

**MISSOURI STATE EMPLOYEES' RETIREMENT SYSTEM
FINAL ANNUAL ACTUARIAL VALUATION
JUNE 30, 2009**

Missouri State Employees' Retirement System

Annual Actuarial Valuation as of June 30, 2009

Table of Contents

Pages

1	Cover Letter
2-6	Financial Principles
	Valuation Results
7-9	Employer Contribution Rate
10	Recognized vs. Actual Return
11	Actuarial Present Values
12	Comments on Valuation Results
13-16	Comparative Schedule
	Gain (Loss) Analysis
17-18	Comments
19-21	Derivation of Gain (Loss)
22	Comparative Statement
23	Development of Gain (Loss) from Investment Income
24-30	Member Experience
	Data Used in Valuations
31-39	Summary of Benefit Provisions
40-42	Retired Lives
43-44	Active & Inactive Members
45-46	Financial Information
	Cash Flow Projection
47	The Nature of Actuarial Projections
48-51	Basic Cash Flow Projections
	Appendix
52-58	Actuarial Assumptions and Methods
59-61	Supplemental Disclosure Information
62-63	Glossary
64-65	Financing Unfunded Actuarial Accrued Liabilities
66-67	Active Member Breakdown by Male and Female
68	History of Results from the Investment Universe

September 17, 2009

Board of Trustees
Missouri State Employees'
Retirement System
907 Wildwood Drive
Jefferson City, Missouri 65102

Re: Annual Actuarial Valuation as of June 30, 2009

Presented in this report are the results of the **annual actuarial valuation** of the Missouri State Employees' Retirement System. The purpose of the valuation was to measure the System's funding progress and to determine the level cost employer contribution rate for the fiscal year beginning July 1, 2010.

The date of the valuation was **June 30, 2009**.

The valuation was based upon data, furnished by the MOSERS' staff, concerning active, inactive and retired members along with pertinent financial information. The complete cooperation of the MOSERS' staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the presentation of contribution rates on page 7 and the comments on page 12.

The actuaries submitting this report are Members of the American Academy of Actuaries (M.A.A.A.) as indicated, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Norman L. Jones, F.S.A., M.A.A.A.
Senior Consultant & Actuary



David T. Kausch, F.S.A., M.A.A.A.
Consultant & Actuary



Brad Lee Armstrong, A.S.A., M.A.A.A.
Senior Consultant & Actuary

NLJ:BLA:sc

FINANCIAL PRINCIPLES

Financial Principles and Operational Techniques

Promises Made, and Eventually Paid. As each year is completed, MOSERS in effect hands an "IOU" to each member then acquiring a year of service credit --- the "IOU" says: "The Missouri State Employees' Retirement System owes you certain retirement benefits -- payments in cash commencing when you qualify for retirement."

The related key financial question is, which generation of taxpayers contributes the money to cover the IOU?

The present taxpayers, who receive the benefit of the member's present year of service?

Or the future taxpayers, who happen to be in Missouri at the time the IOU becomes a cash demand?

The law governing MOSERS' financing intends that this year's taxpayers contribute the money to cover the IOUs being handed out this year. By following this principle, *funds will be accumulated during members' working years, which, combined with income on invested assets, will be sufficient to pay benefits throughout retirement.*

An inevitable by-product of this financing design is the accumulation of reserve assets, for decades, and the income produced when the assets are invested. Over time, *investment income becomes the largest contributor* toward benefits, and directly influences the contribution amount required from the employer.

In actuarial terminology, the minimum level percent of payroll contribution rate consists of:

Normal Cost (the cost of members' service being rendered this year)

... plus ...

Interest on Unfunded Actuarial Accrued Liabilities (unfunded actuarial accrued liabilities are the difference between: actuarial liabilities for members' service already rendered; and the actuarial value of MOSERS' accrued assets).

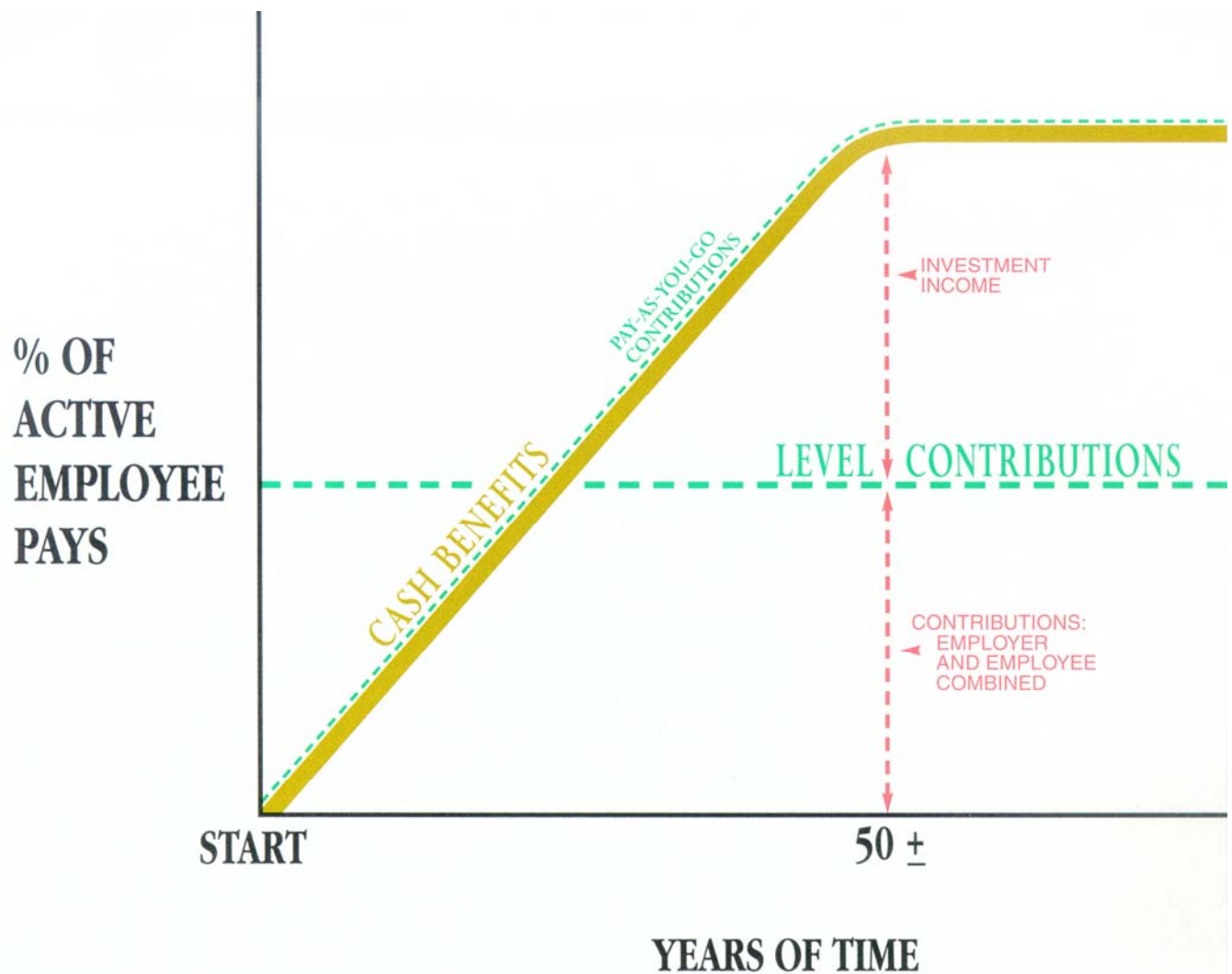
Computing Contributions To Support Funded Benefits. From a given schedule of benefits and from the member data and asset data provided, the actuary determines the contribution rates to support the benefits, by means of ***an actuarial valuation and a funding method.***

An actuarial valuation has a number of ingredients such as: the rate of investment income which plan assets will earn; the rates of withdrawal of active members who leave covered employment before qualifying for any monthly benefit; the rates of mortality; the rates of disability; the rates of salary increases; and the assumed age or ages at actual retirement.

In an actuarial valuation, assumptions are made as to what the above rates will be, for the next year and for decades in the future. Only the subsequent actual experience of the plan can indicate the degree of accuracy of the assumptions.

Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the wisdom of those who developed the assumptions, or the skill of the actuary and the many calculations made. The future cannot be predicted with precision.

MOSERS copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is ***continuing adjustments in financial position, and contribution rates.***



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

The Actuarial Valuation Process

An *actuarial valuation* is the mathematical process by which actuarial present values and contribution rates are determined. The flow of activity constituting the valuation may be summarized as follows:

- A. ***Census Data***, furnished by the system administrative staff, including:
 - Retired lives now receiving benefits
 - Former members with vested benefits not yet payable
 - Active members
- + B. ***Benefit Provisions*** governing future payments from the retirement system.
- + C. ***Asset data*** (cash & investments), furnished by the system administrative staff.
- + D. ***Assumptions concerning future experiences*** in various risk areas, which assumptions are established by the Board of Trustees after consulting with the actuary.
- + E. ***The funding method*** for employer contributions (the long-term planned pattern for employer contributions).
- + F. ***Mathematically combining the assumptions, the funding method, and the data.***
- = G. ***Determination of:***
 - Plan financial position and***
 - The employer contribution rate.***

Meaning of "Unfunded Actuarial Accrued Liabilities"

"Actuarial accrued liabilities" are *the portion of the present value of plan promises to pay benefits in the future which are not covered by future normal cost contributions* --- a liability has been established ("accrued") because the service has been rendered but the resulting monthly cash benefit may not be payable until years in the future. Actuarial accrued liabilities are the result of complex mathematical calculations, which are made annually by the plan's actuary.

If "actuarial accrued liabilities" at any time exceed the actuarial value of the plan's accrued assets, the difference is "*unfunded actuarial accrued liabilities*." This is the common condition. If the plan's assets equaled the plan's "actuarial accrued liabilities," the plan would be termed "fully funded."

Each time a plan adds a new benefit which applies to service already rendered, an "actuarial accrued liability" is created, which is also an "unfunded actuarial accrued liability" because the plan can't print instant cash to cover the value of the new benefit promises. Payment for such unfunded actuarial accrued liabilities is spread over a period of years, commonly in the 20-30 year range.

Unfunded actuarial accrued liabilities can occur in another way: if actual financial experience is less favorable than assumed financial experience, the difference is added to unfunded actuarial accrued liabilities. In plans where benefits are directly related to an employee's pay near time of retirement, unfunded actuarial accrued liabilities increase when unexpected rates of pay increase create additional actuarial accrued liabilities which are not offset by favorable experience in other areas.

The existence of unfunded actuarial accrued liabilities is not bad, but the changes from year to year in the amount of unfunded actuarial accrued liabilities are important and should be monitored.

Unfunded actuarial accrued liabilities are not a bill payable immediately but it is important that policy-makers prevent the amount from becoming unreasonably high and *it is vital for plans to have a sound method for making payments toward them* so that they will be controlled.

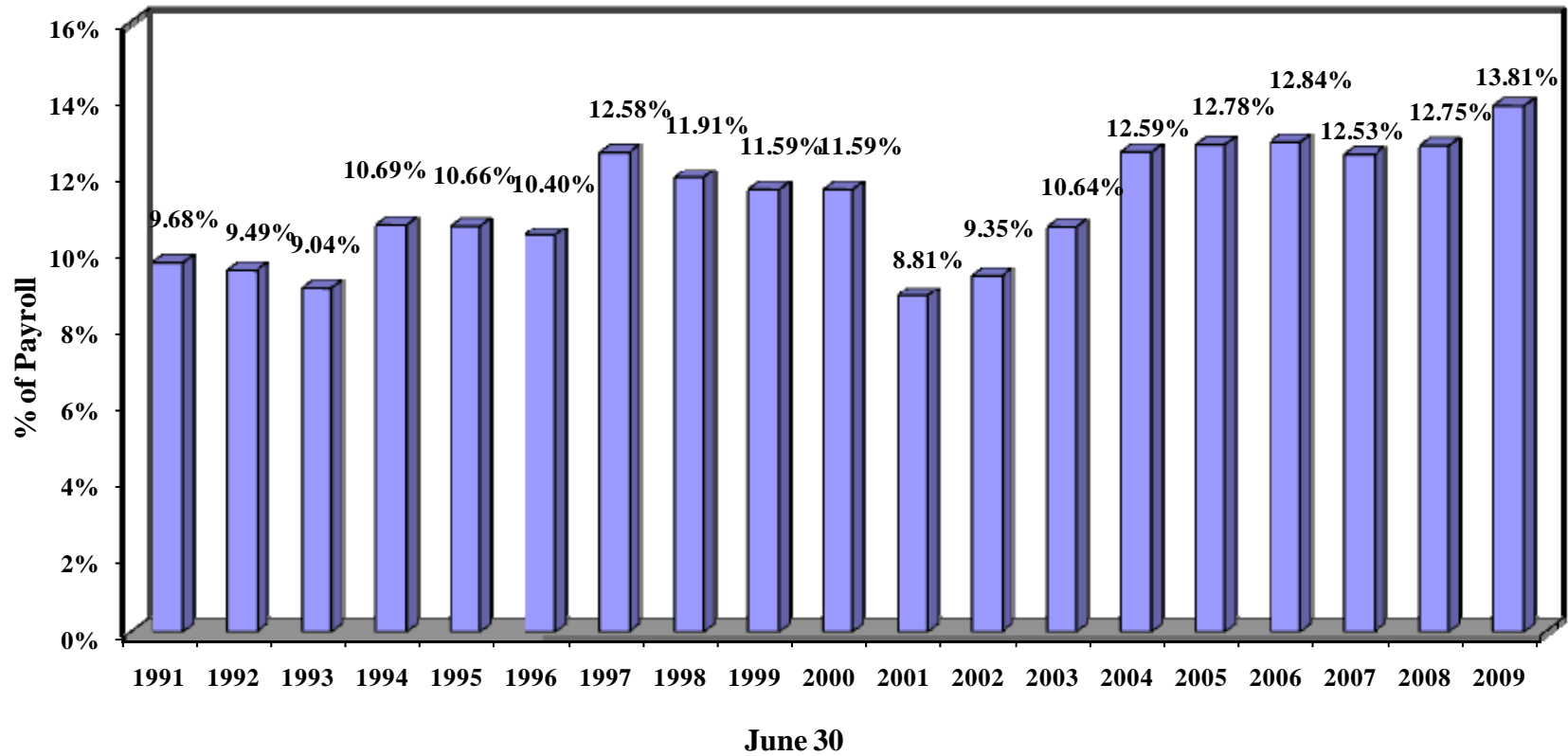
VALUATION RESULTS

Computed Employer Contribution Rate
Expressed as Percents of Active Member Payroll
Actuarial Valuation Results
as of June 30, 2009 and June 30, 2008

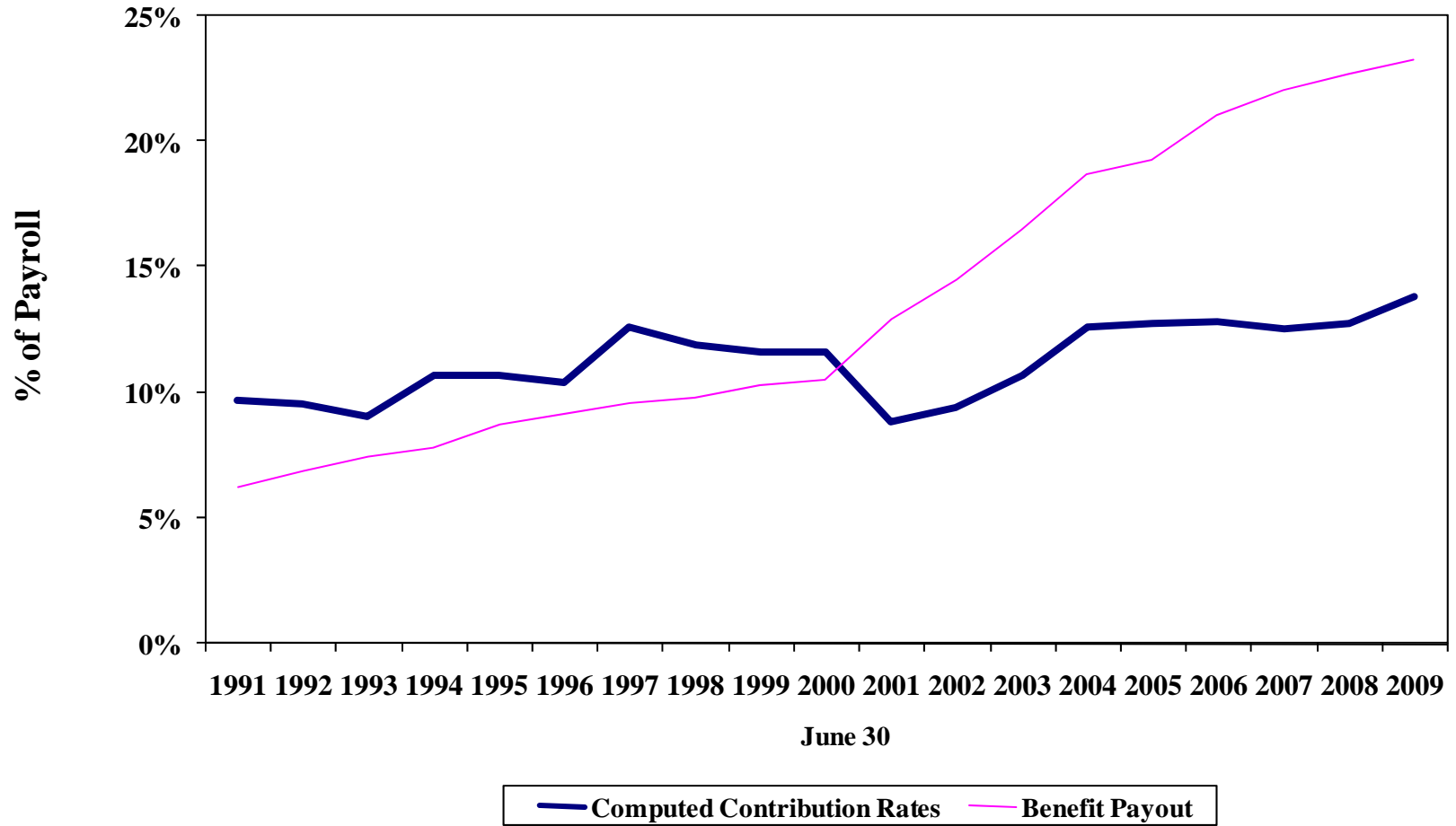
	Contribution Expressed as Percents of Payroll for the Fiscal Years	
	2010/11	2009/10
Normal Cost		
Service retirement benefits	7.67 %	7.60 %
Disability benefits	0.51	0.51
Survivor benefits	0.24	0.24
Administrative expenses	0.35	0.36
Total	<u>8.77</u>	<u>8.71</u>
Unfunded Actuarial Accrued Liabilities (UAAL) (30-year level percent-of-payroll amortization*)	<u>5.04</u>	<u>4.04</u>
TOTAL COMPUTED EMPLOYER CONTRIBUTION RATE	13.81 %	12.75 %

* This corresponds to an amortization factor of 16.05286 assuming that the first year of payroll growth is 0% followed by 29 years at 4% per year. Amortization period a year ago was 30 years.

