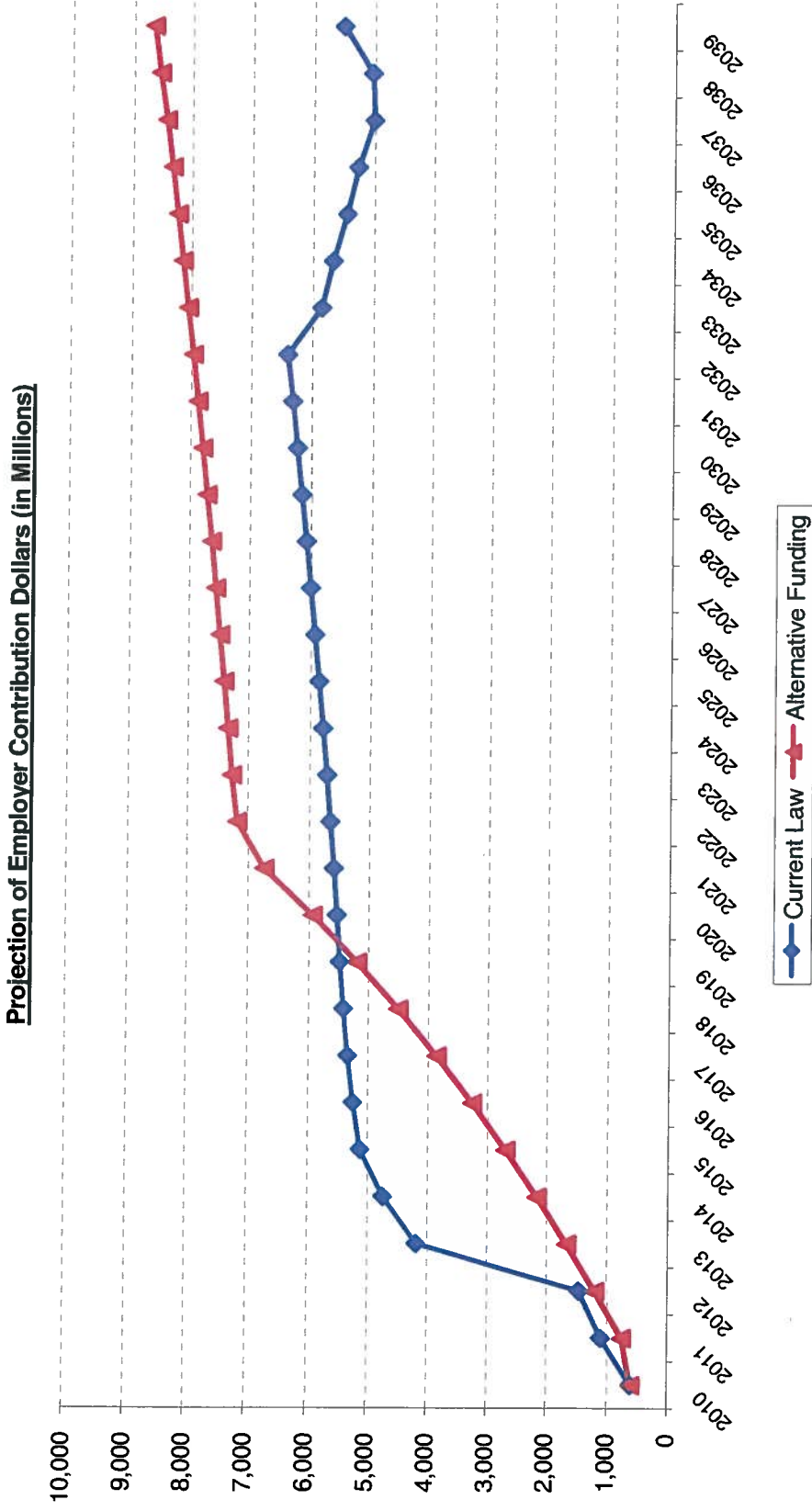
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**Public School Employees' Retirement System of Pennsylvania
Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding**

Market Returns Scenario 1

Alternative Funding Assumptions:

- Fresh-start accrued liability payments over 30 years.
- If applicable, the FYE 2011 pension rate + 1% and all succeeding years are limited to the prior FYE's pension rate + 3%.



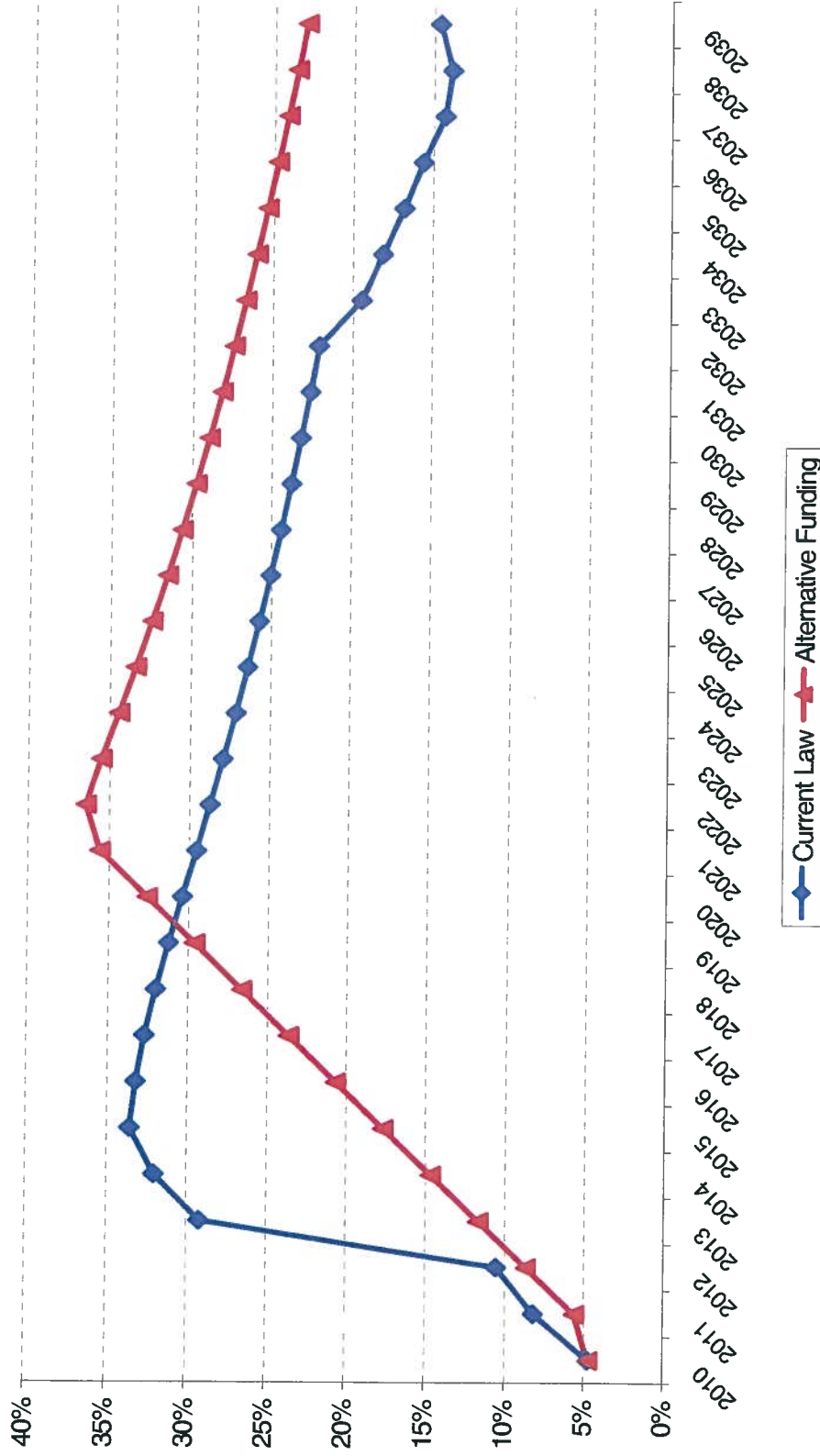
C:\Documents and Settings\jclay\Local Settings\Temporary Internet Files\OLK31\Funding Proj - 2009 Val - Version 2 (Dec 22 09 Request).xls Contribution Dollars
1/14/2010 9:51

