GRS Gabriel Roeder Smith & Company
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MISSOURI STATE EMPLOYEES' RETIREMENT SYSTEM
ANNUAL ACTUARIAL VALUATION
JUNE 30, 2011

Missouri State Employees' Retirement System

Annual Actuarial Valuation as of June 30, 2011

Table of Contents

Pages

1	Cover Letter
	Valuation Results
2-4	Employer Contribution Rate
5	Recognized vs. Actual Return
6	Actuarial Present Values
7	Comments on Valuation Results
8-11	Comparative Schedule
	Gain (Loss) Analysis
12-13	Comments
14-16	Derivation of Gain (Loss)
17	Comparative Statement
18	Development of Gain (Loss) from Investment Income
19-25	Member Experience
	Data Used in Valuations
26-34	Summary of Benefit Provisions
35-37	Retired Lives
38-39	Active & Inactive Members
40-41	Financial Information
	Cash Flow Projection
42	The Nature of Actuarial Projections
43-46	Basic Cash Flow Projections
47-49	**Supplemental Disclosure Information**
	Appendix
50-52	Financial Principles
53-62	Actuarial Assumptions and Methods
63-64	Glossary
65-66	Financing Unfunded Actuarial Accrued Liabilities
67-68	Active Member Breakdown by Male and Female
69	History of Results from the Investment Universe

GRS
Gabriel Roeder Smith & Company
Consultants & Actuaries
One Towne Square
Suite 800
Southfield, MI 48076-3723
248.799.9000 phone
248.799.9020 fax
www.gabrielroeder.com

September 8, 2011

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

Re: Annual Actuarial Valuation as of June 30, 2011

Dear Board Members:

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, 2012.

The date of the valuation was **June 30, 2011.**

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. This report should not be relied on for any purpose other than the purpose described.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

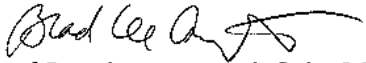
The valuation was based upon data, furnished by the MOSERS' staff, concerning active, inactive and retired members along with pertinent financial information and plan provisions. The complete cooperation of the MOSERS' staff in furnishing materials requested is hereby acknowledged with appreciation. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by MOSERS.

Your attention is directed particularly to the presentation of contribution rates on page 2 and the comments on page 7.

The financial assumptions used in making the valuations are shown in the Appendix of this report. Assumptions concerning future experience are needed for computing employer contribution rates. As time passes and actual experience develops, assumed and actual experiences are compared. From time to time one or more of the assumptions about the future are changed by the Board after consulting with the actuary.

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

Respectfully submitted,



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

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

BLA:DTK/lr

VALUATION RESULTS

Computed Employer Contribution Rate
Expressed as Percents of Active Member Payroll
for the Fiscal Year Ending June 30, 2013
Actuarial Valuation Results as of June 30, 2011

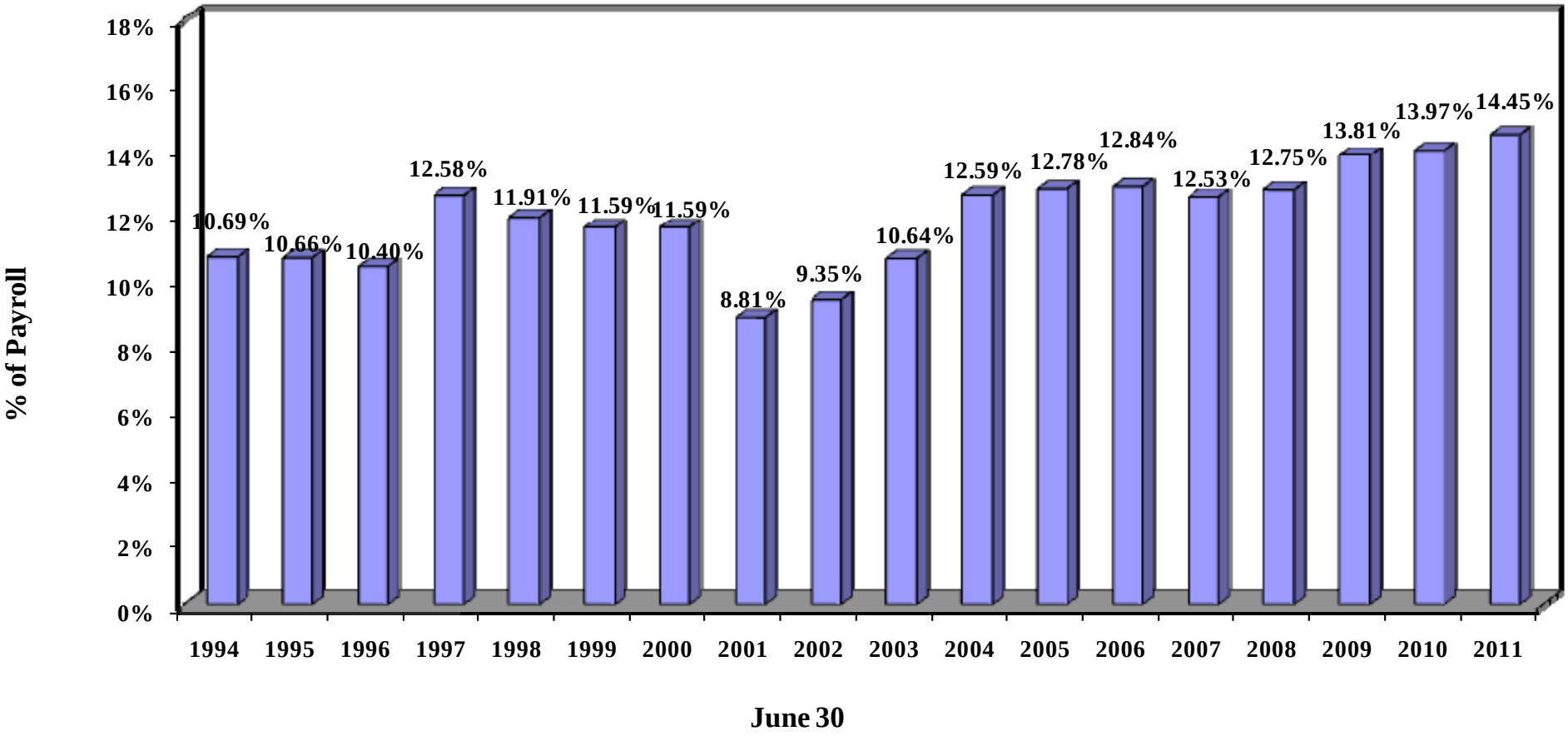
	Contribution Expressed as Percents of Payroll for the Fiscal Year		
	2012/13		
	Pre-2011 Hires	Post-2010 Hires@	Weighted Average
A. Normal Cost			
(1) Service retirement benefits	7.72 %	4.88 %	7.18 %
(2) Disability benefits	0.51	0.61	0.53
(3) Survivor benefits	0.24	0.34	0.26
(4) Administrative expenses	0.37	0.37	0.37
(5) Total *[(1) + (2) + (3) + (4)]*	8.84	6.20	8.34
B. Less Member Contributions			
(1) Member Contribution Rate	0.00	4.00	0.76
(2) Refunds	0.00	(1.17)	(0.22)
(3) Total *[(1) + (2)]*	0.00	2.83	0.54
C. Employer Normal Cost *[A(5) - B(3)]*	8.84	3.37	7.80
D. Unfunded Actuarial Accrued Liabilities (UAAL) (30-year level percent-of-payroll amortization*)			6.65
E. TOTAL COMPUTED EMPLOYER CONTRIBUTION RATE *[C. + D.]*			**14.45 %**
ESTIMATED EMPLOYER CONTRIBUTION ($Millions)#			**$281.9**

@ Based on assumptions for new hires. Normal cost for post-2010 hires will depend on future hiring practices and is likely to change as actual experience emerges.

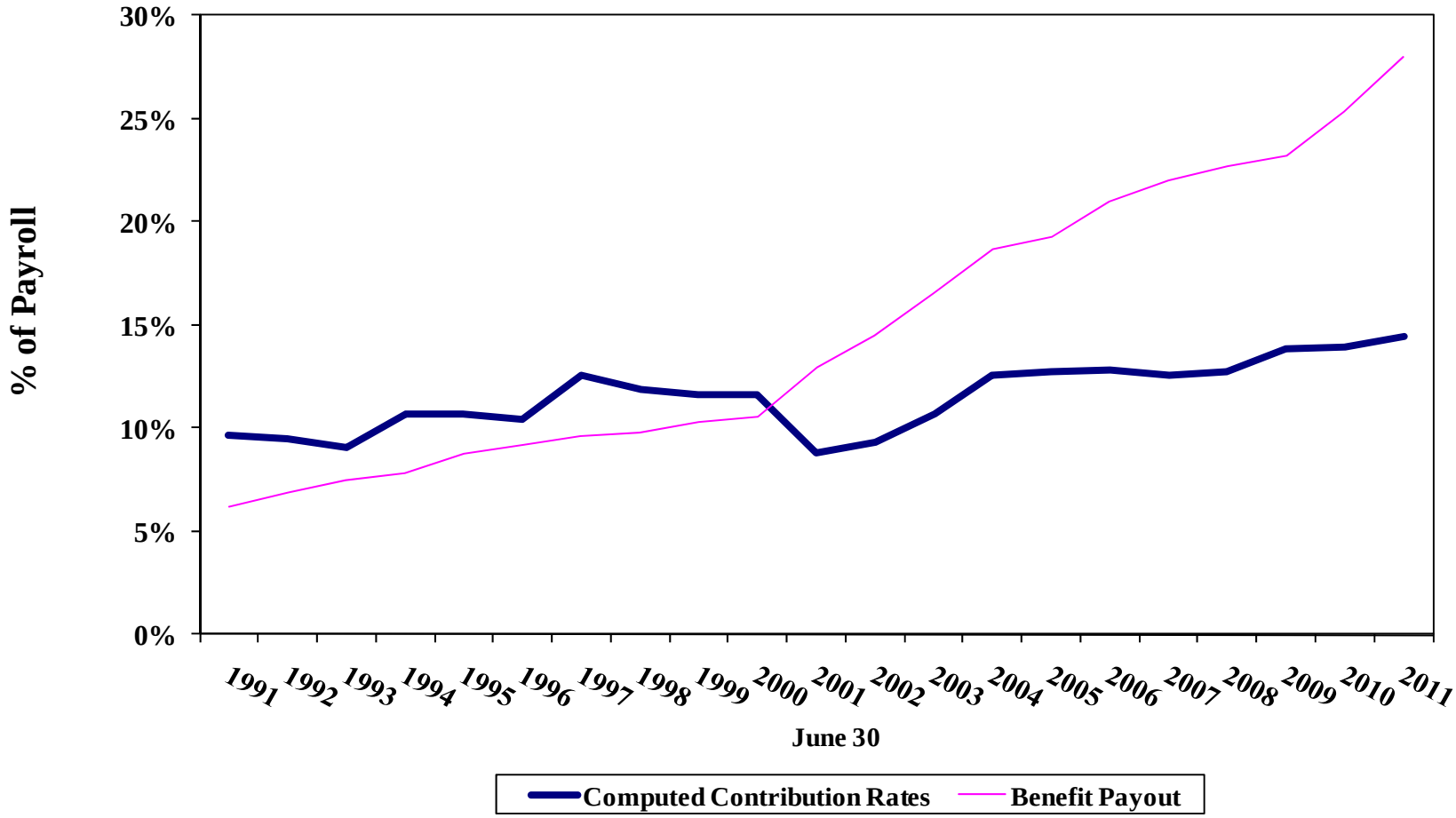
** This corresponds to an amortization factor of 16.65656 applied to the unfunded actuarial accrued liability at the beginning of the applicable fiscal year assuming payroll growth of 4% per year.*

 # Illustrative only. Estimated employer contribution amounts (shown in $millions) are based on the Total Computed Employer Contribution Rates shown and valuation payroll projected two years to the applicable fiscal year using the valuation assumptions of 0% the first year followed by 4% in the second year. The comparable estimated employer contribution amount from last year's valuation is $282.6 million.

