

Oklahoma State Pension Commission Retirement System

Summary of Actuarial Reports

February 10, 2010

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System Summary - Characteristics and Assumptions

- Retirement System comprises seven plans (Teachers, OPERS, Firefighters, Police, Law Enforcement, Judges, and Wildlife)
- Information based on July 1, 2009 Actuarial Valuation Reports from Actuaries¹ and System Financial Statements
 - All plans employ Entry Age Normal funding method
 - a conservative funding schedule
 - All plans employ similar asset valuation method (smoothed value)
 - Smoothes asset gains and losses over time
 - Investment return assumptions range from 7.5% to 8.0%
 - Median discount rate for public plans is 8.0%²
 - All plans have in place long term amortization schedules to fund the Unfunded Accrued Liability
 - Employee and Employer contribution rates vary by plan

1. Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company

2. Results from the Public Fund Survey Summary Findings for FY 2008, published October 2009 by the National Association of State Retirement Administrators



System Summary

- **Funded status of each plan declined since the July 2008 valuations**
 - Asset declines from 2008-09 pushed funding levels down
 - Average return on the plans' Market value of assets was -16.1% for the fiscal year ending June 30, 2009
- **Asset smoothing will help dampen the losses for funded status purposes**
 - Gains and losses recognized over 5 years for Actuarial value of assets
 - Average return on plans' Actuarial value of assets was -3.3% for the fiscal year ending June 30, 2009
- **Teachers' plan remains the largest and the most poorly funded of the seven plans**
 - \$19.0 billion in liabilities, \$9.4 billion in assets, 49.8% funded
 - Actuaries project the period needed to fund Unfunded Accrued Liability is now "infinite"
 - Statutory contribution levels are insufficient to cover normal cost and interest on UAAL, negative amortization is occurring
- **No legislative or assumption changes since last year, except for Judges plan**

Sources: Actuarial valuation reports by Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company



