Actuarial Section

GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

5605 N. MacArthur Blvd.
Suite 870
Irving, TX 75038-2631

469.524.0000 phone
469.524.0003 fax
www.gabrielroeder.com

October 22, 2008

Board of Trustees
Teachers' Retirement System of Oklahoma
Oliver Hodge Education Building
2500 N. Lincoln Boulevard, 5th Floor
Oklahoma City, Oklahoma 73105

Dear Members of the Board:

SUBJECT: ACTUARIAL VALUATION AS OF JUNE 30, 2008

We certify that the information contained in this report is accurate and fairly presents the actuarial position of the Teachers' Retirement System of Oklahoma (the System) as of June 30, 2008

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the results presented comply with the requirements of the Oklahoma statutes and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries. They are Enrolled Actuaries and Members of the American Academy of Actuaries, and they are experienced in performing valuations for large public retirement systems. They meet the Qualification Standards of the American Academy of Actuaries.

ACTUARIAL VALUATION

The primary purposes of the valuation report are to determine the adequacy of the current employer contribution rate, to describe the current financial condition of the System, and to analyze changes in the System's condition. In addition, the report provides information required by the System in connection with Governmental Accounting Standards Board Statement No. 25 (GASB 25), and it provides various summaries of the data.

Valuations are prepared annually, as of June 30 of each year, the last day of the System's plan and fiscal year.

Financing Objectives

The member, employer, State, and "federal matching" contribution rates are established by law. Members contribute 7.00% of covered compensation. The fiscal year 2008 contribution rates for employers covered by the Education Employees Service Incentive Plan (EESIP) were 7.85% effective July 1, 2007 and 8.35% effective Jan. 1, 2008. This rate increases to 8.50% effective July 1, 2008, 9.00% effective Jan. 1, 2009, and 9.50% effective Jan. 1, 2010. For employers not covered by the EESIP—the comprehensive and regional four-year universities—the contribution rate for FY 2008 was 7.05% and increased to 7.55% on Jan. 1, 2008. This rate will increase to 8.05% on Jan. 1, 2009, and 8.55% on Jan. 1, 2010. In addition, the State of Oklahoma contributes a percentage of its revenues from sales taxes, use taxes, corporate income taxes, and individual income taxes to the System. This percentage is currently 5.00%, and no increases are scheduled in this rate. Additionally, the System receives "federal matching contributions" for positions whose funding comes from federal sources or certain grants. The federal matching contribution rate for FY 2008 was 7.00% and increased to 7.50% for FY 2009. This federal matching rate is intended to approximate the contribution from the State of Oklahoma measured as a percentage of "state" payroll, i.e., payroll excluding that paid from federal or grant sources.

In the fiscal year ending June 30, 2008, the state's contribution plus the federal contribution was equivalent to a contribution of approximately 7.3% of covered payroll. The employer contributions averaged about 7.8% of payroll, so on a combined basis, the employing entities contributed about 15.1% of covered payroll for FY 2008. This is expected to increase as the contribution rates for the employers increase in the future. We project that by FY 2011, when the higher employer contribution rates are fully phased in, the combined employer, State, and federal contributions will amount to about 16.8% of payroll.

The state, local and federal contributions, when combined with the contributions made by members, are intended to pay for the normal cost and to amortize the unfunded actuarial accrued liability (UAAL).

Progress toward Realization of Financing Objectives

The UAAL at June 30, 2007 was $7,603 million, and it increased to $9,090 million this year. The funded ratio - actuarial value of assets divided by actuarial accrued liability – decreased from 52.6% to 50.5%.

Last year, the period required to completely amortize the UAAL (the funding period) based on the contribution schedule in effect at that time was 21.6 years, measured from June 30, 2007. This year, the funding period is 54.4 years. The increase in the UAAL and the funding period is principally due to the increase in our assumed rate of future ad hoc cost of living adjustments (COLA) from 1% to 2%. This added over $1.4 billion to the UAAL.

Based on the current contribution schedule, assuming no actuarial gains or losses in the future, the UAAL is expected to decrease starting in FY 2044 until it reaches zero in FY 2063.

Deferred Asset Losses/Gains

The UAAL and the funded ratio cited above are based on actuarial calculations that make use of the actuarial value of assets, not the market value. The actuarial value of assets is based on the market value, but asset gains and losses – earnings greater or less than the 8.00% investment return assumption – are recognized at a rate of 20% per year for five years. The current actuarial value, $9,257 million, is $623 million larger than the market value of $8,634 million. The actuarial value is now 107.2% of the market value. The funded ratio determined using the market value rather than the actuarial value is 47.1%.

Benefit Provisions

The actuarial valuation reflects the benefit and contribution provisions set forth in current statutes, including those adopted in the 2008 legislative session.

HB 3112 was passed during the 2008 legislative session. This bill implements a 2% ad hoc COLA for TRS retirees who retired prior to July 1, 2007.

Assumptions and Methods

Assumptions are set by the Board of Trustees, taking into account the recommendations of the plan's actuaries. In July of this year, the Board voted to increase the assumed future ad hoc COLA assumption from 1% to 2%. Otherwise, the actuarial assumptions and methods used in this report are unchanged from last year.

We believe the assumptions are internally consistent and are reasonable, based on the actual experience of the plan.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods.

The Retirement Board is required to submit actuarial information about the System to the Oklahoma State Pension Commission. The required information is based on a prescribed set of actuarial assumptions which is different from the assumption set used in preparing the actuarial valuation. This information appears as an addendum to this report in Appendix IV.

Data

Member data for retired, active, and inactive participants was supplied as of June 30, 2008 by the System's staff. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data. Asset information was supplied by the auditors and by the System's staff.

Attached Schedules

We prepared all of the schedules and exhibits in this section except for the Schedule of Increases and Decreases of Benefit Recipients which was prepared by the System's staff. We have also prepared the Schedule of Funding Progress and the Schedule of Employer Contributions in the Financial Section. We have prepared the annual actuarial valuations each year, beginning with the one prepared as of June 30, 1989. Information related to earlier actuarial valuations was prepared by the previous actuary for the System.

We thank both the staff and the auditors for their assistance.

Sincerely,

J. Christian Conradi

J. Christian Conradi, ASA, MAAA, EA
Senior Consultant

Mark R. Randall

Mark R. Randall, FCA, EA, MAAA
Senior Consultant

J:\3011\2008\Val\Val_08.doc

Executive Summary

Item	2008	2007
Membership		
• Number of		
- Active members	88,678	88,133
- Retirees and beneficiaries	45,238	43,506
- Inactive, vested	6,915	6,637
- Inactive, nonvested	6,908	6,613
- Total	147,739	144,889
• Payroll	$ 3,751 million	$ 3,599 million
Statutory contribution rates	FY 2009	FY 2008
• Employers in EESIP	8.50%/9.00% *	7.85%/8.35% *
• Regional universities	7.55%/8.05% *	7.05%/7.55% *
• Federal/grant salaries	7.50%	7.00%
• Members	7.00%	7.00%
• State (% of tax revenues)	5.00%	5.00%
Assets		
• Market value	$ 8,634 million	$ 9,293 million
• Actuarial value	$ 9,257 million	$ 8,422 million
• Return on market value	-7.5%	18.0%
• Return on actuarial value	9.4%	12.4%
• State/local/federal contributions	$ 597 million	$ 536 million
• External cash flow %	0.4%	0.2%
• Ratio of actuarial to market value	107.2%	90.6%
Actuarial Information		
• Normal cost %	11.25%	10.52%
• Unfunded actuarial accrued liability (UAAL)	$ 9,090 million	$ 7,603 million
• Funded ratio	50.5%	52.6%
• Funding period (years)	54.4	21.6
GASB 25 ARC (30 year, level %)	FY 2009	FY 2008
• Dollar amount	$714,367,558	$590,495,652
• Percent of pay	18.19%	15.68%
Gains/(losses)		
• Asset experience	$ 118 million	$ 333 million
• Liability experience	(31) million	(123) million
• Benefit changes	(67) million	0 million
• Assumption Changes	(1,406) million	0 million
• Total	($1,386) million	$ 210 million

* First rate shown is effective for July-December, second rate shown is effective for January-June

FUNDED STATUS

Because the employer contribution rates are set by statute, this report determines the funding period required to amortize the Unfunded Actuarial Accrued Liability (UAAL).

