

Supplemental Disclosure Information

June 30, 2007

(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, 2007 contributions totaling \$239,488,751 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 | | |
| 2008-09 | 2007 | 12.53 | | |

MISSOURI STATE EMPLOYEES' RETIREMENT SYSTEM
ANNUAL ACTUARIAL VALUATION
JUNE 30, 2007

Missouri State Employees' Retirement System
Annual Actuarial Valuation as of June 30, 2007

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September 14, 2007

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

Re: Actuarial Valuation as of June 30, 2007

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, 2008.

The date of the valuation was **June 30, 2007**.

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

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

To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries and who have significant experience in performing valuations for public retirement systems.

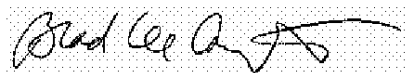
The valuation was prepared in accordance with the standards of practice prescribed by the Actuarial Standards Board.

The actuarial calculations were made by qualified actuaries in accordance with generally accepted actuarial procedures and methods. The calculations are based on the provisions of the System scheduled to be in effect as of July 1, 2007, and on actuarial assumptions that are, individually and in the aggregate, internally consistent and reasonably based on the actual experience of the System.

Respectfully submitted,



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



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

NLJ:BLA:bd

FINANCIAL PRINCIPLES

Financial Principles and Operational Techniques

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

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

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

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

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

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

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

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

... plus ...

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

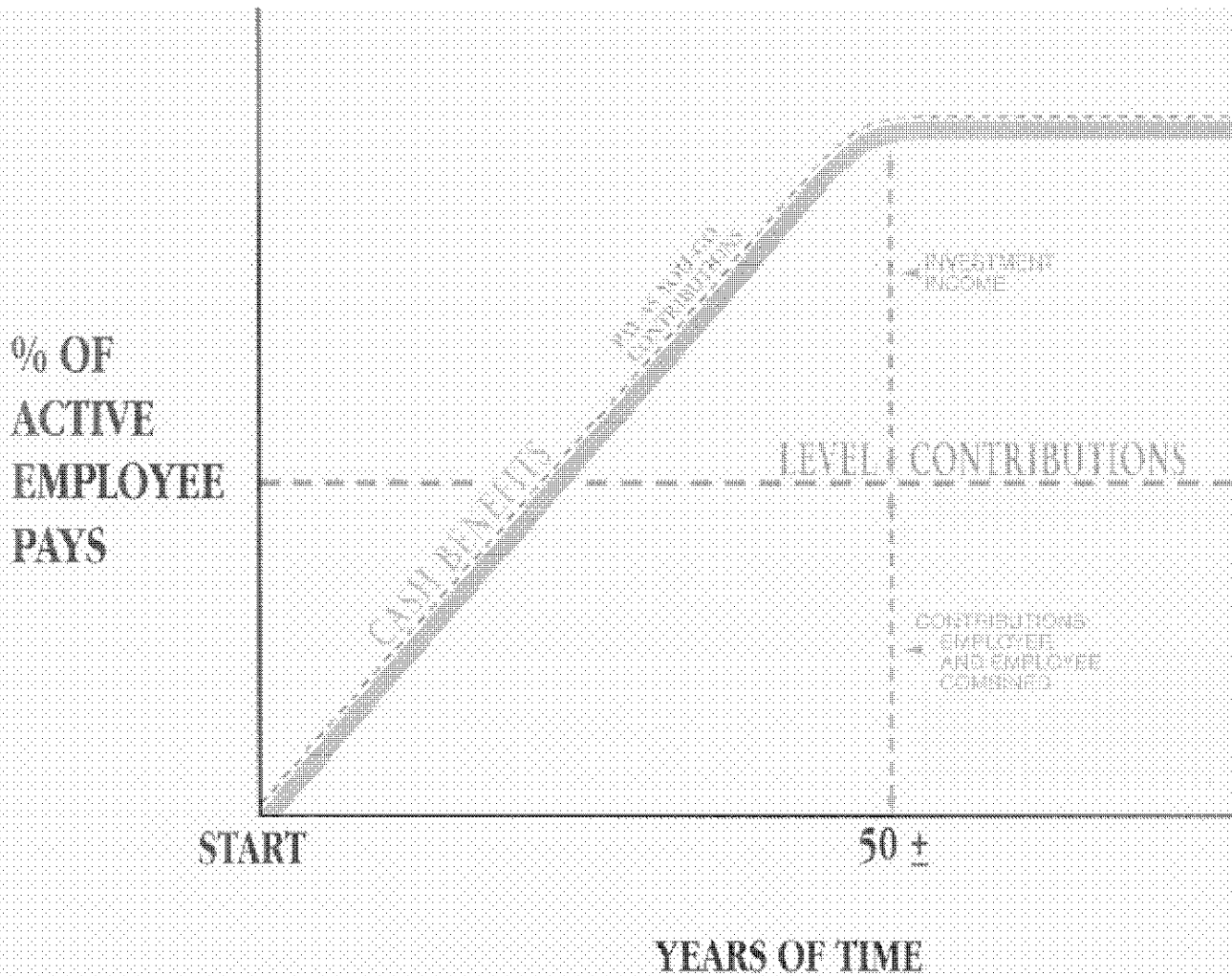
Computing Contributions To Support Funded Benefits. From a given schedule of benefits and from the member data and asset data provided, the actuary determines the contribution rates to support the benefits, by means of *an actuarial valuation and a funding method.*

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

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

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

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



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

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

Economic Risk Areas

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

Non-Economic Risk Areas

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

The Actuarial Valuation Process

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

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

Meaning of "Unfunded Actuarial Accrued Liabilities"