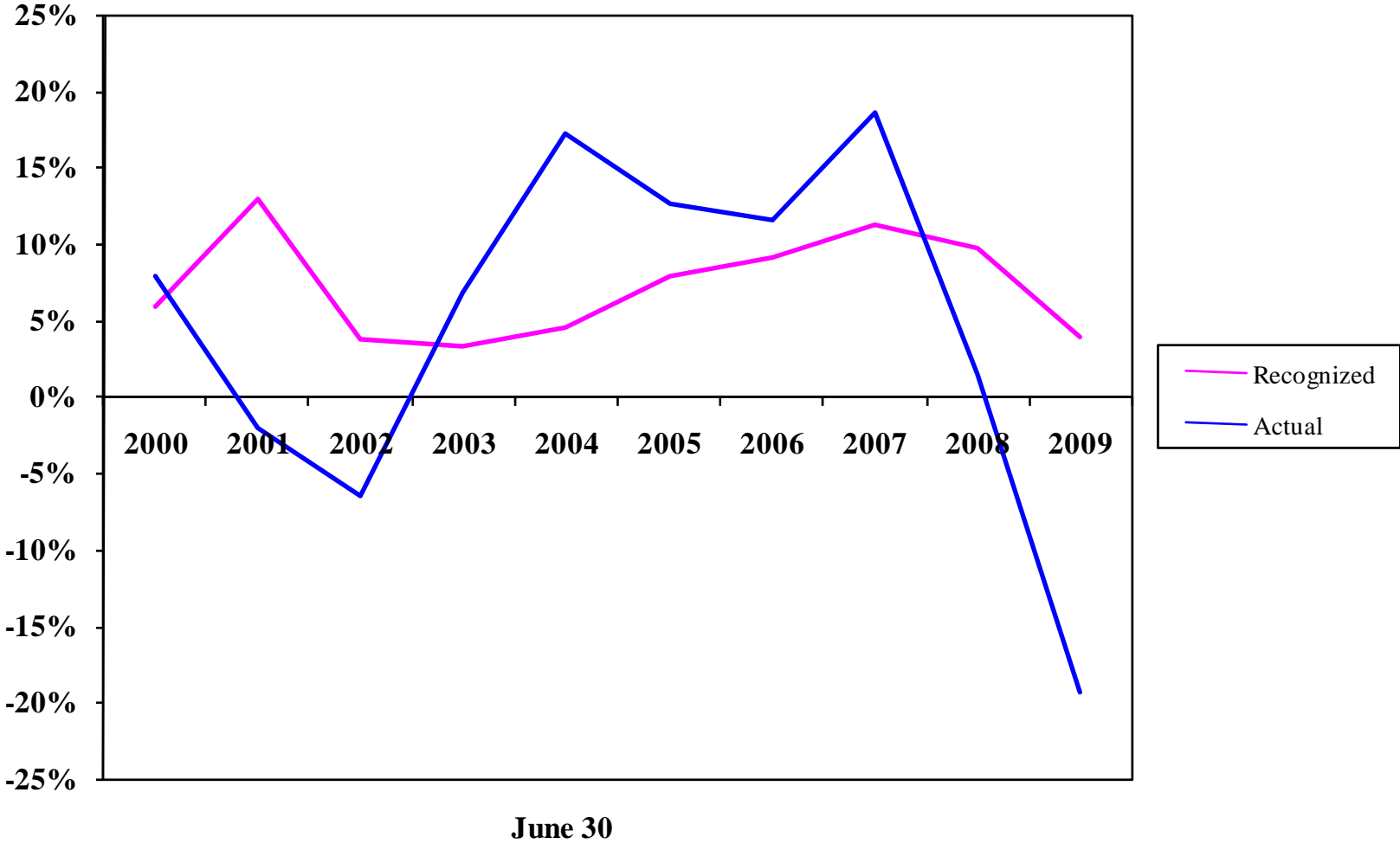
Computed Contribution Rates



Contribution Rates vs. Benefit Payout



Recognized vs. Actual Return



The period of asset smoothing was changed from 3 to 5 years effective June 30, 2001.

Actuarial Present Values June 30, 2009

Actuarial Present Value, June 30, for	(1) Actuarial Present Value	(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1) - (2)
Active Members			
Service retirement benefits based on service rendered before and likely to be rendered after valuation date	\$4,528,190,377	\$ 735,397,337	\$3,792,793,040
Disability benefits likely to be paid to present active members who become totally and permanently disabled	141,149,398	65,167,648	75,981,750
Survivor benefits likely to be paid to widows and children of present active members who die before retiring	110,913,117	29,469,074	81,444,043
Separation benefits likely to be paid to present active members	<u>483,990,177</u>	<u>233,367,065</u>	<u>250,623,112</u>
Active Member Totals	\$5,264,243,069	\$1,063,401,125	\$4,200,841,945
Members on Leave of Absence & LTD			
Service retirement benefits based on service rendered before the valuation date			106,775,614
Terminated Vested Members			
Service retirement benefits based on service rendered before the valuation date			449,329,180
Retired Lives			
			4,737,303,090
BackDROP Installment Payments Incurred, but not yet paid			
			<u>556,886</u>
TOTAL ACTUARIAL ACCRUED LIABILITY			\$9,494,806,715
ACTUARIAL VALUE OF ASSETS			<u>7,876,079,342</u>
UNFUNDED ACTUARIAL ACCRUED LIABILITY			<u><u>\$1,618,727,373</u></u>

Actuarial Valuation as of June 30, 2009

Comments

Computed Contribution Rate. The contribution rate for the fiscal year beginning July 1, 2010 was computed to be 13.81% of payroll, based upon an amortization period for the unfunded actuarial accrued liabilities (UAAL) of 30 years. This represents an increase of 1.06% of payroll compared to the rate computed for the fiscal year beginning July 1, 2009. The Contribution rate increased by 2.77% of payroll due to experience losses including the large loss on assets and prior to the change in the asset corridor limit. The rate decreased by 0.22% of payroll to reflect the State's pay freeze and 1.49% of payroll due to the change in the asset corridor limit from 20% to 30%.

Experience and Development of Actuarial Value of Assets. Experience was unfavorable in the aggregate this year. Areas of larger differences were unfavorable investment performance, retiree mortality and low turnover offset by favorable retirement experience. The funded ratio as of June 30, 2009 is 83.0% (actuarial value of assets as a percentage of actuarial accrued liability), down from 85.9% as of June 30, 2008. (On a market value basis, the funded ratio is 64.9%).

Additional information concerning 2009 experience is presented in the gain/loss section of this report beginning on page 17.

Conclusion. Based on the results of the June 30, 2009 regular annual actuarial valuation, it is our opinion that the Missouri State Employees' Retirement System continues to be in sound financial condition in accordance with actuarial principles of level percent-of-payroll financing.

Asset Valuation Method. Market experience during the year ended June 30, 2009 was severely negative. The asset valuation method currently in use by MOSERS smoothes investment gains and losses over 5 years and in addition requires the smoothed value of assets to be within a certain corridor limit of the market value of assets. For the June 30, 2009 valuation, the corridor limit was changed from 20% to 30%, decreasing to 25% for the June 30, 2010 valuation and 20% thereafter. In the absence of offsetting gains, the contribution rate is expected to continue increasing over the next four years to a level approaching 19% of payroll.

Comparative Schedule

Valuation Date June 30	Active Members			Retired Lives					Accrued Liability	Valuation	
	Number	Payroll \$ Millions	Average Salary		Number		Annual Benefits			Assets	UAAL
			\$	% Incr.	Retired	Active/ Retired	\$ Million	% of Payroll			
										-----million-----	
1991 (2)	46,725	\$ 1,028	\$21,995	3.6	11,995	3.9	\$ 64.0	6.2 %	\$2,053	\$1,793	\$ 260
1992 (1)(2)	46,616	1,030	22,101	0.5	12,552	3.7	71.0	6.9	2,291	1,991	300
1993	47,954	1,063	22,172	0.3	13,115	3.7	79.4	7.5	2,447	2,237	210
1994 (2)	49,436	1,125	22,754	2.6	13,651	3.6	96.2	8.6	2,919	2,425	494
1995	50,524	1,199	23,730	4.3	14,384	3.5	104.9	8.8	3,151	2,649	502
1996 (1)	51,425	1,268	24,650	3.9	15,004	3.4	116.2	9.2	3,440	2,928	512
1997 (1)(2)(3)	52,737	1,360	25,782	4.6	15,609	3.4	130.4	9.6	4,484	3,581	903
1998	54,544	1,460	26,762	3.8	16,251	3.4	142.4	9.8	4,919	4,211	708
1999 (2)	56,158	1,565	27,860	4.1	17,117	3.3	161.3	10.3	5,506	4,909	597
2000 (1)	57,774	1,684	29,143	4.6	18,196	3.2	177.0	10.5	5,921	5,217	704
2001 (1)	58,431	1,758	30,090	3.3	20,237	2.9	227.4	12.9	6,065	5,881	184
2002 (3)	58,616	1,773	30,253	0.5	21,502	2.7	256.6	14.5	6,294	6,033	261
2003 (2) (3)	57,558	1,740	30,229	(0.1)	22,872	2.5	287.1	16.5	6,662	6,057	605
2004 (1)	55,914	1,737	31,074	2.8	24,757	2.3	324.6	18.7	7,230	6,118	1,112
2005 (3)(4)	55,944	1,807	32,293	3.9	25,780	2.2	348.1	19.3	7,578	6,435	1,143
2006	54,493	1,777	32,615	1.0	27,052	2.0	373.6	21.0	8,013	6,837	1,176
2007	54,363	1,847	33,969	4.2	28,692	1.9	406.4	22.0	8,726	7,377	1,349
2007	54,363	1,847	33,969	4.2	28,692	1.9	406.4	22.0	8,500	7,377	1,123
2008	54,542	1,917	35,139	3.4	30,132	1.8	434.6	22.7	8,959	7,838	1,121
2008 (1)	54,542	1,917	35,139	3.4	30,132	1.8	434.6	22.7	9,128	7,838	1,290
2009	55,057	2,002	36,370	3.5	31,637	1.7	465.4	23.2	9,663	7,396	2,267
2009 (1) (3)	55,057	2,002	36,370	3.5	31,637	1.7	465.4	23.2	9,495	7,876	1,619

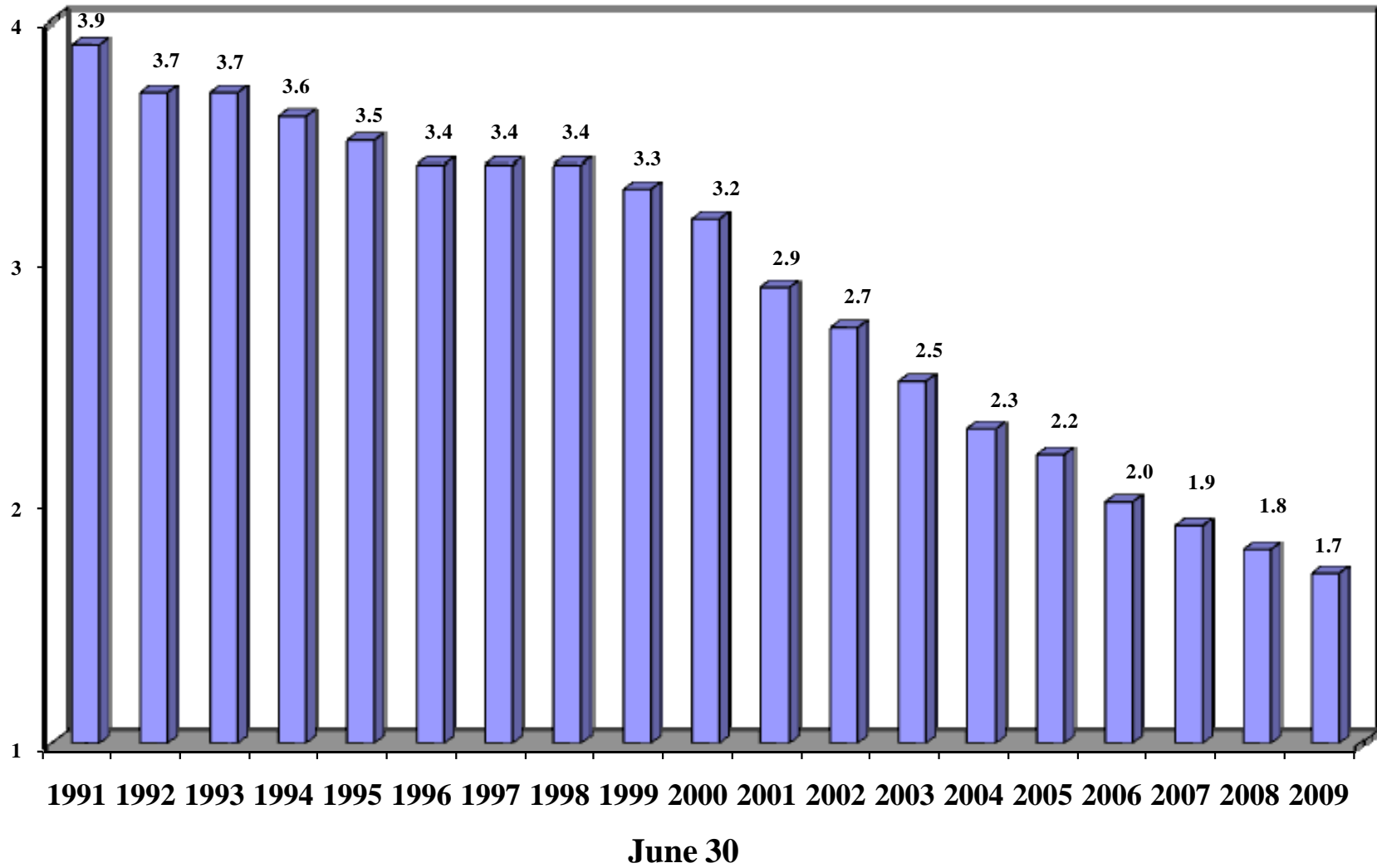
(1) After changes in assumptions.

(2) After changes in benefit provisions.