The UAAL increased by $1.488 billion, from $7.603 billion to $9.090 billion. The funded ratio – the ratio of the actuarial value of assets to actuarial accrued liability – decreased from 52.6% to 50.5%. The funding period – the number of years that would be required under the current contribution schedule to amortize the UAAL – has gone from 21.6 years to 54.4 years. We now project that the System will not reach 80% funded until after 2050, assuming no further changes in benefits or contribution rates and assuming no actuarial gains or losses.

These effects are primarily due to an increase in the assumed rate of future cost of living adjustments from 1% to 2% per year.

OTRS remains among the most poorly funded of all statewide plans. The actuarial value of assets is just sufficient to cover the liabilities for currently retired members. Despite an increase in contribution rates, future contributions are not projected to reach the GASB 25 ARC (the benchmark contribution) until FY 2034.

The current combined state/local/federal contribution for FY 2008 was not sufficient to pay the normal cost and pay the interest on the UAAL, so negative amortization is occurring. This is expected to continue over the next 35 years.

This report also determines the GASB Annual Required Contribution (ARC). This is the contribution required to fund the normal cost and to amortize the UAAL as a level percent of pay over 30 years. This amount is 18.19% of salary as shown in Table 1, compared to 15.68% last year. Our projections show that the ARC is expected to increase over the next decade before starting to decrease.

ANALYSIS OF CHANGES

UAAL

Table 12a shows an analysis of the change in the UAAL. The UAAL, which was $7,602.5 million last year, has increased to $9,090.1 million this year.

The increase in the UAAL was primarily due the assumption change for the current year. Increasing the assumed future ad hoc cost of living adjustments from 1% to 2% per year increased the UAAL by $1,406.0 million. Despite the loss on the market value of assets in FY 2008, the System had a gain on the actuarial value of assets (AVA) of $117.7 million, due to the phase in of previously deferred gains. There was a $30.5 million liability loss related to deviation from our assumptions. This loss excludes the effect of the COLA assumption and the adoption of the2% ad hoc COLA. There was a $67.3 million loss due 2% ad hoc COLA. (This figure is the additional liability produced, in excess of the assumed 1% COLA.)

The rest of the change in the UAAL since the last valuation is due to the negative amortization that occurs because statutory contributions are not sufficient to reduce the UAAL.

Funding Period

The funding period (the period required to amortize the UAAL) increased from 21.6 years to 54.4 years. This was primarily due the assumption change for the current year that increased the future ad hoc cost of living adjustment from 1% to 2% per year

The funding period shown on Table 1, and the projection of the UAAL shown on Table 13, are based upon a deterministic projection that takes into account future increases in employer contribution rates and the phase in of the difference between the actuarial and market values of assets. This projection assumes: (a) future market earnings, net of expenses, will equal 8.00% per year, (b) there will be no liability gains/losses or changes in assumptions, (c) the number of active members will remain unchanged, (d) active members who leave employment will be replaced by new entrants each year, (e) the State's contribution for FY 2009 will be $268 million as projected by the Office of State Finance (OSF), and (f) future state revenues will increase at 3.5% per year, except that, due to changes in the State's income tax, increases will only be 2.25% until FY 2010.

Actuarial Assumptions and Methods

Appendix III summarizes the actuarial assumptions used to determine the plan's liabilities and the actuarial methods used to determine the normal cost, UAAL and funding period.

In July, prior to the preparation of this report, the Board of Trustees voted to increase the assumption about future ad hoc cost-of-living increases from 1% to 2%. There were no other changes to the actuarial assumptions and methods for this year.

The change in the assumption about future ad hoc COLAs increased the plan's UAAL by just over $1.4 billion, and was the primary reason for the increase in the funding period and the decrease in the funded ratio.

Development of Employer Cost

	June 30, 2008 (1)	June 30, 2007 (2)
1. Payroll		
a. Supplied by system	$ 3,751,436,376	$ 3,598,926,888
b. Adjusted for one year's pay increase	3,926,476,288	3,766,989,331
2. Present value of future pay (paid monthly)	$ 29,734,468,919	$ 28,625,597,268
3. Normal cost rate (payable monthly)		
a. Total normal cost rate	11.25%	10.52%
b. Less: member rate	(7.00%)	(7.00%)
c. Employer normal cost rate	4.25%	3.52%
4. Actuarial accrued liability for active members		
a. Present value of future benefits for active members	$ 12,402,320,069	$ 10,973,945,087
b. Less: present value of future employer normal costs (Item 3c * Item 2)	(1,263,714,929)	(1,007,621,024)
c. Less: present value of future member contributions	(2,081,412,824)	(2,003,791,809)
d. Actuarial accrued liability	$ 9,057,192,316	$ 7,962,532,254
5. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	$ 8,919,572,410	$ 7,730,260,900
b. Inactive members	370,099,726	331,600,462
c. Active members (Item 4d)	9,057,192,316	7,962,532,254
d. Total	$ 18,346,864,452	$ 16,024,393,616
6. Actuarial value of assets	$ 9,256,786,936	$ 8,421,866,942
7. Unfunded actuarial accrued liability (UAAL) (Item 5d - Item 6)	$ 9,090,077,516	$ 7,602,526,674
8. Funding period based on statutory contribution rates	54.4 years	21.6 years
9. GASB 25 ARC		
a. Employer normal cost (Item 1b * 3c)	$ 166,875,242	$ 132,598,024
b. Level % 30-year amortization of UAAL (payable monthly)	547,492,316	457,897,628
c. Total	$ 714,367,558	$ 590,495,652
d. Contributions as percentage of payroll	18.19%	15.68%

Actuarial Present Value of Future Benefits

		June 30, 2008 (1)	June 30, 2007 (2)
1.	Active members		
	a. Service retirement benefits	$ 11,005,919,339	$ 9,659,766,185
	b. Deferred termination benefits	526,742,358	491,618,941
	c. Refunds	29,187,692	29,203,497
	d. Death benefits	207,201,059	186,709,472
	e. Disability retirement benefits	254,810,876	226,636,138
	f. Supplemental medical insurance	344,820,144	346,973,635
	g. $5,000 post-retirement death benefit	33,638,601	33,037,219
	h. Total	$ 12,402,320,069	$ 10,973,945,087
2.	Retired members		
	a. Service retirements	$ 7,990,530,539	$ 6,872,645,397
	b. Disability retirements	150,564,821	132,443,995
	c. Beneficiaries	261,621,315	226,494,181
	d. Supplemental medical insurance	439,818,068	424,662,044
	e. $5,000 post-retirement death benefit	77,037,667	74,015,283
	f. Total	$ 8,919,572,410	$ 7,730,260,900
3.	Inactive members		
	a. Vested terminations	$ 317,453,733	$ 285,381,471
	b. Nonvested terminations	25,114,016	24,373,611
	c. Suspense fund	27,531,977	21,845,380
	d. Total	$ 370,099,726	$ 331,600,462
4.	Total actuarial present value of future benefits	$ 21,691,992,205	$ 19,035,806,449