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

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

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

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

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

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

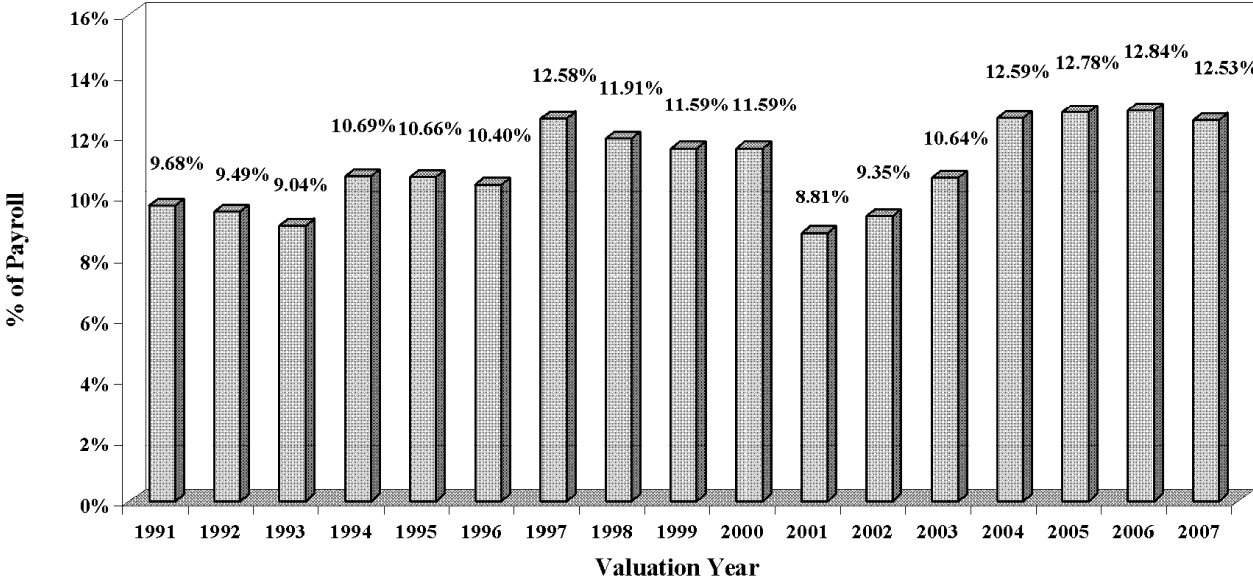
VALUATION RESULTS

Computed Employer Contribution Rate
Expressed as Percents of Active Member Payroll
June 30, 2007

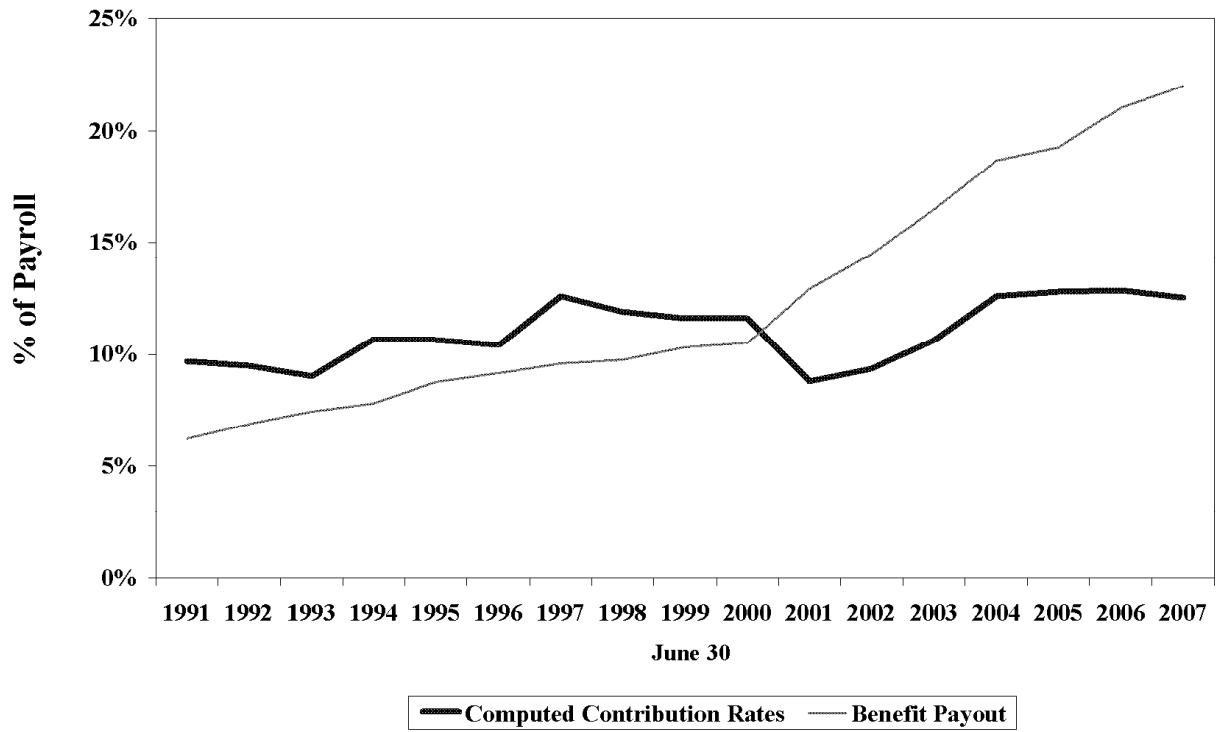
| Contributions for the Fiscal Year Beginning July 1, 2008 | Contribution Expressed as Percents of Payroll |
|---|--|
| Normal Cost | |
| Service retirement benefits | 7.78 % |
| Disability benefits | 0.41 |
| Survivor benefits | 0.33 |
| Administrative expenses | 0.36 |
| Total | <u>8.88</u> |
| Unfunded Actuarial Accrued Liabilities (UAAL) (30-year level percent-of-payroll amortization*) | <u>3.65</u> |
| TOTAL COMPUTED EMPLOYER CONTRIBUTION RATE | 12.53 % |

* This corresponds to an amortization factor of 16.65656 assuming payroll growth of 4% per year. Amortization period a year ago was 30 years.