Computed Employer Contribution Rates



Contribution Rates vs. Benefit Payout



Recognized vs. Market Returns

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

Actuarial Present Values June 30, 2011

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	$4,455,805,742	$ 675,513,589	$ 3,780,292,153
Disability benefits likely to be paid to present active members who become totally and permanently disabled	132,526,064	60,852,661	71,673,403
Survivor benefits likely to be paid to widows and children of present active members who die before retiring	107,793,741	27,659,645	80,134,096
Separation benefits likely to be paid to present active members	456,046,640	214,907,622	241,139,018
Refunds likely to be paid to present active members	3,040,933	2,973,807	67,126
Active Member Totals	$5,155,213,120	$981,907,324	$ 4,173,305,796
Members on Leave of Absence & LTD			
Service retirement benefits based on service rendered before the valuation date			115,863,820
Terminated Vested Members			
Service retirement benefits based on service rendered before the valuation date			476,579,810
Retired Lives			5,357,322,470
BackDROP Installment Payments Incurred, but not yet paid			472,147
TOTAL ACTUARIAL ACCRUED LIABILITY			$10,123,544,043
ACTUARIAL VALUE OF ASSETS			8,022,481,408
UNFUNDED ACTUARIAL ACCRUED LIABILITY			$ 2,101,062,635

Actuarial Valuation as of June 30, 2011
Comments

Computed Contribution Rate. The employer contribution rate for the fiscal year beginning July 1, 2012 was computed to be 14.45% of payroll, based upon an amortization period for the unfunded actuarial accrued liabilities (UAAL) of 30 years. This represents an increase of 0.48% of payroll compared to the rate computed for the fiscal year beginning July 1, 2011. The contribution rate increased by 0.94% of payroll due to smaller payroll than expected and experience losses including the large recognized loss on valuation assets. The rate decreased by 0.34% of payroll due to the assumption change of a one year wage inflation of 0% to reflect the State's pay freeze and by 0.12% of payroll due to the change in normal cost as the proportion of active members in the 2011 plan increases. The computed employer contribution rate is dependent upon timely receipt of both member and employer contributions.

Plan Changes. The Missouri Development Finance Board will enter the plan effective September 1, 2011. This change was not reflected due to immateriality.

Experience and Development of Actuarial Value of Assets. Experience was unfavorable in the aggregate this year. Areas of larger differences were recognized asset losses, more retiree reserve transfers and BackDROP payments than expected, retiree mortality (by age and gender) and low turnover offset by lower than expected pay increases and COLAs. The funded ratio as of June 30, 2011 is 79.2% (actuarial value of assets as a percentage of actuarial accrued liability), down from 80.4% as of June 30, 2010. (On a market value basis, the funded ratio is 76.7%).

Additional information concerning 2011 experience is presented in the gain/loss section of this report beginning on page 12.

Asset Valuation Method. Market experience during the year ended June 30, 2011 exceeded expectations, however past losses are still being smoothed into the recognized valuation assets. 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, 2011 valuation, the corridor limit was changed from 25% to 20% for the June 30, 2011 valuation and thereafter. In the absence of offsetting gains, the employer contribution rate is expected to continue increasing over the next three years to a level approaching 16% of payroll.

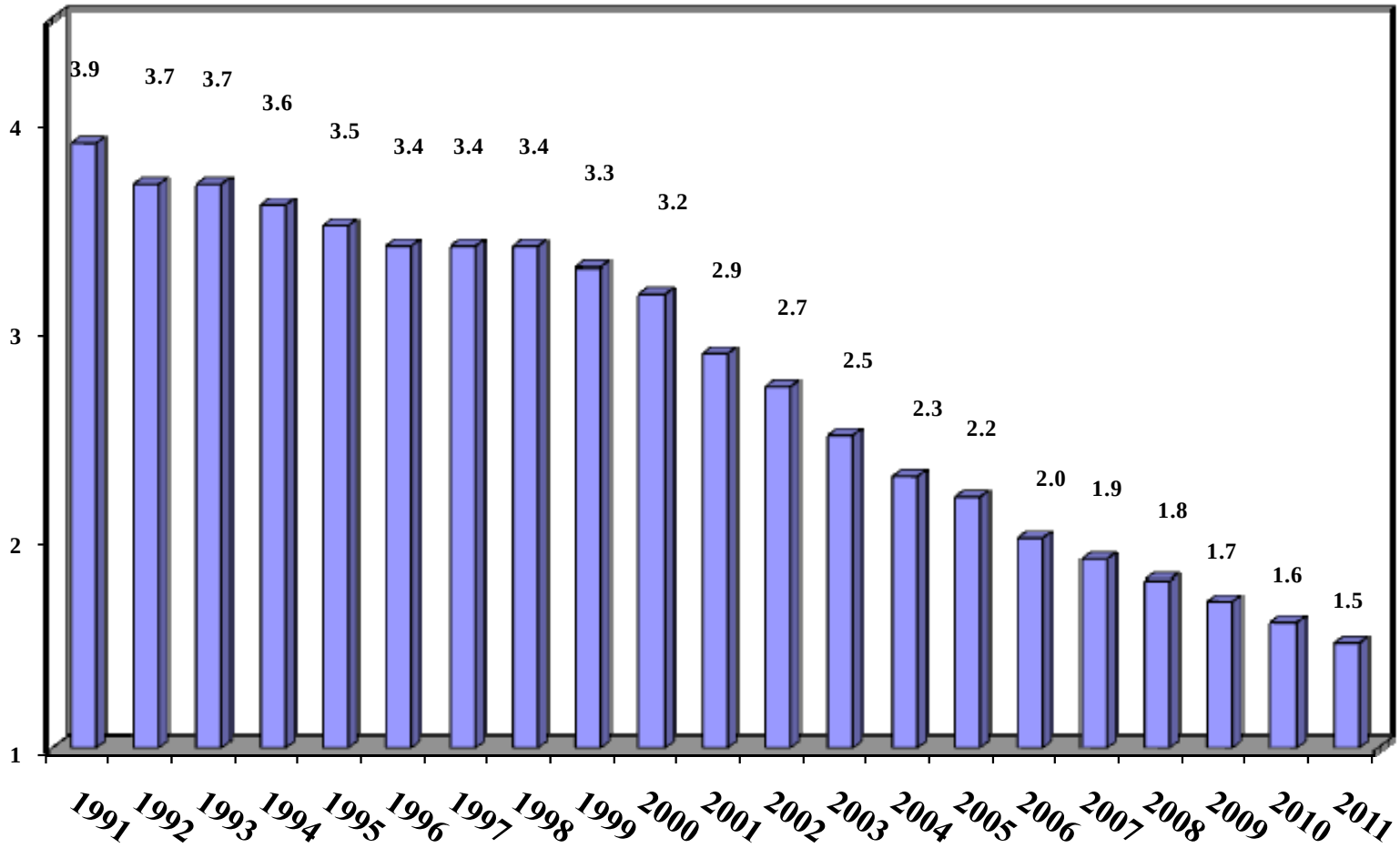
Conclusion. **Based on the results of the June 30, 2011 regular annual actuarial valuation, it is our opinion that the Missouri State Employees' Retirement System continues to be funded in accordance with actuarial principles of level percent-of-payroll financing.**

Comparative Schedule

Valuation Date	Active Members				Retired Lives Number		Annual Benefits		Accrued	Valuation	
		Payroll	Average Salary			Active/					
June 30	Number	$ Millions	$	% Incr.	Retired	Retired	$ Million	% of Payroll	Liability	Assets	UAAL
									----------million----------		
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	8,500	7,377	1,123
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 (1) (3)	55,057	2,002	36,370	3.5	31,637	1.7	465.4	23.2	9,495	7,876	1,619
2010 (1)	53,478	1,945	36,372	0.0	33,251	1.6	493.7	25.4	9,853	7,923	1,930
2011	**51,660**	**1,876**	**36,306**	**(0.2)**	**35,315**	**1.5**	**525.6**	**28.0**	**10,231**	**8,022**	**2,209**
2011 (1)	**51,660**	**1,876**	**36,306**	**(0.2)**	**35,315**	**1.5**	**525.6**	**28.0**	**10,124**	**8,022**	**2,102**

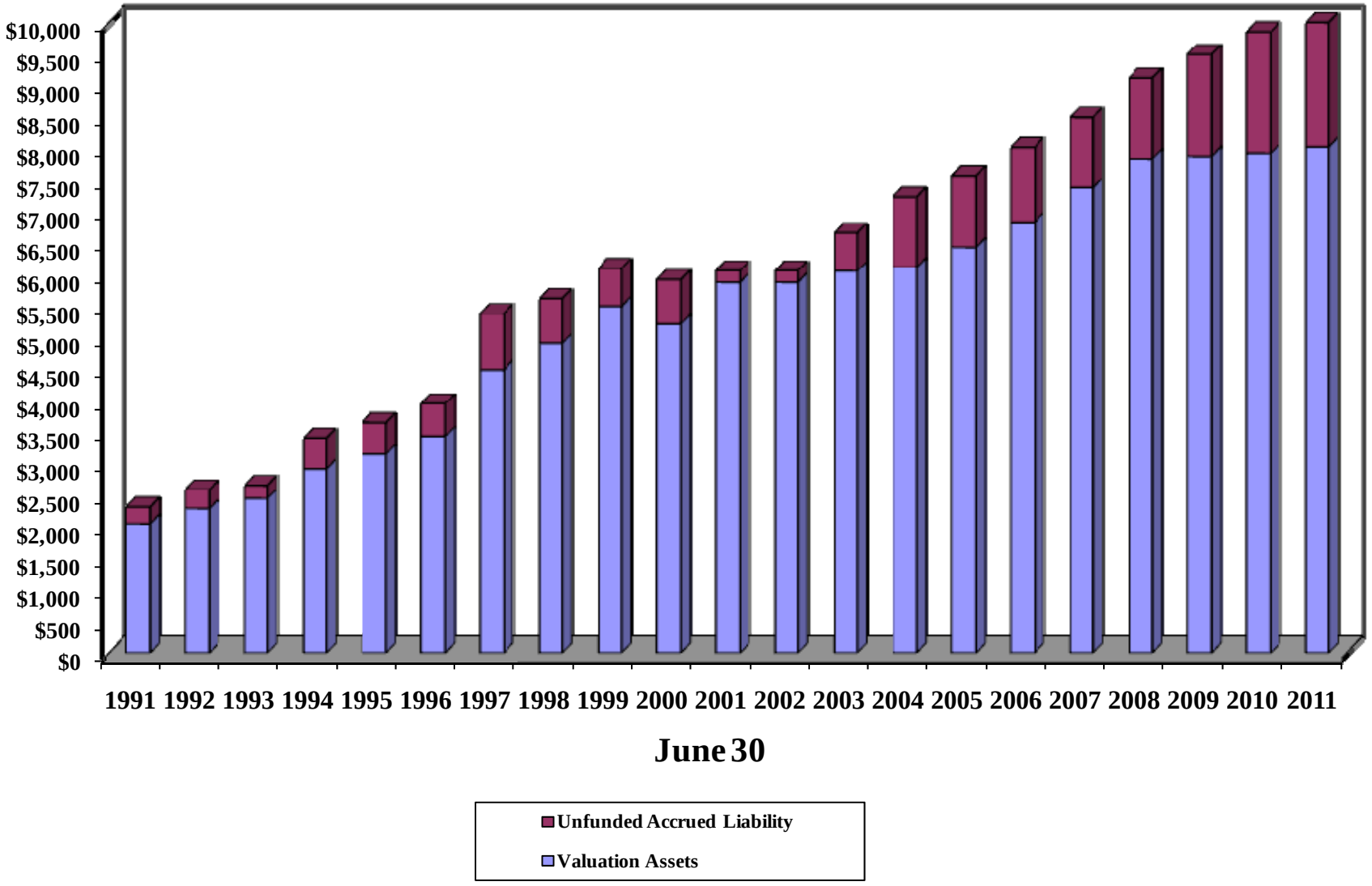
(1) After changes in assumptions.
(2) After changes in benefit provisions.
(3) After changes in methods.
(4) Reflects the addition of the assets, liabilities, and members of the Administrative Law Judges Retirement System.