Analysis of Normal Cost

	June 30, 2008 (1)	June 30, 2007 (2)
1. Gross normal cost rate (payable monthly)		
a. Retirement benefits	8.31%	7.65%
b. Deferred termination benefits	1.36%	1.33%
c. Refunds	0.78%	0.78%
d. Supplemental medical insurance	0.28%	0.28%
e. $5,000 Post-retirement death benefits	0.04%	0.04%
f. Death Benefits	0.15%	0.14%
g. Disability retirement benefits	0.33%	0.30%
h. Total	11.25%	10.52%
2. Less: member rate	7.00%	7.00%
3. Employer normal cost rate	4.25%	3.52%

Schedule of Funding Progress
(As required by GASB #25)

Valuation Date (1)	Actuarial Value of Assets (AVA) (2)	Actuarial Accrued Liability (AAL) (3)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2) (4)	Funded Ratio (2)/(3) (5)	Annual Covered Payroll (6)	UAAL as % of Payroll (4)/(6) (7)
June 30, 1995	$2,869.9	$7,480.4	$4,610.5	38.4%	$2,336.1	197.4%
June 30, 1996	$3,103.0	$7,843.2	$4,740.2	39.6%	$2,375.5	199.5%
June 30, 1997	$3,544.9	$8,257.2	$4,712.3	42.9%	$2,428.7	194.0%
June 30, 1998	$4,085.0	$8,891.3	$4,806.3	45.9%	$2,537.7	189.4%
June 30, 1999	$4,708.0	$9,458.6	$4,750.5	49.8%	$2,648.4	179.4%
June 30, 2000	$5,373.5	$10,009.2	$4,635.7	53.7%	$2,738.3	169.3%
June 30, 2001	$5,959.0	$11,591.1	$5,632.1	51.4%	$2,990.5	188.3%
June 30, 2002	$6,310.9	$12,275.9	$5,965.0	51.4%	$3,047.1	195.8%
June 30, 2003	$6,436.9	$11,925.2	$5,488.3	54.0%	$3,045.7	180.2%
June 30, 2004	$6,660.9	$14,080.1	$7,419.2	47.3%	$3,030.7	244.8%
June 30, 2005	$6,952.7	$14,052.4	$7,099.7	49.5%	$3,175.2	223.6%
June 30, 2006	$7,470.4	$15,143.4	$7,672.9	49.3%	$3,354.9	228.7%
June 30, 2007	$8,421.9	$16,024.4	$7,602.5	52.6%	$3,598.9	211.2%
June 30, 2008	$9,256.8	$18,346.9	$9,090.1	50.5%	$3,751.4	242.3%

Note : Dollar amounts in millions

Schedule of Employer Contributions
(As required by GASB #25)

Year Ending June 30,	Annual Required Contribution	Percentage Contributed
(1)	(2)	(3)
1996	$434,728,781	40.8%
1997	$446,459,961	62.0%
1998	$446,219,296	59.1%
1999	$456,864,002	53.5%
2000	$455,265,033	60.6%
2001	$451,463,258	72.7%
2002	$556,201,571	65.6%
2003	$585,168,488	61.9%
2004	$534,811,845	70.2%
2005	$722,095,783	56.2%
2006	$535,228,038	85.8%
2007	$575,745,142	93.1%
2008	$590,495,652	101.1%

Notes to Required Supplementary Information
(as required by GASB #25)

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	June 30, 2008
Actuarial cost method	Entry Age Normal
Amortization method	Level percent of payroll, open period
Remaining amortization period	30 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return *	8.00%
Projected salary increase *	4.25% to 6.00%
* Includes inflation at:	3.00%
Cost of living adjustment	2.00%

Membership Data

		June 30, 2008 (1)	June 30, 2007 (2)
1.	Active members		
	a. Number	88,678	88,133
	b. Total payroll supplied by System	$ 3,751,436,376	$ 3,598,926,888
	c. Average salary	$ 42,304	$ 40,835
	d. Average age	45.9	45.8
	e. Average service	11.5	11.5
2.	Vested inactive members		
	a. Number	6,915	6,637
	b. Total annual deferred benefits	$ 51,446,164	$ 49,993,687
	c. Average annual deferred benefit	$ 7,440	$ 7,533
3.	Nonvested inactive members		
	a. Number	6,908	6,613
	b. Member contributions with interest due	$ 25,114,016	$ 24,373,611
	c. Average refund due	$ 3,635	$ 3,686
4.	Service retirees		
	a. Number	41,685	40,068
	b. Total annual benefits[1, 2]	$ 747,336,202	$ 696,685,159
	c. Average annual benefit	$ 17,928	$ 17,388
5.	Special service retirees		
	a. Number	63	91
	b. Total annual benefits[1, 2]	$ 146,762	$ 208,106
	c. Average annual benefit	$ 2,330	$ 2,287
6.	Disabled retirees		
	a. Number	1,513	1,471
	b. Total annual benefits[1, 2]	$ 16,606,561	$ 15,770,285
	c. Average annual benefit	$ 10,976	$ 10,721
7.	Beneficiaries and spouses		
	a. Number	1,977	1,876
	b. Total annual benefits[1, 2]	$ 29,045,325	$ 26,691,199
	c. Average annual benefit	$ 14,692	$ 14,228

[1] Benefit amounts exclude the supplemental medical insurance payment.

[2] Benefit amounts for 2008 include 2.00% COLA effective July 1, 2008

Historical Summary of Active Member Data

	Active Members		Covered Payroll		Average Salary			
Valuation as of June 30,	Number	Percent Increase	Amount in $ Millions	Percent Increase	$ Amount	Percent Increase	Average Age	Average Service
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1990	69,062	2.0%	1,745	8.4%	25,265	5.0%	43.1	10.5
1991	71,936	4.2%	1,921	10.1%	26,709	5.7%	43.1	10.5
1992	73,568	2.3%	2,002	4.2%	27,218	1.9%	43.3	10.6
1993	75,599	2.8%	2,122	6.0%	28,069	3.1%	43.4	10.7
1994	76,280	0.9%	2,190	3.2%	28,704	2.3%	43.6	10.8
1995	79,044	3.6%	2,336	6.7%	29,555	3.0%	43.6	10.7
1996	78,942	(0.1%)	2,375	1.7%	30,091	1.8%	44.0	11.1
1997	79,510	0.7%	2,429	2.3%	30,546	1.5%	44.2	11.2
1998	80,578	1.3%	2,538	4.5%	31,493	3.1%	44.3	11.2
1999	81,851	1.6%	2,648	4.3%	32,356	2.7%	44.4	11.2
2000	83,024	1.4%	2,738	3.4%	32,982	1.9%	44.5	11.0
2001	84,387	1.6%	2,991	9.2%	35,438	7.4%	44.7	11.0
2002	85,366	1.2%	3,047	1.9%	35,695	0.7%	44.9	11.1
2003	83,127	(2.6%)	3,046	(0.0%)	36,639	2.6%	45.3	11.5
2004	81,683	(1.7%)	3,031	(0.5%)	37,104	1.3%	45.6	11.8
2005	84,286	3.2%	3,175	4.8%	37,671	1.5%	45.6	11.6
2006	87,194	3.5%	3,355	5.7%	38,476	2.1%	45.7	11.6
2007	88,133	1.1%	3,599	7.3%	40,835	6.1%	45.8	11.5
2008	88,678	0.6%	3,751	4.2%	42,304	3.6%	45.9	11.5

Plan Net Assets
(Assets at Market or Fair Value)