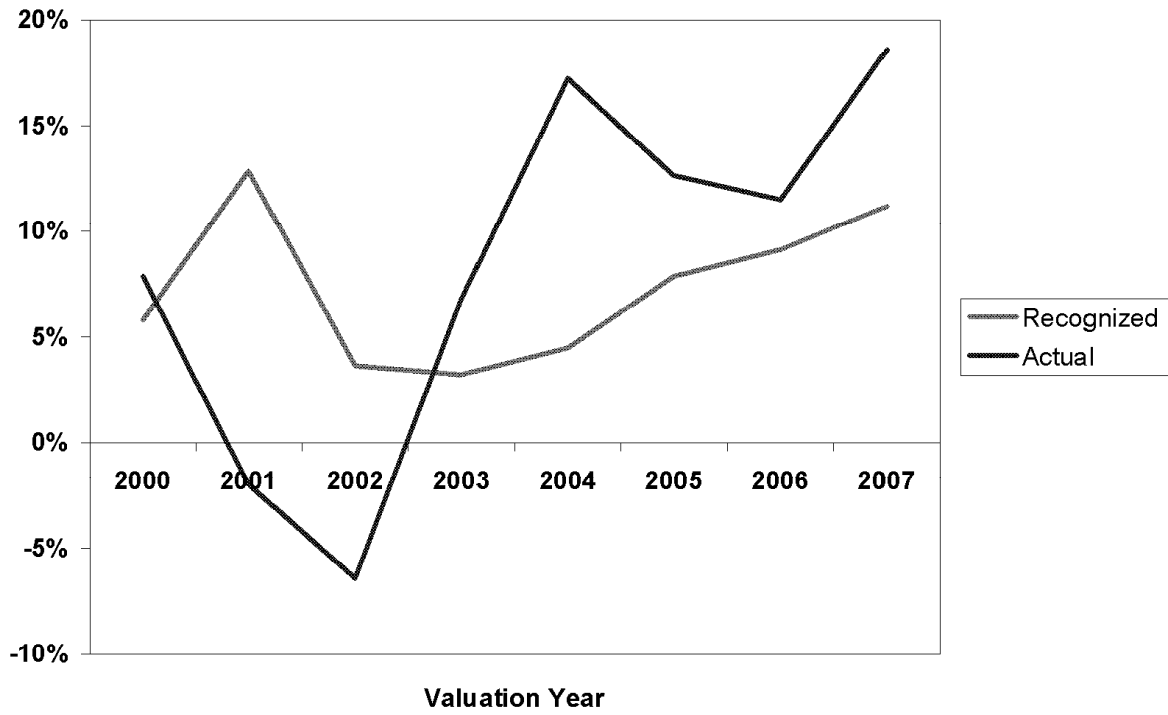
Computed Contribution Rates



Contribution Rates vs. Benefit Payout



Recognized vs. Actual Return



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

Actuarial Present Values June 30, 2007

| 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 | \$4,247,177,841 | \$828,007,948 | \$3,419,169,893 |
| Disability benefits likely to be paid to present active members who become totally and permanently disabled | 124,921,972 | 55,045,315 | 69,876,657 |
| Survivor benefits likely to be paid to widows and children of present active members who die before retiring | 158,026,870 | 43,530,628 | 114,496,242 |
| Separation benefits likely to be paid to present active members | <u>416,674,319</u> | <u>206,573,593</u> | <u>210,100,726</u> |
| Active Member Totals | \$4,946,801,002 | \$1,133,157,484 | \$3,813,643,518 |
| Members on Leave of Absence & LTD | | | |
| Service retirement benefits based on service rendered before the valuation date | | | 89,677,437 |
| Terminated Vested Members | | | |
| Service retirement benefits based on service rendered before the valuation date | | | 388,486,149 |
| Retired Lives | | | 4,208,258,030 |
| BackDROP Installment Payments Incurred, but not yet paid | | | <u>363,507</u> |
| TOTAL ACTUARIAL ACCRUED LIABILITY | | | \$8,500,428,641 |
| ACTUARIAL VALUE OF ASSETS | | | <u>7,377,289,283</u> |
| UNFUNDED ACTUARIAL ACCRUED LIABILITY | | | <u><u>\$1,123,139,358</u></u> |

Actuarial Valuation as of June 30, 2007

Comments

Computed Contribution Rate. The contribution rate for the fiscal year beginning July 1, 2008 was computed to be 12.53% of payroll, based upon an amortization period for the unfunded actuarial accrued liabilities (UAAL) of 30 years. This represents a decrease of 0.31% in the rate computed for the fiscal year beginning July 1, 2007.

Experience and Development of Actuarial Value of Assets. Experience was favorable in the aggregate this year. Differences were due primarily to favorable investment performance, to pay increases that were on average higher than expected, and higher than expected retirements.

Additional information concerning 2005 experience is presented in the gain/loss section of this report beginning on page 17.

***Conclusion.* Based on the results of the June 30, 2007 regular annual actuarial valuation, it is our opinion that the Missouri State Employees' Retirement System continues to be in sound financial condition in accordance with actuarial principles of level percent-of-payroll financing.**