Number of Active Members
Per Benefit Recipient

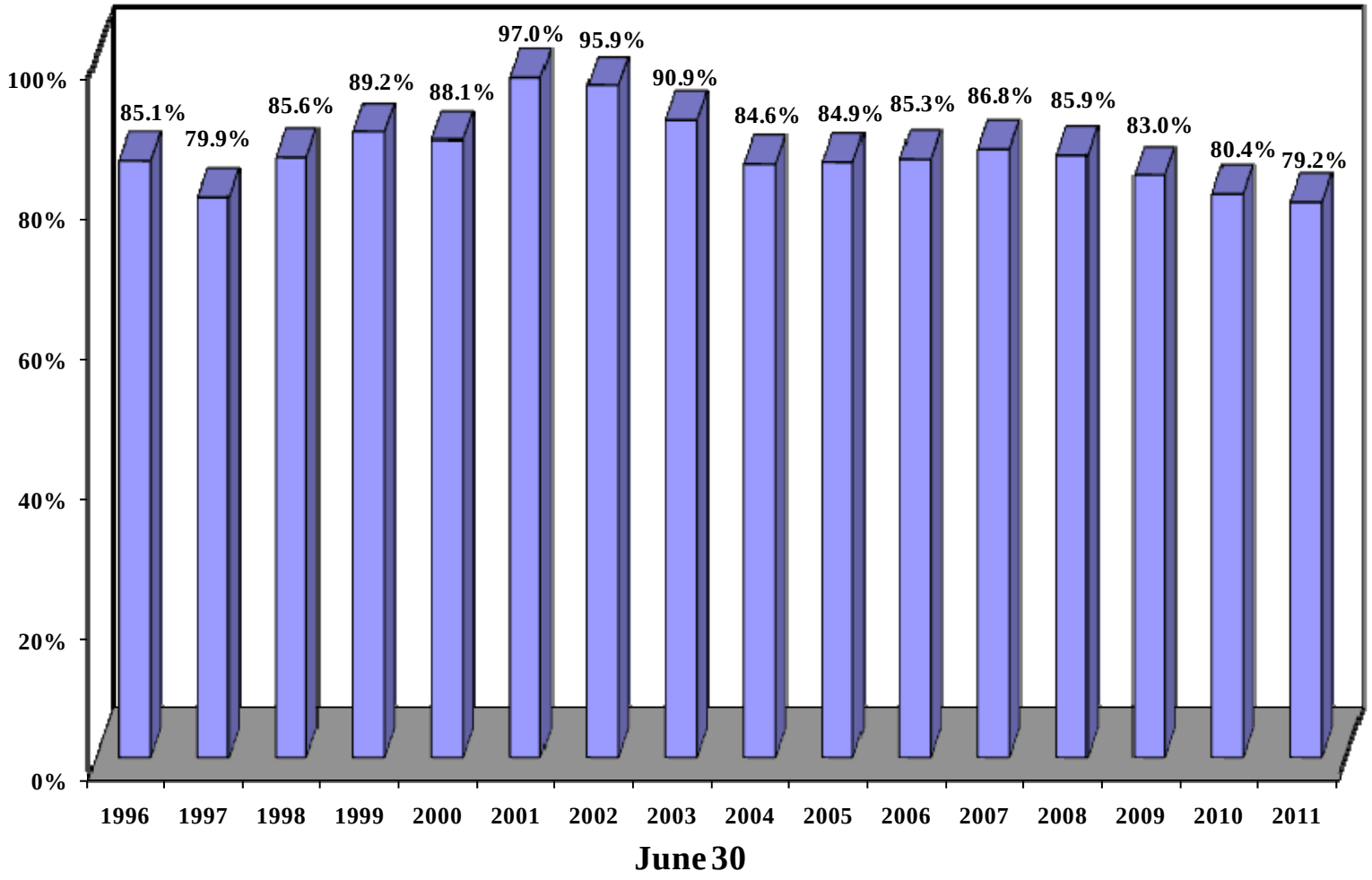


June 30

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.***

2010 and 2011 Data. For the 2010 and 2011 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, 2010 and June 30, 2011.

The expected and actual numbers of retirements, deaths, and terminations found on pages 20 through 25 reflect experience over the 12 month period from May 31, 2010 through May 31, 2011.

Results from 2011 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		Market Interest Credited to MOSERS Funds	Real Rate of Return	
	CPI	Increase in Average Salary@		Relative to CPI	Relative to Salaries
July 1, 2000 - June 30, 2001	3.2 %	5.1 %	(2.0) %*	(5.2) %	(7.1) %
July 1, 2001 - June 30, 2002	1.1	(2.1)	(6.4) *	(7.5)	(4.3)
July 1, 2002 - June 30, 2003	2.1	0.6	0.0 *	(2.1)	(0.6)
July 1, 2003 - June 30, 2004	3.3	4.2	17.2 *	13.9	13.0
July 1, 2004 - June 30, 2005	2.5	5.2	12.6 *	10.1	7.4
July 1, 2005 - June 30, 2006	4.3	2.1	11.5 *	7.2	9.4
July 1, 2006 - June 30, 2007	2.7	5.7	18.6 *	15.9	12.9
July 1, 2007 - June 30, 2008	5.0	5.3	1.4 *	(3.6)	(3.9)
July 1, 2008 - June 30, 2009	(1.4)	5.1	(19.3) *	(17.9)	(24.5)
July 1, 2009 - June 30, 2010	1.1	0.7	14.3 *	13.2	13.6
July 1, 2010 - June 30, 2011	3.5	1.0	21.3 *	17.8	20.4

** MOSERS' approximate rate of return based on market value.*
@ For members active both at beginning and end of year.

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.

	UAAL/Active Member Payroll
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
June 30, 2010	.99
June 30, 2011	1.12

Derivation of Experience Gain (Loss)

Year Ended June 30, 2011

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	$1,929.8
(2) Normal cost from last valuation	148.5
(3) Actual employer contributions	266.4
(4) Interest accrual: (1) x .085 + [(2) - (3)] x (.085 / 2)	159.0
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	1,970.9
(6) Change from any changes in benefits, assumptions, or methods	(107.4)
(7) Expected UAAL after changes: (5) + (6)	1,863.5
(8) Actual UAAL at end of year	2,101.1
(9) Gain (loss): (7) - (8)	(237.6)
- Gains (losses) in economic risk areas	(96.5)
- Gains (losses) from decrement experience	(141.1)
(10) Gain (loss) as percent of actuarial accrued liabilities at start of year ($9,853)	(2.4) %

** Unfunded actuarial accrued liabilities.*

Valuation Date June 30	Actuarial Gain (Loss) as a % of Beginning Accrued Liabilities
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)
2010	(4.0)
2011	**(2.4)**

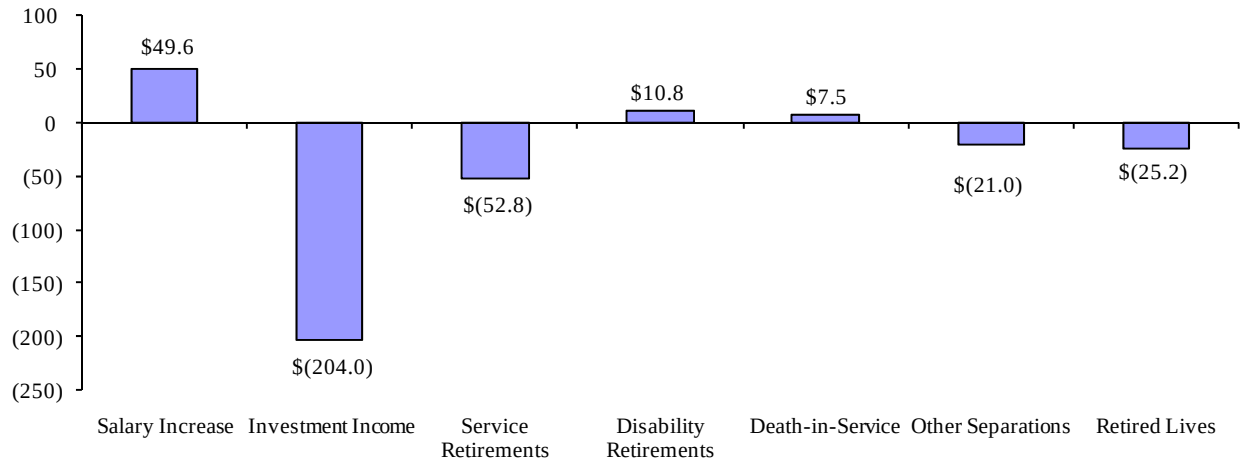
Gains & (Losses) in Actuarial Accrued Liabilities
During Plan Year 2010 - 2011

Type of Activity	-- Gain (Loss) for Year - - $ in Millions	% of Accr. Liabilities*
Decrement Experience:		
Service Retirements. If members retire at older ages than assumed, there is a gain. If at younger ages, a loss.	$ (52.8)	(0.5) %
Disability Retirements. The occurrence of a gain or loss depends upon the age at disability and the incidence of disability.	10.8	0.1
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.	7.5	0.1
Other Separations. If more actuarial liabilities are released by other separations than assumed, there is a gain. If smaller releases, a loss.	(21.0)	(0.2)
Retired Lives. If more deaths than assumed, there is a gain. If fewer deaths, a loss.	(25.2)	(0.3)
Economic Experience:		
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.	49.6	0.5
Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	(204.0)	(2.1)
COLAs.	57.9	0.6
Other:		
Service credit reinstatements, service transfers, service purchases, rehires, net of contributions.	(7.2)	(0.1)
Larger than expected average compensation for new retirees.	(5.6)	(0.1)
Change in group size, data adjustments, retroactive benefit payments, option elections, and miscellaneous unidentified changes in the UAAL.	(47.6)	(0.4)
Experience Gain or (Loss) During Year	**$ (237.6)**	**(2.4) %**

** Beginning of year accrued liabilities totaled $9,853 million.*

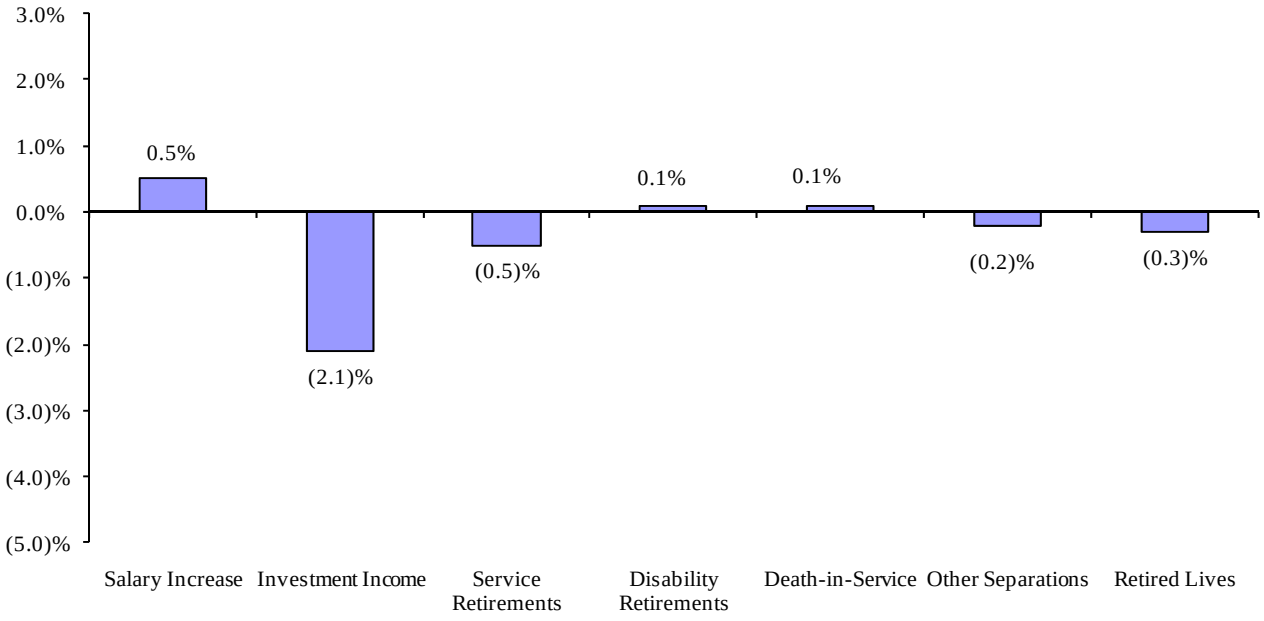
Gain (Loss) Analysis
2010-2011 Experience

Amount in $ Millions



Type of Risk Area

% of Actuarial Accrued Liabilities



Type of Risk Area

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
2010	23.2	(313.6)	(19.0)	8.4	8.0	(30.6)	4.7	(56.9)	(375.8)	(3.9)	9,495
2011	**49.6**	**(204.0)**	**(52.8)**	**10.8**	**7.5**	**(21.0)**	**32.7**	**(60.4)**	**(237.6)**	**(2.4)**	**9,853**