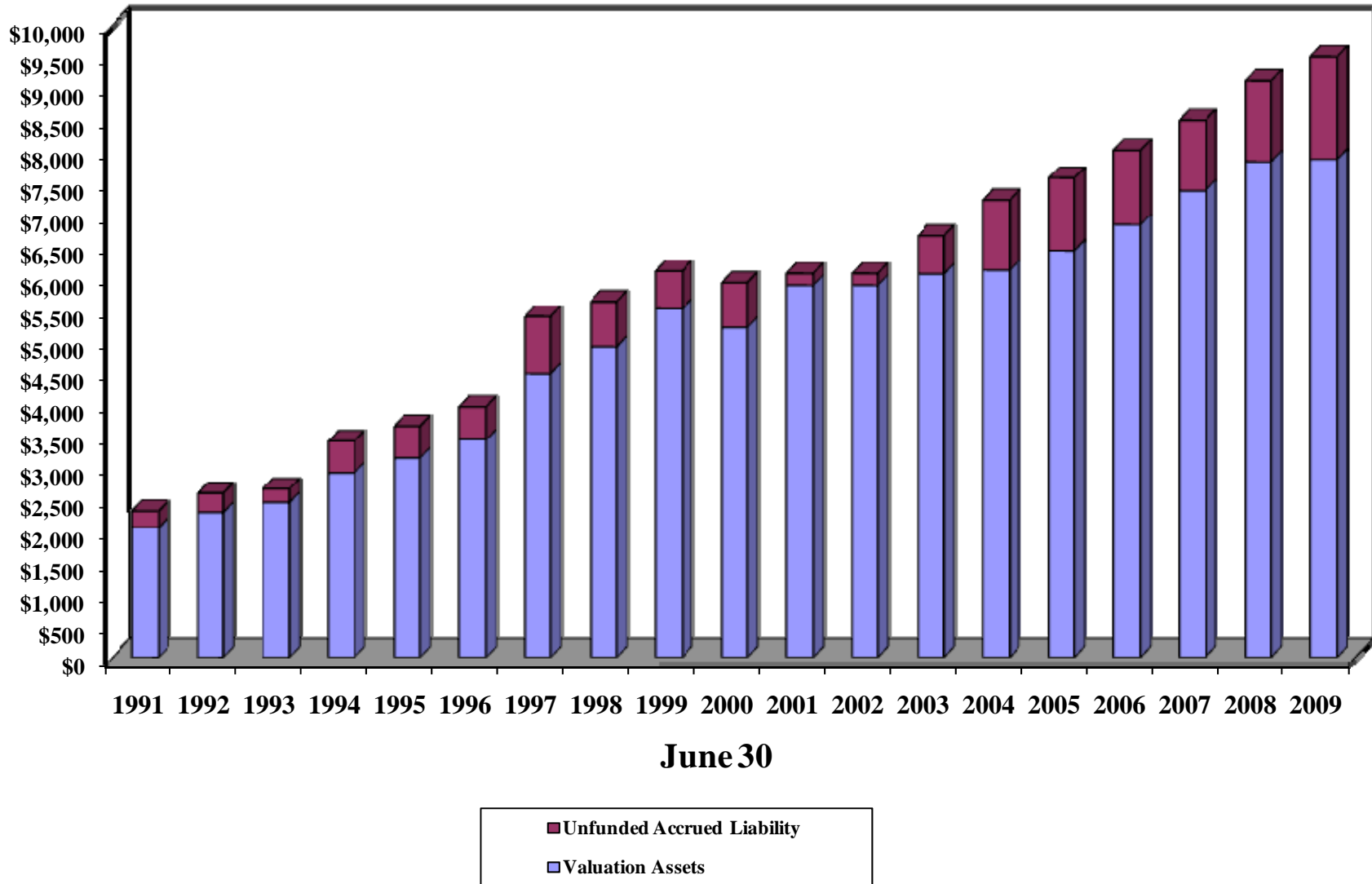
(3) After changes in methods.

(4) Reflects the addition of the assets, liabilities, and members of the Administrative Law Judges Retirement System.

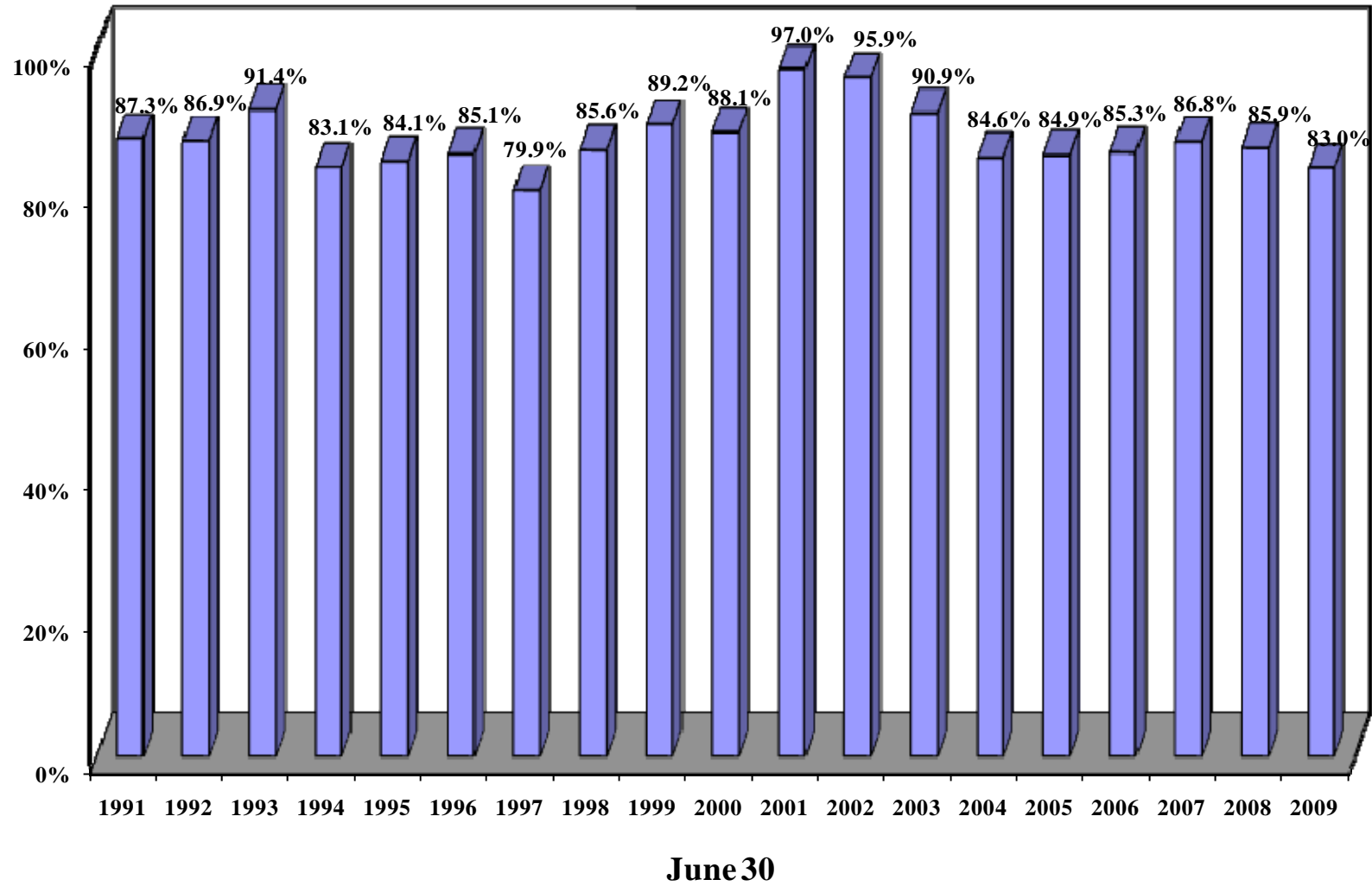
Number of Active Members Per Benefit Recipient



**Actuarial Value of Assets and Actuarial Accrued Liabilities
(\$ in millions)**



**Actuarial Value of Assets as
Percents of Accrued Liabilities
(Funded Ratio)**



GAIN/LOSS ANALYSIS

Gain/Loss Analysis of Experience During Last Year

COMMENTS

Purpose of Gain/Loss Analysis. Regular actuarial valuations provide valuable information about the composite change in unfunded actuarial accrued liabilities – whether or not the liabilities are increasing or decreasing, and by how much. However, valuations do not show the portion of the change attributable to each risk area within the retirement system financial mechanism: the rate of investment income on plan assets; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of salary increases; and the assumed ages at actual retirement. In an actuarial valuation, assumptions are made as to what these rates will be for the next year and for decades in the future.

The objective of a gain and loss analysis is to determine the portion of the change in unfunded actuarial accrued liabilities attributable to each risk area.

The fact that actual experience differs from assumed experience is to be expected – the future cannot be predicted with precision. Changes in the valuation assumed experience for a risk area should be made when the differences between assumed and actual experience have been observed to be sizeable and persistent. One year's gain/loss analysis may or may not be indicative of ***long-term trends, which are the basis of financial assumptions.***

2008 and 2009 Data. For the 2008 and 2009 valuations, active and retired member data were reported as of May 31. It was brought forward to June 30 by adding one month of service for all active members, adding the June COLA for certain retirees, and otherwise making no other adjustments. It was assumed for valuation purposes that there was no turnover among members and no new entrants during the month of June. Financial information was reported as of June 30. It is believed that this procedure resulted in a slight overstatement of total liabilities as of June 30, 2008 and June 30, 2009.

The expected and actual numbers of retirements, deaths, and terminations found on pages 25 through 30 reflect experience over the 12 month period from May 31, 2008 through May 31, 2009.

Results from 2009 Plan Year. There was a net experience loss this year, with the largest single identifiable source being pay increases that were on average higher than expected. The table below summarizes historical MOSERS economic experience:

Period	Inflation As Measured By		Interest Credited to MOSERS Funds	Real Rate of Return	
	CPI	Increase in Average Salary		Relative to CPI	Relative to Salaries
July 1, 2008 - June 30, 2009	(1.4) %	5.1 %	(19.3) *%	(17.9) %	(24.5) %
July 1, 2007 - June 30, 2008	5.0 %	5.3 %	1.4 *%	(3.6) %	(3.9) %
July 1, 2006 - June 30, 2007	2.7 %	5.7 %	18.6 *%	15.9 %	12.9
July 1, 2005 - June 30, 2006	4.3	2.1	11.5 *	7.2	9.4
July 1, 2004 - June 30, 2005	2.5	5.2	12.6 *	10.1	7.4
July 1, 2003 - June 30, 2004	3.3	4.2	17.2 *	13.9	13.0
July 1, 2002 - June 30, 2003	2.1	0.6	0.0 *	(2.1)	(0.6)
July 1, 2001 - June 30, 2002	1.1	(2.1)	(6.4) *	(7.5)	(4.3)
July 1, 2000 - June 30, 2001	3.2	5.1	(2.0) *	(5.2)	(7.1)
July 1, 1999 - June 30, 2000	3.7	5.6	7.9 *	4.2	2.3

* MOSERS' approximate rate of return based on market value.

The dollar amount of unfunded actuarial accrued liabilities (UAAL) is large in absolute dollars. However, the size should be viewed in the light of MOSERS' overall financial program. ***The ratio of unfunded actuarial accrued liabilities divided by active member payroll is significant.*** UAAL represent plan debt, while active member payroll is indicative of the state's capacity to amortize the UAAL – ***the ratio thus provides an index of relative condition.*** The smaller the ratio, the stronger the financial condition.

	<u>UAAL/Active Member Payroll</u>
June 30, 1995	.42
June 30, 1996 after assumption changes	.40
June 30, 1997 after changes in benefits, assumptions, methods	.66
June 30, 1998	.49
June 30, 1999 after MSEP 2000	.38
June 30, 2000 after changes in assumptions	.42
June 30, 2001 after changes in assumptions	.10
June 30, 2002 after changes in methods	.15
June 30, 2003 after changes in benefits, methods	.35
June 30, 2004 after changes in assumptions	.64
June 30, 2005 after changes in assumptions	.63
June 30, 2006	.66
June 30, 2007	.61
June 30, 2008	.67
June 30, 2009	.81

Derivation of Experience Gain (Loss)

Year Ended June 30, 2009

Actual experience will never coincide exactly with assumed experience (except by coincidence). Gains and losses may offset each other over a period of years, but sizeable year-to-year variations from assumed experience are common. Detail on the derivation of the experience gain (loss) is shown below.

	\$ Millions
(1) UAAL* at start of year	\$1,289.9
(2) Normal cost from last valuation	174.4
(3) Actual employer contributions	255.4
(4) Interest accrual: $(1) \times .085 + [(2) - (3)] \times (.085 / 2)$	106.2
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$	1,315.1
(6) Change from any changes in benefits, assumptions, or methods	(168.0)
(7) Expected UAAL after changes: $(5) + (6)$	1,147.1
(8) Actual UAAL at end of year	1,618.7
(9) Gain (loss): $(7) - (8)$	(471.6)
(10) Gain (loss) as percent of actuarial accrued liabilities at start of year (\$9,128)	(5.2) %

* *Unfunded actuarial accrued liabilities.*

Valuation Date June 30	Actuarial Gain (Loss) as a % of Beginning Accrued Liabilities
2000	2.7 %
2001	(4.4)
2002	(3.8)
2003	(6.4)
2004	(6.0)
2005	(3.4)
2006	(0.1)
2007	1.0
2008	0.1
2009	(5.2)

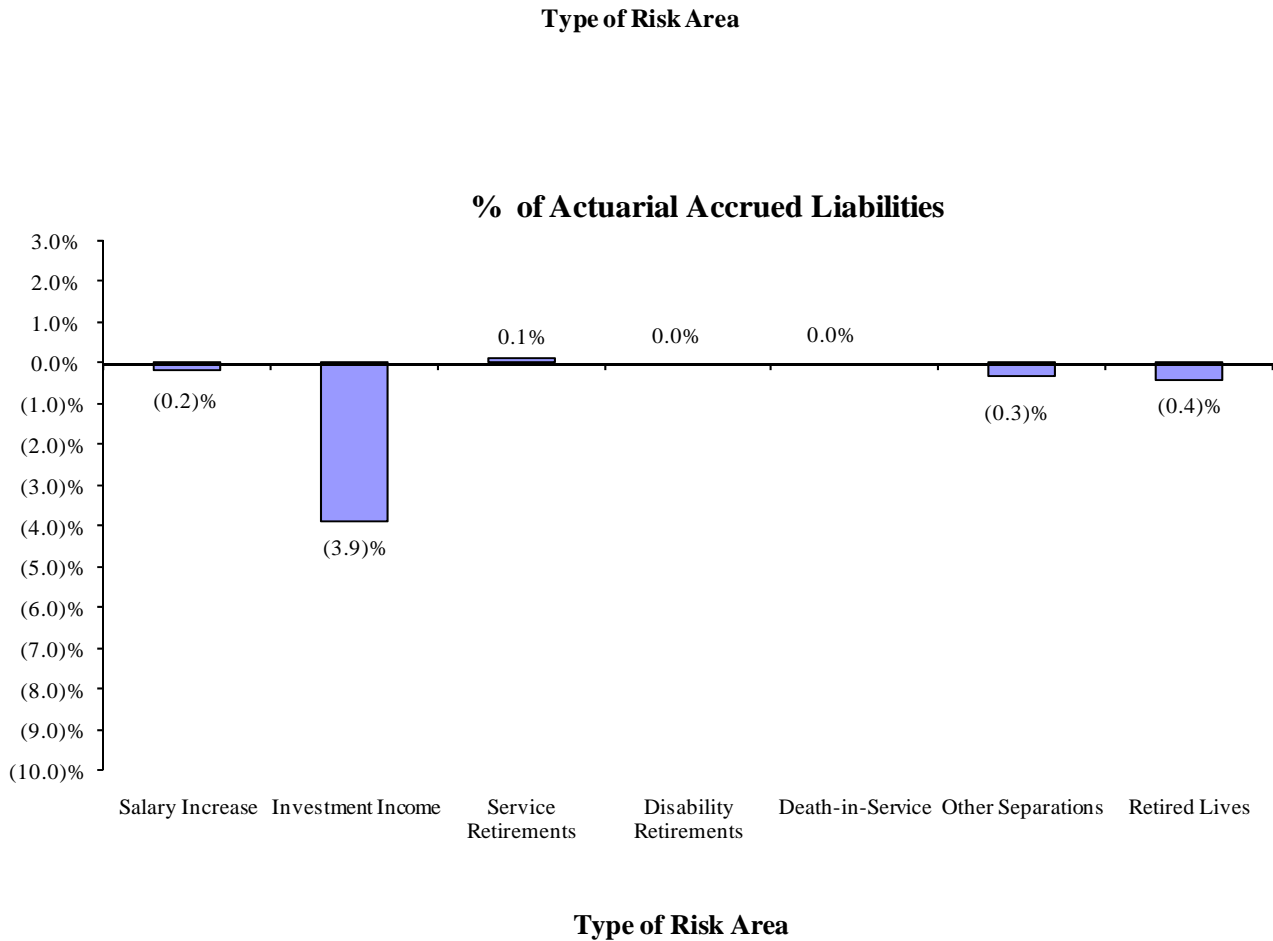
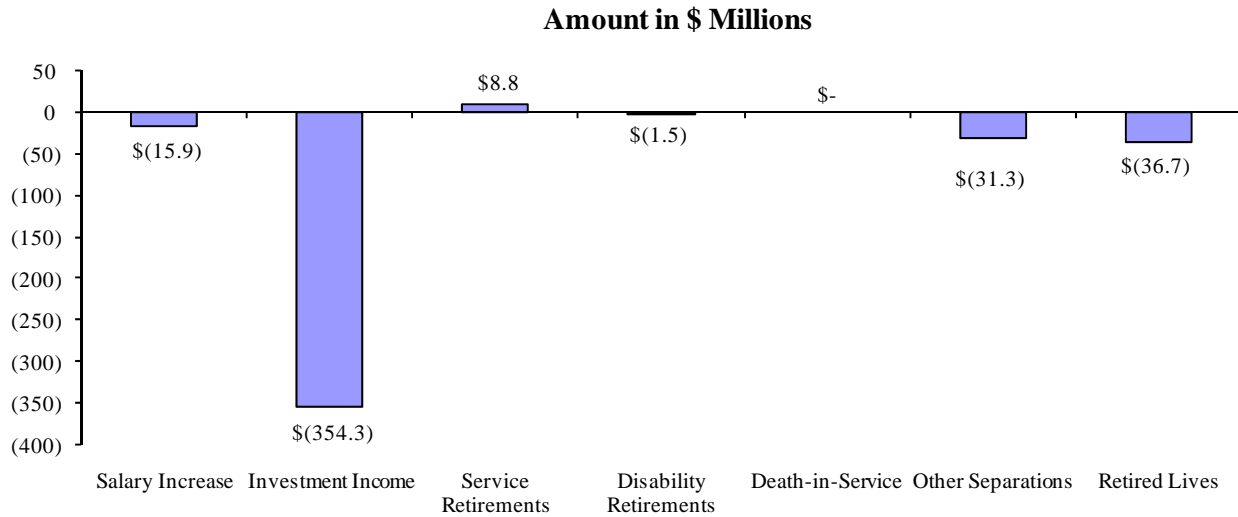
Gains & (Losses) in Actuarial Accrued Liabilities During Plan 2008 - 2009

Type of Activity	-- Gain (Loss) for Year --	
	\$ in Millions	% of Accr. Liabilities*
<u>Decrement Experience:</u>		
Service Retirements. If members retire at older ages than assumed, there is a gain. If at younger ages, a loss.	\$ 8.8	0.1 %
Disability Retirements. The occurrence of a gain or loss depends upon the age at disability and the incidence of disability.	(1.5)	0.0
Death-in-Service. If there are fewer survivor claims than assumed at younger ages, there is a gain. If there are fewer survivor claims than assumed at older ages, there can be a loss.	0.0	0.0
Other Separations. If more actuarial liabilities are released by other separations than assumed, there is a gain. If smaller releases, a loss.	(31.3)	(0.3)
Retired Lives. If more deaths than assumed, there is a gain. If fewer deaths, a loss.	(36.7)	(0.4)
<u>Economic Experience:</u>		
Salary Increases. If there are smaller salary increases than assumed, there is a gain. If greater increases, a loss. If long service members have greater salary increases than assumed, there can be a loss even if average salary increases are less than assumed.	(15.9)	(0.2)
Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	(354.3)	(3.9)
COLAs.	(3.1)	0.0
<u>Other:</u>		
Service credit reinstatements, service transfers, service purchases, net of contributions.	(5.0)	(0.1)
Larger than expected average compensation for new retirees.	2.1	0.0
Change in group size, data adjustments, retroactive benefit payments, option elections, and miscellaneous unidentified changes in the UAAL.	(34.7)	(0.4)
Experience Gain or (Loss) During Year	\$ (471.6)	(5.2) %

* Beginning of year accrued liabilities totaled \$9,128 million.