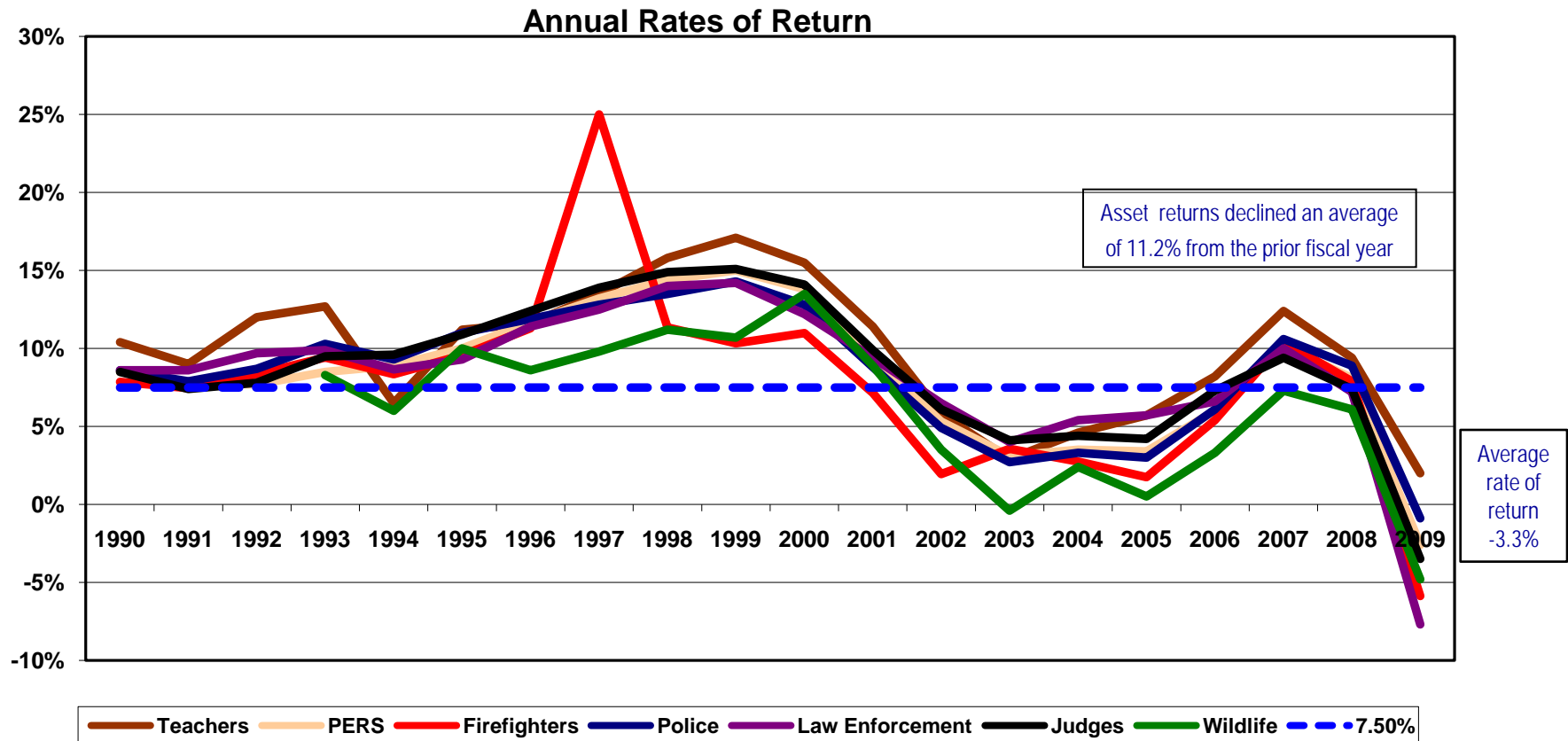
Comparison to Public Plan Medians

- Median funding level for public pensions is 82.5% as of the end of FY 2008*
 - In aggregate, the Oklahoma state's plans were 60.7% at the end of FY 2008, and 57% funded at the end of FY 2009
 - Only the Judges plan is greater than 80% funded
 - Teachers' plan is the least funded, at 50%, and is also the largest plan
- Median Employee contribution rates are 5.0% of pay if participating in Social Security, 8.0% if not*
 - Oklahoma state pension plans' Employee contributions range from 3% to 8% of pay
- Median Employer contribution rates are 8.7% of pay if participating in Social Security, 11.8% if not*
 - Oklahoma state pension plans' Employer contributions range from 7.0% to 14.5% of pay
 - Oklahoma State contributions range from 0% to 23.6% of pay
- Average percentage of Annual Required Contribution (ARC) paid by public plans is 88%*
 - The average contribution of the Oklahoma state pension plans was 75.2% in FY 2008
- Median investment return for public funds in 2008 was -25.3%*

* Results from the Public Fund Survey Summary Findings for FY 2008, published October 2009 by the National Association of State Retirement Administrators



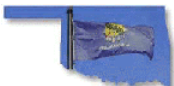
Investment Return on Actuarial Value of Assets



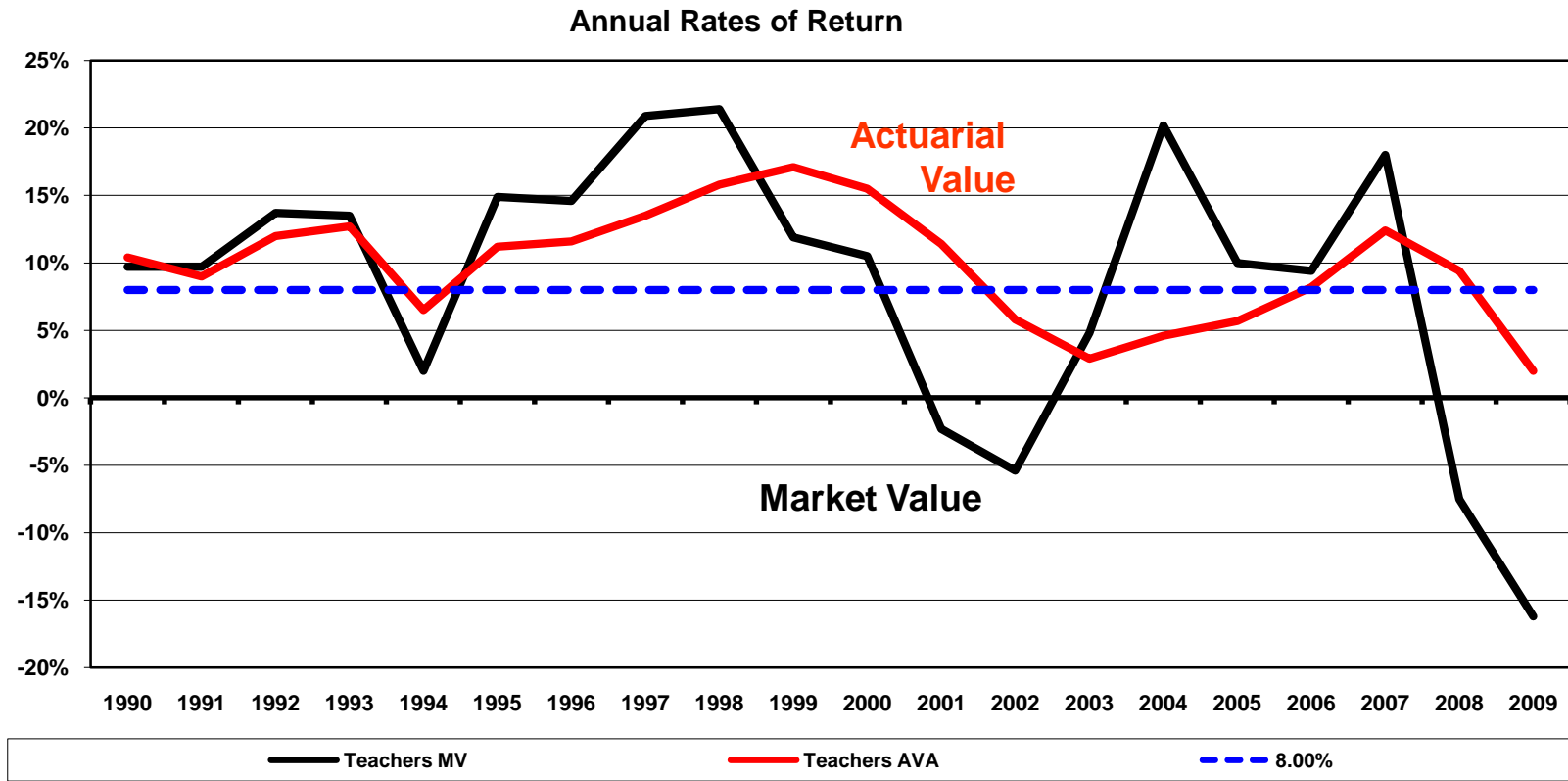
- Asset declines from the market crisis of 2008-09 are now partially reflected
- Asset smoothing methods will help dampen the losses (and gains) over 5 years