Comparative Schedule

| Valuation Date June 30 | Active Members | | | | Retired Lives | | | | Accrued Liability | Valuation Assets | UAAL |
|------------------------------|----------------|------------------------|----------------|------------|---------------|--------------------|-----------------|--------------|----------------------|---------------------|--------------|
| | Number | Payroll \$ Millions | Average Salary | | Number | | Annual Benefits | | | | |
| | | | \$ | % Incr. | Retired | Active/ Retired | \$ Million | % of Payroll | | | |
| 1989 (2) | 43,787 | \$ 895 | \$20,444 | 4.0 % | 11,090 | 4.0 | \$ 52.6 | 5.9 % | \$1,782 | \$1,418 | \$364 |
| 1990 (1) | 46,834 | 994 | 21,229 | 3.8 | 11,495 | 4.1 | 57.3 | 5.8 | 1,861 | 1,587 | 274 |
| 1991 (2) | 46,725 | 1,028 | 21,995 | 3.6 | 11,995 | 3.9 | 64.0 | 6.2 | 2,053 | 1,793 | 260 |
| 1992 (1)(2) | 46,616 | 1,030 | 22,101 | 0.5 | 12,552 | 3.7 | 71.0 | 6.9 | 2,291 | 1,991 | 300 |
| 1993 | 47,954 | 1,063 | 22,172 | 0.3 | 13,115 | 3.7 | 79.4 | 7.5 | 2,447 | 2,237 | 210 |
| 1994 (2) | 49,436 | 1,125 | 22,754 | 2.6 | 13,651 | 3.6 | 96.2 | 8.6 | 2,919 | 2,425 | 494 |
| 1995 | 50,524 | 1,199 | 23,730 | 4.3 | 14,384 | 3.5 | 104.9 | 8.8 | 3,151 | 2,649 | 502 |
| 1996 (1) | 51,425 | 1,268 | 24,650 | 3.9 | 15,004 | 3.4 | 116.2 | 9.2 | 3,440 | 2,928 | 512 |
| 1997 (1)(2)(3) | 52,737 | 1,360 | 25,782 | 4.6 | 15,609 | 3.4 | 130.4 | 9.6 | 4,484 | 3,581 | 903 |
| 1998 | 54,544 | 1,460 | 26,762 | 3.8 | 16,251 | 3.4 | 142.4 | 9.8 | 4,919 | 4,211 | 708 |
| 1999 (2) | 56,158 | 1,565 | 27,860 | 4.1 | 17,117 | 3.3 | 161.3 | 10.3 | 5,506 | 4,909 | 597 |
| 2000 (1) | 57,774 | 1,684 | 29,143 | 4.6 | 18,196 | 3.2 | 177.0 | 10.5 | 5,921 | 5,217 | 704 |
| 2001 (1) | 58,431 | 1,758 | 30,090 | 3.3 | 20,237 | 2.9 | 227.4 | 12.9 | 6,065 | 5,881 | 184 |
| 2002 (3) | 58,616 | 1,773 | 30,253 | 0.5 | 21,502 | 2.7 | 256.6 | 14.5 | 6,294 | 6,033 | 261 |
| 2003 (2)(3) | 57,558 | 1,740 | 30,229 | (0.1) | 22,872 | 2.5 | 287.1 | 16.5 | 6,662 | 6,057 | 605 |
| 2004 (1) | 55,914 | 1,737 | 31,074 | 2.8 | 24,757 | 2.3 | 324.6 | 18.7 | 7,230 | 6,118 | 1,112 |
| 2005 (3)(4) | 55,944 | 1,807 | 32,293 | 3.9 | 25,780 | 2.2 | 348.1 | 19.3 | 7,578 | 6,435 | 1,143 |
| 2006 | 54,493 | 1,777 | 32,615 | 1.0 | 27,052 | 2.0 | 373.6 | 21.0 | 8,013 | 6,837 | 1,176 |
| 2007 | 54,363 | 1,847 | 33,969 | 4.2 | 28,692 | 1.9 | 406.4 | 22.0 | 8,500 | 7,377 | 1,123 |

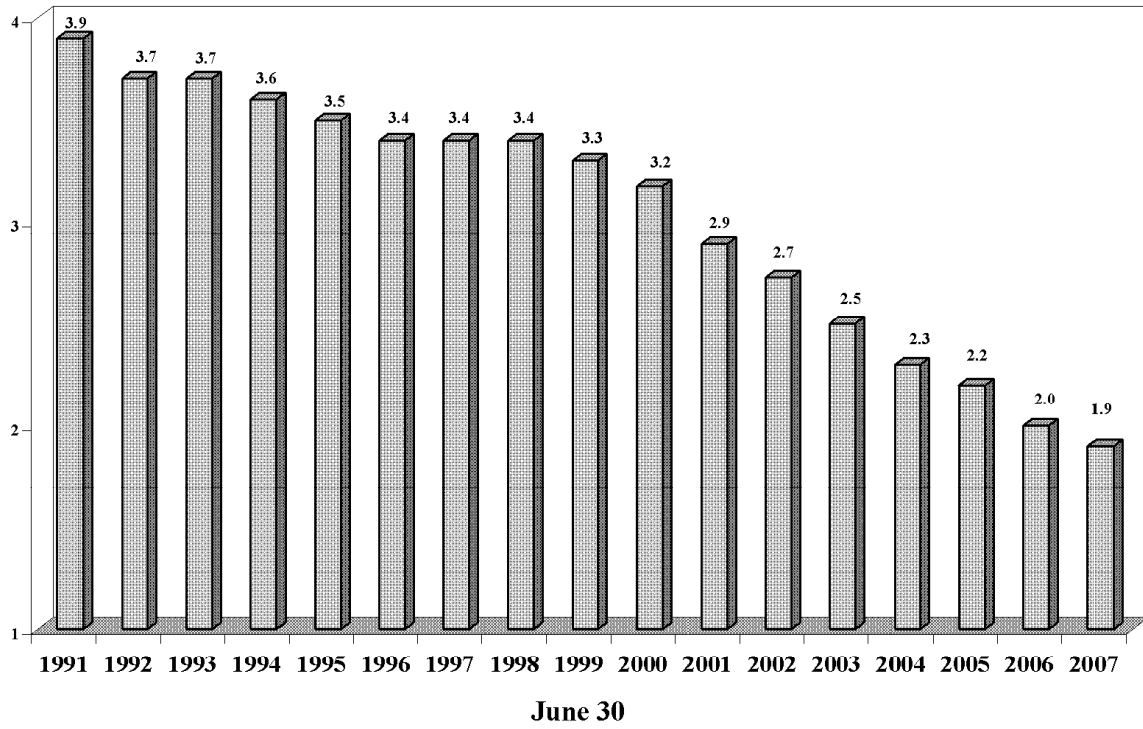
(1) After changes in assumptions.

(2) After changes in benefit provisions.