**Public School Employees' Retirement System of Pennsylvania
Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding
Market Returns Scenario 1**

Alternative Funding Assumptions:

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- If applicable, the FYE 2011 rate is limited to the FYE 2010 pension rate + 1% and all succeeding years are limited to the prior FYE's pension rate + 3%.

Projection of Total Employer Contribution Rate

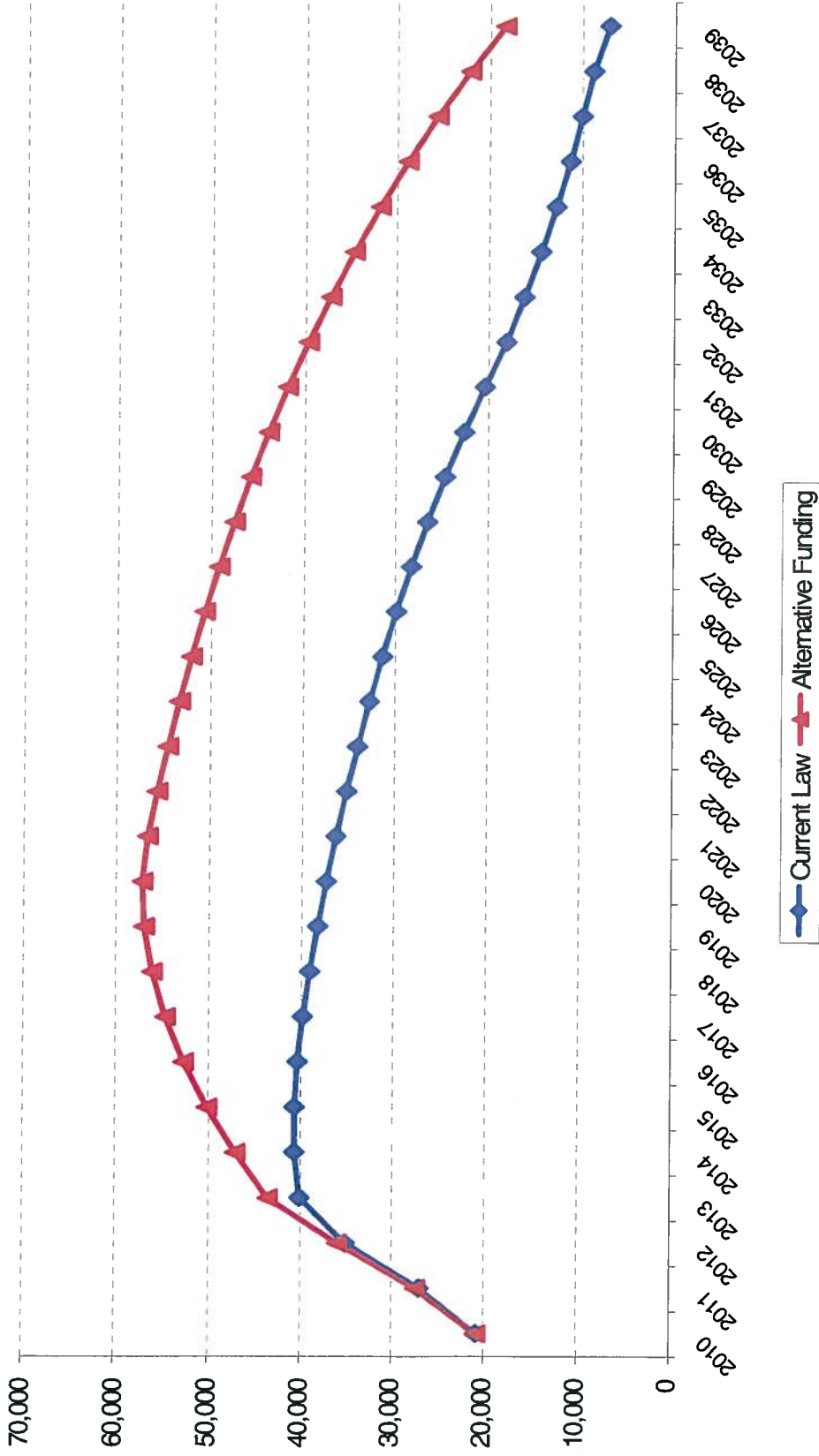


Public School Employees' Retirement System of Pennsylvania
Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding
Market Returns Scenario 1

Alternative Funding Assumptions:

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- If applicable, the FYE 2011 pension rate + 1% and all succeeding years are limited to the prior FYE's pension rate + 3%.