Source: 1999 and earlier: R.V. Kuhns & Associates,
 2000 and later: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company





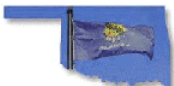
Investment Return – Teachers’ Plan



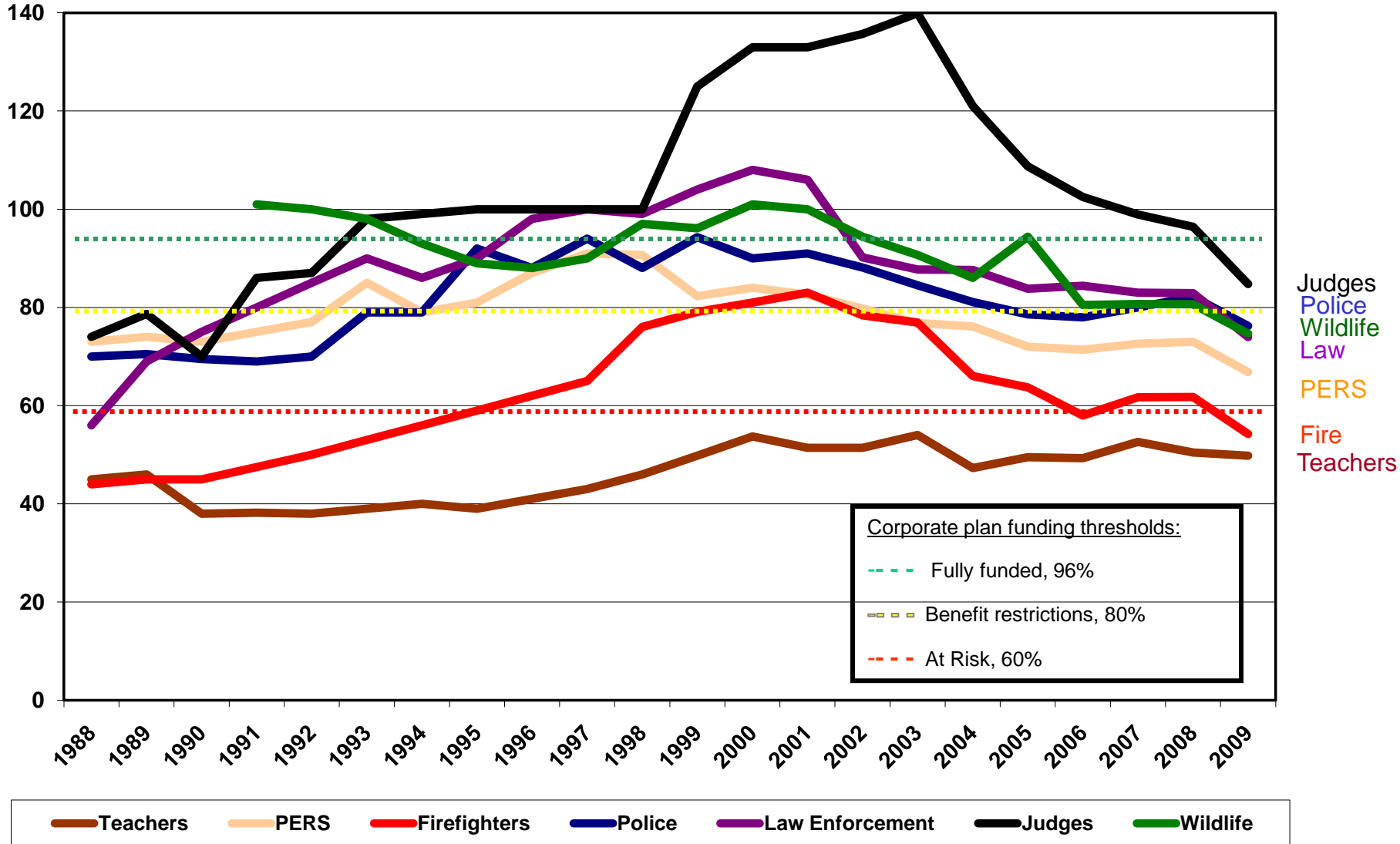
- Market Value reflects market crisis, and may increase next year with Q3 and Q4 2009 strong returns
- Actuarial Value fell but not nearly as dramatically as MV, due to smoothing
- Losses and gains will be reflected over the next 5 years, so actuarial value may fall again next year