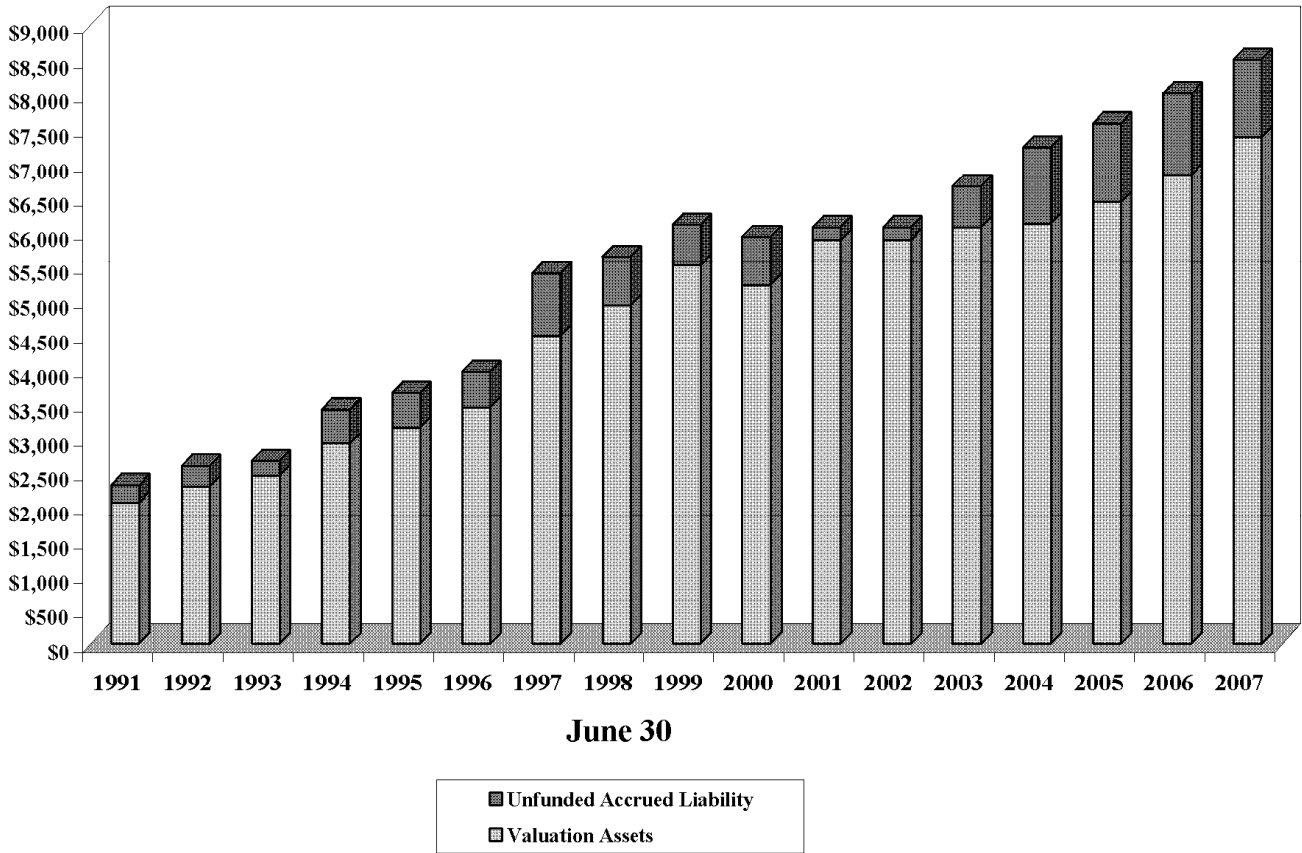
(3) After changes in methods.

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

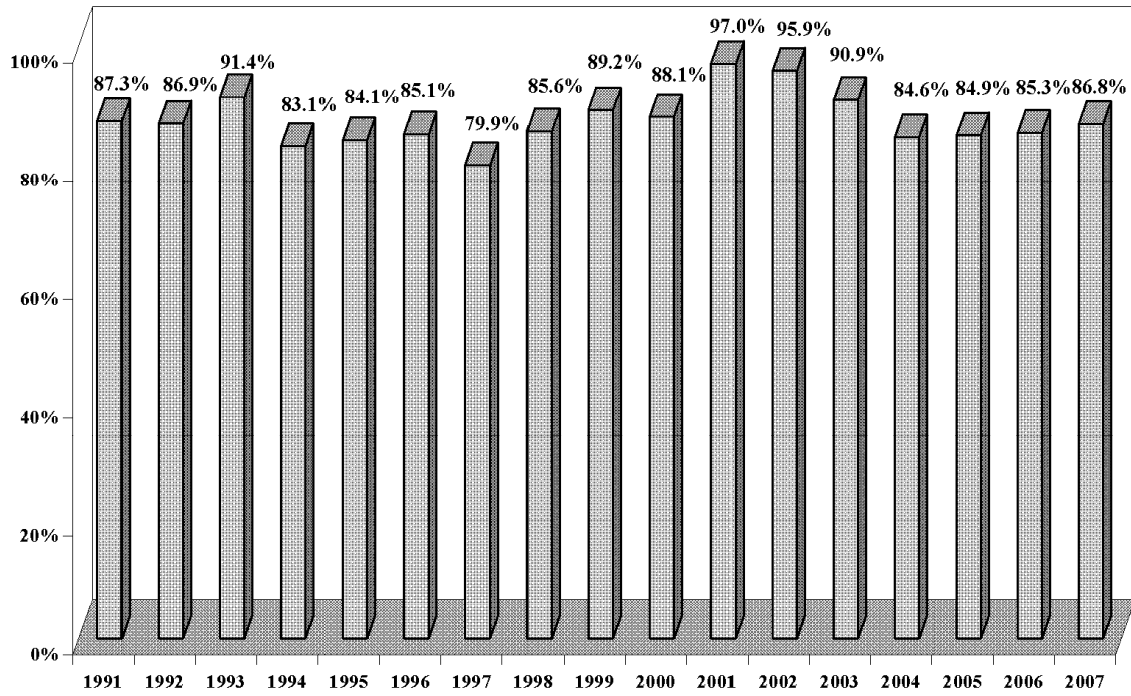
Number of Active Members Per Benefit Recipient



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



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



June 30

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.*

2006 and 2007 Data. For the 2006 and 2007 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, 2006 and June 30, 2007.

The expected and actual numbers of retirements, deaths, and terminations found on pages 25 through 30 reflect experience over the 12 month period from May 31, 2006 through May 31, 2007.