MOSERS

Gain (Loss) Analysis 2008-2009 Experience



Experience Gains & Losses By Risk Area
Comparative Statement
-----\$ in Millions-----

Year Ending June 30	Gain (Loss) By Risk Area								Total Exper. Gain (Loss)	Exper. Gain (Loss) as % of AAL	Accrued Liability Beginning of Year
	Salary Increases	Investments	Age & Service Retirement	Disability	Death- In- Service	Withdrawal	COLAs & Retired Lives	Other			
1992 *	\$ 79.8	\$ 19.9	\$ (1.8)	\$0.6	\$ 1.6	\$ (5.5)	#	\$ (8.0)	\$ 86.6	4.0 %	\$ 2,165
1993	66.8	54.0	(0.9)	0.8	2.4	(3.9)	#	(27.0)	92.2	4.0	2,292
1994	42.5	(18.1)	(1.0)	0.7	2.3	(7.0)	#	52.0	71.4	2.9	2,447
1995	16.7	12.0	(3.2)	0.5	2.5	(4.0)	#	(7.5)	17.0	0.6	2,919
1996	24.2	63.7	(2.1)	0.6	2.9	(10.2)	\$ 7.4	(74.3) ^	12.2	0.4	3,151
1997 *	(26.3)	260.3	(3.1)	0.5	2.6	(7.1)	14.5	(50.6)	190.8	5.5	3,440
1998	(56.9)	325.9	9.6	0.2	(0.3)	(1.7)	16.3	(48.3)	244.8	5.5	4,484
1999	(21.9)	299.8	(1.3)	(0.3)	(0.9)	1.7	10.5	(58.1)	229.5	4.7	4,919
2000 *	(6.4)	162.0	1.7	(0.5)	(0.7)	8.9	18.5	(34.7)	148.8	2.7	5,506
2001 *	(23.2)	(67.9)	(59.8)	(1.0)	(0.2)	(28.2)	(13.1)	(66.1)	(259.5)	(4.4)	5,921
2002	115.0	(284.6)	(14.4)	(0.5)	(1.3)	(21.4)	37.1	(62.6)	(232.8)	(3.8)	6,065
2003	7.7	(314.1)	(27.2)	(0.6)	(2.6)	(14.6)	9.6	(63.1)	(404.9)	(6.5)	6,294
2004 *	(40.0)	(240.1)	(51.5)	(1.4)	(1.3)	(6.7)	(4.3)	(53.8)	(399.1)	(6.0)	6,662
2005	(3.4)	(196.6)	3.1	(2.0)	(1.7)	(0.9)	(11.7)	(35.5)	(248.7)	(3.4)	7,230
2006	(29.5)	38.0	(1.7)	(2.3)	(2.4)	15.5	(21.1)	(3.6)	(7.1)	(0.1)	7,578
2007	(11.5)	179.4	(17.3)	(2.1)	(2.4)	3.8	(29.7)	(43.0)	77.2	1.0	8,013
2008 *	(10.5)	78.3	(22.9)	(2.0)	(3.4)	6.6	8.7	(49.8)	5.0	0.1	8,500
2009 *	(15.9)	(354.3)	8.8	(1.5)	0.0	(31.3)	(39.8)	(37.6)	(471.6)	(5.2)	9,128

* Revision in assumptions.

Not identified as separate risk area. Included in "Other" category.

^ Includes (\$23.0) for legal settlement.

**Development of Gain (Loss)
From Investment Income
During Plan Year 2008 - 2009**

	Market Value	Actuarial Value
	----- \$ in millions -----	
1. Assets at June 30, 2008	\$7,934.0	\$ 7,838.5
2. Contributions and Transfers in	255.4	255.4
3. Investment Income	(1,507.8)	300.8
4. Benefit Payments	511.5	511.5
5. Administrative Expenses	7.1	7.1
6. Assets at June 30, 2009 = (1) + (2) + (3) – (4) – (5)	6,163.1	7,876.1
7. Actual Investment Increment/Mean Assets*	(19.32) %	3.90 %
8. Expected Investment Increment		8.50 %
9. Investment Gain (Loss):		
a. As a % of mean assets: (7) – (8)		(4.60) %
b. \$ in millions		<u>\$ (354.3)</u>

* Based on the approximation formula: $I/[.5 x (A+B-I)]$, where

I = Investment increment
A = Beginning of year asset value
B = End of year asset value

Salary Increases
To Members Active Both at Beginning & End of Year
During Plan Year 2008 - 2009

Age Groups		Salary Increases	
		Actual*	Expected
Below 20			
20- 24	1,092	11.0%	7.2%
25- 29	3,800	7.3%	6.6%
30- 34	4,574	5.9%	5.9%
35- 39	5,578	5.5%	5.4%
40- 44	6,169	5.3%	5.1%
45- 49	7,794	4.9%	4.8%
50- 54	8,167	4.5%	4.6%
55- 59	6,804	4.4%	4.5%
60-64	3,901	4.5%	4.4%
65 & Over	1,224	4.9%	4.3%
Total	49,103		
Average		5.1%	5.0%

* Excludes new entrants and terminations.

Assumed Payroll Growth	Actual Payroll Growth		
	2009	2008	2007
4.0%	4.5%	3.8%	3.9%

**Active Members Who Retired With
SERVICE OR REDUCED SERVICE RETIREMENT BENEFITS
During Plan Year 2008 - 2009**

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 50	3	0.5	11	9.5	14	10.0
50	2	4.4	12	23.6	14	27.9
51	14	9.8	17	25.8	31	35.5
52	14	13.8	31	35.2	45	49.0
53	15	18.8	21	33.5	36	52.3
54	16	21.6	27	33.1	43	54.7
55	23	28.5	58	51.0	81	79.5
56	34	36.3	44	45.7	78	82.1
57	45	46.3	60	63.7	105	110.0
58	46	48.4	52	62.0	98	110.4
59	30	47.9	52	57.9	82	105.8
60	46	52.0	56	71.1	102	123.2
61	37	50.0	52	59.6	89	109.6
62	82	107.7	83	118.6	165	226.3
63	44	61.1	43	70.9	87	132.0
64	34	46.6	24	45.2	58	91.8
65	35	50.4	50	60.0	85	110.3
66	34	35.9	49	40.2	83	76.1
67	19	18.2	22	19.3	41	37.5
68	12	12.8	11	14.2	23	27.0
69	11	10.4	17	12.6	28	23.0
70 & Over	35	56.3	24	48.0	59	104.3
Totals	631	777.6	816	1,000.6	1,447	1,778.3

	Men	Women	Total
Average age at retirement	61.5 years	60.4 years	60.9 years
Average service at retirement	21.9 years	22.7 years	22.3 years

**Active Members Who Retired With DISABILITY BENEFITS
During Plan Year 2008 - 2009**

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 25	-	0.0	-	0.0	-	0.0
25- 29	4.0	0.5	1	1.6	5	2.1
30- 34	2	1.8	6	5.2	8	7.0
35- 39	2	3.6	10	7.9	12	11.4
40- 44	6	5.5	12	10.8	18	16.3
45- 49	8	9.6	11	18.8	19	28.4
50- 54	16	16.5	18	25.6	34	42.1
55- 59	14	22.4	27	29.3	41	51.7
60 & Over	8	7.1	8	11.3	16	18.4
Totals	60	67.0	93	110.3	153	177.3

	Men	Women	Total
Average age at disability	50.6 years	49.9 years	50.2 years
Average service at disability	9.5 years	9.5 years	9.5 years

**Active Members Who Died
During Plan Year 2008 - 2009**

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 30	4	0	1	0	5	0
30- 34	-	0	-	1	-	1
35- 39	-	1	3	1	3	2
40- 44	2	2	-	2	2	3
45- 49	4	4	7	3	11	7
50- 54	9	8	6	5	15	13
55- 59	6	12	12	8	18	20
60- 64	13	12	3	8	16	19
65 & Over	8	8	2	4	10	13
Totals	46	45.7	34	31.6	80	77.2

	Men	Women	Total
Average age at death	55.8 years	53.2 years	54.7 years
Average service at death	13.9 years	14.6 years	14.2 years

Of the 80 active members who died in service during 2008-2009, 43 members had a benefit payable to a survivor.

**Active Members Who Left Active Status with a DEFERRED BENEFIT
(Retirement with Monthly Payments Beginning At Later Age)
During Plan Year 2008 - 2009**

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 30	27	40.7	56	73.0	83	113.8
30- 34	75	98.4	126	172.8	201	271.1
35- 39	97	109.6	141	183.2	238	292.8
40- 44	95	99.3	121	166.5	216	265.8
45- 49	88	97.8	120	178.7	208	276.5
50- 54	61	86.7	114	147.3	175	233.9
55- 59	42	57.2	71	91.9	113	149.1
60 & Over	19	14.6	18	23.8	37	38.4
Totals	504	604.2	767	1,037.2	1,271	1,641.5

	Men	Women	Total
Average age at termination	43.4 years	42.9 years	43.1 years
Average service at termination	9.6 years	9.5 years	9.5 years

**Active Members Who Left Active Status with NO BENEFIT PAYABLE
(Other than Deaths)
During Plan Year 2008 - 2009**

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 20						
20- 24	110	99.1	235	184.0	345	283.1
25- 29	248	221.7	423	397.5	671	619.2
30- 34	160	141.5	244	242.7	404	384.2
35- 39	112	103.9	196	205.8	308	309.7
40- 44	90	91.3	145	167.5	235	258.8
45- 49	57	91.3	144	178.6	201	269.9
50- 54	49	80.8	78	140.1	127	220.9
55- 59	43	69.9	73	103.5	116	173.4
60- 64	20	49.4	38	50.2	58	99.6
65- 69	5	9.2	9	11.3	14	20.5
70 & Over	5	5.7	4	2.9	9	8.6
Totals	899	963.8	1,589	1,684.1	2,488	2,647.9

	Men	Women	Total
Average age at termination	35.8 years	35.7 years	35.8 years
Average service at termination	1.8 years	1.7 years	1.7 years

Service at Termination	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
0	337	358.3	630	685.5	967	1,043.8
1	247	273.3	421	493.8	668	767.1
2	149	174.6	276	273.6	425	448.2
3	109	137.8	171	217.4	280	355.2
4	57	19.8	91	13.8	148	33.6
5 & Over	0	0.0	0	0.0	0	0.0
Totals	899	963.8	1,589	1,684.1	2,488	2,647.9

**Comparison of Actual to Expected Deaths
Among Retired Lives
(Service Retirement Only)
As of June 30, 2009**

Age	Male Deaths			Female Deaths			Total Deaths		
	Actual	Expected	Exposure	Actual	Expected	Exposure	Actual	Expected	Exposure
50-54		1	240	2	2	638	2	3	878
55-59	17	13	1,541	10	13	2,400	27	26	3,941
60-64	31	32	2,387	31	29	3,468	62	61	5,855
65-69	42	48	2,152	43	42	3,203	85	90	5,355
70-74	50	57	1,528	60	52	2,381	110	109	3,909
75-79	60	65	1,120	75	65	1,734	135	130	2,854
80-84	59	61	658	76	78	1,346	135	139	2,004
85-89	37	37	268	75	65	699	112	102	967
90-94	15	14	77	43	32	245	58	46	322
95-99	3	4	17	15	10	50	18	14	67
100 & Up		1	2	1		2	1	1	4
Totals	314	333	9,990	431	388	16,166	745	721	26,156
Average Ages	75.4	75.4	67.6	78.6	77.8	68.2	77.2	76.7	68.0

DATA USED IN VALUATIONS

**Missouri State Employees' Retirement System
Summary of Benefit Provisions Evaluated
June 30, 2009 Actuarial Valuation**

MSEP (Missouri State Employees' Plan)	MSEP 2000 (Missouri State Employees' Plan 2000)
<p>PARTICIPATION</p> <p>Participants include:</p> <p>All MOSERS members, vested former members, retirees and survivors who first became members prior to July 1, 2000 and who do not elect to transfer to the MSEP 2000 plan. Election is made at the time benefits commence.</p>	<p>Participants include:</p> <ol style="list-style-type: none"> (1) All new employees who first become members on or after July 1, 2000, except full-time teaching and senior administrative personnel of the regional colleges and universities hired on or after July 1, 2002 who will be participants in the Colleges and Universities Retirement Plan. (2) MSEP active members and vested former members who elect to transfer to the MSEP 2000 plan prior to retirement. (3) MSEP retirees who elect to transfer to the MSEP 2000 plan during the election window from July 1, 2000 through July 1, 2001, and their survivors.

MSEP

MSEP 2000

NORMAL RETIREMENT ELIGIBILITY (unreduced benefits)**Members of the General Assembly:**

Age 55 with completion of at least 3 full biennial assemblies.

Statewide Elected Officials: The earliest of attaining:

- (1) Age 65 with at least 4 years of credited service.
- (2) Age 60 with at least 15 years of credited service.
- (3) Age 50 with age plus credited service equal to 80 or more.

General Employees: The earliest of attaining:

- (1) Age 65 and active with at least 4 years of credited service.
- (2) Age 65 with at least five years of credited service.
- (3) Age 60 with at least 15 years of credited service.
- (4) Age 48 with age plus credited service equal to 80 or more.

Uniform Water Patrol Employees: The earliest of attaining:

- (1) Age 55 and active with at least 4 years of credited service.
- (2) Age 55 with at least 5 years of credited service.
- (3) Age 48 with age plus credited service equal to 80 or more.

AVERAGE COMPENSATION USED FOR BENEFIT DETERMINATION

The average annual compensation of a member for the three consecutive years of service during which pay was highest (overtime pay is included for purposes of determining Average Compensation). Lump sum payments are excluded, but unused sick leave may be converted to additional credited service (usable only for benefit computation, not eligibility).

Members of the General Assembly: The earlier of attaining:

- (1) Age 55 with completion of at least 2 full biennial assemblies.
- (2) Age 50 with completion of at least 2 full biennial assemblies and with age plus credited service equal to 80 or more.

Statewide Elected Officials: The earlier of attaining:

- (1) Age 55 with at least 4 years of credited service as a statewide elected official.
- (2) Age 50 with age plus credited service equal to 80 or more.

General Employees: The earlier of attaining:

- (1) Age 62 with at least 5 years of credited service.
- (2) Age 48 with age plus credited service equal to 80 or more.

The average annual pay of a member for the three consecutive years of service during which pay was highest (overtime pay is included for purposes of determining Average Pay). A lump sum payment is included unless it is for unused vacation or sick leave. However, unused sick leave may be converted to additional credited service (usable only for benefit computation, not eligibility).

MSEP

MSEP 2000

BENEFIT AMOUNT***Members of the General Assembly:***

\$150 per month per biennial assembly served.

Statewide Elected Officials:

- (1) Less than 12 years of credited service:
1.6% of Average Compensation times years of credited service.
- (2) 12 or more years of credited service:
50% of pay of the highest elected position held prior to retirement.

General Employees:

1.6% of Average Compensation times years of credited service.

2.1% of Average Compensation times years of credited service for any period of non-social security covered employment transferred from the Public School Retirement System.

Uniformed Water Patrol Employees:

2.13% of Average Compensation times years of credited service.

Members of the General Assembly:

1/24 of pay times first 24 years of credited service as a member of the General Assembly.

Statewide Elected Officials:

1/24 of pay (of the highest elected position held prior to retirement) times the first 12 years of credited service as a statewide elected official.

General Employees:

Life Benefit: 1.7% of Average Pay times years of credited service.

Temporary Benefit: If member retires between ages 50 and 62 with age plus credited service equal to 80 or more, a temporary benefit is payable until the attainment of the minimum age at which reduced social security benefits are payable, in the amount of 0.8% of Average Pay times years of credited service.