Item	Valuation as of June 30, 2008		Valuation as of June 30, 2007	
(1)	(2)		(3)	
1. Cash and cash equivalents	$	2,124,625	$	4,771,218
2. Receivables				
a. Employer and member contributions	$	54,776,735	$	45,465,506
b. State contribution		28,969,735		25,074,415
c. Net investment income and other accruals		33,221,531		28,251,274
d. Total receivables	$	116,968,001	$	98,791,195
3. Investments				
a. Invested cash and other	$	441,182,511	$	480,385,331
b. Domestic equities		4,381,924,106		5,052,869,614
c. International equities		1,472,723,735		1,640,103,192
d. Fixed income		2,819,869,159		2,679,194,330
e. Real estate, furniture & equipment		247,186		262,461
f. Total investments	$	9,115,946,697	$	9,852,814,928
4. Total assets	$	9,235,039,323	$	9,956,377,341
5. Liabilities				
a. Benefits payable, including insurance payments	$	67,389,081	$	16,768,162
b. Net due to brokers		213,584,916		279,245,962
c. Other liabilities		8,206,044		9,321,354
d. Total liabilities	$	289,180,041	$	305,335,478
6. Net assets available (Item 4 - Item 5)	$	8,945,859,282	$	9,651,041,863
7. Less: Teachers' Deposit Fund		(312,159,587)		(357,840,841)
8. Net assets available for OTRS benefits	$	8,633,699,695	$	9,293,201,022

Distribution of Assets at Market Value (Percentage of Total Investments)

Item		Valuation as of June 30, 2008	Valuation as of June 30, 2007
(1)		(2)	(3)
a.	Invested cash and other	4.8%	4.9%
b.	Domestic equities	48.1%	51.3%
c.	International equities	16.2%	16.6%
d.	Fixed income	30.9%	27.2%
e.	Real estate, furniture & equipment	0.0%	0.0%
f	Total investments	100.0%	100.0%

Reconciliation of Plan Net Assets

	Year Ending	
	June 30, 2008	June 30, 2007
	(1)	(2)
1. Market value of assets at beginning of year, net of Teachers' Deposit Fund	$ 9,293,201,022	$ 7,858,937,186
2. Revenue for the year		
a. Contributions		
i. Member contributions, including state credit	$ 286,738,943	$ 285,408,749
ii. Federal matching funds	21,274,957	21,402,183
iii. State contribution	266,761,597	243,501,987
iv. Employer/district contributions	308,804,479	271,012,403
v. Total	$ 883,579,976	$ 821,325,322
b. Net investment earnings		
i. Interest, dividends and other income	$ 269,601,388	$ 236,385,329
ii. Net appreciation/(depreciation)	(959,036,578)	1,269,034,289
iii. Less: investment expenses	(32,992,027)	(30,790,763)
iv. Less: transfers to Teachers' Deposit Fund	25,932,253	(56,098,820)
v. Net investment earnings	$ (696,494,964)	$ 1,418,530,035
c. Total revenue	$ 187,085,012	$ 2,239,855,357
3. Expenditures for the year		
a. Refunds	35,254,496	$ 33,829,653
b. Benefit payments, including insurance payments	806,540,725	767,212,709
c. Administrative expenses	4,791,118	4,549,159
d. Total expenditures	846,586,339	$ 805,591,521
4. Increase in net assets (Item 2 - Item 3)	$ (659,501,327)	$ 1,434,263,836
5. Market value of assets at end of year, net of Teachers' Deposit Fund (Item 1 + Item 4)	$ 8,633,699,695	$ 9,293,201,022

Development of Actuarial Value of Assets

		Year Ending June 30, 2008
1.	Market value of assets at beginning of year	$ 9,293,201,022
2.	Net new investments	
	a. Contributions	$ 883,579,976
	b. Benefits paid	(806,540,725)
	c. Refunds	(35,254,496)
	d. Subtotal	41,784,755
3.	Market value of assets at end of year	$ 8,633,699,695
4.	Net earnings (3-1-2)	$ (701,286,082)
5.	Assumed investment return rate	8.00%
6.	Expected return	$ 745,127,472
7.	Excess return (4-6)	$ (1,446,413,554)

8. Excess return on assets for last four years :

	Period End	Excess Return (2)	Percent Deferred (3)	Deferred Amount (4)
a.	June 30, 2005	129,636,869	20%	$ 25,927,374
b.	June 30, 2006	93,608,695	40%	37,443,478
c.	June 30, 2007	784,454,583	60%	470,672,750
d.	June 30, 2008	(1,446,413,554)	80%	(1,157,130,843)
				$ (623,087,241)

9.	Actuarial value of assets (Item 3 - Item 8)	$ 9,256,786,936
10.	Actuarial value as percentage of market value	107.2%

Estimation of Yields

	Year Ending June 30, 2008 (1)	Year Ending June 30, 2007 (2)
A. Market value yield		
1. Beginning of year market assets	$ 9,293,201,022	$ 7,858,937,186
2. Net investment income (including realized and unrealized gains and losses)	$ (696,494,964)	$ 1,418,530,035
3. End of year market assets	$ 8,633,699,695	$ 9,293,201,022
4. Estimated dollar weighted market value yield	-7.5%	18.0%
B. Actuarial value yield		
1. Beginning of year actuarial assets	$ 8,421,866,942	$ 7,470,433,915
2. Actuarial return	$ 793,135,239	$ 931,150,067
3. End of year actuarial assets	$ 9,256,786,936	$ 8,421,866,942
4. Estimated actuarial value yield	9.4%	12.4%

Table 10

History of Cash Flow

Year Ending June 30, (1)	Contributions (2)	Distributions and Expenditures: Benefit Payments (3)	Refunds (4)	Administrative Expenses (5)	Total (6)	External Cash Flow for the Year[1] (7)	Market Value of Assets (8)	External Cash Flow as Percent of Market Value (9)
1999	435.0	(479.6)	(24.5)	(2.7)	(506.9)	(71.8)	5,387	(1.3%)
2000	471.8	(500.3)	(29.5)	(3.0)	(532.7)	(60.9)	5,890	(1.0%)
2001	544.8	(537.3)	(31.4)	(3.5)	(572.2)	(27.4)	5,732	(0.5%)
2002	591.5	(561.2)	(26.7)	(3.9)	(591.9)	(0.4)	5,418	(0.0%)
2003	582.5	(609.0)	(30.2)	(4.0)	(643.2)	(60.7)	5,614	(1.1%)
2004	608.4	(647.3)	(33.7)	(3.9)	(684.9)	(76.5)	6,666	(1.1%)
2005	640.8	(701.9)	(26.8)	(4.2)	(732.9)	(92.1)	7,238	(1.3%)
2006	708.4	(727.4)	(30.9)	(4.4)	(762.7)	(54.3)	7,859	(0.7%)
2007	821.3	(767.2)	(33.8)	(4.5)	(805.5)	15.8	9,293	0.2%
2008	883.6	(806.5)	(35.3)	(4.8)	(846.6)	37.0	8,634	0.4%

Dollar amounts in millions

[1] Column (7) = Column (2) + Column (6).

Investment Experience Gain or Loss

Item (1)	Year Ending June 30, 2008 (2)	Year Ending June 30, 2007 (3)
1. Actuarial assets, beginning of year	$ 8,421,866,942	$ 7,470,433,915
2. Contributions during year	$ 883,579,976	$ 821,325,322
3. Benefits and refunds paid	$ (841,795,221)	$ (801,042,362)
4. Assumed net investment income at 8%		
a. Beginning of year assets	$ 673,749,355	$ 597,634,713
b. Contributions	35,343,199	32,853,013
c. Benefits and refunds paid	(33,671,809)	(32,041,694)
d. Total	$ 675,420,745	$ 598,446,032
5. Expected actuarial assets, end of year (Sum of items 1 through 4)	$ 9,139,072,442	$ 8,089,162,907
6. Actual actuarial assets, end of year	$ 9,256,786,936	$ 8,421,866,942
7. Asset gain (loss) for year (Item 6 - Item 5)	$ 117,714,494	$ 332,704,035