Source: 1999 and earlier: R.V. Kuhns & Associates,
 2000 and later: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company



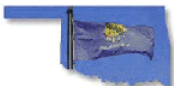


Funded Status History on Actuarial Basis

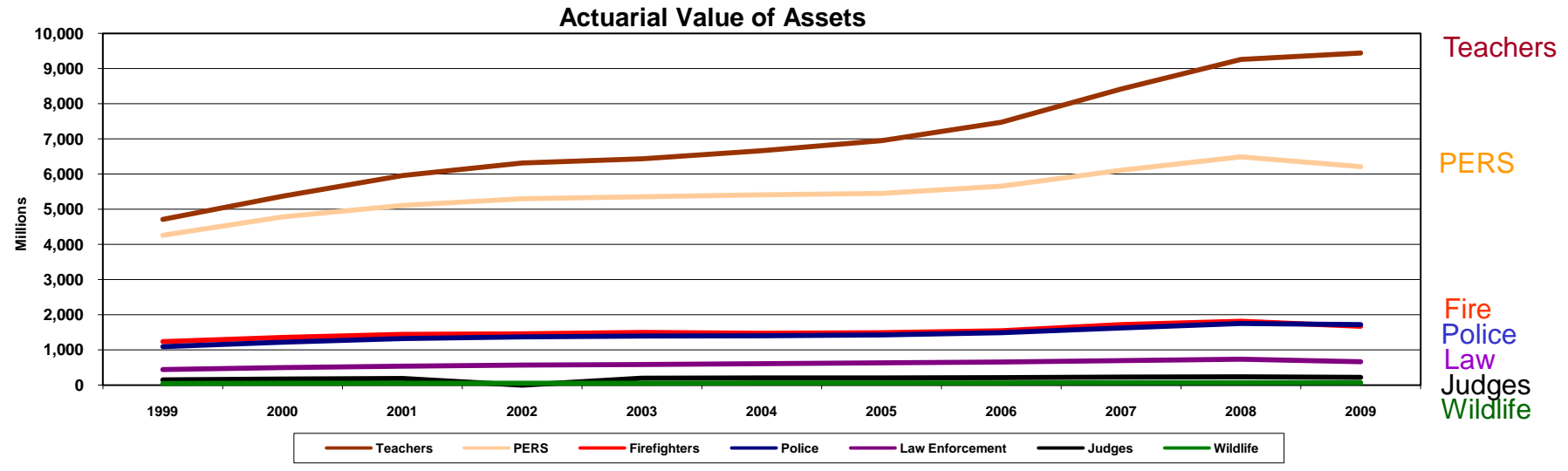
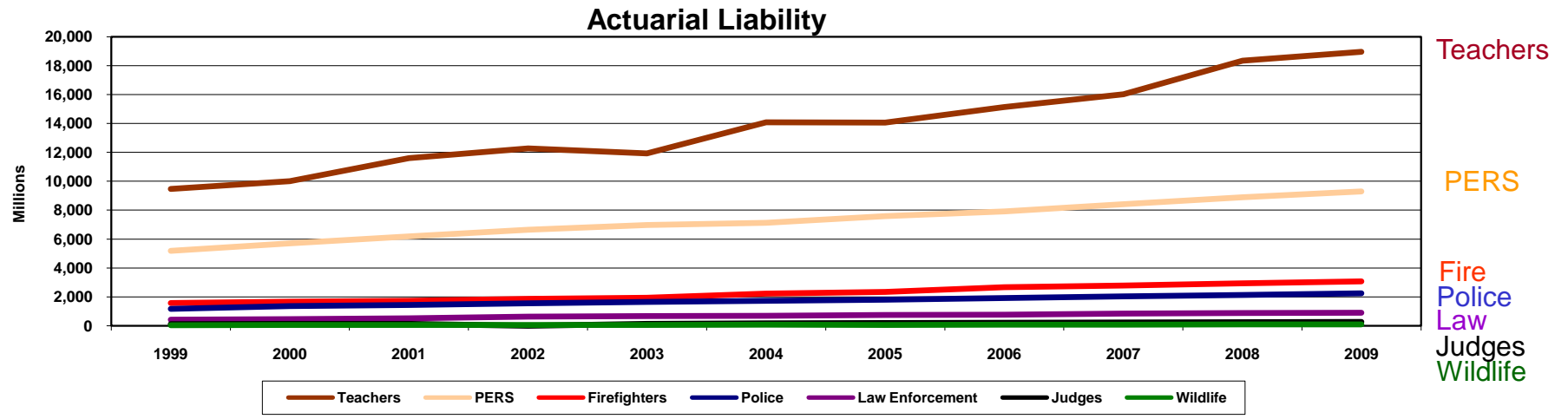