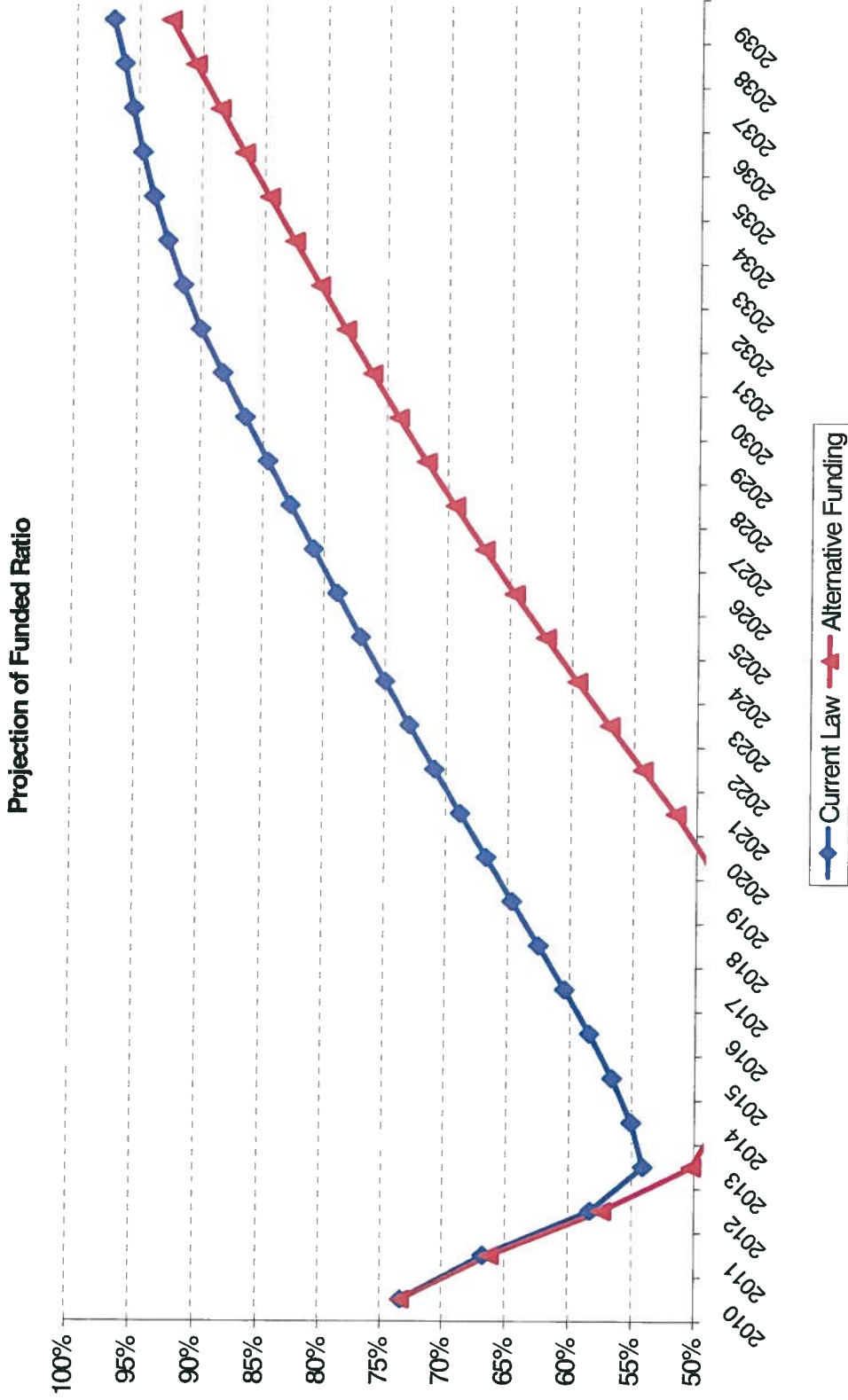
Projection of Unfunded Liability (in Millions)



**Public School Employees' Retirement System of Pennsylvania
Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding
Market Returns Scenario 1**

Alternative Funding Assumptions:

- Fresh-start accrued liability payments over 30 years.
- If applicable, the FYE 2011 rate is limited to the FYE 2010 pension rate + 1% and all succeeding years are limited to the prior FYE's pension rate + 3%.



Public School Employees' Retirement System of Pennsylvania
 Projection of Contribution Rates and Funded Ratios As of June 30, 2009

Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding

Market Returns Scenario 1

*Alternative Funding assumptions:

- Fresh-start accrued liability payments over 30 years.

- If applicable, the FYE 2011 rate is limited to the FYE 2010 pension rate + 1.00% and all succeeding years are limited to the prior FYE's pension rate + 3%.

Fiscal Year Ending June	Appropriation Payroll (thousands)	Fiscal Year Market Rate of Return	Employee Contribution Rate	Current Law		Alternative Funding*		Pension Rate Floor	Health Care Contribution	Total Employer Rate		Funded Ratio	
				Employer Normal Cost	Unfunded Liability Rate	Employer Normal Cost	Unfunded Liability Rate			Current Law	Alternative Funding*	Current Law	Alternative Funding*
2008	\$ 12,881,244	(2.82) %	7.25 %	6.68 %	(0.24) %	6.68 %	(0.24) %	4.00 %	0.69 %	7.13 %	7.13 %	86.0 %	86.0 %
2009	12,500,000	(26.54)	7.29	6.68	(3.37)	6.68	(3.37)	4.00	0.76	4.76	4.76	79.2	79.2
2010	12,899,000	8.00	7.32	7.35	(3.72)	7.35	(3.72)	4.00	0.78	4.78	4.78	73.4	73.4
2011	13,510,000	(7.40)	7.34	8.08	(0.50)	8.08	11.51	4.00	0.64	8.22	5.64	65.2	64.9
2012	13,920,819	(5.30)	7.37	8.02	1.85	8.02	13.51	4.00	0.72	10.59	8.72	54.0	53.3
2013	14,345,320	2.70	7.38	8.00	21.35	8.00	18.17	4.00	0.72	30.07	11.72	46.7	42.9
2014	14,797,664	8.00	7.40	7.96	25.72	7.96	24.33	4.00	0.71	34.39	14.71	44.5	37.3
2015	15,280,148	8.00	7.42	7.93	28.92	7.93	29.81	4.00	0.70	37.55	17.70	43.2	32.3
2016	15,794,512	8.00	7.43	7.91	30.22	7.91	32.77	4.00	0.68	38.81	20.68	43.6	29.3
2017	16,341,270	8.00	7.44	7.89	31.27	7.89	35.64	4.00	0.67	39.83	23.67	45.4	27.8
2018	16,926,735	8.00	7.45	7.87	31.34	7.87	37.47	4.00	0.65	39.86	26.65	47.9	27.4
2019	17,557,664	8.00	7.46	7.85	30.70	7.85	38.49	4.00	0.64	39.19	29.64	50.6	27.6
2020	18,232,076	8.00	7.46	7.84	29.73	7.84	39.03	4.00	0.61	38.18	32.61	53.3	28.4
2021	18,948,040	8.00	7.47	7.82	28.70	7.82	39.25	4.00	0.59	37.11	35.59	56.1	29.9
2022	19,703,172	8.00	7.47	7.81	27.64	7.81	39.16	4.00	0.59	36.04	38.59	58.8	32.1
2023	20,493,701	8.00	7.48	7.79	26.60	7.79	38.78	4.00	0.59	34.98	41.59	61.6	34.8
2024	21,321,539	8.00	7.48	7.78	25.57	7.78	38.11	4.00	0.59	33.94	44.59	64.2	38.3
2025	22,185,011	8.00	7.48	7.77	24.58	7.77	37.14	4.00	0.59	32.94	45.50	66.9	42.0
2026	23,081,835	8.00	7.48	7.77	23.63	7.77	35.87	4.00	0.59	31.99	44.23	69.5	45.7
2027	24,006,797	8.00	7.49	7.75	22.72	7.75	34.49	4.00	0.59	31.06	42.83	72.0	49.3
2028	24,958,599	8.00	7.49	7.74	21.85	7.74	33.18	4.00	0.59	30.18	41.51	74.5	52.8
2029	25,937,456	8.00	7.49	7.73	21.03	7.73	31.92	4.00	0.59	29.35	40.24	76.9	56.2
2030	26,943,962	8.00	7.49	7.72	20.24	7.72	30.73	4.00	0.59	28.55	39.04	79.3	59.5
2031	27,978,093	8.00	7.49	7.71	19.49	7.71	29.60	4.00	0.59	27.79	37.80	81.6	62.7
2032	29,041,527	8.00	7.49	7.70	18.78	7.70	28.51	4.00	0.59	27.07	36.80	83.9	65.8
2033	30,136,493	8.00	7.49	7.69	15.97	7.69	27.48	4.00	0.59	24.25	35.76	85.9	68.9
2034	31,268,441	8.00	7.49	7.68	14.51	7.68	26.48	4.00	0.59	22.78	34.75	87.6	71.9
2035	32,446,271	8.00	7.50	7.66	13.02	7.66	25.52	4.00	0.59	21.27	33.77	89.2	74.9
2036	33,675,824	8.00	7.50	7.64	11.71	7.64	24.59	4.00	0.59	19.94	32.82	90.6	77.8
2037	34,956,565	8.00	7.50	7.63	10.24	7.63	23.69	4.00	0.59	18.46	31.91	91.9	80.6
2038	36,292,078	8.00	7.50	7.62	9.65	7.62	22.82	4.00	0.59	17.86	31.03	93.1	83.4
2039	37,690,635	8.00	7.50	7.60	10.28	7.60	21.97	4.00	0.59	18.47	30.16	94.4	86.2