Total Experience Gain or Loss

Item	Year Ending June 30, 2008	Year Ending June 30, 2007
(1)	(2)	(3)
A. Calculation of total actuarial gain or loss		
1. Unfunded actuarial accrued liability (UAAL), previous year	$ 7,602,526,674	$ 7,672,923,905
2. Normal cost for the year (employer and employee)	$ 396,287,278	$ 364,799,297
3. Less: total contributions for the year	$ (883,579,976)	$ (821,325,322)
4. Interest at 8 %		
a. On UAAL	$ 608,202,134	$ 613,833,912
b. On normal cost	15,851,491	14,591,972
c. On contributions	(35,343,199)	(32,853,013)
d. Total	$ 588,710,426	$ 595,572,871
5. Expected UAAL (Sum of Items 1 - 4)	$ 7,703,944,402	$ 7,811,970,751
6. Actual UAAL	$ 9,090,077,516	$ 7,602,526,674
7. Total gain (loss) for the year (Item 5 - Item 6)	$ (1,386,133,114)	$ 209,444,077
B. Source of gains and losses		
8. Asset gain (loss) for the year	$ 117,714,494	$ 332,704,035
9. Liability gain (loss) for the year	(30,504,190)	(123,259,958)
10. 2% Ad-Hoc COLA	(67,332,566)	-
11. Increase in future ad hoc COLA assumption	(1,406,010,852)	-
12. Total	$ (1,386,133,114)	$ 209,444,077

Analysis of Change in Unfunded Actuarial Accrued Liability (UAAL)

Basis	June 30, 2008 UAAL (in $ Millions)	June 30, 2007 UAAL (in $ Millions)
(1)	(2)	(3)
1. From prior valuation	$ 7,602.5	$ 7,672.9
2. Impact of changes, gains and losses		
a. Expected increase based on expected contributions and passage of time	130.2	222.5
b. Liability (gain)/loss	30.5	123.3
c. Asset (gain)/loss	(117.7)	(332.7)
d. Impact of actual ctrb (more)/less than expected under schedule	(28.8)	(83.4)
e. 2% Ad-Hoc COLA	67.3	0.0
f. Increase in future ad hoc COLA assumption	1,406.0	0.0
h. Total	1,487.5	(70.3)
3. Current UAAL (1+2h)	$ 9,090.1	$ 7,602.5

Columns may not total due to rounding

Projection of UAAL

Valuation Date (1)	UAAL (Millions) (2)
June 30, 2008	9,090.1
June 30, 2009	9,474.1
June 30, 2010	9,876.1
June 30, 2011	10,297.7
June 30, 2012	10,883.1
June 30, 2013	11,186.1
June 30, 2014	11,495.9
June 30, 2015	11,812.1
June 30, 2016	12,134.6
June 30, 2017	12,462.8
June 30, 2018	12,796.5
June 30, 2019	13,135.1
June 30, 2020	13,478.1
June 30, 2021	13,824.6
June 30, 2022	14,174.0
June 30, 2023	14,525.6
June 30, 2024	14,878.5
June 30, 2025	15,231.8
June 30, 2026	15,584.5
June 30, 2027	15,935.8
June 30, 2028	16,284.4
June 30, 2029	16,629.2
June 30, 2030	16,968.8
June 30, 2031	17,301.6
June 30, 2032	17,625.8
June 30, 2033	17,939.7
June 30, 2034	18,241.0
June 30, 2035	18,527.3
June 30, 2036	18,796.1
June 30, 2037	19,044.2

Solvency Test

Actuarial Accrued Liability and Percent of Active Member Payroll for:

	Accumulated Member Contributions Including Interest		Retirees and Beneficiaries Currently Receiving Benefits		Terminated Employees Not Yet Receiving Benefits		Employer Financed Portion of Vested and Nonvested Benefits			Portion of Accrued Liabilities Covered by Assets			
June 30,	(1)	% of Payroll	(2)	% of Payroll	(3)	% of Payroll	(4)	% of Payroll	Actuarial Value of Assets	(1)	(2)	(3)	(4)
1999	2,330.6	88%	4,415.0	167%	136.4	5%	2,576.5	97%	4,708.0	100%	54%	0%	0%
2000	2,518.2	92%	4,803.8	175%	151.1	6%	2,536.1	93%	5,373.5	100%	59%	0%	0%
2001	2,728.4	91%	5,459.6	183%	173.1	6%	3,230.0	108%	5,959.0	100%	59%	0%	0%
2002	2,934.3	96%	5,959.9	196%	184.9	6%	3,196.8	105%	6,310.9	100%	57%	0%	0%
2003	3,072.8	101%	5,894.0	194%	191.0	6%	2,767.4	91%	6,436.9	100%	57%	0%	0%
2004	3,212.9	106%	6,899.0	228%	284.7	9%	3,683.6	122%	6,660.9	100%	50%	0%	0%
2005	3,381.7	107%	7,046.5	222%	301.4	9%	3,322.9	105%	6,952.7	100%	51%	0%	0%
2006	3,853.7	115%	7,340.0	219%	314.3	9%	3,635.3	108%	7,470.4	100%	51%	0%	0%
2007	4,057.5	113%	7,730.3	215%	331.6	9%	3,905.0	109%	8,421.9	100%	56%	0%	0%
2008	4,323.0	115%	8,919.6	238%	370.1	10%	4,734.2	126%	9,256.8	100%	55%	0%	0%

Note : Dollar amounts in millions

Table 15

Distribution of Active Members by Age and by Years of Service
As of 06/30/2008

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.
Under 25	262	795	216	48	13	7	0	0	0	0	0	0	1,341
	$20,444	$29,661	$29,743	$24,890	$21,046	$30,691	$0	$0	$0	$0	$0	$0	$27,624
25-29	357	1,724	1,602	1,496	1,007	859	6	0	0	0	0	0	7,051
	$21,213	$31,281	$33,535	$34,275	$35,462	$36,279	$36,190	$0	$0	$0	$0	$0	$33,129
30-34	321	1,028	1,011	897	891	3,551	648	0	0	0	0	0	8,347
	$18,640	$31,519	$33,859	$34,926	$36,377	$39,413	$41,893	$0	$0	$0	$0	$0	$36,356
35-39	364	933	947	900	800	2,998	2,998	724	4	0	0	0	10,668
	$17,544	$30,216	$33,230	$34,651	$36,764	$41,755	$44,267	$45,481	$42,951	$0	$0	$0	$39,149
40-44	281	814	826	726	648	2,609	1,979	2,468	581	4	0	0	10,936
	$16,942	$29,723	$31,036	$32,914	$35,263	$41,276	$46,975	$47,902	$49,711	$41,067	$0	$0	$41,081
45-49	292	784	794	695	637	2,738	2,257	2,135	2,127	874	5	0	13,338
	$16,834	$29,112	$30,893	$32,417	$33,139	$40,241	$44,293	$48,760	$50,825	$52,456	$47,194	$0	$42,311
50-54	218	633	582	551	528	2,247	2,204	2,400	1,803	2,432	795	3	14,396
	$17,868	$30,684	$32,118	$34,092	$35,555	$39,620	$43,798	$47,014	$52,331	$54,744	$56,055	$100,552	$45,173
55-59	162	435	442	376	373	1,745	1,686	2,164	1,967	1,397	1,604	477	12,828
	$16,045	$32,270	$34,886	$34,319	$35,448	$40,895	$44,111	$45,921	$50,509	$60,141	$59,191	$59,970	$47,568
60-64	87	228	197	182	213	911	964	1,262	1,074	745	665	755	7,283
	$15,547	$29,711	$35,968	$30,477	$34,155	$41,773	$46,085	$46,648	$52,170	$59,888	$65,944	$68,815	$50,232
65 & Over	68	131	96	91	84	338	292	380	306	211	181	312	2,490
	$13,565	$20,379	$24,713	$22,318	$26,614	$31,020	$41,465	$45,251	$49,192	$60,175	$73,044	$92,159	$48,090
Total	2,412	7,505	6,713	5,962	5,194	18,003	13,034	11,533	7,862	5,663	3,250	1,547	88,678
	$18,136	$30,383	$32,710	$33,659	$35,286	$40,177	$44,533	$47,128	$51,125	$56,592	$60,559	$70,857	$42,304

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

I. Valuation Date

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

Because the employer contribution rate is set by statute, the actuarial valuation is used to determine the funding period--the number of years required to amortize the Unfunded Actuarial Accrued Liability (UAAL). It is also used to calculate the Annual Required Contribution (ARC) as defined by GASB 25.