** 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 2010 - 2011

	Market Value	Actuarial Value
	- - - - - - $ in millions - - - - - -	
1. Assets at June 30, 2010	$6,727.6	$ 7,923.4
2. Contributions and Transfers In	267.0	267.0
3. Investment Income	1,396.3	454.3
4. Benefit Payments	615.2	615.2
5. Administrative Expenses	7.0	7.0
6. Assets at June 30, 2011 = (1) + (2) + (3) – (4) – (5)	7,768.7	8,022.5
7. Actual Investment Increment/Mean Assets*	21.32 %	5.87 %
8. Expected Investment Increment		8.50 %
9. Investment Gain (Loss):		
a. As a % of mean assets: (7) – (8)		(2.63) %
b. $ in millions		$ (204.0)

* *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 2010 - 2011

Age Groups		Salary Increases	
		Actual*	Expected
Below 20			
20- 24	773	2.8%	7.2%
25- 29	3,380	2.3%	6.6%
30- 34	4,498	1.7%	5.9%
35- 39	5,104	1.2%	5.4%
40- 44	6,065	1.0%	5.1%
45- 49	7,299	1.0%	4.8%
50- 54	7,818	0.7%	4.6%
55- 59	6,718	0.5%	4.5%
60-64	4,194	0.6%	4.4%
65 & Over	1,318	0.9%	4.3%
Total	**47,167**		
Average		**1.0%**	**5.0%**

* *Excludes new entrants and terminations.*

Assumed Payroll Growth	Actual Payroll Growth		
	2011	2010	2009
4.0%	(3.6)%	(2.9)%	4.5%

Active Members Who Retired With
SERVICE OR REDUCED SERVICE RETIREMENT BENEFITS
During Plan Year 2010 - 2011

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 50	8	0.8	9	6.2	17	7.0
50	6	5.0	19	22.6	25	27.5
51	7	5.7	20	25.3	27	31.0
52	17	14.4	40	33.9	57	48.3
53	12	17.9	36	38.3	48	56.2
54	25	22.1	38	38.7	63	60.8
55	41	34.0	61	56.0	102	90.1
56	50	40.7	50	50.3	100	91.0
57	45	44.2	70	58.8	115	102.9
58	65	51.2	80	64.2	145	115.4
59	53	52.3	75	68.0	128	120.2
60	47	59.6	63	77.2	110	136.8
61	58	54.8	65	71.5	123	126.3
62	100	88.4	123	133.1	223	221.5
63	68	72.1	85	91.7	153	163.8
64	59	60.8	60	76.0	119	136.8
65	52	60.2	75	72.1	127	132.3
66	48	40.0	45	38.2	93	78.2
67	31	23.3	28	24.6	59	47.9
68	23	18.8	23	17.6	46	36.4
69	20	12.8	16	13.0	36	25.8
70 & Over	47	62.9	61	56.8	108	119.7
Totals	**882**	**841.9**	**1,142**	**1,133.9**	**2,024**	**1,975.9**

	Men	Women	Total
Average age at retirement	61.7 years	60.9 years	61.3 years
Average service at retirement	22.1 years	22.4 years	22.3 years

Active Members Who Retired with DISABILITY BENEFITS
During Plan Year 2010 - 2011

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 25		0.0		0.0		0.0
25- 29	1	0.4	2	1.4	3	1.8
30- 34	5	1.8	9	5.1	14	6.9
35- 39	6	3.3	17	7.3	23	10.6
40- 44	9	5.5	14	10.8	23	16.3
45- 49	11	9.1	25	18.1	36	27.2
50- 54	16	16.1	39	25.0	55	41.0
55- 59	15	21.5	40	29.5	55	51.0
60 & Over	9	7.4	7	11.5	16	19.0
Totals	**72**	**65.1**	**153**	**108.7**	**225**	**173.8**

	Men	Women	Total
Average age at disability	49.9 years	49.4 years	49.5 years
Average service at disability	8.4 years	9.9 years	9.4 years

Active Members Who Died
During Plan Year 2010 - 2011

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 30	1	0	1	0	2	0
30- 34	1	0		1	1	1
35- 39	1	1	1	1	2	2
40- 44	3	2	4	2	7	3
45- 49	2	3	3	3	5	6
50- 54	9	7	9	5	18	12
55- 59	11	12	8	8	19	20
60- 64	4	12	5	9	9	21
65 & Over	11	10	8	5	19	15
Totals	**43**	**47.8**	**39**	**33.9**	**82**	**81.7**

	Men	Women	Total
Average age at death	56.6 years	55.6 years	56.1 years
Average service at death	13.8 years	12.1 years	13.0 years

Of the 82 active members who died in service during plan year 2010-2011, 29 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 2010 - 2011

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 30	22	43.2	86	68.5	108	111.7
30- 34	70	99.6	144	172.2	214	271.8
35- 39	80	104.0	163	172.5	243	276.5
40- 44	70	99.5	157	171.7	227	271.2
45- 49	72	93.2	147	172.4	219	265.6
50- 54	71	82.7	142	143.1	213	225.7
55- 59	30	53.6	67	92.2	97	145.7
60 & Over	24	14.6	22	25.1	46	39.7
Totals	**439**	**590.3**	**928**	**1,017.6**	**1,367**	**1,607.9**

	Men	Women	Total
Average age at termination	44.0 years	42.5 years	43.0 years
Average service at termination	9.8 years	9.4 years	9.5 years

Active Members Who Left Active Status with NO BENEFIT PAYABLE (Other than Deaths) During Plan Year 2010 - 2011

Ages	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 20						
20- 24	104	69.5	187	124.6	291	194.1
25- 29	265	216.0	461	307.7	726	523.7
30- 34	169	139.7	306	218.7	475	358.4
35- 39	112	103.5	173	153.8	285	257.3
40- 44	78	86.9	149	135.8	227	222.7
45- 49	61	84.5	161	147.5	222	232.0
50- 54	69	77.1	98	122.7	167	199.8
55- 59	38	68.2	73	89.4	111	157.6
60- 64	37	53.4	42	47.7	79	101.1
65- 69	13	10.2	8	10.3	21	20.5
70 & Over	5	5.1	4	3.7	9	8.8
Totals	**951**	**914.1**	**1,662**	**1,361.9**	**2,613**	**2,276.0**

	Men	Women	Total
Average age at termination	36.7 years	36.1 years	36.3 years
Average service at termination	2.0 years	2.1 years	2.0 years

Service at Termination	Men		Women		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
0	290	263.4	448	380.0	738	643.4
1	282	274.2	430	390.3	712	664.5
2	177	200.1	394	329.7	571	529.8
3	140	155.2	259	247.1	399	402.3
4	62	21.2	131	14.8	193	36.0
5 & Over	-	-	-	-	-	-
Totals	**951**	**914.1**	**1,662**	**1,361.9**	**2,613**	**2,276.0**

Comparison of Actual to Expected Deaths
Among Retired Lives
(Service Retirement Only)
As of June 30, 2011

	Male Deaths			Female Deaths			Total Deaths		
Age	**Actual**	**Expected**	**Exposure**	**Actual**	**Expected**	**Exposure**	**Actual**	**Expected**	**Exposure**
50-54		1	213	4	1	500	4	2	713
55-59	15	10	1,474	19	13	2,519	34	23	3,993
60-64	41	33	2,922	43	33	4,183	84	66	7,105
65-69	45	44	2,542	39	44	3,661	84	88	6,203
70-74	54	51	1,710	58	52	2,653	112	103	4,363
75-79	50	61	1,253	76	62	1,879	126	123	3,132
80-84	62	57	743	79	76	1,414	141	133	2,157
85-89	38	39	333	83	64	771	121	103	1,104
90-94	24	16	98	56	41	331	80	57	429
95-99	4	3	14	12	13	71	16	16	85
100 & Up		1	2		1	5		2	7
Totals	**333**	**316**	**11,304**	**469**	**400**	**17,987**	**802**	**716**	**29,291**
Average Ages	**75.5**	**75.7**	**67.8**	**78.0**	**78.1**	**68.4**	**77.0**	**77.0**	**68.2**

DATA USED IN VALUATIONS

Missouri State Employees' Retirement System
Summary of Benefit Provisions Evaluated
June 30, 2011 Actuarial Valuation

MSEP (Missouri State Employees' Plan)	MSEP 2000 (Missouri State Employees' Plan 2000)	MSEP 2011 (Missouri State Employees' Plan 2011)
PARTICIPATION Participants include: 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.	**PARTICIPATION** Participants include: (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 June 30, 2001, and their survivors.	**PARTICIPATION** Participants include: All new employees who first become members on or after January 1, 2011.
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). Non-recurring lump sum payments are excluded. Unused sick leave may be converted to additional credited service (usable only for benefit computation, not eligibility).	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). Non-recurring lump sum payments are excluded. Unused sick leave may be converted to additional credited service (usable only for benefit computation, not eligibility).	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). Non-recurring lump sum payments are excluded. Unused sick leave may be converted to additional credited service (usable only for benefit computation, not eligibility).

MSEP (Missouri State Employees' Plan)	MSEP 2000 (Missouri State Employees' Plan 2000)	MSEP 2011 (Missouri State Employees' Plan 2011)
NORMAL RETIREMENT ELIGIBILITY (UNREDUCED BENEFITS)		
Members of the General Assembly: Age 55 with completion of at least 3 full biennial assemblies.	***Members of the General Assembly:*** The earliest of attaining: (1) Age 55 with completion of at least 3 full biennial assemblies. (2) Age 50 with completion of at least 3 full biennial assemblies and with age plus credited service equal to 80 or more.	***Members of the General Assembly:*** The earliest of attaining: (1) Age 62 with completion of at least 3 full biennial assemblies. (2) Age 55 with completion of at least 3 full biennial assemblies and with age plus credited service equal to 90 or more.
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.	***Statewide Elected Officials:*** The earliest 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.	***Statewide Elected Officials:*** The earliest of attaining: (1) Age 62 with at least 4 years of credited service as a statewide elected official. (2) Age 55 with age plus credited service equal to 90 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 5 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.	***General Employees:*** The earliest 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. (3) Age 50 if first became eligible prior to August 28, 2003.	***General Employees:*** The earliest of attaining: (1) Age 67 with at least 10 years of credited service. (2) Age 55 with age plus credited service equal to 90 or more.
Uniformed 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. (4) Age 50 if first became eligible prior to August 28, 2003.		

MSEP (Missouri State Employees' Plan)	MSEP 2000 (Missouri State Employees' Plan 2000)	MSEP 2011 (Missouri State Employees' Plan 2011)
BENEFIT AMOUNT		
Members of the General Assembly: $150 per month per biennial assembly served.	***Members of the General Assembly:*** 1/24 of pay times first 24 years of credited service as a member of the General Assembly.	***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) 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.	***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.	***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: 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.	***General Employees:*** 1.7% of Average Compensation times years of credited service. Temporary Benefit: If member retires between ages 48 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.	***General Employees:*** 1.7% of Average Compensation times years of credited service. Temporary Benefit: If member retires between ages 55 and 62 with age plus credited service equal to 90 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.
Uniformed Water Patrol: 2.13% of Average Compensation times years of credited service.		

MSEP (Missouri State Employees' Plan)

EARLY RETIREMENT FOR GENERAL EMPLOYEES

Eligibility:
Age 55 with at least 10 years of credited service.

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

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.

Death After Retirement

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.

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

MSEP 2000 (Missouri State Employees' Plan 2000)

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. Normal retirement is age 62.

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 for early retirement or 62 for normal retirement). Unused sick leave is not converted.

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

MSEP 2011 (Missouri State Employees' Plan 2011)

Eligibility:
Age 62 with at least 10 years of credited service.

Amount:
Normal retirement amount reduced by ½% for each month that retirement precedes eligibility for normal retirement. Normal retirement is age 67.

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 67 normal retirement). Unused sick leave is not converted.

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

MSEP (Missouri State Employees' Plan)	MSEP 2000 (Missouri State Employees' Plan 2000)	MSEP 2011 (Missouri State Employees' Plan 2011)
DEATH PRIOR TO RETIREMENT		
(1) The surviving spouse benefit is computed as if the member had been normal 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 on 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.	The surviving spouse benefit is computed as if the member had been normal 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 (3 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.	The surviving spouse benefit is computed as if the member had been normal 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 (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.
(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 on 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.		