Non- Social Security Covered Service: 2.5% of Average Pay times years of credited service for any period of non-social security covered employment transferred from the Public School Retirement System.

MSEP

MSEP 2000

EARLY RETIREMENT FOR GENERAL EMPLOYEES:

Eligibility:

Age 55 with at least 10 years of credited service.

Amount:

- (1) Less than 15 years of service: Normal retirement amount actuarially reduced for years younger than age 65.
- (2) 15 years but less than 20 years of service, and less than the number of years of service necessary for age and service to total 80: Normal retirement amount actuarially reduced for years younger than age 60.
- (3) 20 or more years of service, but less than the number of years of service necessary for age and service to total 80: Normal retirement amount reduced for years younger than the 80 and out eligibility date.

Eligibility:

Age 57 with at least 5 years of credited service.

Amount:

Normal retirement amount reduced by ½% for each month that retirement precedes eligibility for normal retirement.

VESTED DEFERRED BENEFITS

Benefits for employees who terminate prior to eligibility for an immediate benefit are considered to be vested in accordance with the following schedule (benefits commence at the age the individual would have been eligible for early or normal retirement, considering years of credited service). Unused sick leave is not converted.

Benefits for employees who terminate prior to eligibility for an immediate benefit are considered to be vested in accordance with the following schedule (benefits commence at age 57). Unused sick leave is converted to additional credited service.

Years of Service	General Assembly	Statewide Elected Officials	General Employees
4 5		100%	100%
6 (3 assemblies)	100%		

Years of Service	General Assembly	Statewide Elected Officials	General Employees
4 (2 assemblies) 5	100%	100%	100%
6 (3 Assemblies) HB1455 prospectively	100%		

MSEP	MSEP 2000
<p>DEATH PRIOR TO RETIREMENT</p> <p>(1) The surviving spouse benefit is computed as if the member had been normal retirement age on the date of death and elected the joint and 100% survivor optional form of payment, provided the member had at least 5 years of credited service and was married for at least two consecutive years immediately prior to the date of death. If no eligible spouse survives, 80% of the member's life income annuity is paid to eligible children until age 21. If the death is duty related, the service requirement is waived, and the minimum spouse benefit is 50% of current pay.</p> <p>(2) For members of the General Assembly, the surviving spouse receives 50% of the benefit the member would have received if the member had been normal retirement age on the date of death, provided the member had served in at least 3 biennial assemblies, and was married for at least two consecutive years immediately prior to the date of death. If the death is duty related, the service requirement is waived, and the minimum spouse benefit is 50% of current pay.</p>	<p>The surviving spouse benefit is computed as if the member had been normal retirement age on the date of death and elected the joint and 100% survivor option form of payment, provided the member had at least 5 years of credited service (2 full assemblies for a member of the General Assembly, 4 years of credited service for a statewide elected official). If no eligible spouse survives, 80% of the member's life income annuity is paid to eligible children until age 21. If the death is duty related, the service requirement is waived, and the minimum spouse benefit is 50% of current pay.</p>

MSEP

MSEP 2000

DEATH AFTER RETIREMENT

50% of the benefit the retired member was receiving on the date of death (the normal form of payment), or the benefit payable under the joint and survivor or period certain form of payment, if the member elected an optional form of payment at time of retirement and provided the member was married for at least two consecutive years prior to the date of retirement. Effective July 1, 2000, a member who is not married at retirement but marries thereafter may designate a spouse as beneficiary upon completion of one year of marriage. Additionally, a member may designate a new spouse as beneficiary upon completion of one year of marriage in the event of the death of the spouse the member was married to at the date of retirement (this provision does not apply to period certain annuities).

DISABILITY (RECIPIENTS OF LTD BENEFITS)

Normal retirement benefits become payable at the time the member is eligible for normal retirement, and are computed based on: i) the service that would have accrued to the member if active employment had continued; and ii) the member's rate of pay at the time of disability (if the member retires on or after August 28, 1999, the member's rate of pay is based on the rate of pay at the time of disability indexed to the time of benefit commencement). An exception is Uniformed Water Patrol employees who are eligible for an immediate occupational disability benefit equal to 50% of pay at time of disability.

The benefit payable under the joint and survivor or period certain form of payment, if the member elected an optional form of payment at time of retirement. A member who is not married at retirement but marries thereafter may designate a spouse as beneficiary upon completion of one year of marriage. Additionally, a member may designate a new spouse as beneficiary upon completion of one year of marriage in the event of the death of the spouse the member was married to at the date of retirement (this provision does not apply to period certain annuities).

Normal retirement benefits become payable at the time the member is eligible for normal retirement, and are computed based on: i) the service that would have accrued to the member if active employment had continued; and ii) the member's rate of pay at the time of disability indexed to the time of benefit commencement. The annual percentage increase in the pay used to compute benefits is the lesser of: i) 80% of the CPI increase and ii) 5%.

MSEP

MSEP 2000

POST-RETIREMENT BENEFIT ADJUSTMENTS

Benefits are increased to retired members (including survivors) annually in accordance with the following formulas:

Increase in CPI	Formula 1 Benefit Increase	Formula 2 Benefit Increase
5.00% or less	4%	80% of CPI increase
5.01% - 6.24%	80% of CPI increase	80% of CPI increase
6.25% or more	5%	5%

Members first hired prior to August 28, 1997 receive COLAs based on Formula 1 until an aggregate increase of 65% is reached. At that point subsequent COLAs based on Formula 2 are granted.

Members first hired on or after August 28, 1997 receive COLAs based solely on Formula 2.

Statewide Elected Officials with 12 or more years of service have their benefit adjusted annually based on the increase in the pay for an active statewide elected official in the member's highest elected position.

Members who are fully vested and work beyond age 65 will have their monthly benefit increased upon retirement. The percentage increase in benefit is equal to all COLAs for the years between age 65 and date of retirement, not to exceed 65% and counts toward the Formula 1 65% maximum.

Benefits are increased to retired members (including survivors) annually in accordance with the following:

Members of the General Assembly: Benefit is adjusted annually based on the increase in the pay for an active member of the General Assembly.

Statewide Elected Officials: Benefit is adjusted annually based on the increase in the pay for an active statewide elected official in the retired member's highest elected position.

General Employees: Annual benefit percentage increase equal to the lesser of: i) 80% of the CPI increase, and
ii) 5%.

MSEP	MSEP 2000
<p>POP-UP PROVISION</p> <p>Benefits to members who choose a survivor form of payment and whose spouse precedes the member in death, will "pop-up" or revert to the amount the member would have received had he/she not elected a survivor option.</p>	<p>Same.</p>
<p>PORTABILITY</p> <p>Purchase/Transfer Provisions (in addition to military). Effective August 28, 1999, a member may purchase up to four years of non-federal full-time Missouri public service, provided the member is not vested in another retirement system for that same service.</p>	<p>Purchase/Transfer Provisions (in addition to military). A member may purchase up to four years of non-federal full-time Missouri public service, provided the member is not vested in another retirement system for that same service. Local vested service credit granted after 10 years of state service if the other retirement plan agrees to transfer assets equal to the accrued liability to MOSERS.</p>
<p>MEMBER CONTRIBUTIONS. None.</p>	<p>Same.</p>
<p>BACKDROP. See following page.</p>	<p>Same.</p>

MSEP

MSEP 2000

BACKDROP

To be eligible to participate in the BackDROP, a member must have been eligible to retire under normal age and/or service conditions for at least two years. A retroactive starting date is established for BackDROP purposes which is the later of: 1) the member's normal retirement date or 2) five years prior to the annuity starting date under the retirement plan selected by the member.

A member may elect the back DROP period for the accumulation of the BackDROP account in 12 month increments prior to their actual retirement date or back to the earliest possible date. This results in a BackDROP period of two to five years depending upon the individual situation.

A theoretical BackDROP account is accumulated that includes 90% of the value of the benefit payments that would have been paid during the BackDROP period had the member retired at the retroactive starting date with their respective option election. These payments include applicable post-retirement benefit increases.

The member is paid the resulting lump sum value of the BackDROP account as of the annuity starting date or as three equal annual installments beginning at the annuity starting date.

The annuity benefit payable from the actual retirement date is computed with years of service and average pay as of the retroactive starting date for the BackDROP. Post-retirement benefit increases that occurred during the BackDROP period are applied in the calculation of the monthly annuity.

Same.

Retirants & Beneficiaries as of June 30, 2009
Tabulated by Plan Year of Retirement

Calendar Year Ended 12/31	No.	Total Annual Benefits	Average Monthly Benefit
2009 *	1,022	\$ 16,182,440	\$1,320
2008	2,457	34,703,268	1,177
2007	2,351	32,546,424	1,154
2006	2,216	31,979,736	1,203
2005	2,009	28,820,376	1,195
2004	1,494	20,675,856	1,153
2003	2,756	45,481,212	1,375
2002	2,038	31,681,224	1,295
2001	1,718	28,387,740	1,377
2000	2,254	37,421,016	1,384
1999	1,239	18,947,328	1,274
1998	1,200	19,050,624	1,323
1997	1,030	16,199,064	1,311
1996	912	13,488,288	1,232
1995	994	15,699,948	1,316
1994	709	9,570,060	1,125
1993	752	11,107,752	1,231
1992	637	8,881,200	1,162
1991	618	9,279,000	1,251
1990	470	6,577,872	1,166
1989	445	5,687,400	1,065
1988	449	5,880,516	1,091
1987	338	3,624,456	894
1986	310	2,755,572	741
1985	234	2,253,900	803
1984	177	1,692,072	797
1983	175	1,708,236	813
1982	147	1,317,672	747
1981	123	1,093,368	741
1980	80	700,548	730
1979	52	365,892	586
1978	61	471,528	644
1977	63	446,400	590
1976	44	275,400	522
1975	26	190,848	612
1974	16	79,872	416
1973	14	93,552	557
1972	2	13,164	549
1971	3	13,008	361
1966	1	5,976	498
1964 & PRIOR	1	8,496	708
Totals	31,637	\$465,358,304	\$1,226

* Five months ended May 31, 2009.

Benefits Payable June 30, 2009
Tabulated by Option and Type of Benefit

MSEP Benefits

Type of Benefit	No.	Annual Benefits
Service Retirement		
Life Annuity	4,834	\$ 54,603,248
50% Joint and Survivor	5,149	78,427,661
75% Joint and Survivor	3	49,478
100% Joint and Survivor	2,458	43,917,651
5 Year Certain and Life	123	1,263,894
10 Year Certain and Life	119	1,024,686
Survivor Beneficiary	1,972	20,243,262
Total	<u>14,658</u>	<u>199,529,880</u>
Disability Retirement	10	33,048
Death-in-Service	1,341	12,248,723
Total	16,009	\$ 211,811,651

MSEP 2000 Benefits

Type of Benefit	No.	Annual Benefits
Service Retirement		
Life Annuity	9,897	\$ 149,139,478
50% Joint and Survivor	2,369	51,130,821
100% Joint and Survivor	2,270	42,055,020
5 Year Certain and Life	42	610,916
10 Year Certain and Life	397	4,839,767
15 Year Certain and Life	277	2,455,906
Survivor Beneficiary	336	3,200,578
Total	<u>15,588</u>	<u>253,432,486</u>
Disability Retirement	0	0
Death-in-Service	40	114,167
Total	15,628	\$ 253,546,653

Total Benefits Payable June 30, 2009
Tabulated by Attained Ages of Benefit Recipients

Attained Ages	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20					71	\$ 262,858	71	\$ 262,858
20-24					25	149,107	25	149,107
25-29					5	30,310	5	30,310
30-34					24	188,455	24	188,455
35-39					39	191,431	39	191,431
40-44					71	466,636	71	466,636
45-49	8	\$ 209,352			100	734,684	108	944,036
50-54	636	18,137,352	1	2,016	193	1,589,354	830	19,728,722
55-59	3,703	80,832,725	5	18,060	322	3,139,702	4,030	83,990,487
60-64	6,378	98,798,035	4	12,972	389	4,068,223	6,771	102,879,230
65-69	5,931	75,457,792			426	4,945,671	6,357	80,403,463
70-74	4,270	61,411,186			529	5,798,669	4,799	67,209,855
75-79	3,121	46,706,009			577	6,100,574	3,698	52,806,583
80-84	2,194	29,454,489			521	4,563,794	2,715	34,018,283
85-89	1,139	13,017,083			285	2,686,644	1,424	15,703,727
90-94	452	4,649,320			98	814,453	550	5,463,773
95	36	314,990			5	15,984	41	330,974
96	24	219,890			4	46,764	28	266,654
97	24	140,448			2	5,568	26	146,016
98	9	75,391			1	2,964	10	78,355
99	4	38,400			1	2,352	5	40,752
100	5	28,992					5	28,992
101	3	18,336			1	2,533	4	20,869
102	1	8,736					1	8,736
Totals	27,938	\$ 429,518,526	10	\$ 33,048	3,689	\$ 35,806,730	31,637	\$ 465,358,304

Average age at Retirement: 60.3 years.

Average age now: 69.1 years.

Summary of Member Data Included in Valuation

June 30, 2009

Active Members

Valuation Group	Number	Payroll	Group Averages		
			Salary	Age(yrs.)	Service(yrs.)
Regular State Employees	51,275	\$ 1,794,011,214	\$ 34,988	45.0	10.4
Elected Officials	6	652,047	108,675	47.8	4.5
Legislative Clerks	44	1,453,499	33,034	58.6	20.3
Legislators	197	6,678,570	33,901	50.2	5.0
Uniformed Water Patrol	95	5,811,122	61,170	40.2	15.2
Conservation Department	1,520	64,146,751	42,202	44.4	14.0
Contract Employees	1,882	125,925,453	66,910	54.7	18.9
Administrative Law Judges	38	3,723,431	97,985	54.0	15.3
Total MOSERS*	55,057	\$ 2,002,402,087	\$ 36,370	45.3	10.8
Judges*	397	\$45,505,512	114,623	55.4	11.8

Retired Lives

Type of Benefit Payment	No.	Annual Benefit	Group Averages	
			Benefit	Age(yrs.)
Retirement	27,938	\$ 429,518,526	\$ 15,374	69.1
Disability	10	33,048	3,305	58.5
Survivor of Active Member	1,381	12,362,890	8,952	60.2
Survivor of Retired Member	2,308	23,443,840	10,158	74.4
Total MOSERS*	31,637	\$ 465,358,304	\$ 14,709	69.1
Judges*	463	23,955,671	51,740	74.9

This valuation also includes 17,259 terminated vested members, 238 members on leave and 968 members on long-term disability.

* Total covered by MOSERS excluding Judges. Judges assets, liabilities, contribution rates and other valuation results are included in a separate report covering only Judges.

Active Members in Funding Program as of June 30, 2009

By Age and Years of Service#*

Near Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 plus	No.	Valuation
									Payroll
15-19	37							37	\$ 809,456
20-24	1,716	12						1,728	44,266,471
25-29	4,059	759	12					4,830	143,148,511
30-34	2,708	2,016	550	11				5,285	173,245,569
35-39	2,168	1,785	1,783	379	20			6,135	212,092,849
40-44	1,842	1,528	1,607	1,232	469	27		6,705	244,225,088
45-49	1,880	1,615	1,566	1,145	1,322	627	83	8,238	308,932,536
50-54	1,608	1,561	1,548	1,145	1,273	954	580	8,669	335,869,123
55-59	1,234	1,345	1,318	1,111	1,164	590	633	7,395	292,869,743
60	213	242	237	234	172	85	79	1,262	49,366,370
61	188	237	178	171	141	71	71	1,057	41,104,874
62	151	207	203	165	125	50	71	972	39,146,459
63	122	152	155	117	101	52	62	761	32,002,690
64	59	111	108	79	68	32	32	489	20,952,088
65	35	81	85	53	55	26	32	367	15,524,653
66	32	69	68	42	41	20	37	309	13,887,640
67	30	57	46	22	24	13	22	214	9,066,972
68	14	28	44	20	18	2	17	143	5,321,399
69	10	18	30	13	12	6	15	104	4,605,466
70 & Over	60	58	79	48	44	16	52	357	15,964,130
Totals	18,166	11,881	9,617	5,987	5,049	2,571	1,786	55,057	\$ 2,002,402,087

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 45.3 years.

Service: 10.8 years.

Annual Pay: \$36,370

Includes 38 ALJ members.

* A breakdown by gender is included on pages 66 and 67.