Results from 2007 Plan Year. There was a net experience loss this year, with the largest single identifiable source being pay increases that were on average higher than expected. The table below summarizes historical MOSERS economic experience:

| Period | Inflation As Measured By | | Interest Credited to MOSERS Funds | Real Rate of Return | |
|------------------------------|-----------------------------|----------------------------------|--|---------------------|-------------------------|
| | CPI | Increase in Average Salary | | Relative to CPI | Relative to Salaries |
| July 1, 2006 - June 30, 2007 | 2.7 % | 5.7 % | 18.6 *% | 15.9 % | 12.9 % |
| July 1, 2005 - June 30, 2006 | 4.3 | 2.1 | 11.5 * | 7.2 | 9.4 |
| July 1, 2004 - June 30, 2005 | 2.5 | 5.2 | 12.6 * | 10.1 | 7.4 |
| July 1, 2003 - June 30, 2004 | 3.3 | 4.2 | 17.2 * | 13.9 | 13.0 |
| July 1, 2002 - June 30, 2003 | 2.1 | 0.6 | 6.8 * | 4.7 | 6.2 |
| July 1, 2001 - June 30, 2002 | 1.1 | (2.1) | (6.4) * | (7.5) | (4.3) |
| July 1, 2000 - June 30, 2001 | 3.2 | 5.1 | (2.0) * | (5.2) | (7.1) |
| July 1, 1999 - June 30, 2000 | 3.7 | 5.6 | 7.9 * | 4.2 | 2.3 |
| July 1, 1998 - June 30, 1999 | 2.0 | 5.4 | 10.9 * | 8.9 | 5.5 |

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

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

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

Derivation of Experience Gain (Loss)

Year Ended June 30, 2007

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 | \$1,176.6 |
| (2) Normal cost from last valuation | 157.6 |
| (3) Actual employer contributions | 243.1 |
| (4) Interest accrual: $(1) \times .085 + [(2) - (3)] \times (.085 / 2)$ | 96.4 |
| (5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$ | 1,187.5 |
| (6) Change from any changes in benefits, assumptions, or methods | 12.8 |
| (7) Expected UAAL after changes: $(5) + (6)$ | 1,200.3 |
| (8) Actual UAAL at end of year | 1,123.1 |
| (9) Gain(loss): $(7) - (8)$ | 77.2 |
| (10) Gain (loss) as percent of actuarial accrued liabilities at start of year (\$8,013) | 1.0 % |

* *Unfunded actuarial accrued liabilities.*

| Valuation Date June 30 | Actuarial Gain (Loss) As a % of Beginning Accrued Liabilities |
|---------------------------------------|--|
| 1998 | 5.5 % |
| 1999 | 4.7 |
| 2000 | 2.7 |
| 2001 | (4.4) |
| 2002 | (3.8) |
| 2003 | (6.4) |
| 2004 | (6.0) |
| 2005 | (3.4) |
| 2006 | (0.1) |
| 2007 | 1.0 |

**Gains & (Losses) in Actuarial Accrued Liabilities
During Plan 2006 - 2007**

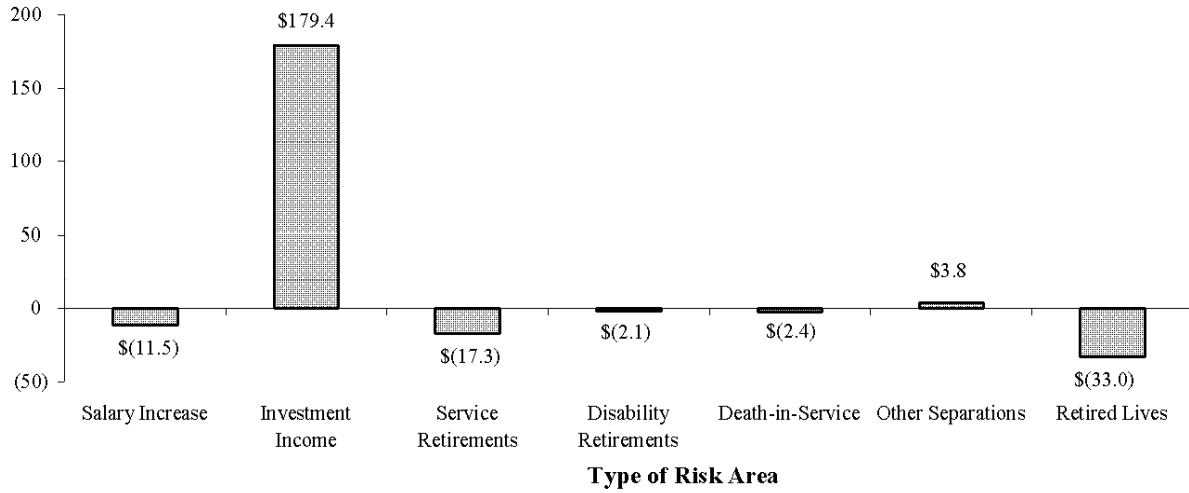
| Type of Activity | -- Gain (Loss) for Year -- | |
|--|----------------------------|-------------------------|
| | \$ in Millions | % of Accr. Liabilities* |
| <u>Decrement Experience:</u> | | |
| <i>Service Retirements</i> . If members retire at older ages than assumed, there is a gain. If at younger ages, a loss. | \$ (17.3) | (0.2) % |
| <i>Disability Retirements</i> . The occurrence of a gain or loss depends upon the age at disability and the incidence of disability. | (2.1) | 0.0 |
| <i>Death-in-Service</i> . 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. | (2.4) | 0.0 |
| <i>Other Separations</i> . If more actuarial liabilities are released by other separations than assumed, there is a gain. If smaller releases, a loss. | 3.8 | 0.0 |
| <i>Retired Lives</i> . If more deaths than assumed, there is a gain. If fewer deaths, a loss. | (33.0) | (0.4) |
| <u>Economic Experience:</u> | | |
| <i>Salary Increases</i> . 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. | (11.5) | (0.1) |
| <i>Investment Income</i> . If there is greater investment income than assumed, there is a gain. If less income, a loss. | 179.4 | 2.2 |
| <i>COLAs</i> . | 3.3 | 0.0 |
| <u>Other:</u> | | |
| Service credit reinstatements, service transfers, service purchases, net of contributions. | 4.3 | 0.1 |
| Larger than expected average compensation for new retirees. | (0.7) | 0.0 |
| Change in group size, data adjustments, retroactive benefit payments, option elections, and miscellaneous unidentified changes in the UAAL. | <u>(46.6)</u> | <u>(0.6)</u> |
| <i>Experience Gain or (Loss) During Year</i> | \$ 77.2 | 1.0 % |

* Beginning of year accrued liabilities totaled \$7,230 million.