MSEP (MISSOURI STATE EMPLOYEES' PLAN)	MSEP 2000 (Missouri State Employees' Plan 2000)	MSEP 2011 (Missouri State Employees' Plan 2011)
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 on their date of retirement. Effective July 1, 2000, a member who is not married at retirement but marries thereafter may designate a spouse as beneficiary within one year of marriage. Additionally, a member may designate a new spouse as beneficiary within 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).	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 within one year of marriage. Additionally, a member may designate a new spouse as beneficiary within 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).	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).
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.	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%.	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 (Missouri State Employees' Plan)

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.

MSEP 2000 (Missouri State Employees' Plan 2000)

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 5%.

CPI: For the basis of determining CPI, the average monthly reported CPI for the prior calendar year is divided by the average monthly reported CPI for the second prior calendar year to determine the current year increases, if any. If this amount is less than one, benefits are not reduced, nor is there any cumulative effect on future years determination of CPI.

Timing of Increase: Benefits are adjusted on the anniversary of the effective date of retirement for most members. Members retiring under the BackDROP provisions have an anniversary based on the retroactive starting date for the BackDROP.

MSEP 2011 (Missouri State Employees' Plan 2011)

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
5%.

CPI: For the basis of determining CPI, the average monthly reported CPI for the prior calendar year is divided by the average monthly reported CPI for the second prior calendar year to determine the current year increases, if any. If this amount is less than one, benefits are not reduced, nor is there any cumulative effect on future years determination of CPI.

Timing of Increase: Benefits are adjusted on the anniversary of the effective date of retirement for most members.

MSEP (Missouri State Employees' Plan)	MSEP 2000 (Missouri State Employees' Plan 2000)	MSEP 2011 (Missouri State Employees' Plan 2011)
POP-UP PROVISION		
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.	Same.	Same.
PORTABILITY		
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.	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.	May purchase qualifying public sector service at full actuarial cost.
MEMBER CONTRIBUTIONS. None.	Same as MSEP.	4.0% of salary, with 4.0% interest credited to member contributions.
BACKDROP. See following page.	Same as MSEP.	Not eligible for the BackDROP.

MSEP (Missouri State Employees' Plan)	MSEP 2000 (Missouri State Employees' Plan 2000)	MSEP 2011 (Missouri State Employees' Plan 2011)
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 one 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 as MSEP.	Not eligible for the BackDROP.

Retirants & Beneficiaries as of June 30, 2011
Tabulated by Plan Year of Retirement

Calendar Year Ended 12/31	No.	Total Annual Benefits	Average Monthly Benefit
2011 *	1,219	$ 17,266,993	$1,180
2010	2,996	43,831,692	1,219
2009	2,418	34,200,480	1,179
2008	2,386	34,196,748	1,194
2007	2,260	31,683,876	1,168
2006	2,145	30,994,620	1,204
2005	1,943	28,247,652	1,212
2004	1,433	20,240,316	1,177
2003	2,669	43,561,116	1,360
2002	1,945	30,475,272	1,306
2001	1,638	26,690,412	1,358
2000	2,167	36,025,248	1,385
1999	1,176	18,713,148	1,326
1998	1,126	18,846,888	1,395
1997	969	16,183,608	1,392
1996	842	12,994,092	1,286
1995	912	14,785,608	1,351
1994	651	9,107,988	1,166
1993	690	10,610,472	1,281
1992	586	8,474,304	1,205
1991	558	8,661,984	1,294
1990	409	5,869,200	1,196
1989	369	5,046,996	1,140
1988	382	5,182,020	1,130
1987	285	3,126,564	914
1986	252	2,380,524	787
1985	183	1,845,600	840
1984	136	1,373,964	842
1983	142	1,436,940	843
1982	114	976,320	714
1981	94	860,712	763
1980	49	477,972	813
1979	35	258,900	616
1978	38	256,968	564
1977	34	257,928	632
1976	28	194,400	579
1975	14	100,020	595
1974	10	51,804	432
1973	10	65,604	547
1972	0	0	0
1971	2	12,432	518
1966	0	0	0
1964 & PRIOR	0	0	0
Totals	**35,315**	**$525,567,385**	**$1,240**

** Five months ended May 31, 2011.*

Benefits Payable June 30, 2011
Tabulated by Option and Type of Benefit

MSEP Benefits

Type of Benefit	No.	Annual Benefits
Service Retirement		
Life Annuity	4,991	$ 60,008,557
50% Joint and Survivor	5,277	83,756,204
75% Joint and Survivor	1	29,760
100% Joint and Survivor	2,594	48,588,274
5 Year Certain and Life	124	1,326,292
10 Year Certain and Life	124	1,153,804
Survivor Beneficiary	2,139	22,968,833
Total	15,250	217,831,724
Disability Retirement	8	29,232
Death-in-Service	1,355	13,447,485
Total	**16,613**	**$ 231,308,441**

MSEP 2000 Benefits

Type of Benefit	No.	Annual Benefits
Service Retirement		
Life Annuity	11,629	$ 171,485,655
50% Joint and Survivor	2,820	58,308,815
100% Joint and Survivor	2,884	51,170,009
5 Year Certain and Life	35	525,741
10 Year Certain and Life	478	5,384,622
15 Year Certain and Life	348	3,059,421
Survivor Beneficiary	438	4,119,544
Total	18,632	294,053,807
Disability Retirement	0	0
Death-in-Service	70	205,137
Total	**18,702**	**$ 294,258,944**

Total Benefits Payable June 30, 2011

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					59	$ 209,350	59	$ 209,350
20-24					21	147,578	21	147,578
25-29					7	22,968	7	22,968
30-34					23	158,784	23	158,784
35-39					36	202,486	36	202,486
40-44					68	445,188	68	445,188
45-49	4	$ 121,152			108	778,720	112	899,872
50-54	589	16,971,355	1	$ 2,040	180	1,581,345	770	18,554,740
55-59	3,775	83,140,273	4	13,836	312	3,002,199	4,091	86,156,308
60-64	7,755	116,248,387	3	13,356	487	5,079,517	8,245	121,341,260
65-69	6,801	87,327,180			468	5,439,191	7,269	92,766,371
70-74	4,862	72,870,951			543	6,713,747	5,405	79,584,698
75-79	3,339	51,408,984			620	6,836,567	3,959	58,245,551
80-84	2,270	33,247,602			549	5,326,027	2,819	38,573,629
85-89	1,279	16,618,990			358	3,345,685	1,637	19,964,675
90-94	502	5,619,273			127	1,219,878	629	6,839,151
95	40	415,179			14	61,370	54	476,549
96	31	282,139			12	100,848	43	382,987
97	25	251,349			5	18,804	30	270,153
98	11	104,031			2	42,540	13	146,571
99	10	67,836			2	5,635	12	73,471
100	4	32,357					4	32,357
101	3	32,892					3	32,892
102	4	28,212					4	28,212
103					1	2,572	1	2,572
104	1	9,012					1	9,012
Totals	**31,305**	**$ 484,797,154**	**8**	**$ 29,232**	**4,002**	**$ 40,740,999**	**35,315**	**$ 525,567,385**

Average age at Retirement: 60.3 years.

Average age now: 69.2 years.

Summary of Member Data Included in Valuation

June 30, 2011

Active Members

Valuation Group	Number	Payroll	Group Averages		
			Salary	Age(yrs.)	Service(yrs.)
Regular State Employees	48,243	$ 1,690,733,459	$ 35,046	45.6	11.1
Elected Officials	5	552,232	110,446	49.4	6.9
Legislative Clerks	31	988,835	31,898	58.6	20.2
Legislators	195	7,011,439	35,956	50.2	3.6
Uniformed Water Patrol	89	5,443,716	61,165	41.3	16.6
Conservation Department	1,370	56,384,847	41,157	44.1	13.7
School-Term Salaried Employees	1,694	111,214,294	65,652	55.4	19.6
Administrative Law Judges	33	3,240,994	98,212	55.7	17.2
Total MOSERS*	**51,660**	**$ 1,875,569,816**	**$ 36,306**	**45.9**	**11.4**
Judges*	399	$ 45,888,020	$ 115,008	55.8	11.8

Retired Lives

Type of Benefit Payment	No.	Annual Benefit	Group Averages	
			Benefit	Age(yrs.)
Retirement	31,305	$ 484,797,154	$ 15,486	69.1
Disability	8	29,232	3,654	59.8
Survivor of Active Member	1,425	13,652,622	9,581	61.3
Survivor of Retired Member	2,577	27,088,377	10,512	74.9
Total MOSERS*	**35,315**	**$ 525,567,385**	**$ 14,882**	**69.2**
Judges*	486	$ 26,479,053	$ 54,484	75.1

This valuation also includes 17,712 terminated vested members, 262 members on leave and 1,051 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, 2011

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	27							27	$ 518,148
20-24	1,183	16						1,199	29,081,523
25-29	3,401	677	12					4,090	121,163,365
30-34	2,537	1,982	591	7				5,117	165,823,117
35-39	1,758	1,540	1,703	400	11			5,412	187,071,918
40-44	1,571	1,362	1,758	1,346	408	33		6,478	233,393,599
45-49	1,582	1,401	1,545	1,204	1,163	607	55	7,557	283,392,619
50-54	1,412	1,281	1,561	1,162	1,201	1,019	589	8,225	315,733,601
55-59	1,099	1,169	1,480	1,076	1,139	678	561	7,202	283,058,599
60	181	214	239	184	181	107	91	1,197	46,513,860
61	158	197	222	176	172	95	86	1,106	42,957,410
62	146	178	205	183	138	75	65	990	39,257,340
63	109	145	163	102	100	44	46	709	27,847,488
64	89	139	148	112	77	38	53	656	27,752,149
65	73	96	132	73	67	47	51	539	22,840,870
66	28	55	65	57	30	20	24	279	12,261,873
67	19	39	52	39	29	21	25	224	9,346,150
68	16	29	50	28	17	15	23	178	7,505,950
69	18	28	28	13	12	3	20	122	5,124,748
70 & Over	44	48	92	49	47	20	53	353	14,925,489
Totals	**15,451**	**10,596**	**10,046**	**6,211**	**4,792**	**2,822**	**1,742**	**51,660**	**$ 1,875,569,816**

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

Age: 45.9 years.

Service: 11.4 years.

Annual Pay: $36,306

 # Includes 33 ALJ members.
** A breakdown by gender is included on pages 67 and 68.*

Development of Actuarial Value of Assets

Valuation Date:	2010	2011	2012	2013	2014	2015
A. Actuarial Value Beginning of Year	$7,876,079,342	$7,923,377,393				
B. Market Value End of Year	6,727,623,355	7,768,709,373				
C. Market Value Beginning of Year	6,163,086,700	6,727,623,355				
D. Cash Flow						
D1. Contributions	254,813,150	266,974,608				
D2. Benefit Payments	(543,750,365)	(615,170,782)				
D3. Administrative Expenses	(7,064,544)	(7,054,581)				
D4. Net	(296,001,759)	(355,250,755)				
E. Investment Income						
E1. Market Total: B - C - D4	860,538,414	1,396,336,773				
E2. Assumed Rate	8.5%	8.5%				
E3. Amount for Immediate Recognition: E2*(A+D4*.5)	656,886,669	658,388,921				
E4. Amount for Phased-In Recognition: E1 - E3	203,651,745	737,947,852				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.2 * E4	40,730,349	147,589,570				
F2. First Prior Year	(432,568,879)	40,730,349	$ 147,589,570			
F3. Second Prior Year	(101,183,608)	(432,568,879)	40,730,349	$ 147,589,570		
F4. Third Prior Year	141,398,417	(101,183,608)	(432,568,879)	40,730,349	$ 147,589,570	
F5. Fourth Prior Year	38,036,862	141,398,417	(101,183,607)	(432,568,878)	40,730,349	$ 147,589,572
F6. Total Recognized Investment Gain: Sum(F1:F5)	(313,586,859)	(204,034,151)	(345,432,567)	(244,248,959)	188,319,919	147,589,572
G. Adjustment	-	-				
H. Actuarial Value End of Year:						
H1. Preliminary Value: A + D4 + E3 + F6 + G	$7,923,377,393	$8,022,481,408				
H2. Corridor Percent	25%	20%				
H3. Upper Corridor Limit: (100% + H2) x B	8,409,529,194	9,322,451,248				
H4. Lower Corridor Limit: (100% - H2) x B	5,045,717,516	6,214,967,498				
H5. Corridor Adjustment	0	0				
H6. Funding Value End of Year: H1 + H5	7,923,377,393	8,022,481,408				
I. Difference Between Market & Actuarial Values: B-H5	(1,195,754,038)	(253,772,035)	91,660,532	335,909,491	147,589,572	-
J. Recognized Rate of Return	4.44%	5.87%				
K. Market Value Rate of Return	14.31%	21.32%				
L. Actuarial Value as a % of Market Value: H5 / B	118%	103%				

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, 2011

	Market Value	Actuarial Value
1. Assets at June 30, 2010	$6,727,623,355	$7,923,377,393
2. Contributions and Transfers In	266,974,608	266,974,608
3. Investment Increment*	1,396,336,773	454,354,770
4. Benefit Payments and Transfers Out	615,170,782	615,170,782
5. Administrative and Misc. Expenses	7,054,581	7,054,581
6. Assets at June 30, 2011 (1) + (2) + (3) - (4) - (5)	$7,768,709,373	$8,022,481,408
7. Investment Increment/Mean Assets**	21.32%	5.87%

* *Net of investment expenses.*

** *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

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.