Development of Actuarial Value of Assets

Valuation Date:	2008	2009	2010	2011	2012	2013
A. Actuarial Value Beginning of Year	\$7,377,289,283	\$7,838,495,768				
B. Market Value End of Year	7,934,030,312	6,163,086,700				
C. Market Value Beginning of Year	8,056,993,537	7,934,030,312				
D. Cash Flow						
D1. Contributions	252,893,358	255,369,082				
D2. Benefit Payments	(480,105,334)	(511,466,554)				
D3. Administrative Expenses	(6,950,878)	(7,088,483)				
D4. Net	(234,162,854)	(263,185,955)				
E. Investment Income						
E1. Market Total: B - C - D4	111,199,629	(1,507,757,657)				
E2. Assumed Rate	8.5%	8.5%				
E3. Amount for Immediate Recognition: E2*(A+D4*.5)	617,117,668	655,086,737				
E4. Amount for Phased-In Recognition: E1 - E3	(505,918,039)	(2,162,844,394)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.2 * E4	(101,183,608)	(432,568,879)				
F2. First Prior Year	141,398,417	(101,183,608)	\$ (432,568,879)			
F3. Second Prior Year	38,036,862	141,398,417	(101,183,608)	\$ (432,568,879)		
F4. Third Prior Year		38,036,862	141,398,417	(101,183,608)	\$ (432,568,879)	
F5. Fourth Prior Year			38,036,861	141,398,418	(101,183,607)	\$ (432,568,878)
F6. Total Recognized Investment Gain: Sum(F1:F5)	78,251,671	(354,317,208)	(354,317,209)	(392,354,069)	(533,752,486)	(432,568,878)
G. Adjustment	-	-				
H. Actuarial Value End of Year:						
H1. Preliminary Value: A + D4 + E3 + F6 + G	\$7,838,495,768	\$7,876,079,342				
H2. Corridor Percent	20%	30%				
H3. Upper Corridor Limit: (100% + H2) x B	9,520,836,374	8,012,012,710				
H4. Lower Corridor Limit: (100% - H2) x B	6,347,224,250	4,314,160,690				
H5. Corridor Adjustment	0	0				
H6. Funding Value End of Year: H1 + H5	7,838,495,768	7,876,079,342				
I. Difference Between Market & Actuarial Values: B-H5	95,534,544	(1,712,992,642)	(1,358,675,433)	(966,321,364)	(432,568,878)	-
J. Recognized Rate of Return	9.58%	3.90%				
K. Market Value Rate of Return	1.40%	(19.32)%				
L. Actuarial Value as a % of Market Value: H5 / B	99%	128%				

The actuarial value of assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, the actuarial value of assets will tend to be less than market value. During periods when investment performance is less than assumed, the actuarial value will tend to be greater than market value. If assumed rates are exactly realized for four consecutive years, the actuarial value will become equal to market value.

Asset Summary

June 30, 2009

	Market Value	Actuarial Value
1. Assets at June 30, 2008	\$7,934,030,312	\$7,838,495,768
2. Contributions and Transfers in	255,369,082	255,369,082
3. Investment Increment*	(1,507,757,657)	300,769,529
4. Benefit Payments and Transfers out	511,466,554	511,466,554
5. Administrative and Misc. Expenses	7,088,483	7,088,483
6. Assets at June 30, 2009 (1) + (2) + (3) - (4) - (5)	\$6,163,086,700	\$7,876,079,342
7. Investment Increment/Mean Assets**	(19.32)%	3.90%

* *Net of investment expenses.*

** *Based on the approximation formula: $I / [.5 \times (A+B-I)]$, where*

I = Investment Increment

A = Beginning of year asset value

B = End of year asset value

CASH FLOW PROJECTION

The Nature of Actuarial Projections

Regular actuarial valuations measure the Retirement System's present financial position and contributions adequacy by calculating and financing the liabilities created by the present benefit program. This process involves discounting to present values the future benefit payments on behalf of present active and retired members and their survivors. However, valuations do not produce information regarding future changes in the makeup of the covered group or the amounts of benefits to be paid or investment income to be received--actuarial projections do.

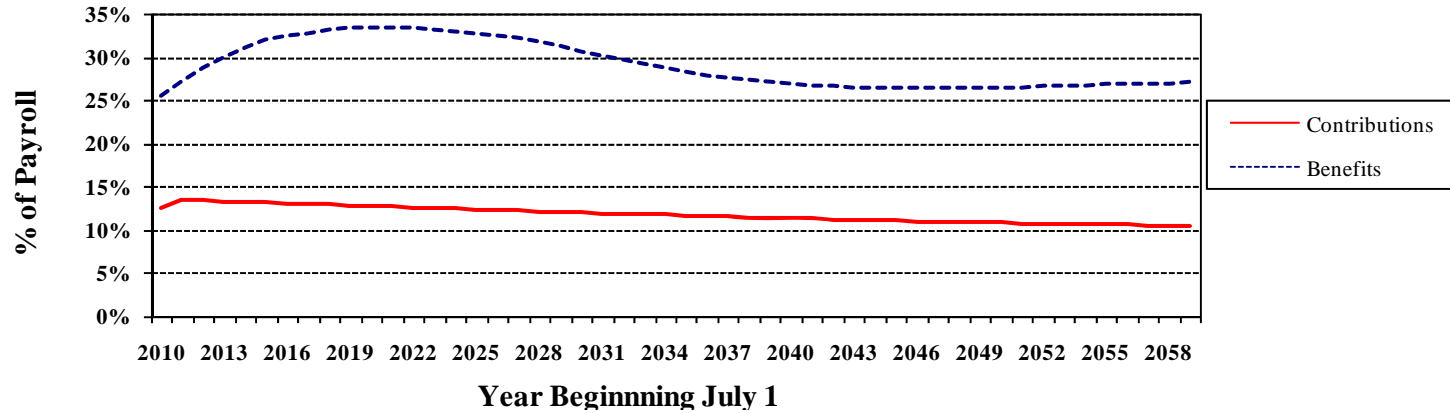
Whereas valuations provide a snapshot of the retirement system as of a given date, projections provide a moving picture. Projected active and retired groups are developed from year to year by the application of assumptions regarding pre-retirement withdrawal from service, retirements, deaths, disabilities, and the addition of new members. Projected information regarding the retired life group leads to assumed future benefit payout. Combining future benefit payments with assumed contributions and expected investment earnings produces the net cash flow of the System each year, and thus end of year asset levels.

Projections are used for many purposes. Among them are (i) developing cash flow patterns for investment policy and asset mix consideration, (ii) exploring the effect of alternative assumptions about future experience, (iii) analyzing the impact on system funding progress of changes in the workforce, and (iv) examining the potential effect of changes in benefits on system financial activity.

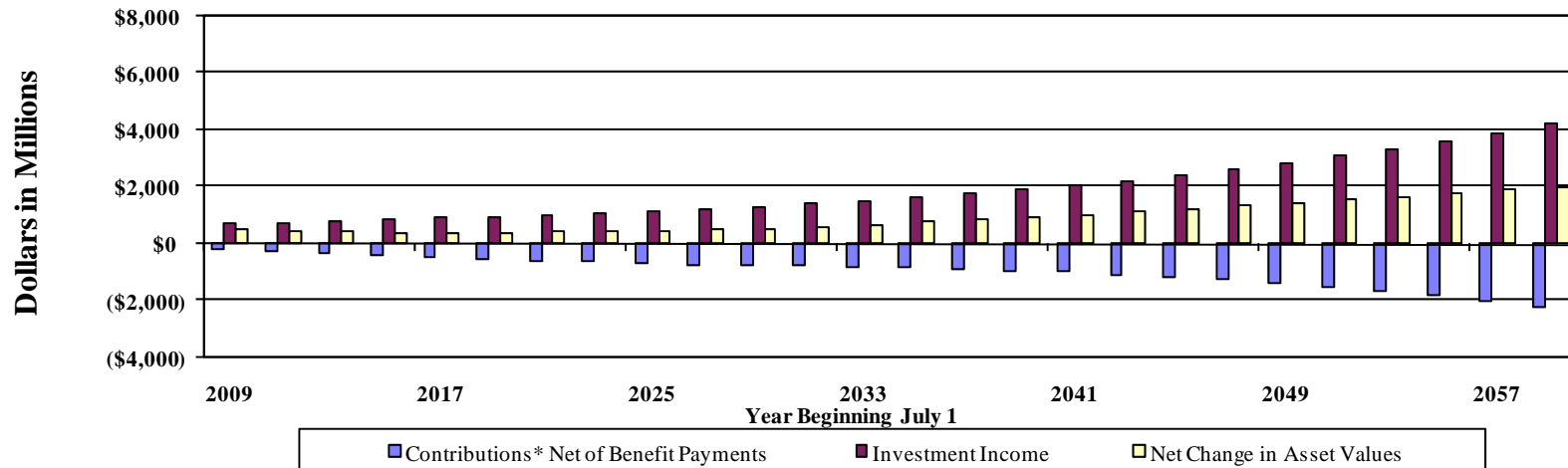
Projection results are useful in demonstrating changing relationships among key elements affecting system financial activity. For example: how benefits payable and system assets will grow in future decades. Projections are not predictions of specific future events and do not provide numeric precision in absolute terms. For instance, cash flow projected to occur 10 years in the future will not be exact (except by coincidence), but understanding the changed relationships between future benefit payout and future investment income can be very useful.

50-Year Cash Flow Projection Based on Valuation Assumptions

Projected Contributions* and Benefits Expressed as Percents of Active Member Payroll



Net Change in Asset Values



* Does not include contributions for administrative expenses.

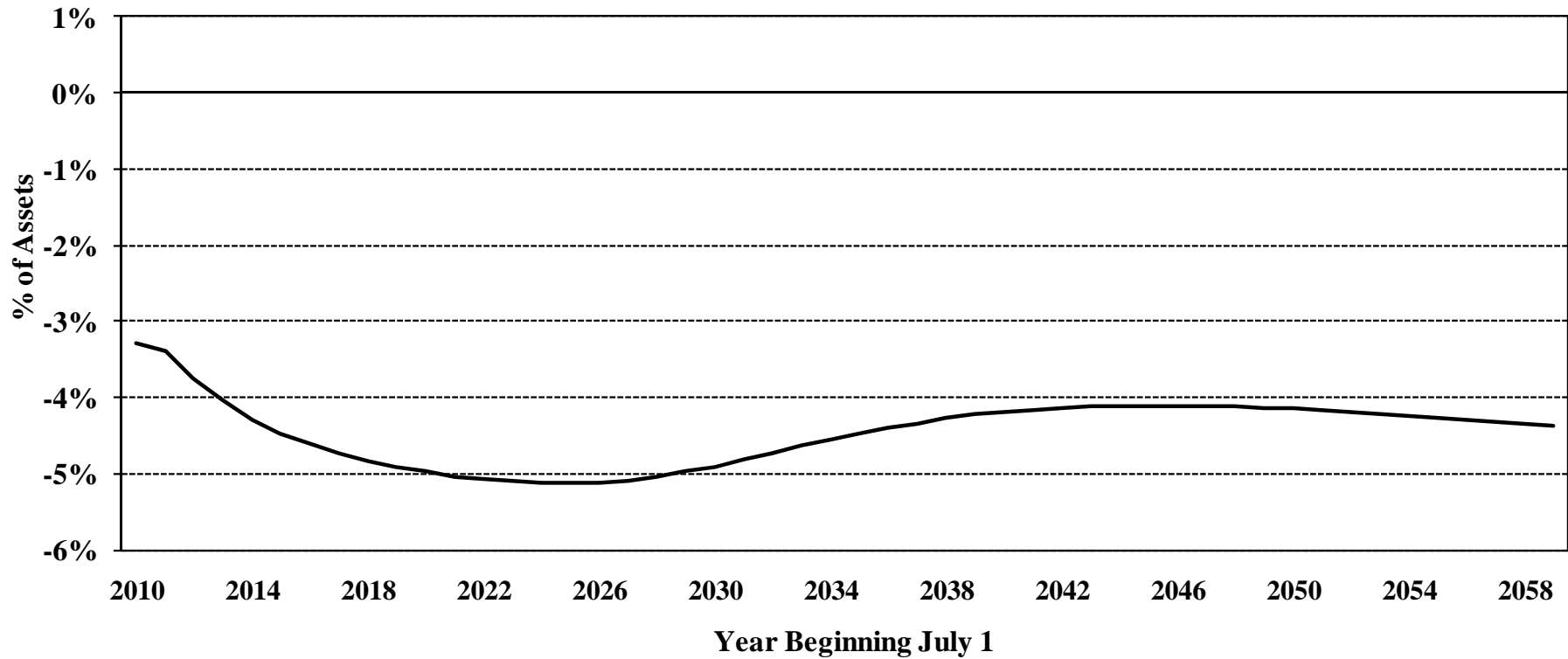
Fifty-Year Cash Flow Projection (in Thousands)

Year Ended June 30	Assets BOY	Contributions*			Benefits	Investment Income	Assets EOY	
		Normal	UAAL	Total			Inflated	2010 \$
2010	\$ 7,876,079	\$ 168,124	\$ 80,668	\$ 248,792	\$ 508,138	\$ 658,444	\$ 8,275,177	\$8,275,177
2011	8,275,177	173,894	104,088	277,982	558,573	691,465	8,686,051	8,351,972
2012	8,686,051	179,916	105,967	285,883	612,171	724,448	9,084,211	8,398,864
2013	9,084,211	186,219	108,157	294,376	661,840	756,542	9,473,289	8,421,719
2014	9,473,289	192,841	110,405	303,246	709,014	787,984	9,855,505	8,424,527
2015	9,855,505	199,784	112,686	312,470	754,370	818,936	10,232,541	8,410,403
2016	10,232,541	207,099	115,029	322,128	794,151	849,705	10,610,223	8,385,413
2017	10,610,223	214,824	117,425	332,249	833,909	880,548	10,989,111	8,350,821
2018	10,989,111	222,966	119,856	342,822	873,345	911,528	11,370,116	8,308,032
2019	11,370,116	231,542	122,329	353,871	912,379	942,724	11,754,332	8,258,437
2020	11,754,332	240,558	124,837	365,395	950,226	974,263	12,143,764	8,203,892
2021	12,143,764	250,023	127,385	377,408	988,070	1,006,268	12,539,370	8,145,335
2022	12,539,370	259,955	129,979	389,934	1,024,794	1,038,865	12,943,375	8,084,394
2023	12,943,375	270,362	132,612	402,974	1,061,921	1,072,182	13,356,610	8,021,634
2024	13,356,610	281,254	135,291	416,545	1,098,923	1,106,311	13,780,543	7,957,920
2025	13,780,543	292,660	138,022	430,682	1,135,846	1,141,376	14,216,755	7,894,060
2026	14,216,755	304,591	140,798	445,389	1,171,691	1,177,558	14,668,011	7,831,371
2027	14,668,011	317,059	143,623	460,682	1,205,800	1,215,114	15,138,007	7,771,448
2028	15,138,007	330,088	146,501	476,589	1,238,839	1,254,334	15,630,091	7,715,452
2029	15,630,091	343,697	149,433	493,130	1,270,754	1,295,509	16,147,976	7,664,515
2030	16,147,976	357,890	152,411	510,301	1,302,104	1,338,926	16,695,099	7,619,425
2031	16,695,099	372,670	155,439	528,109	1,332,538	1,384,896	17,275,566	7,581,099
2032	17,275,566	388,044	158,520	546,564	1,363,487	1,433,705	17,892,348	7,549,772
2033	17,892,348	404,031	161,661	565,692	1,395,913	1,485,564	18,547,691	7,525,287
2034	18,547,691	420,647	164,861	585,508	1,430,173	1,540,657	19,243,683	7,507,374
2035	19,243,683	437,892	168,117	606,009	1,466,765	1,599,130	19,982,057	7,495,605
2036	19,982,057	455,787	171,438	627,225	1,506,308	1,661,113	20,764,087	7,489,383
2037	20,764,087	474,353	174,826	649,179	1,549,715	1,726,675	21,590,226	7,487,848
2038	21,590,226	493,612	178,282	671,894	1,595,764	1,795,905	22,462,261	7,490,658
2039	22,462,261	513,587	181,807	695,394	1,645,504	1,868,912	23,381,063	7,497,171
2040	23,381,063	534,302	185,404	719,706	1,699,303	1,945,758	24,347,224	7,506,704
2041	24,347,224	555,791	189,077	744,868	1,756,989	2,026,499	25,361,602	7,518,707
2042	25,361,602	578,091	192,828	770,919	1,819,370	2,111,178	26,424,329	7,532,465
2043	26,424,329	601,242	196,658	797,900	1,886,516	2,199,803	27,535,516	7,547,324
2044	27,535,516	625,285	200,569	825,854	1,957,889	2,292,407	28,695,888	7,562,861
2045	28,695,888	650,264	204,561	854,825	2,033,841	2,389,043	29,905,915	7,578,622
2046	29,905,915	676,224	208,636	884,860	2,114,063	2,489,761	31,166,473	7,594,295
2047	31,166,473	703,209	212,795	916,004	2,198,695	2,594,637	32,478,419	7,609,591
2048	32,478,419	731,266	217,039	948,305	2,288,133	2,703,723	33,842,314	7,624,180
2049	33,842,314	760,441	221,369	981,810	2,382,126	2,817,083	35,259,081	7,637,844
2050	35,259,081	790,785	225,787	1,016,572	2,481,029	2,934,782	36,729,406	7,650,333
2051	36,729,406	822,345	230,293	1,052,638	2,584,956	3,056,876	38,253,964	7,661,425
2052	38,253,964	855,174	234,890	1,090,064	2,693,904	3,183,424	39,833,548	7,670,943
2053	39,833,548	889,325	239,579	1,128,904	2,808,022	3,314,489	41,468,919	7,678,725
2054	41,468,919	924,851	244,361	1,169,212	2,927,462	3,450,133	43,160,802	7,684,623
2055	43,160,802	961,810	249,239	1,211,049	3,052,333	3,590,413	44,909,931	7,688,509
2056	44,909,931	1,000,258	254,214	1,254,472	3,182,646	3,735,397	46,717,154	7,690,291
2057	46,717,154	1,040,256	259,288	1,299,544	3,318,512	3,885,151	48,583,337	7,689,895
2058	48,583,337	1,081,865	264,462	1,346,327	3,460,081	4,039,749	50,509,332	7,687,256
2059	50,509,332	1,125,149	269,739	1,394,888	3,607,501	4,199,257	52,495,976	7,682,320

* Does not include contributions for administrative expenses.

50-Year Cash Flow Projection

Projected Net External Cash Flow Expressed as a Percent of Assets



Net External Cash Flow equals: i) Contributions to the plan, less ii) Benefits paid by the plan. A negative Net External Cash Flow means that benefits are being partly funded by investment income --- a natural consequence of advance funding.