Source: 1999 and earlier: R.V. Kuhns & Associates,
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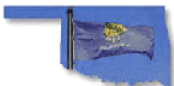


Actuarial Liability and Asset History



Source: 1999 and earlier: R.V. Kuhns & Associates,
2000 and later: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company





Contributions Rates – Employee and Employer

Contribution Rates as a % of Payroll - Fiscal Year Ending June 30, 2009						
	Employee Rate	Employer / Municipality Rate	State Mandated Rate	Federal Matching Funds	Total % Mandated	Total % Required for 2009/10
Teachers	7.0%	EESIP: 8.75%* Non-EESIP: 7.8%*	5% of tax and lottery revenue = 6.8% of pay for 2009 FY	% of pay for positions paid by Federal grants = 0.6% of pay for 2009 FY	23.3%	25.6%
OPERS	3.5%	14.5%*			18.0%	26.0%
Firefighters	8.0%	13.0%	34% of insurance premium tax = 21.9% of pay in 2009 FY		42.9%	83.8%
Police	8.0%	13.0%	17% of insurance premium tax + 26% of special fund = 11.2% pay in 2009 FY		32.2%	60.2%
Law Enforcement	8.0%	10.0%	6.1% of insurance premium tax + 1.2% of drivers license tax = 23.6% of pay in 2009 FY		41.6%	71.9%
Judges	8.0%	7.0%*	N/A		16.5%	40.1%
Wildlife	3.0%	0% mandated, but 23.6% contributed	N/A		3.0%	32.8%