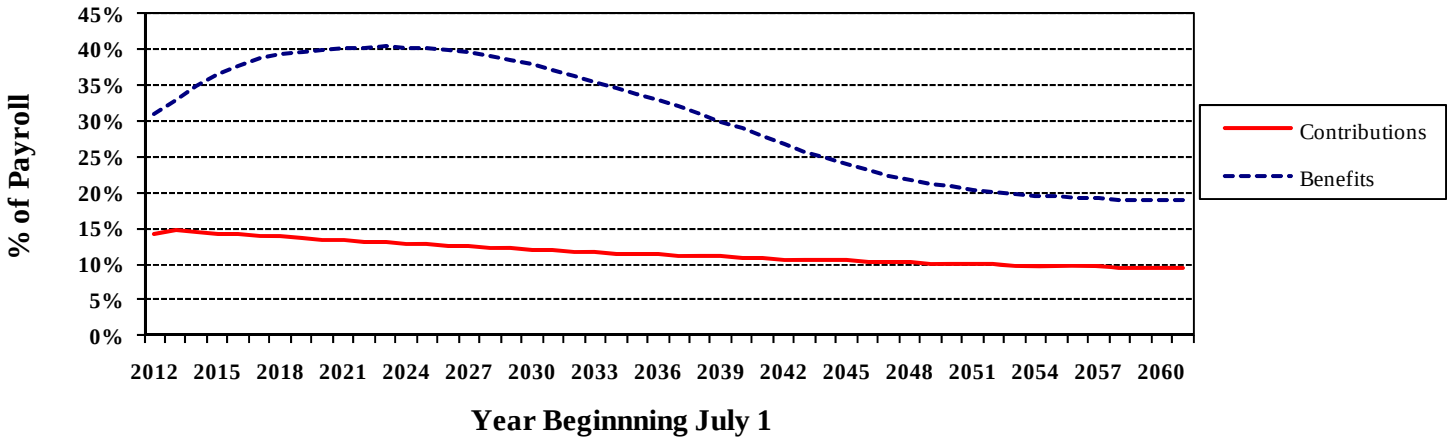
Whereas valuations provide a snapshot of the retirement system as of a given date, projections provide a moving picture. Projected active and retired groups are developed from year to year by the application of assumptions regarding pre-retirement withdrawal from service, retirements, deaths, disabilities, 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.

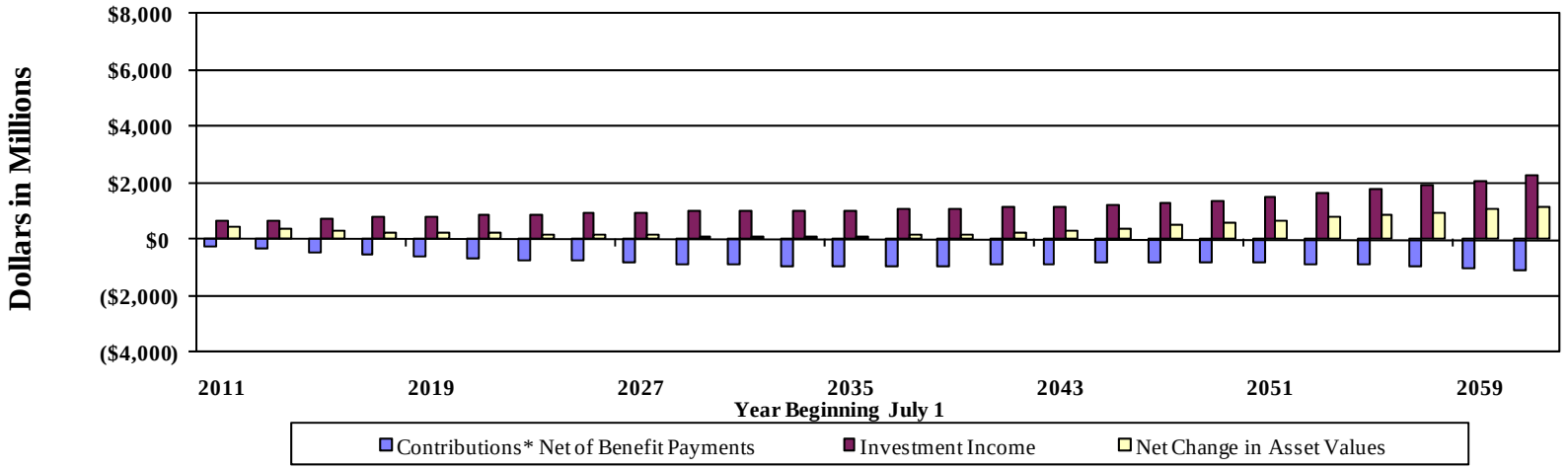
Projection results are useful in demonstrating changing relationships among key elements affecting system financial activity. For example: how benefits payable and system assets will grow in future decades. Projections are not predictions of specific future events and do not provide numeric precision 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. Includes member contributions.***

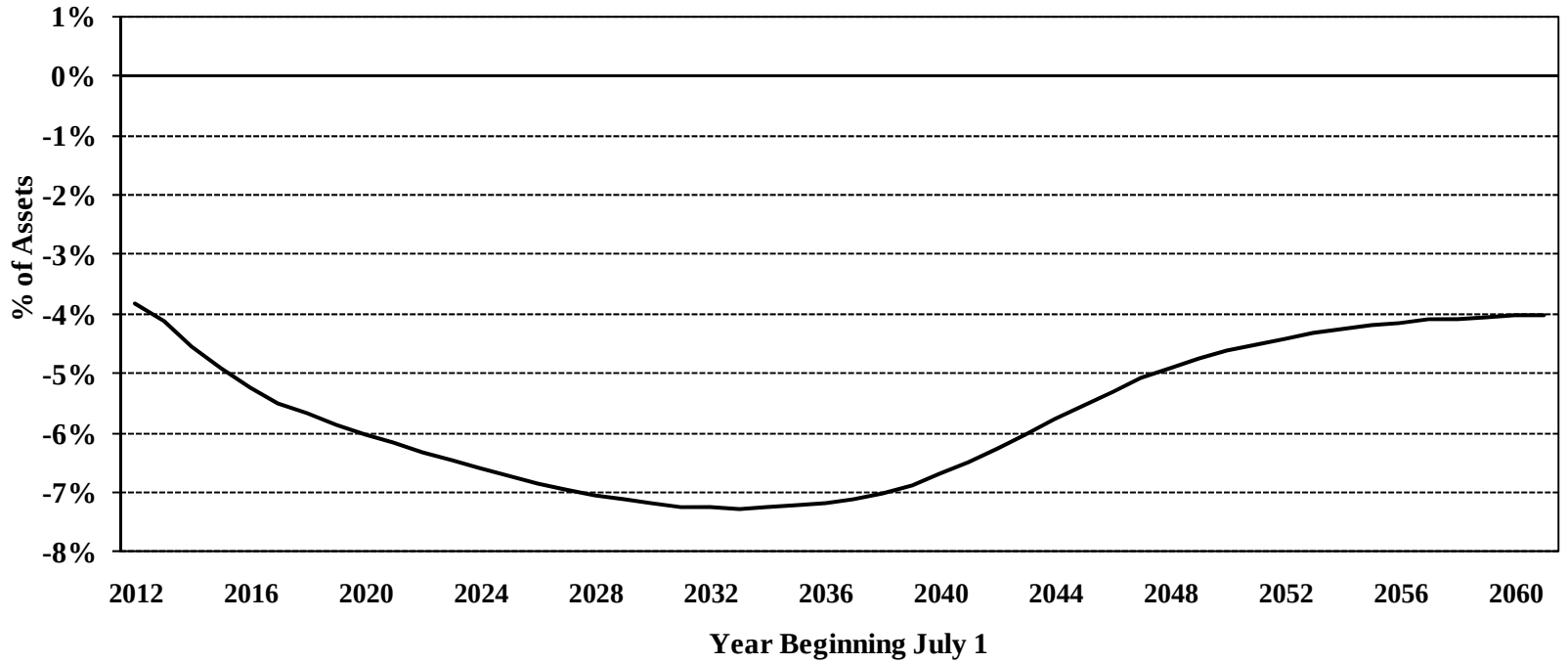
Fifty-Year Cash Flow Projection (in Thousands)

Year Ended June 30	Assets BOY	Contributions*			Benefits	Investment Income	Assets EOY	
		Normal	UAAL	Total			Inflated	2012 $
2012	$ 8,022,481	$ 153,462	$ 112,205	$ 265,667	$ 573,404	$ 668,832	$ 8,383,576	$8,383,576
2013	8,383,576	150,778	129,843	280,621	627,004	697,884	8,735,077	8,399,112
2014	8,735,077	151,729	132,758	284,487	682,636	725,560	9,062,488	8,378,780
2015	9,062,488	153,198	135,738	288,936	734,956	751,356	9,367,824	8,327,961
2016	9,367,824	155,130	138,785	293,915	784,092	775,431	9,653,078	8,251,492
2017	9,653,078	157,423	141,900	299,323	830,277	797,946	9,920,070	8,153,575
2018	9,920,070	160,157	145,085	305,242	868,767	819,257	10,175,802	8,042,084
2019	10,175,802	163,278	148,342	311,620	907,715	839,608	10,419,315	7,917,823
2020	10,419,315	166,795	151,672	318,467	945,496	858,992	10,651,278	7,782,785
2021	10,651,278	170,634	155,076	325,710	983,441	877,406	10,870,953	7,637,787
2022	10,870,953	174,691	158,557	333,248	1,020,025	894,843	11,079,019	7,484,588
2023	11,079,019	179,022	162,116	341,138	1,056,801	911,301	11,274,657	7,323,802
2024	11,274,657	183,657	165,755	349,412	1,092,904	926,747	11,457,912	7,156,578
2025	11,457,912	188,616	169,476	358,092	1,129,065	941,155	11,628,094	6,983,532
2026	11,628,094	193,938	173,280	367,218	1,164,091	954,521	11,785,742	6,805,972
2027	11,785,742	199,621	177,170	376,791	1,196,990	966,930	11,932,473	6,625,678
2028	11,932,473	205,684	181,147	386,831	1,228,215	978,500	12,069,589	6,444,052
2029	12,069,589	212,131	185,213	397,344	1,257,609	989,354	12,198,678	6,262,475
2030	12,198,678	218,957	189,370	408,327	1,285,525	999,607	12,321,087	6,082,035
2031	12,321,087	226,190	193,621	419,811	1,311,170	1,009,408	12,439,136	5,904,142
2032	12,439,136	233,803	197,967	431,770	1,335,034	1,018,938	12,554,810	5,729,852
2033	12,554,810	241,830	202,411	444,241	1,356,742	1,028,377	12,670,686	5,560,323
2034	12,670,686	250,301	206,954	457,255	1,376,565	1,037,938	12,789,314	5,396,520
2035	12,789,314	259,203	211,600	470,803	1,395,041	1,047,811	12,912,887	5,239,098
2036	12,912,887	268,616	216,349	484,965	1,411,418	1,058,222	13,044,656	5,089,000
2037	13,044,656	278,526	221,206	499,732	1,426,857	1,069,393	13,186,924	4,946,637
2038	13,186,924	288,988	226,171	515,159	1,438,894	1,081,629	13,344,818	4,813,332
2039	13,344,818	300,017	231,248	531,265	1,448,056	1,095,346	13,523,373	4,690,130
2040	13,523,373	311,624	236,439	548,063	1,454,355	1,110,969	13,728,050	4,577,995
2041	13,728,050	323,811	241,746	565,557	1,457,409	1,128,981	13,965,179	4,477,954
2042	13,965,179	336,561	247,172	583,733	1,458,768	1,149,851	14,239,995	4,390,456
2043	14,239,995	349,866	252,721	602,587	1,459,745	1,173,969	14,556,806	4,315,515
2044	14,556,806	363,727	258,393	622,120	1,461,558	1,201,654	14,919,022	4,252,786
2045	14,919,022	378,137	264,193	642,330	1,466,463	1,233,092	15,327,981	4,201,310
2046	15,327,981	393,098	270,124	663,222	1,474,885	1,268,382	15,784,700	4,160,091
2047	15,784,700	408,628	276,187	684,815	1,487,952	1,307,566	16,289,129	4,127,917
2048	16,289,129	424,759	282,387	707,146	1,506,625	1,350,598	16,840,248	4,103,442
2049	16,840,248	441,537	288,725	730,262	1,530,599	1,397,408	17,437,319	4,085,509
2050	17,437,319	459,003	295,206	754,209	1,559,656	1,447,940	18,079,812	4,073,118
2051	18,079,812	477,188	301,833	779,021	1,593,393	1,502,173	18,767,613	4,065,452
2052	18,767,613	496,125	308,608	804,733	1,631,583	1,560,107	19,500,870	4,061,817
2053	19,500,870	515,846	315,535	831,381	1,674,168	1,621,755	20,279,838	4,061,604
2054	20,279,838	536,381	322,618	858,999	1,721,087	1,687,147	21,104,897	4,064,274
2055	21,104,897	557,760	329,859	887,619	1,772,370	1,756,315	21,976,461	4,069,342
2056	21,976,461	580,014	337,264	917,278	1,827,977	1,829,294	22,895,056	4,076,381
2057	22,895,056	603,174	344,834	948,008	1,887,868	1,906,135	23,861,331	4,085,022
2058	23,861,331	627,272	352,575	979,847	1,951,975	1,986,897	24,876,100	4,094,951
2059	24,876,100	652,343	360,489	1,012,832	2,020,150	2,071,657	25,940,439	4,105,919
2060	25,940,439	678,425	368,580	1,047,005	2,092,341	2,160,512	27,055,615	4,117,723
2061	27,055,615	705,557	376,854	1,082,411	2,168,483	2,253,569	28,223,112	4,130,202