Fifty-Year Cash Flow Projection
Analysis of Projected Net Cash Flow (In Thousands)

Year Ended June 30	External Cash Flow		Net External Cash Flow		Year Ended June 30	External Cash Flow		Net External Cash Flow	
	Inflow*	Outflow	\$	% of Assets		Inflow*	Outflow	\$	% of Assets
2010	\$ 248,792	\$ 508,138	\$ (259,346)	(3.29)%	2035	\$ 606,009	\$ 1,466,765	\$ (860,756)	(4.47)%
2011	277,982	558,573	(280,591)	(3.39)%	2036	627,225	1,506,308	(879,083)	(4.40)%
2012	285,883	612,171	(326,288)	(3.76)%	2037	649,179	1,549,715	(900,536)	(4.34)%
2013	294,376	661,840	(367,464)	(4.05)%	2038	671,894	1,595,764	(923,870)	(4.28)%
2014	303,246	709,014	(405,768)	(4.28)%	2039	695,394	1,645,504	(950,110)	(4.23)%
2015	312,470	754,370	(441,900)	(4.48)%	2040	719,706	1,699,303	(979,597)	(4.19)%
2016	322,128	794,151	(472,023)	(4.61)%	2041	744,868	1,756,989	(1,012,121)	(4.16)%
2017	332,249	833,909	(501,660)	(4.73)%	2042	770,919	1,819,370	(1,048,451)	(4.13)%
2018	342,822	873,345	(530,523)	(4.83)%	2043	797,900	1,886,516	(1,088,616)	(4.12)%
2019	353,871	912,379	(558,508)	(4.91)%	2044	825,854	1,957,889	(1,132,035)	(4.11)%
2020	365,395	950,226	(584,831)	(4.98)%	2045	854,825	2,033,841	(1,179,016)	(4.11)%
2021	377,408	988,070	(610,662)	(5.03)%	2046	884,860	2,114,063	(1,229,203)	(4.11)%
2022	389,934	1,024,794	(634,860)	(5.06)%	2047	916,004	2,198,695	(1,282,691)	(4.12)%
2023	402,974	1,061,921	(658,947)	(5.09)%	2048	948,305	2,288,133	(1,339,828)	(4.13)%
2024	416,545	1,098,923	(682,378)	(5.11)%	2049	981,810	2,382,126	(1,400,316)	(4.14)%
2025	430,682	1,135,846	(705,164)	(5.12)%	2050	1,016,572	2,481,029	(1,464,457)	(4.15)%
2026	445,389	1,171,691	(726,302)	(5.11)%	2051	1,052,638	2,584,956	(1,532,318)	(4.17)%
2027	460,682	1,205,800	(745,118)	(5.08)%	2052	1,090,064	2,693,904	(1,603,840)	(4.19)%
2028	476,589	1,238,839	(762,250)	(5.04)%	2053	1,128,904	2,808,022	(1,679,118)	(4.22)%
2029	493,130	1,270,754	(777,624)	(4.98)%	2054	1,169,212	2,927,462	(1,758,250)	(4.24)%
2030	510,301	1,302,104	(791,803)	(4.90)%	2055	1,211,049	3,052,333	(1,841,284)	(4.27)%
2031	528,109	1,332,538	(804,429)	(4.82)%	2056	1,254,472	3,182,646	(1,928,174)	(4.29)%
2032	546,564	1,363,487	(816,923)	(4.73)%	2057	1,299,544	3,318,512	(2,018,968)	(4.32)%
2033	565,692	1,395,913	(830,221)	(4.64)%	2058	1,346,327	3,460,081	(2,113,754)	(4.35)%
2034	585,508	1,430,173	(844,665)	(4.55)%	2059	1,394,888	3,607,501	(2,212,613)	(4.38)%

* Does not include contributions for administrative expenses.

The portion of investment income needed to pay benefits (the negative external cash flow) increases gradually and begins to level off at the end of the amortization of the unfunded accrued liabilities. After this period, it then approaches the assumed rate of 4.33% (1.085/1.040, minus 1). The remainder of the expected investment income is needed to preserve the purchasing power of the trust fund.

APPENDIX

Appendix
Summary of Assumptions Used
for the June 30, 2009 Actuarial Valuation

-----**Economic Assumptions**-----

The investment return rate used in the valuations was 8.5% per year, compounded annually (net after investment expenses). This assumption is used to account for the fact that equal amounts of money payable at different points in time in the future do not have the same value presently.

Pay increase assumptions for individual active members are shown for sample ages on page 54. Part of the assumption for each age is for merit and/or seniority increase, and the other 4.0% recognizes wage inflation. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

The active member payroll is assumed to increase 4.0% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation. For the 2009 valuation only, payroll is assumed to grow 0.0% the first year, then 4.0% annually thereafter to reflect the statewide temporary pay freeze.

The annual cost-of-living adjustment (COLA) is assumed to be 4.00%, on a compounded basis, when a minimum COLA of 4% is in effect. When no minimum COLA is in effect, price inflation is assumed to be 3.2% and the annual COLA is assumed to be 2.56% (80% of 3.2%), on a compounded basis.

-----**Non-Economic Assumptions**-----

The mortality table, for post-retirement mortality, used in evaluating allowances to be paid was the 1971 Group Annuity Mortality Table, projected to the year 2000, with a one year setback for men and a seven year age setback for women. Related values are shown on page 55. This assumption is used to measure the probabilities of each benefit payment being made after retirement.

Appendix

Summary of Assumptions Used for the June 30, 2009 Actuarial Valuation

The probabilities of age and service retirement are shown on page 56. It was assumed that each member will be granted one half year of service credit for unused leave upon retirement and military service purchases.

The probabilities of withdrawal from service, disability and death-in-service are shown for sample ages on page 54. For disability retirement, impaired longevity was recognized by use of special mortality tables.

The entry age normal actuarial cost method of valuation was used in determining liabilities and normal cost. The normal cost was based on the benefit provisions affecting new employees (MSEP 2000). Differences in the past between assumed experience and actuarial experience ("actuarial gains and losses") become part of actuarial accrued liabilities. Unfunded actuarial accrued liabilities are amortized to produce payments, (principal & interest) which are level percents of payroll contributions.

Employer contribution dollars were assumed to be *paid in equal installments* throughout the employer's fiscal year.

Actuarial value of assets. Valuation assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a closed five-year period. Valuation assets are not permitted to deviate from the market value by more than 30% for the June 30, 2009 valuation. This limit will change to 25% for the June 30, 2010 valuation and 20% thereafter.

The data about persons now covered and about present assets were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

It is assumed that among active members 80% are married at retirement, 70% of those dying in active service are married, and men are three years older than their spouses.

The liabilities for active members hired on or after July 1, 2000 (April 26, 2005 for Administrative Law Judges) were based on MSEP 2000 benefits. The liabilities for active members hired before July 1, 2000 for Elected Officials, General Assembly, and Uniformed Water Patrol were based on MSEP benefits. All others were based on MSEP 2000 benefits. The backDROP was only explicitly valued for those assumed to receive MSEP 2000 benefits.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.).

**Separations From Active Employment Before Service Retirement
& Individual Pay Increase Assumptions**

June 30, 2009

Sample Ages	Years of Service	Percent of Active Members ----- Separating within the Next Year -----						Pay Increase Assumptions -- For An Individual Employee --		
		Withdrawal		Death*		Disability		Merit & Seniority**	Base (Economy)	Increase Next Year
		Men	Women	Men	Women	Men	Women			
	0	23.8 %	26.9 %							
	1	18.9	20.5							
	2	15.3	15.4							
	3	12.8	12.5							
	4	11.8	10.9							
20	5+	11.8	10.9	0.04 %	0.03 %	0.16 %	0.30 %	3.5 %	4.0 %	7.5 %
25		11.8	10.9	0.05	0.04	0.16	0.30	2.9	4.0	6.9
30		10.0	10.0	0.06	0.04	0.16	0.30	2.2	4.0	6.2
35		7.5	7.6	0.08	0.05	0.21	0.30	1.6	4.0	5.6
40		5.6	5.6	0.11	0.07	0.26	0.32	1.2	4.0	5.2
45		4.2	4.4	0.17	0.09	0.34	0.38	0.9	4.0	4.9
50		3.4	3.9	0.31	0.14	0.49	0.57	0.7	4.0	4.7
55		3.0	3.3	0.54	0.24	1.07	0.89	0.5	4.0	4.5
60		2.6	3.0	0.83	0.44	1.50	1.50	0.4	4.0	4.4
65		2.5	3.0	1.31	0.71	1.60	1.70	0.3	4.0	4.3

* 2% of the deaths in active service are assumed to be duty related.

** Does not apply to members of the General Assembly.

Post-Retirement Mortality Rates

Age	Service		Disability	
	Men	Women	Men	Women
45	0.0019	0.0012	0.0059	0.0039
50	0.0035	0.0021	0.0090	0.0065
55	0.0059	0.0039	0.0144	0.0099
60	0.0090	0.0065	0.0245	0.0159
65	0.0144	0.0099	0.0411	0.0274
70	0.0245	0.0159	0.0646	0.0446
75	0.0411	0.0274	0.1029	0.0714
80	0.0646	0.0446	0.1495	0.1117
85	0.1029	0.0714	0.2069	0.1601

Single Life Retirement Values June 30, 2009

Sample Attained Ages	Present Value of \$1/Month the First Year Increasing 4.0% / 2.56% Yearly				Future Life Expectancy (Years)			
	Service		Disability		Service		Disability	
	Men	Women	Men	Women	Men	Women	Men	Women
40	\$203.02	\$209.33	\$181.62	\$191.13	39.41	43.25	30.06	33.73
45	193.32	201.25	168.02	179.05	34.67	38.46	25.67	29.17
50	181.62	191.13	152.30	165.06	30.06	33.73	21.50	24.82
55	168.02	179.05	134.31	148.86	25.67	29.17	17.57	20.70
60	152.30	165.06	114.80	130.48	21.50	24.82	13.99	16.82
65	134.31	148.86	95.56	110.86	17.57	20.70	10.91	13.32
70	114.80	130.48	76.93	91.81	13.99	16.82	8.29	10.36
75	95.56	110.86	60.70	73.41	10.91	13.32	6.23	7.83
80	76.93	91.81	47.70	57.87	8.29	10.36	4.70	5.89
85	60.70	73.41	36.91	45.39	6.23	7.83	3.51	4.44

Percent of Eligible Active Members Retiring Next Year

Grandfathered Groups			
Age	Year of Eligibility		
	1st Year	2nd Year	3rd Year
48	20%		
49	20%	10%	
50	20%	10%	8%
51	20%	10%	8%
52	20%	10%	8%
53	20%	10%	8%
54	20%	10%	8%
55	25%	10%	12%
56	20%	10%	12%
57	20%	10%	12%
58	20%	10%	30%
59	20%	10%	30%
60	25%	10%	30%
61	20%	10%	30%
62	30%	15%	50%
63	20%	12%	40%
64	20%	12%	40%
65	30%	15%	50%
66	20%	12%	40%
67	20%	12%	40%
68	20%	12%	40%
69	20%	12%	40%
70	20%	12%	40%
71	20%	12%	40%
72	20%	12%	40%
73	20%	12%	40%
74	20%	12%	40%
75	100%	100%	100%
76	100%	100%	100%
77	100%	100%	100%
78	100%	100%	100%

MSEP 2000			
Age	Year of Eligibility		
	1st Year	2nd Year	3rd Year
48	27%		
49	27%	14%	
50	27%	14%	18%
51	27%	14%	18%
52	27%	14%	18%
53	27%	14%	18%
54	27%	14%	18%
55	27%	14%	25%
56	27%	14%	25%
57	22%	14%	20%
58	22%	14%	20%
59	22%	14%	20%
60	25%	14%	25%
61	20%	14%	20%
62	20%	22%	35%
63	15%	20%	30%
64	20%	20%	20%
65	25%	20%	30%
66	20%	20%	25%
67	20%	20%	20%
68	20%	20%	20%
69	20%	20%	20%
70	20%	20%	20%
71	20%	20%	20%
72	20%	20%	20%
73	20%	20%	20%
74	20%	20%	20%
75	50%	50%	50%
76	50%	50%	50%
77	75%	75%	75%
78	100%	100%	100%

Early retirement rates were assumed to be 5.0% from ages 55-65.

**Summary of Assumptions Used
June 30, 2009
Miscellaneous and Technical Assumptions**

Pay Increase Timing:	Middle of (Fiscal) year.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service is used to determine the amount of the benefit payable.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during normal retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form for MSEP 2000 with 50% continuing to an eligible surviving spouse for MSEP. No adjustment has been made for post-retirement option election changes.
Other Liability Adjustments:	<p><i>MSEP 2000 Benefits for Active Employees</i></p> <ul style="list-style-type: none"> - Normal retirement form of payment adjustment: 0.994 - Early retirement form of payment adjustment: 0.993

Pre-Retirement Survivor Benefits for Spouse of Terminated Vested Member

<u>Age</u>	<u>Male/Female</u>
<30	3.20/2.32
30-39	1.89/1.52
40-49	1.32/1.18
>50	1.07/1.04

The number of active members is assumed to remain constant although certain new hires on or after July 1, 2002 will participate in the Colleges and Universities Retirement Plan. Active and retired member data is reported as of May 31. It is assumed for valuation purposes that there is no turnover among members and no new entrants during the month of June.

Summary of Assumptions Used
June 30, 2009
Miscellaneous and Technical Assumptions
(Concluded)

Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.

MSEP 2000 Election: All regular state employees are assumed to elect MSEP 2000 at retirement. Elected Officials, General Assembly, and Uniformed Water Patrol Members hired before July 1, 2000 and Administrative Law Judges hired before April 26, 2005 are assumed to elect MSEP at retirement.

Service Adjustment: It is assumed that each member will be granted one half year of service credit, 2 months for unused leave upon retirement and 4 months for military service purchases.

Active and retired member data was reported as of May 31, 2009. It was brought forward to June 30, 2009 by adding one month of service for all active members and the June COLA for certain retired members. It is expected that this procedure resulted in a slight overstatement of total liabilities as of June 30, 2009. Financial information continues to be reported as of June 30. This procedure was instituted to provide sufficient time for the Board of Trustees to certify the appropriate contribution rate prior to the October 1 statutory deadline.

Supplemental Disclosure Information June 30, 2009

Actuarial Accrued Liability

The actuarial accrued liability is a measure intended to (i) help users assess the plan's funding status on a going-concern basis, and (ii) assess progress being made in accumulating sufficient assets to pay benefits when due. The actuarial value of assets is based on a method that fully recognizes expected investment return and averages unanticipated market return over a five-year period. Allocation of the actuarial present value of projected benefits between past and future service was based on service using the entry age actuarial cost method. Assumptions, including projected pay increases, were the same as used to determine the System's annual required contribution between entry age and assumed exit age. Entry age was established by subtracting credited service from current age on the valuation date.

The entry age actuarial accrued liability was determined as part of an actuarial valuation of the System as of June 30, 2009. Significant actuarial assumptions used in determining the entry age actuarial accrued liability include (a) a rate of return on the investment of present and future assets of 8.5% per year compounded annually, (b) projected salary increases of 4.0% per year compounded annually, attributable to inflation, (c) additional projected salary increases ranging from 0.4% to 3.5% per year, depending on age, attributable to seniority/merit, and (d) the assumption that benefits will increase after retirement (i) at 4.00% per year for approximately the first 12 years, 3.1% for the 13th year and 2.56% per year thereafter, or (ii) at 2.56% per year, depending upon date of hire and benefit election.

At June 30, 2009, the unfunded actuarial accrued liability of the System was determined as follows:

Actuarial Accrued Liability of System:	<u>\$ in Thousands</u>
Active members (36,891 vested, 18,166 non-vested)	\$ 4,200,842
Retirees and beneficiaries currently receiving benefits (31,637 vested)	4,737,303
Terminated members not yet receiving benefits (17,259 vested)	556,105
Future BackDROP Payments	<u>557</u>
Total Actuarial Accrued Liability	9,494,807
Actuarial Value of Assets	7,876,079
Unfunded Actuarial Accrued Liability	<u><u>\$ 1,618,727</u></u>

During the year ended June 30, 2009, the System experienced a net change of \$366,459,244 in the actuarial accrued liability. Of this change, \$(168,033,678) was due to changes in assumptions. There were no changes in benefit provisions.

Supplemental Disclosure Information
June 30, 2009
(continued)

Contributions Required and Contributions Made

The System's funding policy provides for periodic employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are designed to accumulate sufficient assets to pay benefits when due. In developing the annual required contribution shown below, the normal cost and actuarial accrued liability are determined using the entry age actuarial cost method. The unfunded actuarial accrued liability is being amortized on an open basis as a level percent of payroll over a period of 30 years. The corresponding amortization factor is 16.05286.

During the year ended June 30, 2009 contributions totaling \$252,105,008 were made by the employer.