* on an increasing schedule

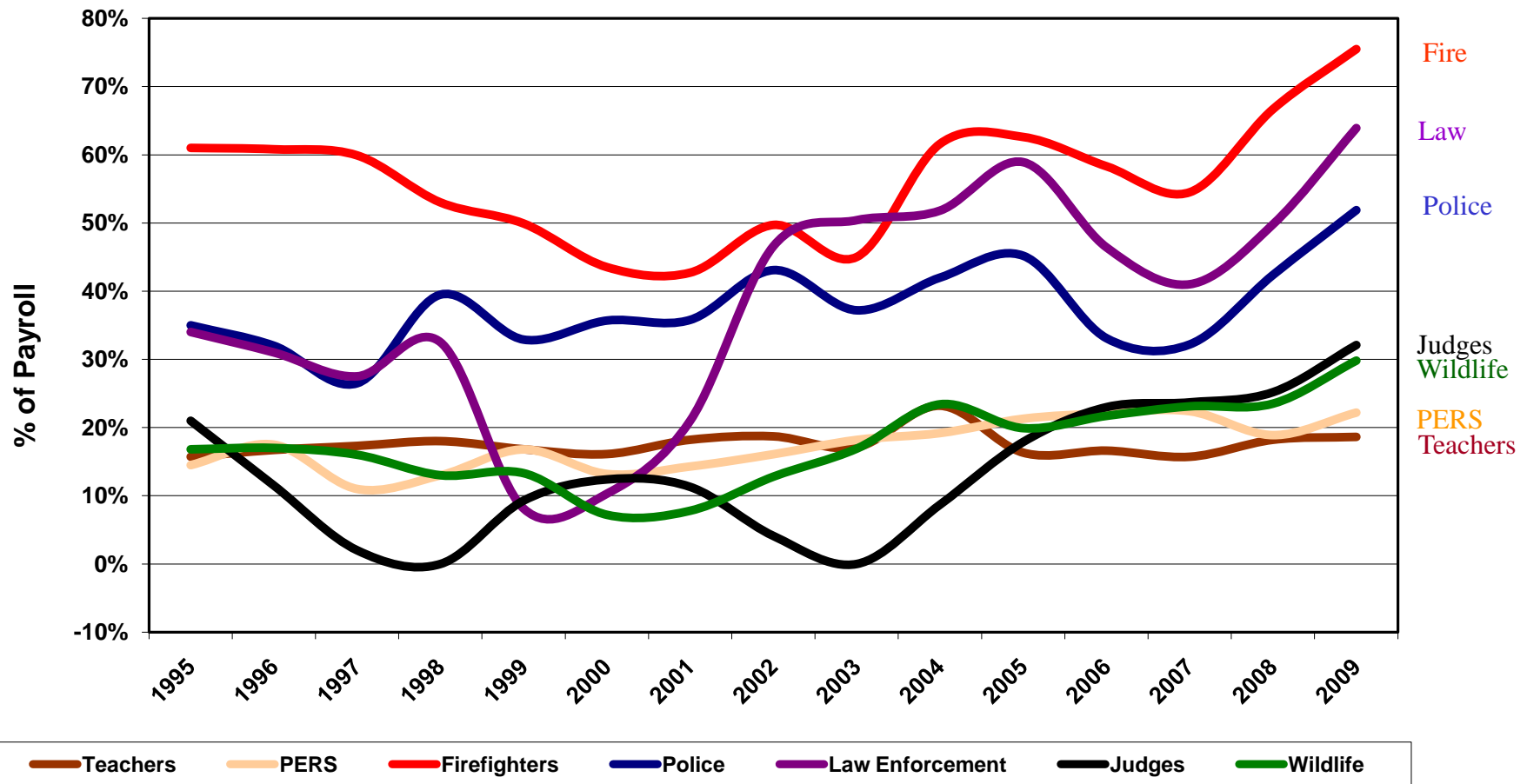
- Median Employee contribution rates are 5.0% if participating in Social Sec., 8.0% if not¹
- Median Employer contribution rates are 8.7% if participating in Social Sec., 11.8% if not¹

Sources: July 1, 2009 Actuarial Reports by Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company

¹ Results from the Public Fund Survey Summary Findings for FY 2008, published October 2009 by the National Association of State Retirement Administrators



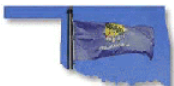
GASB 25 Total Employer and State Cost as % of Payroll



- Median Employee contribution rates are 5.0% if participating in Social Sec., 8.0% if not¹
- Median Employer contribution rates are 8.5% if participating in Social Sec., 11.2% if not¹

Source: 1999 and earlier: R.V. Kuhns & Associates,
2000 and later: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company





Employer and State Contributions

Required Employer Contribution (assuming GASB 25 funding requirements)

	7/1/2000	7/1/2001	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006	7/1/2007	7/1/2008	7/1/2009
Teachers*	\$451.5	\$556.2	\$585.1	\$534.8	\$722.1	\$535.2	\$575.7	\$590.5	\$714.4	\$742.3
OPERS	169.6	188.0	232.8	257.0	266.0	310.0	338.6	363.9	323.1	389.2
Firefighters**	62.0	63.1	76.5	73.7	106.7	118.3	146.8	147.3	157.8	187.2
Police**	53.0	54.9	71.7	63.5	73.8	85.4	95.1	100.5	102.6	132.5
Law Enforcement**	4.1	10.7	23.0	25.4	25.3	30.0	32.5	32.7	36.6	48.1
Judges	1.1	1.0	0.0	0.0	2.2	4.4	5.9	7.6	8.2	10.8
Wildlife	0.8	0.9	1.5	2.0	2.1	2.6	2.9	3.1	3.4	4.4
Total	\$742.1	\$874.8	\$990.6	\$956.4	\$1,198.2	\$1,085.9	\$1,197.5	\$1,245.6	\$1,374.0	\$1,514.4