** Does not include contributions for administrative expenses. Includes member contributions.*

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	External Cash Flow		Net External Cash Flow		Year Ended	External Cash Flow		Net External Cash Flow	
June 30	Inflow*	Outflow	$	% of Assets	June 30	Inflow*	Outflow	$	% of Assets
2012	$ 265,667	$ 573,404	$ (307,737)	(3.84)%	2037	$ 499,732	$ 1,426,857	$ (927,125)	(7.11)%
2013	280,621	627,004	(346,383)	(4.13)%	2038	515,159	1,438,894	(923,735)	(7.00)%
2014	284,487	682,636	(398,149)	(4.56)%	2039	531,265	1,448,056	(916,791)	(6.87)%
2015	288,936	734,956	(446,020)	(4.92)%	2040	548,063	1,454,355	(906,292)	(6.70)%
2016	293,915	784,092	(490,177)	(5.23)%	2041	565,557	1,457,409	(891,852)	(6.50)%
2017	299,323	830,277	(530,954)	(5.50)%	2042	583,733	1,458,768	(875,035)	(6.27)%
2018	305,242	868,767	(563,525)	(5.68)%	2043	602,587	1,459,745	(857,158)	(6.02)%
2019	311,620	907,715	(596,095)	(5.86)%	2044	622,120	1,461,558	(839,438)	(5.77)%
2020	318,467	945,496	(627,029)	(6.02)%	2045	642,330	1,466,463	(824,133)	(5.52)%
2021	325,710	983,441	(657,731)	(6.18)%	2046	663,222	1,474,885	(811,663)	(5.30)%
2022	333,248	1,020,025	(686,777)	(6.32)%	2047	684,815	1,487,952	(803,137)	(5.09)%
2023	341,138	1,056,801	(715,663)	(6.46)%	2048	707,146	1,506,625	(799,479)	(4.91)%
2024	349,412	1,092,904	(743,492)	(6.59)%	2049	730,262	1,530,599	(800,337)	(4.75)%
2025	358,092	1,129,065	(770,973)	(6.73)%	2050	754,209	1,559,656	(805,447)	(4.62)%
2026	367,218	1,164,091	(796,873)	(6.85)%	2051	779,021	1,593,393	(814,372)	(4.50)%
2027	376,791	1,196,990	(820,199)	(6.96)%	2052	804,733	1,631,583	(826,850)	(4.41)%
2028	386,831	1,228,215	(841,384)	(7.05)%	2053	831,381	1,674,168	(842,787)	(4.32)%
2029	397,344	1,257,609	(860,265)	(7.13)%	2054	858,999	1,721,087	(862,088)	(4.25)%
2030	408,327	1,285,525	(877,198)	(7.19)%	2055	887,619	1,772,370	(884,751)	(4.19)%
2031	419,811	1,311,170	(891,359)	(7.23)%	2056	917,278	1,827,977	(910,699)	(4.14)%
2032	431,770	1,335,034	(903,264)	(7.26)%	2057	948,008	1,887,868	(939,860)	(4.11)%
2033	444,241	1,356,742	(912,501)	(7.27)%	2058	979,847	1,951,975	(972,128)	(4.07)%
2034	457,255	1,376,565	(919,310)	(7.26)%	2059	1,012,832	2,020,150	(1,007,318)	(4.05)%
2035	470,803	1,395,041	(924,238)	(7.23)%	2060	1,047,005	2,092,341	(1,045,336)	(4.03)%
2036	484,965	1,411,418	(926,453)	(7.17)%	2061	1,082,411	2,168,483	(1,086,072)	(4.01)%

** 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.

SUPPLEMENTAL DISCLOSURE INFORMATION

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items the auditor changes so that we may maintain consistency with the System's financial statements.

Supplemental Disclosure Information
June 30, 2011

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, 2011. 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, 2011, the unfunded actuarial accrued liability of the System was determined as follows:

Actuarial Accrued Liability of System:	**$ in Thousands**
Active members (36,209 vested, 15,451 non-vested)	$ 4,173,306
Retirees and beneficiaries currently receiving benefits (35,315 vested)	5,357,322
Terminated members not yet receiving benefits (17,712 vested)	592,444
Future BackDROP Payments	472
Total Actuarial Accrued Liability	10,123,544
Actuarial Value of Assets	8,022,481
Unfunded Actuarial Accrued Liability	$ 2,101,063

During the year ended June 30, 2011, the System experienced a net change of $270,388,598 in the actuarial accrued liability. Of this change, ($107,399,067) was due to changes in assumptions. There were no changes in benefit provisions.

Supplemental Disclosure Information
June 30, 2011

(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 16.65656.

During the year ended June 30, 2011 contributions totaling $263,418,048 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	251,226,187	100
2010-11	2009	13.81	263,418,048	100
2011-12	2010	13.97		
2012-13	**2011**	**14.45**		

Supplemental Disclosure Information
June 30, 2011

(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 *@	7,876,079,342	9,494,806,715	83.0	1,618,727,373	2,002,402,087	80.8
6/30/2010 *#	7,923,377,393	9,878,155,445	80.2	1,954,778,052	1,945,095,321	100.5
6/30/2011	**8,022,481,408**	**10,230,943,110**	**78.4**	**2,208,461,702**	**1,875,569,816**	**117.7**
6/30/2011 *	**8,022,481,408**	**10,123,544,043**	**79.2**	**2,101,062,635**	**1,875,569,816**	**112.0**

 # 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.

APPENDIX

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).

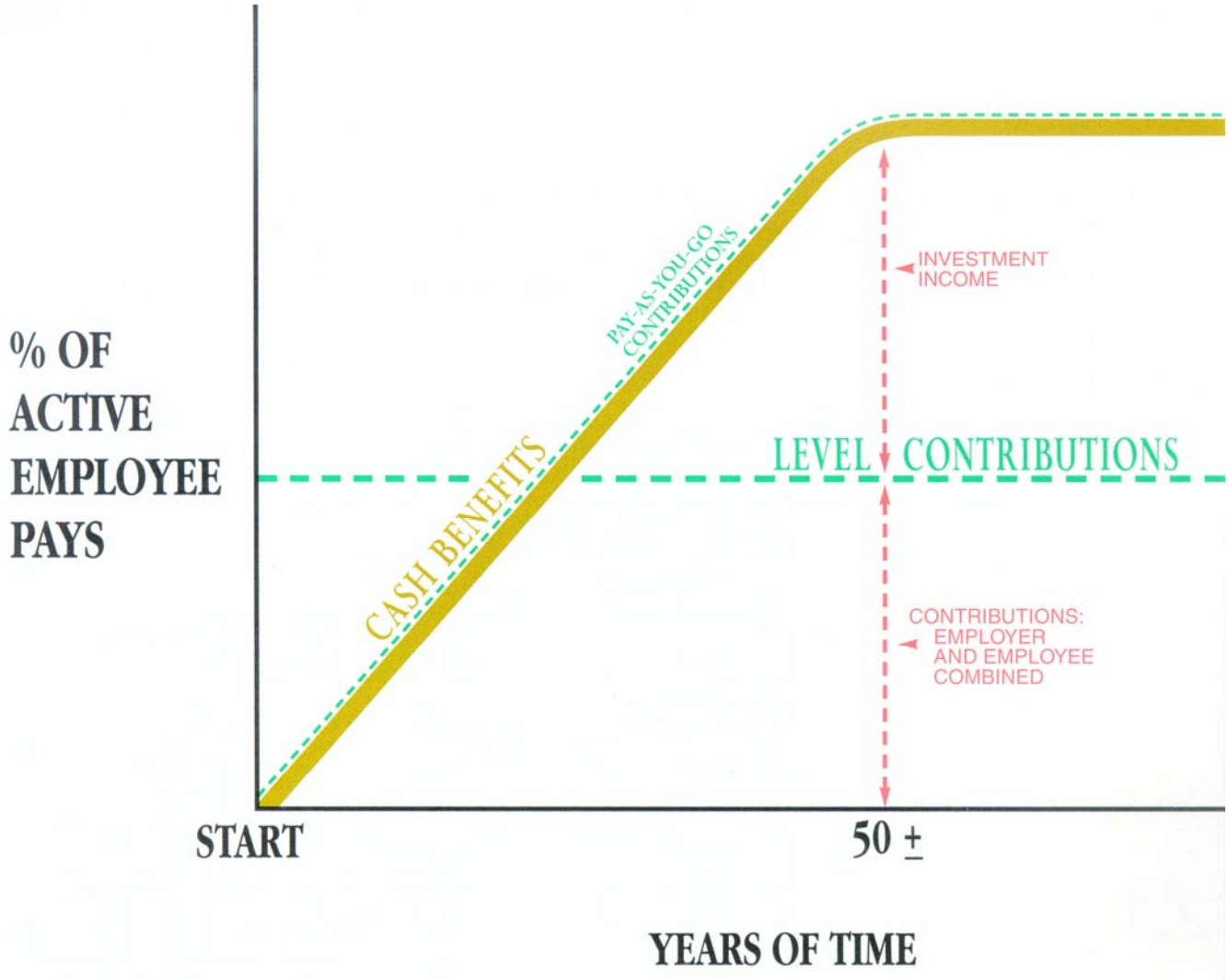
Computing Contributions To Support Funded Benefits. From a given schedule of benefits and from the member data and asset data provided, the actuary determines the contribution rates to support the benefits, by means of ***an actuarial valuation and a funding method***.

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."

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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.

Summary of Assumptions Used
for the June 30, 2011 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 57. 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 2011 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 two year setback for men and a six year age setback for women. Related values are shown on page 58. This assumption is used to measure the probabilities of each benefit payment being made after retirement.

The mortality tables are static tables and contain a margin for future mortality improvement of 8.4% for males and 11.7% for females based on the four year experience study from June 30, 2003 to June 30, 2007. The mortality assumption was first used in the June 30, 2008 valuation.

Summary of Assumptions Used
for the June 30, 2011 Actuarial Valuation

The probabilities of age and service retirement are shown on page 59 and 60. 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 57. 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.