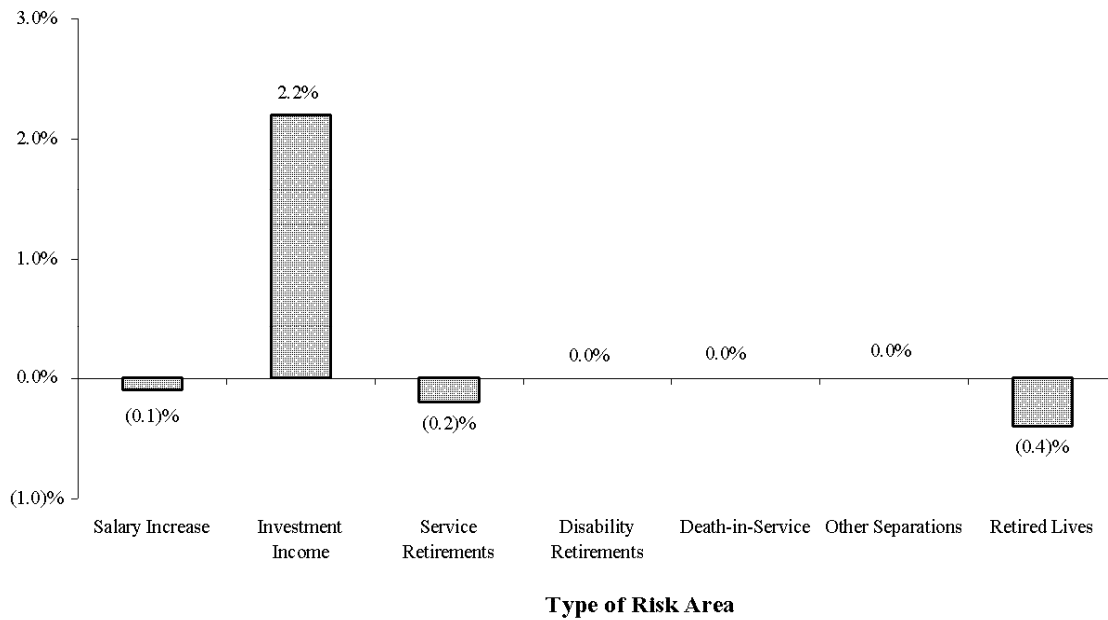
MOSERS

Gain (Loss) Analysis 2005-2006 Experience

Amount in \$ Millions



% of Actuarial Accrued Liabilities



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 |

* 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 2006 - 2007**

| | Market Value | Actuarial Value |
|--|----------------------------|-----------------|
| | ----- \$ in millions ----- | |
| 1. Assets at June 30, 2006 | \$6,988.7 | \$ 6,836.6 |
| 2. Contributions and Transfers in | 243.1 | 243.1 |
| 3. Investment Income | 1,279.1 | 751.6 |
| 4. Benefit Payments | 447.3 | 447.3 |
| 5. Administrative Expenses | 6.7 | 6.7 |
| 6. Assets at June 30, 2007 = (1) + (2) + (3) - (4) - (5) | 8,056.9 | 7,377.3 |
| 7. Actual Investment Increment/Mean Assets* | 18.58 % | 11.17 % |
| 8. Expected Investment Increment | | 8.50 % |
| 9. Investment Gain (Loss): | | |
| a. As a % of mean assets: (7) - (8) | | 2.67 % |
| b. \$ in millions | | <u>\$ 179.4</u> |

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

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

Salary Increases
To Members Active Both at Beginning & End of Year
During Plan Year 2006 - 2007

| Age Groups | Number | Salary Increases | |
|----------------|---------------|------------------|-------------|
| | | Actual* | Expected |
| Below 25 | 876 | 10.3% | 6.7% |
| 25- 29 | 3,519 | 8.2% | 6.4% |
| 30- 34 | 4,470 | 7.0% | 6.1% |
| 35- 39 | 5,742 | 6.0% | 5.7% |
| 40- 44 | 6,493 | 5.9% | 5.3% |
| 45- 49 | 7,867 | 5.5% | 5.0% |
| 50- 54 | 8,098 | 5.2% | 4.7% |
| 55- 59 | 6,670 | 4.9% | 4.7% |
| 60-64 | 3,270 | 4.6% | 4.0% |
| 65 & Over | 1,008 | 4.9% | 4.0% |
| Total | 48,013 | | |
| Average | | 5.7% | 5.1% |

* Excludes new entrants and terminations.

| Assumed Payroll Growth | Actual Payroll Growth | | |
|------------------------|-----------------------|--------|------|
| | 2007 | 2006 | 2005 |
| 4.0% | 3.9% | (1.6)% | 4.0% |