The actuarial valuation uses the Entry Age actuarial cost method. Under this method, a normal cost rate is first determined. This is the contribution rate (level as a percentage of pay) required to provide the benefits of the average new member. The normal cost rate consists of two pieces: (i) the member's own contribution rate, and (ii) a portion of the employer contribution rate. This second piece is called the employer normal cost rate.

The total normal cost is determined by dividing the present value of future benefits for a hypothetical group of new members by the present value of their future pay. In calculating the benefits for this group, all changes in provisions or member contribution rates scheduled to occur in the future are assumed to already be in effect. The hypothetical group of new entrants was reset in the 2005 experience study, based on actual new members joining during FY 2000 through FY 2004.

Next, the UAAL is determined. This is the liability for future benefits which is in excess of (i) the actuarial value of assets, and (ii) the present value of future normal costs. The employer contribution that is not used for the employer normal cost is applied to amortize the UAAL.

The funding period is calculated as the number of years required to fully amortize the UAAL, assuming that the System's payroll increases at the payroll growth rate and the State's contribution increases at the State's revenue growth rate. Both employer and member contributions are assumed to be made monthly.

The Entry Age actuarial cost method is an "immediate gain" method (i.e., experience gains and losses are separately identified as part of the UAAL). However, they are amortized over the same period applied to all other components of the UAAL.

The actuarial valuation also determines the GASB Annual Required Contribution (ARC). This is the contribution required to pay the normal cost and amortize the UAAL over 30 years as a level percent of pay. The 30-year period applies to all components of the UAAL and is recalculated each year (open amortization method).

III. *Actuarial Value of Assets*

The actuarial value of assets is equal to the market value, adjusted for a five-year phase in of actual investment return in excess of expected investment return. The actual return is calculated net of investment and administrative expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

IV. *Actuarial Assumptions*

A. Economic Assumptions

1. Investment return: 8% per year, compounded annually, composed of an assumed 3.00% inflation rate and a 5.00% net real rate of return.
2. Salary increase rate: A merit/promotional component dependent on service, plus a 3% inflation component, plus a 1.25% productivity increase, as follows:

Years of Service	Merit/ Promotional Component	Total Salary Increase Rate
(1)	(2)	(3)
0	1.75%	6.00%
1	1.50%	5.75
2	1.00%	5.25
3	1.00%	5.25
4	1.00%	5.25
5	0.75%	5.00
6	0.50%	4.75
7	0.50%	4.75
8	0.50%	4.75
9	0.50%	4.75
10	0.25%	4.50
11	0.25%	4.50
12	0.25%	4.50
13	0.25%	4.50
14	0.25%	4.50
15 or more	0.00%	4.25

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.5% per year. This increase rate has no allowance for future membership growth.

4. State revenue growth rate: In determining the funding period, the state's sales and income tax revenues are anticipated to grow at 3.5% per year. However, for years FY 2007 through FY 2010, revenue growth was decreased, reflecting the expected impact of new income tax rates.

5. Future ad hoc cost-of-living increases: 2.0% per year.

B. Demographic Assumptions

1. Mortality rates - after retirement or termination.

   a. Healthy males - 1994 Unisex Pension Mortality Table for males, set back one year.

   b. Healthy females - 1994 Unisex Pension Mortality Table for females, set back one year.

   c. Disabled males - PBGC Table Va for disabled males eligible for Social Security disability benefits weighted by 80%.

   d. Disabled females - PBGC Table VIa for disabled females eligible for Social Security disability benefits.

   Sample rates are shown below:

	Expected Deaths per 100 Lives			
Age	Healthy Males	Healthy Females	Disabled Males	Disabled Females
(1)	(2)	(3)	(4)	(4)
40	0.11	0.07	2.26	2.09
45	0.16	0.10	2.58	2.24
50	0.25	0.14	3.06	2.57
55	0.43	0.22	3.86	2.95
60	0.76	0.42	4.82	3.31
65	1.39	0.82	5.42	3.70
70	2.34	1.37	5.91	4.11
75	3.66	2.19	6.74	4.92
80	6.01	3.80	9.02	7.46

2. Mortality rates - active members - Based on 1989 Experience Study, males and females separate. Sample rates are shown below:

	Expected Deaths per 100 Lives	
Age	Male Members	Female Members
(1)	(2)	(3)
25	.04	.02
30	.06	.04
35	.08	.06
40	.11	.08
45	.16	.11
50	.23	.16
55	.32	.23
60	.43	.32
65	.59	.43

3. Disability rates - Based on 2005 Experience Study, males and females separate. Sample rates are shown below:

	Expected Disabilities Occurring per 100 Lives	
Age	Male Members	Female Members
(1)	(2)	(3)
25	.025	.025
30	.025	.025
35	.035	.050
40	.065	.125
45	.100	.200
50	.300	.300
55	.450	.420
60	.175	.420
65	.000	.000

Disability rates are applied only for members with 10 or more years of service, since rates were developed based on exposure for this group.

4. Termination Rates - Separate male and female rates, based on both age and service, developed from the 2005 Experience Study. Rates reflect terminations for causes other than death, disability or retirement. Sample rates are shown below:

a. <u>During the first ten years of Credited Service:</u>

Expected Terminations per 100 Lives

Credited Service (Years)	Males	Females
(1)	(2)	(3)
0	34.00	24.00
1	19.00	16.00
2	14.00	12.25
3	11.50	10.50
4	9.50	9.00
5	7.75	7.75
6	6.75	6.75
7	6.00	6.00
8	5.50	5.00
9	5.00	4.00

b. <u>With 10 or More Years of Credited Service:</u>

Expected Terminations per 100 Lives

Age	Males	Females
(1)	(2)	(3)
25	4.74	7.01
30	4.10	5.09
35	3.51	3.66
40	2.97	2.74
45	2.51	2.34
50	2.09	2.08
55	1.66	1.63
60	1.32	1.14
65	1.28	0.82

Termination rates are not applied to a member who is eligible for a retirement benefit (reduced or unreduced).

5. Retirement rates - Separate male and female rates, based on age, developed from the 2005 Experience Study. Sample rates are shown below:

Expected Retirements per 100 Lives

	Unreduced Retirement		Reduced Retirement	
Age	Male	Female	Male	Female
49	00	00	0	0
50	20	20	0	0
51	20	20	0	0
52	20	20	0	0
53	20	20	0	0
54	15	20	0	0
55	15	20	1	2
56	15	20	1	2
57	15	20	2	2
58	15	20	2	2
59	15	20	3	2
60	15	20	4	5
61	15	20	4	5
62	25	30		
63	20	25		
64	20	20		
65	30	40		
66	25	25		
67	25	25		
68	20	20		
69	20	20		
70	100	100		

C. Other Assumptions

1. Percent married: 80% of employees are assumed to be married.

2. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.

3. Percent electing annuity on death (when eligible): All of the spouses of married participants who die after becoming eligible for a retirement benefit are assumed to elect an annuity, in lieu of the $18,000 lump sum and refund.

4. Percent electing deferred termination benefit: vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.

5. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at age 62.

6. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

7. Supplemental medical insurance: All members, whether currently active, inactive, or retired, are assumed to be eligible to receive the supplemental insurance benefit, if they have at least 10 years of service credit at retirement.