The amortization of the unfunded actuarial accrued liability is based on a 30-year amortization period, level percent of payroll amortization. The amortization is based on the projected unfunded actuarial accrued liability at the beginning of the fiscal year. This method was first used in the June 30, 2010 valuation.

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 20%.

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 for members hired prior to January 1, 2011.

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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, 2011

		Percent of Active Members - - - - - - Separating within the Next Year - - - - -						Pay Increase Assumptions - - For An Individual Employee - -		
Sample	Years of	Withdrawal		Death*		Disability		Merit &	Base	Increase
Ages	Service	Men	Women	Men	Women	Men	Women	Seniority**	(Economy)	Next Year
	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

The mortality tables were the 1971 Group Annuity Mortality Table, projected to the year 2000, with a two year age setback for men and a six year age setback for women. Disabled mortality tables are the healthy mortality tables set forward 10 years.

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

Retirement Values
June 30, 2011

Sample Attained Ages	Present Value of $1/Month the First Year (with 50% Joint & Survivor) Increasing 4.0% / 2.56% Yearly				Present Value of $1/Month the First Year Increasing 2.56% Yearly			
	Service		Disability		Service		Disability	
	Men	Women	Men	Women	Men	Women	Men	Women
40	$212.00	$213.63	$199.71	$201.13	$181.06	$186.39	$162.92	$171.00
45	204.46	206.44	189.78	190.96	172.85	179.57	151.37	160.74
50	195.12	197.32	177.89	178.76	162.92	171.00	137.98	148.85
55	183.85	186.16	163.79	164.21	151.37	160.74	122.55	135.04
60	170.40	178.76	147.78	147.15	137.98	148.85	105.68	119.26
65	154.52	157.00	130.73	128.15	122.55	135.04	88.88	102.25
70	136.51	138.80	112.73	108.63	105.68	119.26	72.36	85.58
75	117.44	119.04	94.96	89.08	88.88	102.25	57.73	69.20
80	97.96	99.30	78.49	71.52	72.36	85.58	45.83	55.16
85	79.72	80.24	63.33	56.81	57.73	69.20	35.81	43.70

Sample Attained Ages	Future Life Expectancy (Years)			
	Service		Disability	
	Men	Women	Men	Women
40	39.41	43.25	30.06	33.73
45	34.67	38.46	25.67	29.17
50	30.06	33.73	21.50	24.82
55	25.67	29.17	17.57	20.70
60	21.50	24.82	13.99	16.82
65	17.57	20.70	10.91	13.32
70	13.99	16.82	8.29	10.36
75	10.91	13.32	6.23	7.83
80	8.29	10.36	4.70	5.89
85	6.23	7.83	3.51	4.44

Percent of Eligible Active Members Retiring Next Year
(For Members Hired Prior to January 1, 2011)

Normal Retirement Pattern							
Grandfathered Groups				MSEP 2000			
	Year of Eligibility				Year of Eligibility		
Age	1st Year	2nd Year	3rd Year	Age	1st Year	2nd Year	3rd Year
48	20%			48	27%		
49	20%	10%		49	27%	14%	
50	20%	10%	8%	50	27%	14%	18%
51	20%	10%	8%	51	27%	14%	18%
52	20%	10%	8%	52	27%	14%	18%
53	20%	10%	8%	53	27%	14%	18%
54	20%	10%	8%	54	27%	14%	18%
55	25%	10%	12%	55	27%	14%	25%
56	20%	10%	12%	56	27%	14%	25%
57	20%	10%	12%	57	22%	14%	20%
58	20%	10%	30%	58	22%	14%	20%
59	20%	10%	30%	59	22%	14%	20%
60	25%	10%	30%	60	25%	14%	25%
61	20%	10%	30%	61	20%	14%	20%
62	30%	15%	50%	62	20%	22%	35%
63	20%	12%	40%	63	15%	20%	30%
64	20%	12%	40%	64	20%	20%	20%
65	30%	15%	50%	65	25%	20%	30%
66	20%	12%	40%	66	20%	20%	25%
67	20%	12%	40%	67	20%	20%	20%
68	20%	12%	40%	68	20%	20%	20%
69	20%	12%	40%	69	20%	20%	20%
70	20%	12%	40%	70	20%	20%	20%
71	20%	12%	40%	71	20%	20%	20%
72	20%	12%	40%	72	20%	20%	20%
73	20%	12%	40%	73	20%	20%	20%
74	20%	12%	40%	74	20%	20%	20%
75	100%	100%	100%	75	50%	50%	50%
76	100%	100%	100%	76	50%	50%	50%
77	100%	100%	100%	77	75%	75%	75%
78	100%	100%	100%	78	100%	100%	100%

Early Retirement Pattern	
MSEP and MSEP 2000	
Age	Rate
57	3%
58	4%
59	4%
60	5%
61	7%
62	10%
63	10%
64	10%
65	50%
66	50%
67	50%
68	50%
69	50%
70	50%
71	50%
72	50%
73	50%
74	50%
75	50%
76	100%

Percent of Eligible Active Members Retiring Next Year
(For Members Hired On or After January 1, 2011)

Normal Retirement	
Age	**Year of Eligibility**
55	45%
56	45%
57	35%
58	35%
59	30%
60	35%
61	25%
62	40%
63	30%
64	20%
65	30%
66	25%
67	20%
68	20%
69	20%
70	20%
71	20%
72	20%
73	20%
74	20%
75	50%
76	50%
77	75%
78	100%

Early Retirement	
Age	**Year of Eligibility**
62	10%
63	10%
64	10%
65	50%
66	50%

Summary of Assumptions Used
June 30, 2011
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:

MSEP 2000 Benefits for Active Employees

- 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

Age	Male/Female
<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. New entrants assumed demographics patterns are based on the demographics of active members hired within the last five years.

Summary of Assumptions Used
June 30, 2011
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.

Forfeitures: For those hired on or after January 1, 2011, 50% of state employees terminating at first vesting eligibility are assumed to take a refund and forfeit their deferred pension. This percentage decreases to 0% at first retirement eligibility.

Active and retired member data was reported as of May 31, 2011. It was brought forward to June 30, 2011 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, 2011. 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.

June 30, 2011 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, 2011 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	$1,876	$2,101	$2,101	$113	6.05 %	112.02 %
2	1,951	2,161	2,078	130	6.65	110.81
3	2,029	2,210	2,043	133	6.54	108.94
4	2,110	2,260	2,009	136	6.43	107.10
5	2,194	2,310	1,975	139	6.32	105.29
6	2,282	2,362	1,941	142	6.21	103.52
7	2,373	2,415	1,909	145	6.11	101.77
8	2,468	2,469	1,877	148	6.01	100.05
9	2,567	2,525	1,845	152	5.91	98.36
10	2,670	2,581	1,814	155	5.81	96.70
11	2,776	2,639	1,783	158	5.71	95.07
12	2,887	2,699	1,753	162	5.61	93.46
13	3,003	2,759	1,723	166	5.52	91.89
14	3,123	2,821	1,694	169	5.42	90.34
15	3,248	2,884	1,666	173	5.33	88.81
16	3,378	2,949	1,638	177	5.24	87.31
17	3,513	3,015	1,610	181	5.15	85.84
18	3,653	3,083	1,583	185	5.07	84.39
19	3,800	3,152	1,556	189	4.98	82.97
20	3,952	3,223	1,530	194	4.90	81.57

** Reflects the state pay freeze for 2011-12.*

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	$4,110	$3,295	$1,504	$198	4.81 %	80.19 %
22	4,274	3,369	1,479	202	4.73	78.84
23	4,445	3,445	1,454	207	4.65	77.50
24	4,623	3,522	1,429	211	4.57	76.20
25	4,808	3,601	1,405	216	4.50	74.91
26	5,000	3,682	1,381	221	4.42	73.65
27	5,200	3,765	1,358	226	4.35	72.40
28	5,408	3,849	1,335	231	4.27	71.18
29	5,624	3,936	1,313	236	4.20	69.98
30	5,849	4,024	1,290	242	4.13	68.80

Active Members in Funding Program as of June 30, 2011

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	9							9	$ 192,360
20-24	448	4						452	11,372,119
25-29	1,478	281	2					1,761	53,460,679
30-34	1,002	796	176	2				1,976	66,358,152
35-39	718	648	605	129	2			2,102	76,195,788
40-44	613	547	676	485	104	6		2,431	94,851,684
45-49	620	529	560	474	499	171	3	2,856	117,410,807
50-54	562	499	599	446	522	387	115	3,130	132,945,424
55-59	463	449	567	388	500	304	205	2,876	125,781,343
60	87	99	92	52	84	54	38	506	21,699,272
61	69	82	80	67	73	46	39	456	20,300,334
62	77	91	63	70	53	33	32	419	18,882,916
63	60	61	53	37	42	23	26	302	13,535,699
64	51	61	61	42	36	15	30	296	14,378,131
65	45	41	54	28	31	17	35	251	12,767,909
66	11	27	28	22	20	14	13	135	7,067,789
67	8	17	21	16	12	11	18	103	5,337,665
68	3	14	24	12	7	8	13	81	3,933,981
69	10	16	16	7	5		13	67	3,120,415
70 & Over	25	22	51	27	20	12	33	190	9,330,532
Totals	**6,359**	**4,284**	**3,728**	**2,304**	**2,010**	**1,101**	**613**	**20,399**	**$808,922,999**

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

Age: 46.1 years.

Service: 11.2 years.

Annual Pay: $39,655

Active Members in Funding Program as of June 30, 2011

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	18							18	$ 325,788
20-24	735	12						747	17,709,404
25-29	1,923	396	10					2,329	67,702,686
30-34	1,535	1,186	415	5				3,141	99,464,965
35-39	1,040	892	1,098	271	9			3,310	110,876,130
40-44	958	815	1,082	861	304	27		4,047	138,541,915
45-49	962	872	985	730	664	436	52	4,701	165,981,812
50-54	850	782	962	716	679	632	474	5,095	182,788,177
55-59	636	720	913	688	639	374	356	4,326	157,277,256
60	94	115	147	132	97	53	53	691	24,814,588
61	89	115	142	109	99	49	47	650	22,657,076
62	69	87	142	113	85	42	33	571	20,374,424
63	49	84	110	65	58	21	20	407	14,311,789
64	38	78	87	70	41	23	23	360	13,374,018
65	28	55	78	45	36	30	16	288	10,072,961
66	17	28	37	35	10	6	11	144	5,194,084
67	11	22	31	23	17	10	7	121	4,008,485
68	13	15	26	16	10	7	10	97	3,571,969
69	8	12	12	6	7	3	7	55	2,004,333
70 & Over	19	26	41	22	27	8	20	163	5,594,957
Totals	**9,092**	**6,312**	**6,318**	**3,907**	**2,782**	**1,721**	**1,129**	**31,261**	**$1,066,646,817**

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

Age: 45.7 years.

Service: 11.6 years.

Annual Pay: $34,121

Basic Series Year-by-Year Total Returns (1926 – 2010)

For Stocks, Bonds, and Bills, RED means a Real Return of less than 3% [(Total Return - Inflation) < 3%]

For Inflation, RED means a loss of purchasing power

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
2009	26.46	28.09	3.02	-14.90	-2.40	0.10	2.72
2010	15.06	31.36	12.44	10.14	7.12	0.12	1.50

GABRIEL, ROEDER, SMITH & COMPANY from SBBI Yearbook * *Calculated using December to December CPI-U (1982-84=100, when available), not seasonally adjusted.*

GRS
Gabriel Roeder Smith & Company
Consultants & Actuaries
One Towne Square
Suite 800
Southfield, MI 48076-3723
248.799.9000 phone
248.799.9020 fax
www.gabrielroeder.com

September 8, 2011

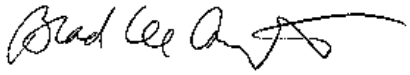
Mr. Gary W. Findlay
Executive Director
Missouri State Employees'
Retirement System
907 Wildwood
P.O. Box 209
Jefferson City, Missouri 65109

Re: MOSERS – Valuation Report

Dear Gary:

Enclosed are 20 copies of the June 30, 2011 actuarial valuation report of the Missouri State Employees' Retirement System.

Sincerely,



Brad Lee Armstrong

BLA:bd
Enclosures

cc: Amanda Gaither
Williams-Keepers, LLC (+1 report copy)

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

Updated 10/7/09