Schedule of Employer Contributions

Fiscal Year 7-1/6-30	Valuation Date 6/30	Annual Required Contribution		
		Percent	Dollar Amount	Percentage Contributed
1991-92	1990	9.65 %	\$ 100,672,145	100 %
1992-93	1991	9.68	102,988,219	100
1993-94	1992	9.49	106,681,308	100
1994-95	1993	9.04	108,902,372	100
1995-96	1994	10.69	137,007,112	100
1996-97	1995	10.66	146,383,371	100
1997-98	1996	10.40	152,090,687	100
1998-99	1997	12.58	197,909,834	100
1999-00	1998	11.91	202,330,547	100
2000-01	1999	11.59	215,750,128	100
2001-02	2000	11.59	209,515,026	100
2002-03	2001	8.81	156,576,150	100
2003-04	2002	9.35	164,691,836	100
2004-05	2003	10.64	195,648,983	100
2005-06	2004	12.59	227,233,195	100
2006-07	2005	12.78	239,488,751	100
2007-08	2006	12.84	249,770,156	100
2008-09	2007	12.53	252,105,008	100
2009-10	2008	12.75		
2010-11	2009	13.81		

Supplemental Disclosure Information
June 30, 2009
(concluded)

Schedule of Funding Progress

Plan Year Ended	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Percent Funded (1) / (2)	(4) Unfunded AAL (2) - (1)	(5) Annual Covered Payroll	(6) Unfunded AAL as a Percentage of Covered Payroll (4) / (5)
6/30/1998	\$4,210,635,094	\$4,918,887,183	85.6 %	\$ 708,252,089	\$1,459,712,203	48.5 %
6/30/1999 #	4,908,820,033	5,505,968,629	89.2	597,148,596	1,564,551,532	38.2
6/30/2000 *	5,216,897,196	5,920,684,192	88.1	703,786,996	1,683,697,080	41.8
6/30/2001 *@	5,881,232,850	6,065,166,716	97.0	183,933,866	1,758,190,269	10.5
6/30/2002 &	6,033,133,598	6,294,272,275	95.9	261,138,677	1,773,283,484	14.7
6/30/2003 # &	6,057,329,072	6,662,291,406	90.9	604,962,334	1,739,895,364	34.8
6/30/2004 *	6,118,214,495	7,230,010,928	84.6	1,111,796,433	1,737,454,454	64.0
6/30/2005 &@	6,435,344,102	7,578,028,017	84.9	1,142,683,915	1,806,600,560	63.3
6/30/2006	6,836,567,188	8,013,205,414	85.3	1,176,638,226	1,777,277,138	66.2
6/30/2007	7,377,289,283	8,500,428,641	86.8	1,123,139,358	1,846,643,330	60.8
6/30/2008 *	7,838,495,768	9,128,347,470	85.9	1,289,851,702	1,916,527,398	67.3
6/30/2009	7,395,704,040	9,662,840,393	76.5	2,267,136,353	2,002,402,087	113.2
6/30/2009 *@	7,876,079,342	9,494,806,715	83.0	1,618,727,373	2,002,402,087	80.8

After changes in benefit provisions.

* After a change in assumptions.

@ After a change in asset method.

& After changes in methods other than the asset method.

Analysis of the dollar amounts of the actuarial value of assets, actuarial accrued liability, or unfunded actuarial accrued liability in isolation can be misleading. Expressing the actuarial value of assets as a percentage of the actuarial accrued liability provides one indication of the plan's funded status on a going-concern basis. Analysis of this percentage over time indicates whether the plan is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the plan. The unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Usually expressing the unfunded actuarial accrued liability as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of the progress being made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the plan.

June 30, 2009 Actuarial Valuation

Glossary

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuarial Value of Assets. Also referred to as funding value of assets, smoothed market value of assets, or valuation assets.

Valuation assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a closed 5-year period. This treatment helps remove the timing of investment activities from the valuation process. During periods when investment performance exceeds the assumed rate, valuation assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, valuation assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, valuation assets will become equal to market value.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

(continued on following page)

June 30, 2009 Actuarial Valuation

Glossary

(concluded)

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and actuarial value of assets. Sometimes referred to as "unfunded accrued liability."

The existence of unfunded actuarial accrued liabilities is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liabilities do not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liabilities and the trend in their amount (after due allowance for devaluation of the dollar).

Valuation Payroll. Active member payroll that is intended to reflect the annual salary considered as covered compensation for Retirement System benefits.

**Financing Unfunded Actuarial Accrued Liabilities
Which Were Calculated Using a Wage Inflation Assumption of 4.00% and
an Investment Return Assumption of 8.50% Compounded Annually**

*Level % of Payroll Amortization:
Open Amortization over 30 years**

Year	Active Member Payroll	Unfunded Actuarial Accrued Liability	UAAL Adjusted for Wage Inflation	Annual Contributions		UAAL as % of Payroll
				Dollars	% of Payroll	
-----\$ in millions-----						
1	\$2,002	\$1,619	\$1,619	\$101	5.04 %	80.84 %
2	2,002	1,651	1,588	103	5.14	82.46
3	2,082	1,684	1,557	105	5.04	80.89
4	2,166	1,718	1,528	107	4.94	79.34
5	2,252	1,753	1,498	109	4.85	77.82
6	2,343	1,788	1,470	111	4.75	76.33
7	2,436	1,824	1,442	114	4.66	74.87
8	2,534	1,861	1,414	116	4.57	73.44
9	2,635	1,898	1,387	118	4.49	72.03
10	2,740	1,936	1,360	121	4.40	70.65
11	2,850	1,975	1,334	123	4.32	69.30
12	2,964	2,015	1,309	126	4.23	67.97
13	3,083	2,055	1,284	128	4.15	66.67
14	3,206	2,097	1,259	131	4.07	65.40
15	3,334	2,139	1,235	133	4.00	64.14
16	3,468	2,182	1,211	136	3.92	62.92
17	3,606	2,225	1,188	139	3.84	61.71
18	3,750	2,270	1,165	141	3.77	60.53
19	3,900	2,316	1,143	144	3.70	59.37
20	4,056	2,362	1,121	147	3.63	58.24

* Reflects the state pay freeze for 2009-10.

**Financing Unfunded Actuarial Accrued Liabilities
Which Were Calculated Using a Wage Inflation Assumption of 4.00% and
an Investment Return Assumption of 8.50% Compounded Annually**

*Level % of Payroll Amortization:
Open Amortization over 30 years
(concluded)*

Year	Active Member Payroll	Unfunded Actuarial Accrued Liability	UAAL Adjusted for Wage Inflation	Annual Contributions		UAAL as % of Payroll
				Dollars	% of Payroll	
-----\$ in millions-----						
21	\$4,219	\$2,410	\$1,100	\$150	3.56 %	57.12 %
22	4,388	2,458	1,079	153	3.49	56.03
23	4,563	2,508	1,058	156	3.42	54.96
24	4,746	2,558	1,038	159	3.36	53.90
25	4,935	2,609	1,018	163	3.29	52.87
26	5,133	2,662	998	166	3.23	51.86
27	5,338	2,715	979	169	3.17	50.87
28	5,552	2,770	961	173	3.11	49.89
29	5,774	2,826	942	176	3.05	48.94
30	6,005	2,882	924	180	2.99	48.00

Active Members in Funding Program as of June 30, 2009

By Age and Years of Service

Male

Near Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 plus	No.	Valuation Payroll
Under 20	14							14	\$ 308,182
20-24	677	5						682	18,453,815
25-29	1,558	261	2					1,821	56,126,711
30-34	1,054	763	167	3				1,987	68,639,563
35-39	773	722	646	101	4			2,246	84,264,757
40-44	684	599	618	459	124	4		2,488	99,755,233
45-49	678	616	593	454	531	144	12	3,028	125,403,639
50-54	626	583	622	429	559	355	140	3,314	143,116,119
55-59	500	547	480	428	533	247	278	3,013	134,170,467
60	113	107	92	87	72	47	46	564	24,827,519
61	94	90	66	65	59	36	39	449	19,698,110
62	81	84	81	65	56	21	41	429	19,653,355
63	62	60	72	44	51	25	40	354	17,733,381
64	27	52	37	36	40	15	20	227	11,488,854
65	14	39	33	27	26	15	23	177	8,861,792
66	14	29	34	19	16	9	26	147	7,556,375
67	13	32	26	8	12	4	18	113	5,434,231
68	10	11	19	7	7	1	10	65	2,823,567
69	5	9	15	4	5	4	10	52	2,636,969
70 & Over	32	32	42	24	19	5	31	185	9,798,799
Totals	7,029	4,641	3,645	2,260	2,114	932	734	21,355	\$860,751,438

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 45.8 years.

Service: 10.9 years.

Annual Pay: \$40,307

Active Members in Funding Program as of June 30, 2009

By Age and Years of Service

Female

Near Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 plus	No.	Valuation Payroll
Under 20	23							23	\$ 501,274
20-24	1,039	7						1,046	25,812,656
25-29	2,501	498	10					3,009	87,021,800
30-34	1,654	1,253	383	8				3,298	104,606,006
35-39	1,395	1,063	1,137	278	16			3,889	127,828,092
40-44	1,158	929	989	773	345	23		4,217	144,469,855
45-49	1,202	999	973	691	791	483	71	5,210	183,528,897
50-54	982	978	926	716	714	599	440	5,355	192,753,004
55-59	734	798	838	683	631	343	355	4,382	158,699,276
60	100	135	145	147	100	38	33	698	24,538,851
61	94	147	112	106	82	35	32	608	21,406,764
62	70	123	122	100	69	29	30	543	19,493,104
63	60	92	83	73	50	27	22	407	14,269,309
64	32	59	71	43	28	17	12	262	9,463,234
65	21	42	52	26	29	11	9	190	6,662,861
66	18	40	34	23	25	11	11	162	6,331,265
67	17	25	20	14	12	9	4	101	3,632,741
68	4	17	25	13	11	1	7	78	2,497,832
69	5	9	15	9	7	2	5	52	1,968,497
70 & Over	28	26	37	24	25	11	21	172	6,165,331
Totals	11,137	7,240	5,972	3,727	2,935	1,639	1,052	33,702	\$1,141,650,649

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 44.9 years.

Service: 10.8 years.

Annual Pay: \$33,875

Basic Series

Year-by-Year Total Returns (1926-2008)

**For a type of investment,
Red means a REAL Return less than 3%
[(Total Return - Inflation) < 3%]**

**For Inflation,
RED means a purchasing power loss**

Year	Large Company Stocks	Small Company Stocks	Long-Term Corporate Bonds	Long-Term Government Bonds	Intermed.-Term Government Bonds	U.S. Treasury Bills	Inflation *
1926	11.62	0.28	7.37	7.77	5.38	3.27	-1.49
1927	37.49	22.10	7.44	8.93	4.52	3.12	-2.08
1928	43.61	39.69	2.84	0.10	0.92	3.56	-0.97
1929	-8.42	-51.36	3.27	1.17	6.01	4.75	0.20
1930	-24.90	-38.15	7.98	4.66	6.72	2.41	-6.03
1931	-43.34	-49.75	-1.85	-5.31	-2.32	1.07	-9.52
1932	-8.19	-5.39	10.32	16.84	8.81	0.96	-10.30
1933	53.99	142.87	10.38	-0.07	1.83	0.30	0.51
1934	-1.44	24.22	13.84	10.03	9.00	0.16	2.03
1935	47.67	40.19	9.61	4.98	7.01	0.17	2.99
1936	33.92	64.80	6.74	7.52	3.06	0.18	1.21
1937	-35.03	-58.01	2.75	0.23	1.56	0.31	3.10
1938	31.12	32.80	6.13	5.53	6.23	-0.02	-2.78
1939	-0.41	0.35	3.97	5.94	4.52	0.02	-0.48
1940	-9.78	-5.16	3.39	6.09	2.96	0.00	0.96
1941	-11.59	-9.00	2.73	0.93	0.50	0.06	9.72
1942	20.34	44.51	2.60	3.22	1.94	0.27	9.29
1943	25.90	88.37	2.83	2.08	2.81	0.35	3.16
1944	19.75	53.72	4.73	2.81	1.80	0.33	2.11
1945	36.44	73.61	4.08	10.73	2.22	0.33	2.25
1946	-8.07	-11.63	1.72	-0.10	1.00	0.35	18.16
1947	5.71	0.92	-2.34	-2.62	0.91	0.50	9.01
1948	5.50	-2.11	4.14	3.40	1.85	0.81	2.71
1949	18.79	19.75	3.31	6.45	2.32	1.10	-1.80
1950	31.71	38.75	2.12	0.06	0.70	1.20	5.79
1951	24.02	7.80	-2.69	-3.93	0.36	1.49	5.87
1952	18.37	3.03	3.52	1.16	1.63	1.66	0.88
1953	-0.99	-6.49	3.41	3.64	3.23	1.82	0.62
1954	52.62	60.58	5.39	7.19	2.68	0.86	-0.50
1955	31.56	20.44	0.48	-1.29	-0.65	1.57	0.37
1956	6.56	4.28	-6.81	-5.59	-0.42	2.46	2.86
1957	-10.78	-14.57	8.71	7.46	7.84	3.14	3.02
1958	43.36	64.89	-2.22	-6.09	-1.29	1.54	1.76
1959	11.96	16.40	-0.97	-2.26	-0.39	2.95	1.50
1960	0.47	-3.29	9.07	13.76	11.76	2.66	1.48
1961	26.89	32.09	4.82	0.97	1.85	2.13	0.67
1962	-8.73	-11.90	7.95	6.89	5.56	2.73	1.22
1963	22.80	23.57	2.19	1.21	1.64	3.12	1.65
1964	16.48	23.52	4.77	3.51	4.04	3.54	1.19
1965	12.45	41.75	-0.46	0.71	1.02	3.93	1.92
1966	-10.06	-7.01	0.20	3.65	4.69	4.76	3.35
1967	23.98	83.57	-4.95	-9.18	1.01	4.21	3.04
1968	11.06	35.97	2.57	-0.26	4.54	5.21	4.72
1969	-8.50	-25.05	-8.09	-5.07	-0.74	6.58	6.11
1970	4.01	-17.43	18.37	12.11	16.86	6.52	5.49
1971	14.31	16.50	11.01	13.23	8.72	4.39	3.36
1972	18.98	4.43	7.26	5.69	5.16	3.84	3.41
1973	-14.66	-30.90	1.14	-1.11	4.61	6.93	8.80
1974	-26.47	-19.95	-3.06	4.35	5.69	8.00	12.20
1975	37.20	52.82	14.64	9.20	7.83	5.80	7.01
1976	23.84	57.38	18.65	16.75	12.87	5.08	4.81
1977	-7.18	25.38	1.71	-0.69	1.41	5.12	6.77
1978	6.56	23.46	-0.07	-1.18	3.49	7.18	9.03
1979	18.44	43.46	-4.18	-1.23	4.09	10.38	13.31
1980	32.42	39.88	-2.62	-3.95	3.91	11.24	12.40
1981	-4.91	13.88	-0.96	1.86	9.45	14.71	8.94
1982	21.41	28.01	43.79	40.36	29.10	10.54	3.87
1983	22.51	39.67	4.70	0.65	7.41	8.80	3.80
1984	6.27	-6.67	16.39	15.48	14.02	9.85	3.95
1985	32.16	24.66	30.09	30.97	20.33	7.72	3.77
1986	18.47	6.85	19.85	24.53	15.14	6.16	1.13
1987	5.23	-9.30	-0.27	-2.71	2.90	5.47	4.41
1988	16.81	22.87	10.70	9.67	6.10	6.35	4.42
1989	31.49	10.18	16.23	18.11	13.29	8.37	4.65
1990	-3.17	-21.56	6.78	6.18	9.73	7.81	6.11
1991	30.55	44.63	19.89	19.30	15.46	5.60	3.06
1992	7.67	23.35	9.39	8.05	7.19	3.51	2.90
1993	9.99	20.98	13.19	18.24	11.24	2.90	2.75
1994	1.31	3.11	-5.76	-7.77	-5.14	3.90	2.67
1995	37.43	34.46	27.20	31.67	16.80	5.60	2.54
1996	23.07	17.62	1.40	-0.93	2.10	5.21	3.32
1997	33.36	22.78	12.95	15.85	8.38	5.26	1.70
1998	28.58	-7.31	10.76	13.06	10.21	4.86	1.61
1999	21.04	29.79	-7.45	-8.96	-1.77	4.68	2.68
2000	-9.11	-3.59	12.87	21.48	12.59	5.89	3.39
2001	-11.88	22.77	10.65	3.70	7.62	3.83	1.55
2002	-22.10	-13.28	16.33	17.84	12.93	1.65	2.38
2003	28.70	60.70	5.27	1.45	2.40	1.02	1.88
2004	10.87	18.39	8.72	8.51	2.25	1.20	3.26
2005	4.91	5.69	5.87	7.81	1.36	2.98	3.42
2006	15.80	16.17	3.24	1.19	3.14	4.80	2.54
2007	5.49	-5.22	2.60	9.88	10.05	4.66	4.08
2008	-37.00	-36.72	8.78	25.87	13.11	1.60	0.09

GABRIEL ROEDER SMITH & COMPANY from SBBI Yearbook

* Calculated using December to December CPI-U (1982-84=100, when available), not seasonally adjusted.

September 22, 2009

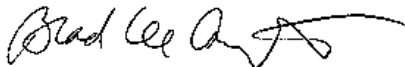
Mr. Gary W. Findlay
Executive Director
Missouri State Employees'
Retirement System
907 Wildwood
P.O. Box 209
Jefferson City, Missouri 65109

Re: MOSERS – Final Valuation Report

Dear Gary:

Enclosed are 10 copies of the June 30, 2009 actuarial valuation report of the Missouri State Employees' Retirement System.

Sincerely,

A handwritten signature in black ink, appearing to read "Brad Lee Armstrong", with a stylized flourish at the end.

Brad Lee Armstrong

BLA:bd
Enclosures

cc: Anita Brand
Williams-Keepers, LLC (+1 report copy)

Anita Brand
Williams Keepers LLC
3220 West Edgewood, Suite E
Jefferson City MO 65109
(+1 report copy)