8. Members who retire with at least 24 years of credited service are assumed to have 120 days of unused sick leave for which they will receive one year of service credit. This assumption only applies to reduced and unreduced retirement.

9. No assumption was made that current active members employed by the comprehensive universities will elect to transfer out of OTRS.

10. Reemployment, purchase of service, transfers: No recognition is made of (i) future member reimbursements upon reemployment, (ii) future purchase of additional service, or (iii) special transfer provisions.

11. For EESIP eligible employees, if the refund amount to be paid exceeds the actuarial present value of the additional benefit, then we assume the member does not elect the enhanced benefit.

12. For those participants eligible for the EESIP, it is assumed that retirement is delayed in each year past first eligibility by 10%, until all eligible years are uncapped, at which point those delayed members are assumed to retire.

V. Participant Data

Participant data was supplied on an electronic file for (i) active members, (ii) inactive vested members who are entitled to a future deferred benefit, (iii) inactive nonvested members who are entitled to a refund of their employee contributions, and in some cases a portion of the accumulated interest, and (iv) members and beneficiaries receiving benefits.

The data for active and inactive, non-retired members included birthdate, sex, years of service, a classified/non-classified status code, salary, employee contributions and accumulated interest on employee contributions. The data also included a code to indicate whether the employee had elected to make contributions on salary above $25,000, and a code indicating the type of employer (comprehensive university, other college or university, or other employer). For retired members and beneficiaries, the data included date of birth, sex, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and a form of payment code.

Salary supplied for the current year was based on the earnings for the October preceding the valuation date. This salary was adjusted by the salary increase rate for one year, and limited by the maximum pay where appropriate.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.

Some inactive, nonvested employees who are entitled to a refund are not included in the data, but a liability for their refund is included instead in the Suspense Fund, which is included in the liability.

VI. Dates of Adoption of Assumptions and Methods

Generally, actuarial assumptions and methods were developed from the 2005 experience study, and were adopted by the Board of Trustees in August 2005 and first reflected in the June 30, 2005 actuarial valuation. The adopted assumptions were recommended by the actuary. Some assumptions were left unchanged from the prior experience study in 1999, including female mortality for disabled retirees, the investment return rate, and active member mortality for males and females.

Since the June 30, 2004 valuation, there is an assumption that future ad hoc cost-of-living increases would be granted from time to time, without additional funding. The initial assumptions were that these would average 1.00% per year. Effective July 1, 2008, the assumption was modified from 1.0% to 2.0% per year.

Effective July 1, 2006, retirement assumptions were modified for members eligible for the EESIP.

ADDENDUM TO JUNE 30, 2008 ACTUARIAL VALUATION

Certification

We have prepared an actuarial valuation of the Oklahoma Teachers' Retirement System as of June 30, 2008, for the plan year ending June 30, 2009. The results of the valuation are set forth in this report, which reflects the provisions of the System as amended and effective on June 30, 2008.

The valuation is based on employee and financial data which were provided by the Oklahoma Teachers' Retirement System and the independent auditor, respectively, and which are summarized in this report.

The results in this Addendum have been prepared for the sole purpose of meeting the Retirement Board's requirement to submit this information to the Oklahoma State Pension Commission, based on the following prescribed assumptions (70 O.S. 2001, Section 17-106.1, Section H):

Interest rate: 7.5%
COLA assumption: 2.0%
Mortality: RP 2000 Generational Mortality Tables (active members, healthy annuitants, and disabled annuitants)
Amortization period: 30 years, open period
Sources of all contributions and revenues, including dedicated tax fee revenue and federal monies

All other assumptions, methodologies, and plan provisions used are consistent with those used in the regular June 30, 2008 valuation prepared for the Board of Trustees.

The results shown in this Addendum are not consistent with those in the June 30, 2008 valuation. The June 30, 2008 valuation results were determined in accordance with generally accepted actuarial principles and procedures, and are in compliance with the Actuarial Standards of Board Actuarial Standard of Practice No. 27-Selection of Economic Assumptions for Measuring Pension Obligations. The results shown in this Addendum are not based on the assumptions and methodologies adopted by the Board of Trustees. For those results, see the regular June 30, 2008 actuarial valuation.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

J. Christian Conradi

J. Christian Conradi, ASA, MAAA, EA October 16, 2008

Mark R. Randall

Mark R. Randall, FCA, EA, MAAA October 16, 2008

Summary of Valuation Results under Prescribed Assumptions

This supplemental report has been prepared by Gabriel, Roeder, Smith & Company for the Oklahoma Teachers' Retirement System to present the results of a valuation of the Oklahoma Teachers' Retirement System as of June 30, 2008, based on the prescribed assumptions under 70 O.S. 2001, Section 17-106.1, Section H of current State Statutes and regulations issued thereunder.

A summary of principal valuation results from the current valuation and the prior valuation.

	Actuarial Valuation as of		Change Between Years	
	June 30, 2008	June 30, 2007	Amount	Percent
Summary of Costs				
Required State Contribution for Current Year under Prescribed Assumptions	$710,809,846	$719,292,712	-$8,482,866	-1.18%
Actual State Contribution Received in Prior Year	$266,761,597	$243,501,987	$23,259,610	9.55%
Funded Status				
Actuarial Accrued Liability	$19,566,540,948	$18,494,245,830	$1,072,295,118	5.80%
Actuarial Value of Assets	$9,256,786,936	$8,421,866,942	$834,919,994	9.91%
Unfunded Actuarial Accrued Liability	$10,309,754,012	$10,072,378,888	$237,375,124	2.36%
Market Value of Assets and Additional Liabilities				
Market Value of Assets	$8,633,699,695	$9,293,201,022	-$659,501,327	-7.10%
Present Value of Projected System Benefits	$23,507,582,253	$22,287,584,027	$1,219,998,226	5.47%

Summary of Contribution Requirements	Actuarial Valuation as of June 30, 2008 Amount	June 30, 2008 % of Active Covered Comp.	June 30, 2007 Amount	June 30, 2007 % of Active Covered Comp.	% of Change
1. Payroll					
a. Supplied by system	$3,751,436,376		$3,598,926,888		4.24%
b. Adjusted for 1-year's pay increase	$3,926,476,288		$3,766,989,331		4.23%
2. Total normal cost (mid-year)	$502,131,944	12.79%	$481,736,177	12.79%	4.23%
3. Unfunded actuarial accrued liability (UAAL)	$10,309,754,012		$10,072,378,888		2.36%
4. Amortization of UAAL over 30 years from valuation date	$844,295,883	21.50%	$824,856,541	21.90%	2.36%
5. Total required contribution under prescribed assumptions (2+4)	$1,346,427,827	34.29%	$1,306,592,718	34.69%	3.05%
6. Estimated employee contribution (7% x 1b)	$274,853,340	7.00%	$263,689,253	7.00%	4.23%
7. Estimated local employer and federal/grant contributions					
a. Local employers	$335,733,355	8.55%	$298,797,594	7.93%	
b. Federal/grant	$25,031,286	0.64%	$24,813,159	0.66%	0.88%
c. Total	$360,764,641	9.19%	$323,610,753	8.59%	11.48%
8. Required state contribution to amortize UAAL over 30 years from valuation date (5 - 6 - 7c)	$710,809,846	18.10%	$719,292,712	19.09%	-1.18%
9. Previous year's actual State Contribution	$266,761,597	7.08%	$243,501,987	7.02%	9.55%
10. Projected State Contribution per OSF	$268,427,420	6.84%	$268,627,400	7.13%	-0.07%
11. Funding period	Not Sufficient to Amortize UAAL		Not Sufficient to Amortize UAAL		N/A

Unfunded Actuarial Accrued Liability

The actuarial accrued liability is the present value of projected system benefits allocated to past service by the actuarial funding method being used.