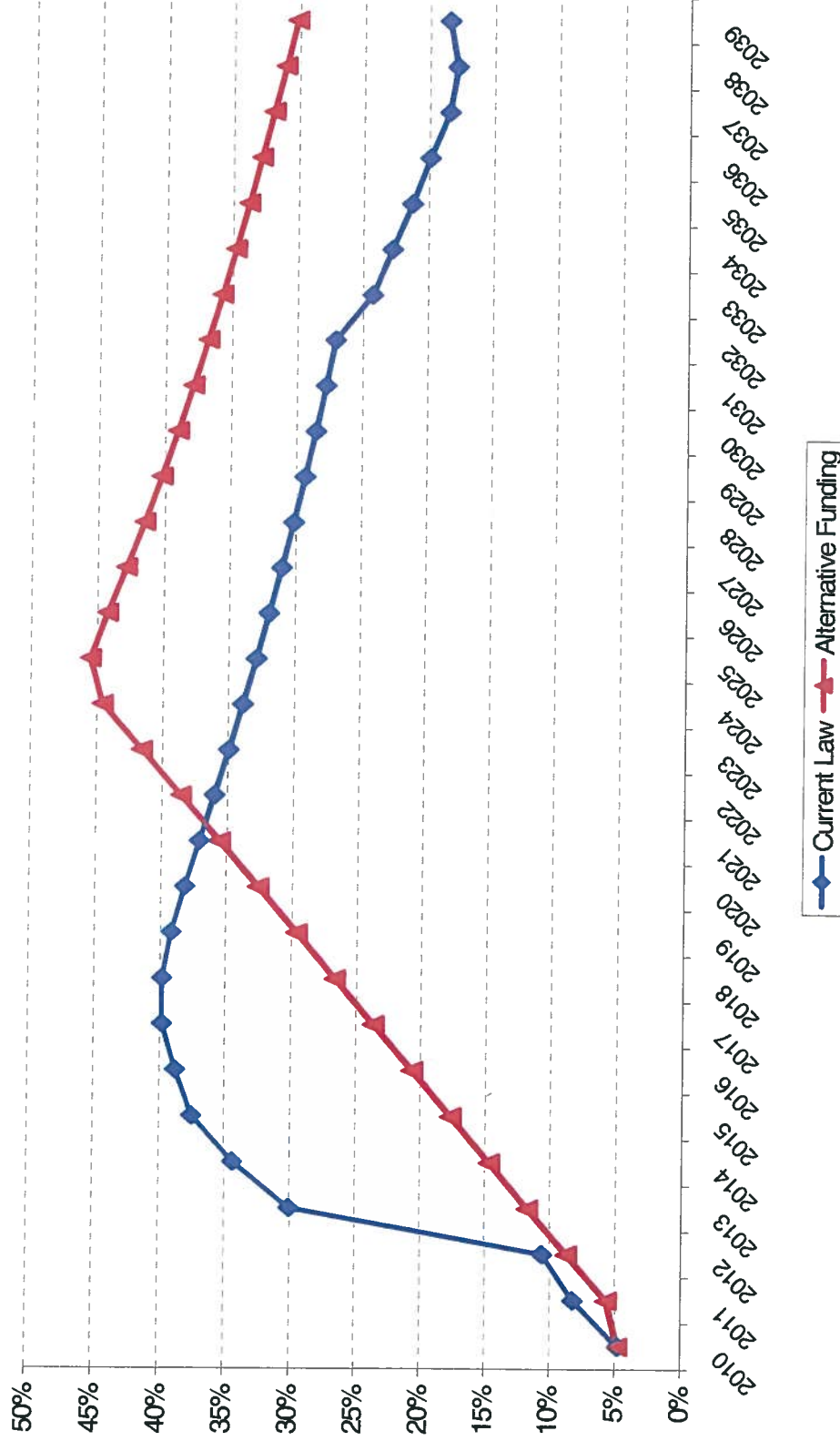
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**Public School Employees' Retirement System of Pennsylvania
Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding
Market Returns Scenario 1**

Alternative Funding Assumptions:

- Fresh-start accrued liability payments over 30 years.
- If applicable, the FYE 2011 pension rate + 1.00% and all succeeding years are limited to the prior FYE's pension rate + 3%.

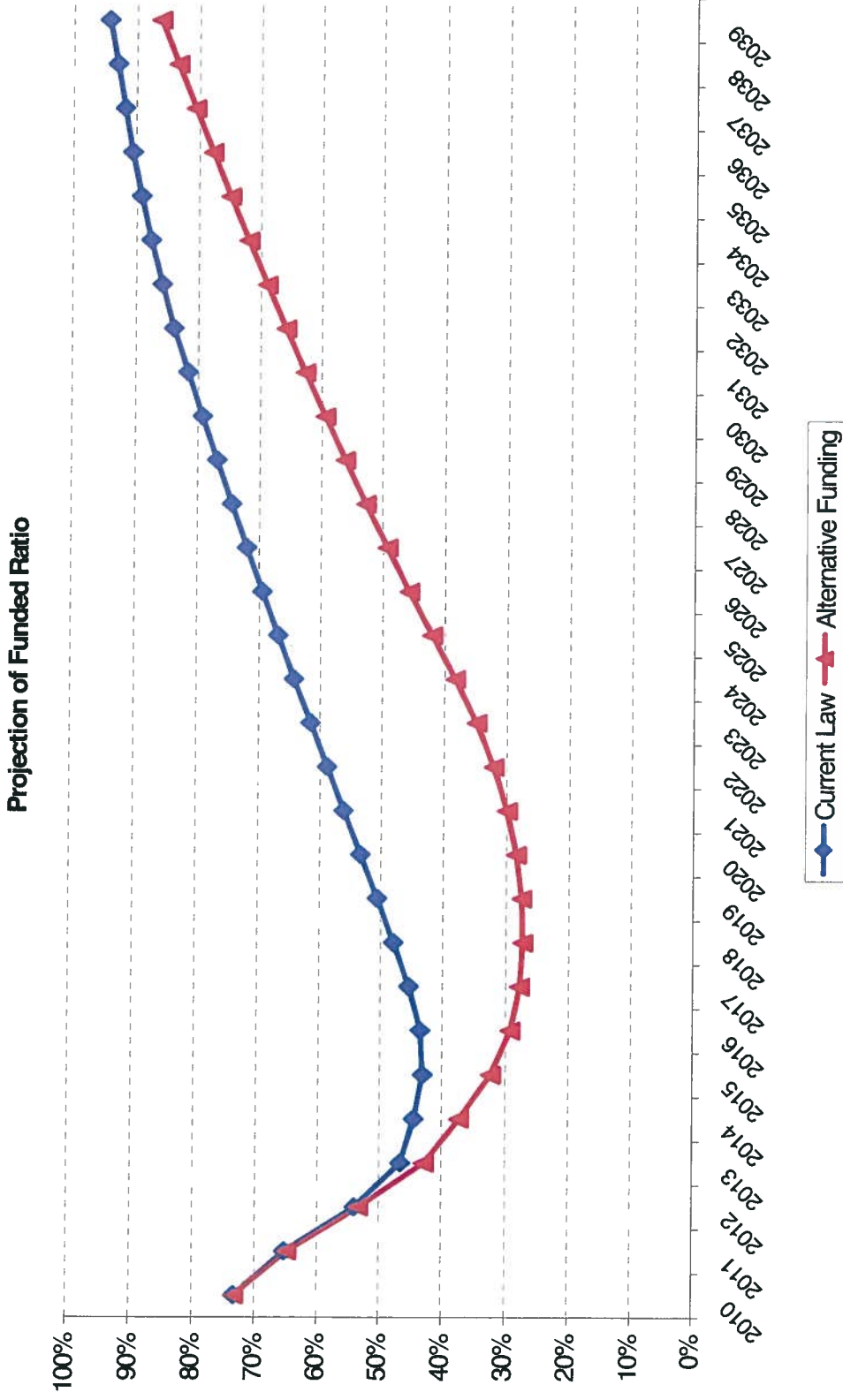
Projection of Total Employer Contribution Rate