Actual Employer Contribution

	7/1/2000	7/1/2001	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006	7/1/2007	7/1/2008	7/1/2009
Teachers*	\$328.2	\$364.9	\$362.0	\$375.4	\$405.8	\$459.5	\$535.9	\$597.0	\$618.6	TBD
OPERS	131.1	139.6	137.5	133.5	139.8	171.3	197.8	220.2	243.0	TBD
Firefighters**	65.7	68.8	72.6	22.8	82.2	82.3	117.5	83.1	83.2	TBD
Police**	40.0	42.2	44.2	23.9	48.7	50.0	56.4	56.1	58.6	TBD
Law Enforcement**	19.4	20.4	21.1	13.4	21.4	22.0	24.4	25.0	24.9	TBD
Judges	1.9	0.5	--	--	0.5	0.8	1.2	1.7	2.2	TBD
Wildlife	0.8	0.9	1.2	1.2	2.5	2.5	3.0	3.0	3.4	TBD
Total	\$587.1	\$637.3	\$638.6	\$570.2	\$700.9	\$788.4	\$936.2	\$986.1	\$1,033.9	TBD

Percent of Required Employer Contribution Actually Contributed

	7/1/2000	7/1/2001	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006	7/1/2007	7/1/2008	7/1/2009
Teachers*	72.7%	65.6%	61.9%	70.2%	56.2%	85.9%	93.1%	101.1%	86.6%	TBD
OPERS	77.3%	74.3%	59.1%	51.9%	52.6%	55.2%	58.4%	60.5%	75.2%	TBD
Firefighters**	105.9%	109.0%	94.9%	31.0%	77.0%	69.6%	80.0%	56.4%	52.7%	TBD
Police**	75.5%	76.9%	61.6%	37.6%	66.0%	58.5%	59.3%	55.8%	57.1%	TBD
Law Enforcement**	473.2%	190.7%	91.7%	52.8%	84.6%	73.4%	75.1%	76.5%	68.0%	TBD
Judges	170.0%	50.0%	n/a	n/a	22.7%	18.0%	20.3%	22.2%	27.4%	TBD
Wildlife	100.0%	100.0%	80.0%	60.0%	119.0%	96.2%	103.8%	97.1%	100.3%	TBD
Total	79.1%	72.9%	64.5%	59.6%	58.5%	72.6%	78.2%	79.2%	75.2%	TBD

* Teachers plan contributions include State, Employer, and Federal funds

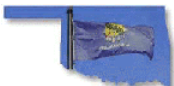
** Contributions include State and Agency or Municipality funds

Source: 1999 and earlier: R.V. Kuhns & Associates,
2000 and later: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company



Summary of Major Plan Changes

Teachers	None	None	As scheduled, Employer contributions increased to 8.5% / 9.0% for EESIP and 7.55% / 8.05% for Non-EESIP	None
OPERS	None	None	Employer contribution increased from 14.5% to 15.5% per schedule	None
Firefighters	None	None	None	(old) SB 565 - Beginning July 1, 2010, the amount of insurance premium tax revenue apportioned to the System will be applied prior to the calculation of the Home Office Credit
Police	None	None	None	(old) SB 565 - Beginning July 1, 2010, the amount of insurance premium tax revenue apportioned to the System will be applied prior to the calculation of the Home Office Credit (old) Per prior legislation, the Sysytem will receive 14.0% of insurance premium taxes beginning July 1, 2009
Law Enforcement	None	None	None	(old) Per prior legislation, the Sysytem will receive 5.0% of certain vehicle and insurance premium taxes beginning July 1, 2009
Justices and Judges	None	None	Employer contribution increased from 7.0% to 8.5% per schedule	SB 212 - Effective July 1, 2009, the funded ratio of the Judges and Justices plan should be at or near 90%. The Board may increase employer contribution rate accordingly within limitations outlined HB 1254 - An additional \$6 million contribution will be made to the Judges and Justices plan for fiscal year ending June 30, 2010. This contribution was received in July 2009.
Wildlife	None	None	None	None



Retirement System Investment Return Assumptions

- Public Funds assumed investment return median is 8.0%¹
- The Oklahoma state plans' assumed investment return assumption ranges from 7.5% to 8.0%²
- Distribution of investment return assumptions for surveyed funds below¹

Mean Actuarial Earnings Rate of Return on Plan Assets

Corporate and Public Funds (826) (845) (834)