	Total System	
	June 30, 2008	June 30, 2007
1. Actuarial Present Value of Benefits		
a. Active members	$ 13,854,041,486	$ 13,271,404,967
b. Inactives	400,910,797	381,809,950
c. Retirees and beneficiaries	9,252,629,970	8,634,369,110
d. Total	23,507,582,253	22,287,584,027
2. Actuarial Present Value of Future Normal Costs	$ 3,941,041,305	$ 3,793,338,197
3. Total Actuarial Accrued Liability (1d - 2)	$ 19,566,540,948	$ 18,494,245,830
4. Actuarial Value of Assets	$ 9,256,786,936	$ 8,421,866,942
5. Unfunded Actuarial Accrued Liability (3-4, not less than $0)	**$ 10,309,754,012**	**$ 10,072,378,888**

Normal Cost

The components of normal cost under the System's funding method are:

Component	June 30, 2008	June 30, 2007
Retirement Benefits	$ 380,082,905	$ 364,644,567
Withdrawal Benefits	56,904,606	54,593,236
Active Death Benefits	8,707,975	8,354,271
Refunds	26,309,632	25,240,978
Supplemental Medical Insurance	11,860,967	11,379,195
Post Retirement Death Benefits	1,837,004	1,762,388
Disability Benefits	16,428,855	15,761,542
Total Normal Cost (Mid-year)	**$ 502,131,944**	**$ 481,736,177**
Annual Covered Payroll (with pay caps)	$ 3,926,476,288	$ 3,766,989,331
Normal Cost Rate At Mid-year	12.79%	12.79%

Actuarial Assumptions

This section presents and describes the actuarial assumptions used for this supplemental valuation. The census of members, market and actuarial value of assets, actuarial basis and provisions of the Plan are the same as described elsewhere in this valuation report. The valuation is based on the premise that the Plan will continue in existence.

Economic Assumptions

1. Investment Return: 7.5%, net of investment and administrative expenses, per annum, compound annually.

2. Earnings Progression Sample rates below:

Years of Service	Merit/ Promotional Component	Total Salary Increase Rate
(1)	(2)	(3)
0	1.75%	6.00%
1	1.50%	5.75
2	1.00%	5.25
3	1.00%	5.25
4	1.00%	5.25
5	0.75%	5.00
6	0.50%	4.75
7	0.50%	4.75
8	0.50%	4.75
9	0.50%	4.75
10	0.25%	4.50
11	0.25%	4.50
12	0.25%	4.50
13	0.25%	4.50
14	0.25%	4.50
15 or more	0.00%	4.25

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.5% per year. This increase rate has no allowance for future membership growth.

4. State revenue growth rate: In determining the funding period, the state's sales and income tax revenues are anticipated to grow at 3.5% per year. However, for years FY 2007 through FY 2010, revenue growth was decreased, reflecting the expected impact of new income tax rates.

5. Future ad hoc cost-of-living increases: We assume that in future years, cost-of-living increases will be granted that will average 2% per year.

Demographic Assumptions

1. Retirement rate - Sample rates are shown below:

Expected Retirements per 100 Lives

	Unreduced Retirement		Reduced Retirement	
Age	Male	Female	Male	Female
49	00	00	0	0
50	20	20	0	0
51	20	20	0	0
52	20	20	0	0
53	20	20	0	0
54	15	20	0	0
55	15	20	1	2
56	15	20	1	2
57	15	20	2	2
58	15	20	2	2
59	15	20	3	2
60	15	20	4	5
61	15	20	4	5
62	25	30		
63	20	25		
64	20	20		
65	30	40		
66	25	25		
67	25	25		
68	20	20		
69	20	20		
70	100	100		

2. Mortality rates - Active members – RP-2000 Generational Mortality Tables for active employees, males and females separate, projected with Scale AA.

   Retirees (non-disabled) and beneficiaries – RP-2000 Generational Mortality Tables for healthy annuitants, males and females separate, projected with Scale AA.

   Disabled retirees – RP-2000 Generational Mortality Tables for disabled annuitants, males and females separate, projected with Scale AA

3. Disability rates: Sample rates are shown below:

	Expected Disabilities Occurring per 100 Lives	
Age	Male Members	Female Members
(1)	(2)	(3)
25	.025	.025
30	.025	.025
35	.035	.050
40	.065	.125
45	.100	.200
50	.300	.300
55	.450	.420
60	.175	.420
65	.000	.000

Disability rates are applied only for members with 10 or more years of service, since rates were developed based on exposure for this group.

4. Withdrawal Rates: Sample rates are shown below:

<u>During the first ten years of Credited Service</u>:

Expected Terminations per 100 Lives		
Credited Service (Years)	Males	Females
(1)	(2)	(3)
0	34.00	24.00
1	19.00	16.00
2	14.00	12.25
3	11.50	10.50
4	9.50	9.00
5	7.75	7.75
6	6.75	6.75
7	6.00	6.00
8	5.50	5.00
9	5.00	4.00

With 10 or More Years of Credited Service:

Expected Terminations per 100 Lives

Age	Males	Females
(1)	(2)	(3)
25	4.74	7.01
30	4.10	5.09
35	3.51	3.66
40	2.97	2.74
45	2.51	2.34
50	2.09	2.08
55	1.66	1.63
60	1.32	1.14
65	1.28	0.82

Termination rates are not applied to a member who is eligible for a retirement benefit (reduced or unreduced).

Other Assumptions

1. Percent married: 80% of employees are assumed to be married.

2. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.

3. Percent electing annuity on death (when eligible): All of the spouses of married participants who die after becoming eligible for a retirement benefit are assumed to elect an annuity, in lieu of the $18,000 lump sum and refund.

4. Percent electing deferred termination benefit: vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.

5. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at age 62.

6. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

7. Supplemental medical insurance: All members, whether currently active, inactive, or retired, are assumed to be eligible to receive the supplemental insurance benefit, if they have at least 10 years of service credit at retirement.

8. Members who retire with at least 24 years credit are assumed to have 120 days of unused sick leave for which they will receive one year of service credit. This assumption only applies to reduced and unreduced retirement.

9. No assumption was made that current active members employed by the comprehensive universities will elect to transfer out of OTRS.

10. Reemployment, purchase of service, transfers: No recognition is made of (i) future member reimbursements upon reemployment, (ii) future purchase of additional service, or (iii) special transfer provisions.

11. For EESIP eligible employees, if the refund amount to be paid exceeds the additional APV of the enhanced benefit, then the employee does not elect the enhanced benefit.

12. For those participants eligible for the EESIP, it is assumed that retirement is delayed in each ear past first eligibility by 10%.

Schedule of Increases and Decreases of Benefit Recipients Periods Ended June 30

	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Allowances	Average Annual Allowances**
Year Ended	No.	Annual Allowances*	No.	Annual Allowances	No.	Annual Allowances		
2001	2,098	40,394,458	1,027	12,641,988	35,188	498,928,273	5.9%	1,231
2002	2,353	36,595,970	1,030	12,303,662	36,511	523,220,581	4.9%	1,231
2003	2,630	57,537,594	1,082	10,798,222	38,059	569,959,953	8.9%	1,304
2004	2,616	49,732,316	1,082	12,334,953	39,593	607,357,316	6.6%	1,315
2005	2,346	62,318,530	1,060	8,518,211	40,879	661,157,635	8.9%	1,373
2006	2,060	32,777,192	1,157	7,344,953	41,782	686,589,874	3.8%	1,376
2007	2,337	48,762,552	613	8,907,437	43,506	726,444,989	5.8%	1,419
2008	2,577	46,858,028	845	8,758,271	45,238	764,544,746	5.2%	1,437

* Includes post-retirement increases for members who retired in previous years and changes occurring due to plan options which offer a continuing monthly benefit payment to beneficiaries.

** Does not include special annuitants.