**Public School Employees' Retirement System of Pennsylvania
Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding
Market Returns Scenario 1**

Alternative Funding Assumptions:

- Fresh-start accrued liability payments over 30 years.
- if applicable, the FYE 2011 rate is limited to the FYE 2010 pension rate + 1.00% and all succeeding years are limited to the prior FYE's pension rate + 3%.



Projection Showing Alternative Funding Proposal

FOR EXAMPLE PURPOSES ONLY

Public School Employees' Retirement System of Pennsylvania
Projection of Contribution Rates and Funded Ratios As of June 30, 2009

Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding

Market Returns Scenario 1

*Alternative Funding assumptions:

Projected Unit Credit funding method.

10-Year asset smoothing method effective 6/30/10 valuation.

Reamortize all prior bases over 30 years as a level percent of pay.

Pension Collar limits contribution to prior fiscal year + the collar: 3.00% for FY2012, 3.50% for FY2013, 4.50% for FY2014 and later.

Fiscal Year Ending June	Appropriation Payroll (thousands)	Fiscal Year Market Rate of Return	Employee Contribution Rate	Current Law		Alternative Funding*		Health Care Contribution	Total Employer Rate		Funded Ratio	
				Employer Normal Cost	Unfunded Liability Rate	Employer Normal Cost	Unfunded Liability Rate		Current Law	Alternative Funding*	Current Law	Alternative Funding*
2008	\$ 12,881,244	(2.82) %	7.25 %	6.68 %	(0.24) %	6.68 %	(0.24) %	0.69 %	7.13 %	7.13 %	86.0 %	86.0 %
2009	12,500,000	(26.54)	7.29	6.68	(3.37)	6.68	(3.37)	0.76	4.76	4.76	79.2	79.2
2010	12,899,000	12.00	7.32	7.35	(3.72)	7.35	(3.72)	0.78	4.78	4.78	73.8	78.4
2011	13,510,000	8.00	7.34	8.08	(0.50)	8.08	(0.50)	0.64	8.22	8.22	67.7	75.1
2012	13,920,859	8.00	7.37	8.02	1.62	8.86	7.38	0.72	10.36	11.30	59.6	71.9
2013	14,345,321	8.00	7.38	8.00	20.04	8.82	8.23	0.72	28.76	14.80	55.9	69.2
2014	14,797,664	8.00	7.40	7.96	22.74	8.75	9.46	0.71	31.41	18.92	57.2	67.1
2015	15,280,148	8.00	7.42	7.93	24.07	8.67	10.52	0.70	32.70	19.89	58.8	65.0
2016	15,794,512	8.00	7.43	7.91	23.57	8.60	11.42	0.68	32.16	20.70	60.5	62.9
2017	16,341,270	8.00	7.44	7.89	23.08	8.56	12.31	0.67	31.64	21.54	62.5	60.6
2018	16,926,735	8.00	7.45	7.87	22.45	8.51	13.22	0.65	30.97	22.38	64.5	58.7
2019	17,557,664	8.00	7.46	7.85	21.71	8.48	14.23	0.64	30.20	23.35	66.5	58.8
2020	18,232,076	8.00	7.46	7.84	20.93	8.47	15.07	0.61	29.38	24.15	68.5	59.0
2021	18,948,040	8.00	7.47	7.82	20.16	8.47	15.30	0.59	28.57	24.36	70.5	59.3
2022	19,703,172	8.00	7.47	7.81	19.39	8.49	15.53	0.59	27.79	24.61	72.5	59.9
2023	20,493,701	8.00	7.48	7.79	18.65	8.50	15.72	0.59	27.03	24.81	74.5	60.7
2024	21,321,539	8.00	7.48	7.78	17.92	8.53	15.87	0.59	26.29	24.99	76.4	61.6
2025	22,185,011	8.00	7.48	7.77	17.23	8.56	15.98	0.59	25.59	25.13	78.3	62.7
2026	23,081,835	8.00	7.48	7.77	16.56	8.59	16.07	0.59	24.92	25.25	80.2	63.9
2027	24,006,797	8.00	7.49	7.75	15.92	8.61	16.14	0.59	24.26	25.34	82.0	65.3
2028	24,958,599	8.00	7.49	7.74	15.31	8.63	16.20	0.59	23.64	25.42	83.8	66.7
2029	25,937,456	8.00	7.49	7.73	14.73	8.64	16.26	0.59	23.05	25.49	85.6	68.3
2030	26,943,962	8.00	7.49	7.72	14.18	8.65	16.30	0.59	22.49	25.54	87.3	69.9
2031	27,978,093	8.00	7.49	7.71	13.66	8.65	16.35	0.59	21.96	25.59	89.1	71.6
2032	29,041,527	8.00	7.49	7.70	13.16	8.64	16.40	0.59	21.45	25.63	90.8	73.3
2033	30,136,493	8.00	7.49	7.69	10.55	8.61	16.45	0.59	18.83	25.65	92.1	75.2
2034	31,268,441	8.00	7.49	7.68	9.29	8.59	16.50	0.59	17.56	25.68	93.3	77.1
2035	32,446,271	8.00	7.50	7.66	7.99	8.55	16.54	0.59	16.24	25.68	94.3	79.1
2036	33,675,824	8.00	7.50	7.64	6.86	8.53	16.58	0.59	15.09	25.70	95.2	81.1
2037	34,956,565	8.00	7.50	7.63	5.57	8.50	16.62	0.59	13.79	25.71	95.9	83.3
2038	36,292,078	8.00	7.50	7.62	5.15	8.46	16.65	0.59	13.36	25.70	96.5	85.5
2039	37,690,635	8.00	7.50	7.60	5.95	8.43	16.68	0.59	14.14	25.70	97.3	87.8