	Base 2007	2008	Mean 2006	2007	2008	Under 7.0%	7.0- 7.4%	7.5- 7.9%	8.0- 8.5%	8.6- 9.1%	9.2- 9.7%	9.8- 10.5%	Over 10.5%	No Answer/ Uncertain
Corporate Funds (ex Unions)	(577)	(578)	8.2%	8.2%	8.3%	4%	6%	8%	43%	10%	1%	1%	1%	26%
Over \$5 billion	(95)	(87)	8.3	8.3	8.1	3	9	7	41	17	1	0	0	20
\$1-5 billion	(252)	(251)	8.1	8.2	8.2	2	6	9	42	13	1	1	*	25
\$501 million-\$1 billion	(137)	(125)	8.2	8.4	8.0	3	4	8	50	6	0	1	0	28
\$500 million and under	(93)	(115)	8.0	7.8	8.8	7	8	6	41	3	0	0	3	33
Public Funds	(234)	(229)	8.0%	8.2%	8.0%	2%	4%	19%	55%	3%	*%	2%	*%	15%
State	(81)	(80)	8.0	8.1	8.0	3	3	19	51	3	1	0	0	21
Municipal	(147)	(144)	8.1	8.2	8.0	1	5	17	57	3	0	3	1	13
Over \$5 billion	(80)	(76)	8.0	8.2	8.0	1	3	20	53	3	1	1	0	18
\$1-5 billion	(69)	(77)	8.0	8.0	7.9	4	6	22	49	5	0	0	0	13
\$501 million-\$1 billion	(42)	(31)	8.0	8.4	8.1	0	3	19	65	0	0	0	3	10
\$500 million and under	(43)	(45)	8.1	8.2	8.2	0	2	11	60	2	0	7	0	18
Union Funds	(34)	(27)	7.7%	8.8%	7.8%	0%	4%	30%	11%	0%	4%	0%	0%	52%
Total Funds	(845)	(834)	8.1%	8.2%	8.2%	3%	6%	12%	45%	8%	1%	1%	1%	24%

Note: Means exclude "None."

1. Greenwich Associates survey, 2008
 2. Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company





Submission of Information to State Pension Commission

- During the 2002 legislative session, legislation was adopted that requires information be submitted to the State Pension Commission by the following Retirement Boards:
 - Teachers' Retirement System
 - OPERS Retirement System
 - Firefighters Retirement System
 - Police Pension and Retirement System
 - Law Enforcement Retirement System
 - Retirement System for Justices and Judges
- Valuations are performed, for informational purposes only, using a prescribed set of assumptions (70 O.S. 2001, Section 17-106.1, Section H) for all plans
 - Interest rate of 7.5%
 - COLA assumption of 2%
 - Mortality table of RP 2000 Generational tables
 - Set amortization period of 30 years (level dollar), open period



Submission of Information to State Pension Commission

Variations from State Prescribed Assumptions				
Prescribed Assumptions	Interest Rate = 7.5%	Cost of Living Adjustment = 2%	Mortality Table = RP2000 Generational	Amortization = 30 years, open period, level \$
Teachers	8.0%	x	1994 tables	30 years, level %
OPERS	x	x	x	20 years, level % from July 1, 2007
Firefighters	x	x	1994 tables	30 years from July 1, 2003
Police	x	COLA assumption of 33% to 50% of active payroll increases for some retirees, min. 2% increase	x	30 years from 1988
Law Enforcement	x	COLA assumption of 4% every other year, others assumed 3.25% per year	x	20 years from July 1, 2001
Judges	x	x	x	20 years, level % from July 1, 2007

- Use of a discount rate higher than 7.5% will produce lower liabilities
- Use of COLA assumptions lower than 2% will produce lower liabilities
- Use of older mortality tables will produce slightly lower liabilities, depending on plan population
- Use of longer amortization period will decrease contribution amount



Submission of Information to State Pension Commission

Comparison of Valuation Results using State Prescribed Assumptions

System	Valuation Results Under Prescribed Assumptions				Actual Valuation Results	
	Required Contribution	Actual Contribution for Prior Year	Accrued Liability	Funded Status	Accrued Liability	Funded Status
Teachers	\$729.7	\$257.0	\$20,227.6	46.7%	\$18,950.9	49.8%
OPERS	\$336.6	\$243.0	\$9,412.7	66.0%	\$9,291.5	66.8%
Firefighters	\$140.9	\$54.0	\$3,012.6	55.4%	\$3,075.1	54.2%
Police	\$65.2	\$26.9	\$2,289.3	75.0%	\$2,253.1	76.2%
Law Enforcement	\$20.5	\$17.3	\$814.7	81.0%	\$892.0	74.0%
Judges	\$9.9	\$2.2	\$258.2	85.8%	\$261.4	84.8%



Conclusions

- Market crisis of 2008-09 has begun to be reflected in Actuarial value of assets and funded status of plans
 - 5-year smoothing method means large loss of 2008 will be reflected over the next 4 years, but may be offset by any gains
- In aggregate, the State's plans are 57% funded as of June 30, 2009
 - Teachers' plan is the least funded at 50%, current mandated contribution amounts are not sufficient to fund Unfunded Actuarial Accrued Liability
- Scheduled increases in Employer contributions are in place for 3 of the plans (Teachers, PERS, and Judges)
- Scheduled decreases in State contributions from tax revenue to occur as of July 1, 2009 for Police and Law Enforcement plans
- Rating agencies will be scrutinizing States and Municipalities for debt ratings – pension plan health is one item for review