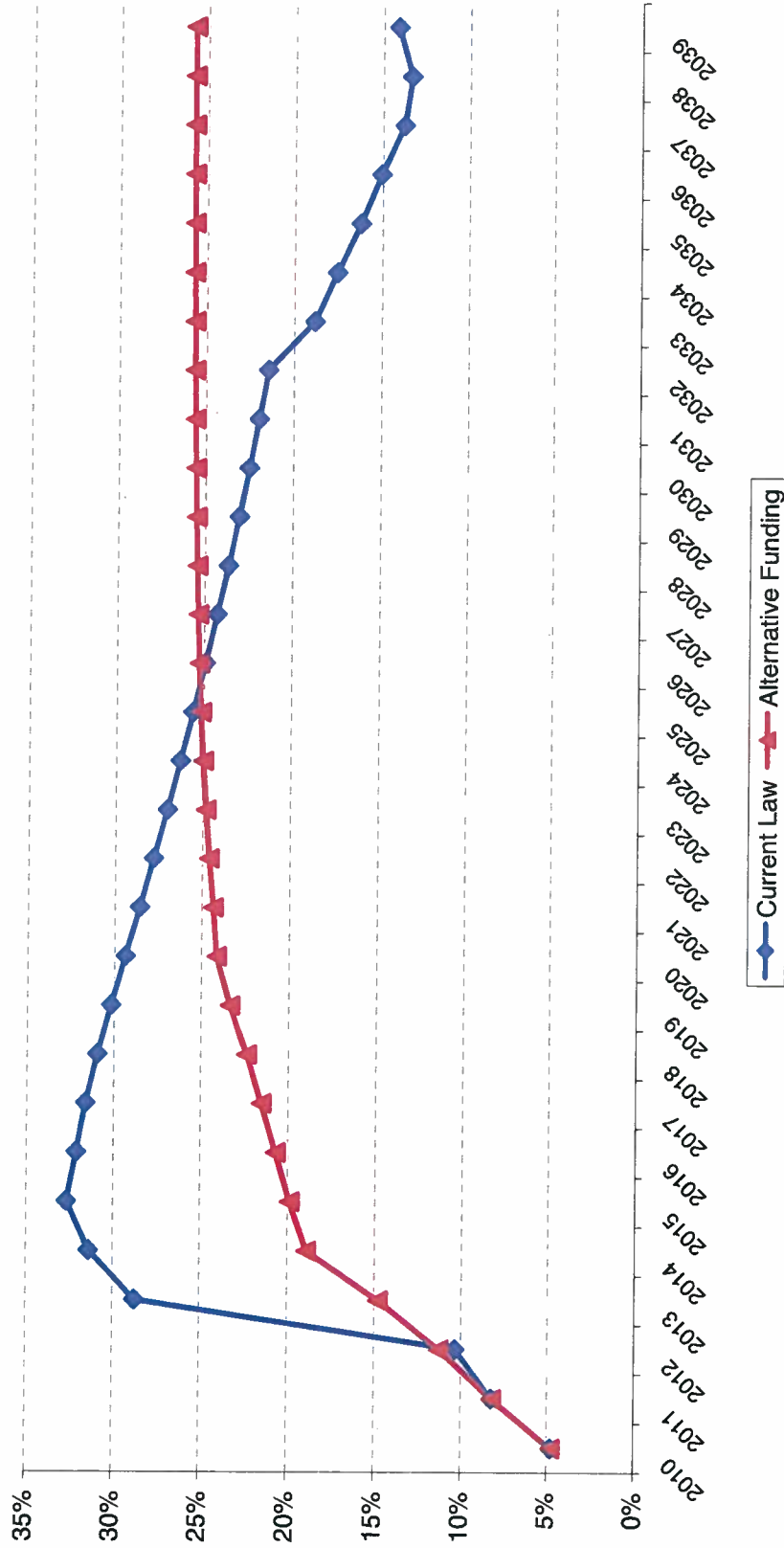
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Public School Employees' Retirement System of Pennsylvania
Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding
Market Returns Scenario 1

Alternative Funding Assumptions:

- Projected Unit Credit funding method.
- 10-Year asset smoothing method effective 6/30/10 valuation.
- Reamortize all prior bases over 30 years as a level percent of pay.
- Pension Collar limits contribution to prior fiscal year + the collar: 3.00% for FY2012, 3.50% for FY2013, 4.50% for FY2014 and later.

Projection of Total Employer Contribution Rate

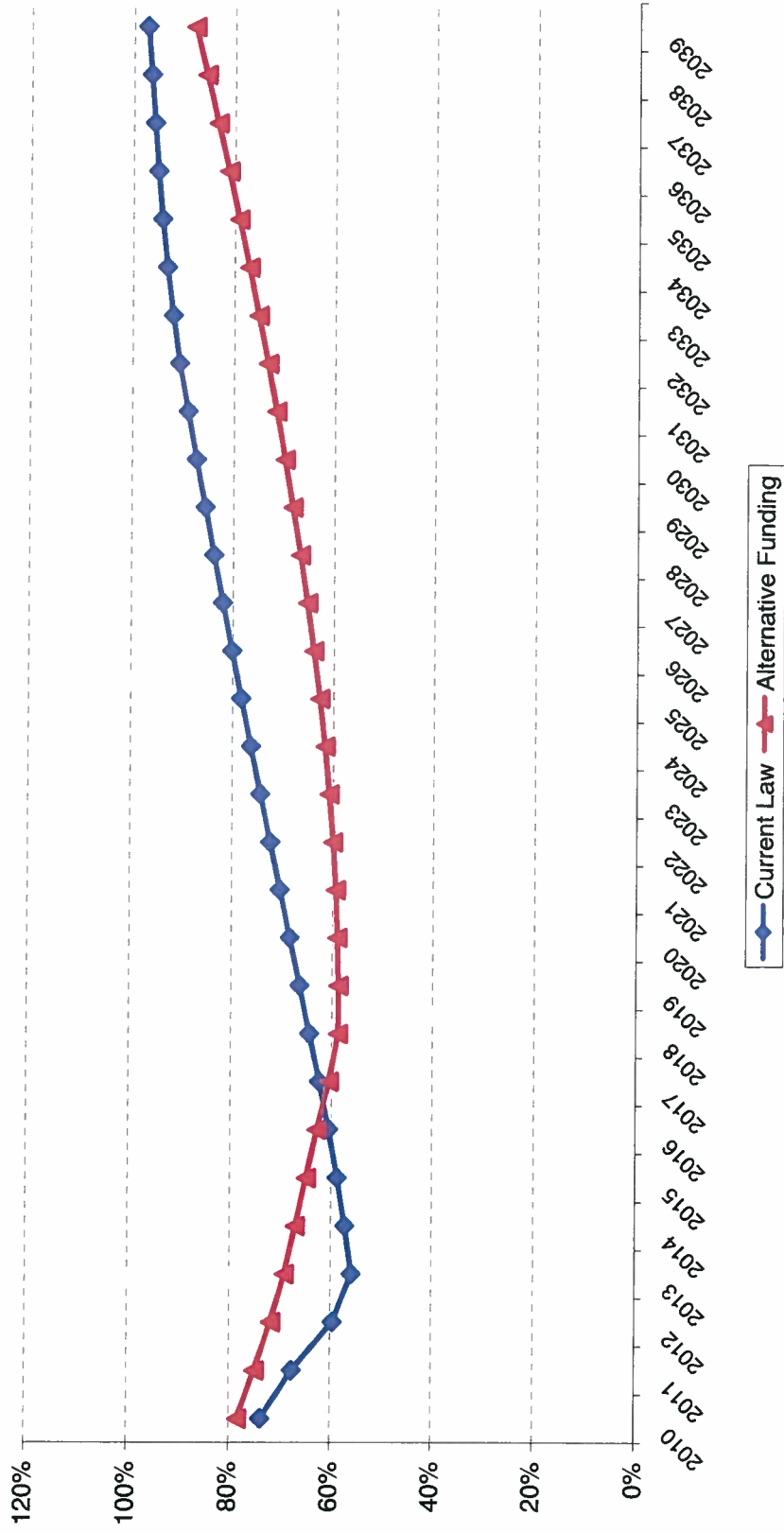


Public School Employees' Retirement System of Pennsylvania
Market Returns and Pension Rate Floors Set by User and are the same for both Current and Alternative Funding
Market Returns Scenario 1

Alternative Funding Assumptions:

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Projection of Funded Ratio



Alternative Proposal:

Alternative Funding Assumptions:

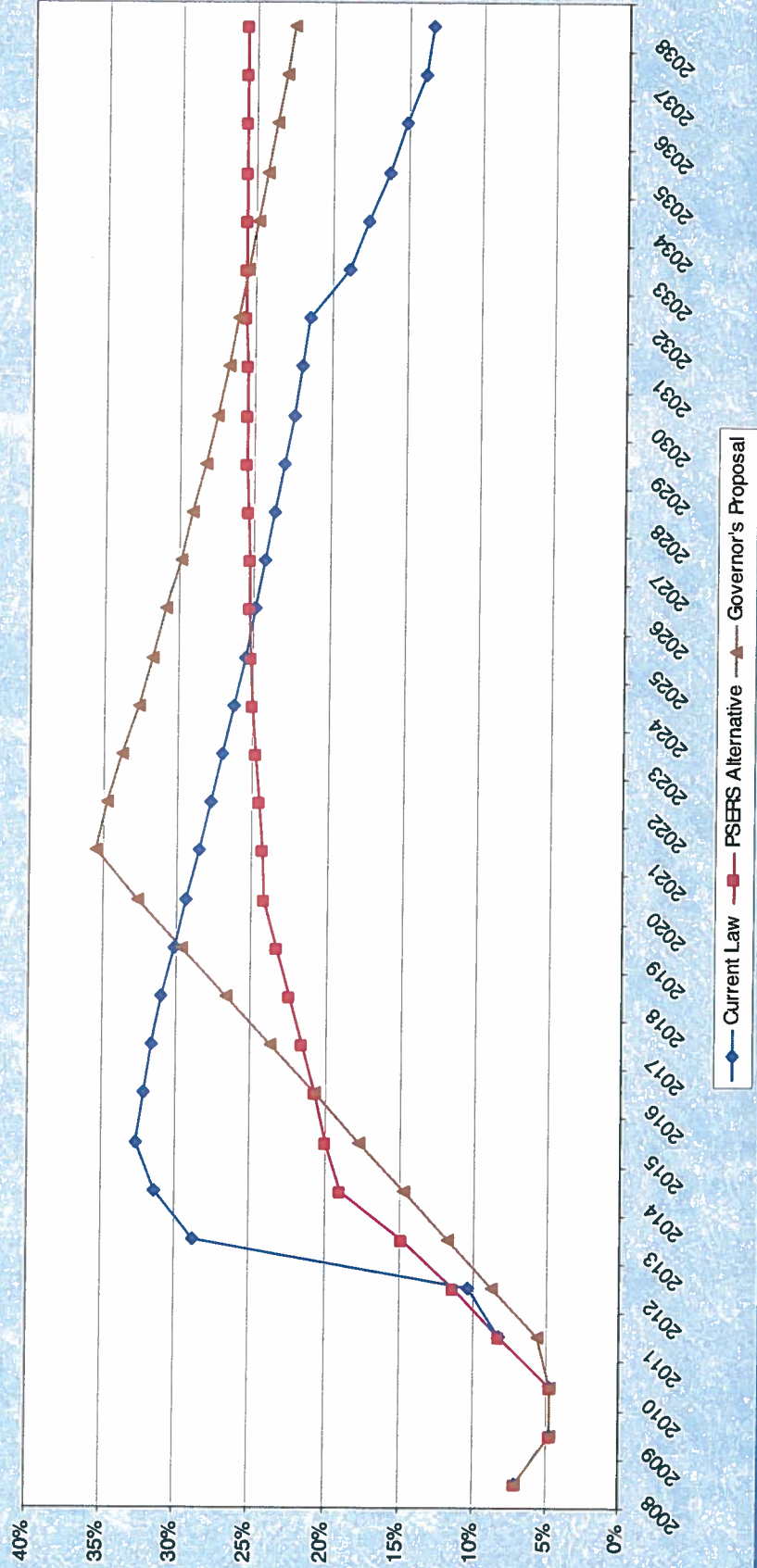
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- Pension Collar limits contribution to prior fiscal year + the collar: 3.00% for FY 2012, 3.50% for FY 2013, 4.50% for FY 2014 and later.

Governor's Proposal:

Alternative Funding Assumptions:

- Fresh-start accrued liability payments over 30 years with level-dollar payments.
- If applicable, the FYE 2011 rate is limited to the FYE 2010 pension rate + 1% and all succeeding years are limited to the prior FYE's pension rate + 3%.

Projection of Total Employer Contribution Rate As Percentage of Payroll



The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.

Alternative Proposal:

Alternative Funding Assumptions:

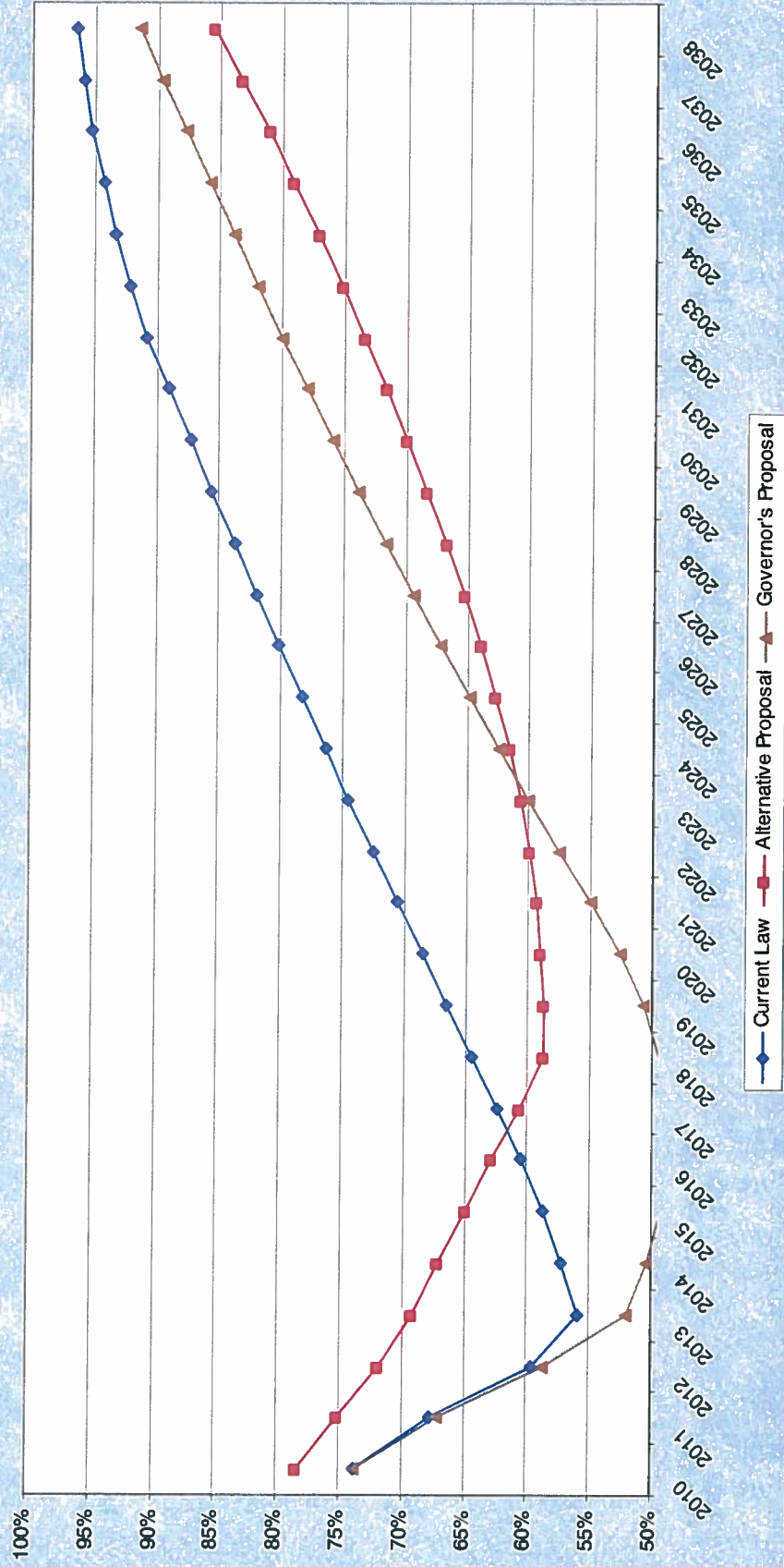
- Projected Unit Credit funding method.
- 10-Year asset smoothing method effective 6/30/10 valuation.
- Reamortize all prior bases over 30 years as level percent of pay.
- Pension Collar limits contribution to prior fiscal year + the collar: 3.00% for FY 2012, 3.50% for FY 2013, 4.50% for FY2014 and later.

Governor's Proposal:

Alternative Funding Assumptions:

- Fresh-start accrued liability payments over 30 years with level-dollar payments.
- If applicable, the FYE 2011 rate is limited to the FYE 2010 pension rate + 1% and all succeeding years are limited to the prior FYE's pension rate + 3%.

Projection of Funded Ratio



The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.

Options

- **Whatever solution is developed, however, should be governed by the following principles:**
 - **It must be actuarially reasonable**
 - **It should have an employer contribution rate that at a minimum, should be the employer normal cost plus some reasonable amount to amortize the System's unfunded liability**
 - **It should be able to withstand reasonable stress tests**
 - **It should reflect fiscally doable increases in the employer contribution rate to a reasonable plateau**
 - **To the extent possible, it should have budgetary predictability**
 - **It should incorporate provisions to avoid/mitigate a future funding crisis, e.g. a employer contribution rate floor set at the employer normal cost**

Options

- It should avoid undue risk, e.g. avoid excessive reliance on POB's
- It should set the policy with respect to future COLA's, i.e. either:
 - Are they to continue on an automatic or *ad hoc* basis, in which case they should be pre-funded to reduce overall costs; or
 - Are they to be discontinued for all or some portion of present and/or future retirees
- It should address the potential of future benefit enhancements, e.g., when and at what funding level will they be permissible, if at all

Options

- **It must provide an adequate pension benefit at a reasonable cost that will attract and retain employees, and reasonably sustain them when retired**
- **The proposed solution must be politically acceptable or reasonably "sellable" to the General Assembly, the Governor, the public, PSERS' constituent groups, the media, etc.**
- **The proposed solution must be legally correct/defensible, i.e. not subject to potentially successful litigation**

Conclusions

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Conclusions

- **There is no silver bullet to resolve PSERS' funding issues**
 - **Solution will likely be a combination of several approaches and will only smooth out the rate plateau and lower the peak**
- **Under all options, however, there will be a need for significant additional funding to the System**
- **Increases in the employer contribution rate will occur before FY 2012-2013**
 - **The FY 2010-2011 rate will be 8.22% compared to 4.78% for FY 2009-2010**
 - **The FY 2011-2012 rate is projected to exceed the FY 2010-2011 rate**

Conclusions

- **Converting the System to a DC or Hybrid plan will not effect the current liabilities or resolve the immediate funding concerns**
 - **In fact it may aggravate the Commonwealth's and School Employer's cash flow problems as they will be supporting two pension plans**
- **Politically, some prospective benefit cuts are probably inevitable, even if only symbolic in nature with respect to resolving the rate spike**
- **Similarly, politically, benefit enhancements are not likely now or in the near future**

Conclusions

- Finally, this issue posits the fundamental question/dilemma of what level of benefits and employer contribution rate are affordable for the Commonwealth and School Employers versus what is an adequate level of retirement benefits for school employees, both active and retired
 - Is a plan with an annual employer normal cost of 8%+/- affordable?
 - What impact will possible structural changes have on the attraction and retention of school employees?
 - Will structural changes create a larger problem by substituting inadequate and unsecured retirement options that may ultimately cause future retirees to rely on other government programs, each with their own funding issues?

Conclusions

- **As such, the resolution of the current funding issues confronting PSERS is a vital imperative for the Agency and represents the greatest challenge the Agency has faced in its history**
- **Therefore PSERS is committed to providing all available assistance to the Governor, General Assembly and School Employers to solve the rate spike and future funding issues, ASAP**
 - **PSERS will continue to be very public with the issue in an attempt to raise awareness**
 - **Will keep you apprised of developments in the coming year**

Questions?



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Rate Projection Assumptions

- The employer rate projections contained in this presentation are simply that; projections based on certain assumptions
- Therefore the projected rates can change
- The rates may decrease with investment performance over PERS' 8.0% actuarial assumption and vice versa
- Also the projected employer rates and related data are impacted by actual experience that varies from the mortality, salary growth, and other economic and demographic assumptions of the System
- Benefit enhancements will also impact the rate projections