**Active Members Who Retired With
SERVICE OR REDUCED SERVICE RETIREMENT BENEFITS
During Plan Year 2006 - 2007**

| Ages | Men | | Women | | Total | |
|---------------|------------|--------------|------------|--------------|--------------|----------------|
| | Actual | Expected | Actual | Expected | Actual | Expected |
| Under 50 | 7 | 0.8 | 16 | 6.6 | 23 | 7.4 |
| 50 | 2 | 3.2 | 24 | 15.2 | 26 | 18.4 |
| 51 | 6 | 7.5 | 34 | 19.0 | 40 | 26.4 |
| 52 | 20 | 15.7 | 35 | 20.5 | 55 | 36.3 |
| 53 | 16 | 13.4 | 43 | 24.3 | 59 | 37.7 |
| 54 | 26 | 16.4 | 48 | 21.4 | 74 | 37.8 |
| 55 | 31 | 24.0 | 62 | 33.8 | 93 | 57.8 |
| 56 | 37 | 20.2 | 61 | 26.6 | 98 | 46.8 |
| 57 | 42 | 43.0 | 59 | 53.0 | 101 | 96.0 |
| 58 | 36 | 35.4 | 60 | 54.4 | 96 | 89.8 |
| 59 | 45 | 39.2 | 44 | 44.9 | 89 | 84.1 |
| 60 | 44 | 42.4 | 78 | 49.8 | 122 | 92.2 |
| 61 | 25 | 27.1 | 47 | 33.7 | 72 | 60.9 |
| 62 | 58 | 87.4 | 63 | 94.0 | 121 | 181.4 |
| 63 | 45 | 35.8 | 67 | 41.6 | 112 | 77.4 |
| 64 | 27 | 38.8 | 42 | 43.8 | 69 | 82.6 |
| 65 | 37 | 46.4 | 41 | 51.6 | 78 | 98.0 |
| 66 | 32 | 23.0 | 29 | 22.6 | 61 | 45.6 |
| 67 | 19 | 14.6 | 16 | 16.2 | 35 | 30.7 |
| 68 | 13 | 10.4 | 17 | 8.8 | 30 | 19.1 |
| 69 | 10 | 9.0 | 4 | 9.6 | 14 | 18.6 |
| 70 & Over | 31 | 69.3 | 33 | 53.9 | 64 | 123.2 |
| Totals | 609 | 622.9 | 923 | 745.5 | 1,532 | 1,368.2 |

| | Men | Women | Total |
|-------------------------------|------------|------------|------------|
| Average age at retirement | 60.1 years | 58.5 years | 59.2 years |
| Average service at retirement | 21.8 years | 22.6 years | 22.3 years |

Active Members Who Retired With DISABILITY BENEFITS
During Plan Year 2006 - 2007

| Ages | Men | | Women | | Total | |
|---------------|-----------|-------------|------------|--------------|------------|--------------|
| | Actual | Expected | Actual | Expected | Actual | Expected |
| Under 25 | - | 0.0 | 2 | 0.0 | 2 | 0.0 |
| 25- 29 | 1.0 | 0.5 | 4 | 1.2 | 5 | 1.6 |
| 30- 34 | 2 | 1.9 | 7 | 3.4 | 9 | 5.3 |
| 35- 39 | 2 | 3.7 | 2 | 7.2 | 4 | 10.8 |
| 40- 44 | 5 | 6.1 | 16 | 11.5 | 21 | 17.6 |
| 45- 49 | 8 | 9.9 | 17 | 19.8 | 25 | 29.7 |
| 50- 54 | 22 | 17.0 | 24 | 25.6 | 46 | 42.6 |
| 55- 59 | 27 | 22.3 | 25 | 28.8 | 52 | 51.2 |
| 60 & Over | 12 | 7.5 | 14 | 10.0 | 26 | 17.5 |
| Totals | 79 | 68.8 | 111 | 107.5 | 190 | 176.3 |

| | Men | Women | Total |
|-------------------------------|------------|------------|------------|
| Average age at disability | 52.6 years | 48.5 years | 50.2 years |
| Average service at disability | 10.0 years | 8.8 years | 9.4 years |

**Active Members Who Died
During Plan Year 2006 - 2007**

| Ages | Men | | Women | | Total | |
|---------------|-----------|-------------|-----------|-------------|-----------|--------------|
| | Actual* | Expected | Actual* | Expected | Actual* | Expected |
| Under 30 | 1 | 0.2 | - | 0.3 | 1 | 0.4 |
| 30- 34 | - | 0.7 | - | 0.9 | - | 1.6 |
| 35- 39 | 2 | 1.5 | 3 | 1.8 | 5 | 3.3 |
| 40- 44 | 3 | 2.8 | 4 | 2.9 | 7 | 5.7 |
| 45- 49 | 6 | 6.0 | 3 | 5.4 | 9 | 11.4 |
| 50- 54 | 10 | 12.5 | 9 | 9.4 | 19 | 22.0 |
| 55- 59 | 19 | 17.8 | 6 | 13.9 | 25 | 31.8 |
| 60- 64 | 7 | 15.7 | 5 | 10.9 | 12 | 26.7 |
| 65 & Over | 3 | 10.3 | 5 | 5.6 | 8 | 16.0 |
| Totals | 51 | 67.6 | 35 | 51.2 | 86 | 118.8 |

| | Men | Women | Total |
|--------------------------|------------|------------|------------|
| Average age at death | 53.5 years | 52.8 years | 53.2 years |
| Average service at death | 12.0 years | 12.3 years | 12.1 years |

Of the 86 active members who died in service during 2006-2007, 42 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 2006 - 2007

| Ages | Men | | Women | | Total | |
|---------------|------------|--------------|--------------|----------------|--------------|----------------|
| | Actual | Expected | Actual | Expected | Actual | Expected |
| Under 30 | 57 | 41.4 | 90 | 84.2 | 147 | 125.6 |
| 30- 34 | 101 | 89.9 | 188 | 175.9 | 289 | 265.9 |
| 35- 39 | 126 | 99.8 | 224 | 179.8 | 350 | 279.7 |
| 40- 44 | 111 | 95.3 | 182 | 164.4 | 293 | 259.7 |
| 45- 49 | 100 | 91.9 | 185 | 183.4 | 285 | 275.3 |
| 50- 54 | 106 | 75.0 | 140 | 138.5 | 246 | 213.5 |
| 55- 59 | 53 | 49.9 | 75 | 87.6 | 128 | 137.6 |
| 60 & Over | 13 | 13.8 | 18 | 20.3 | 31 | 34.1 |
| Totals | 667 | 557.2 | 1,102 | 1,034.1 | 1,769 | 1,591.3 |

| | Men | Women | Total |
|--------------------------------|------------|------------|------------|
| Average age at termination | 41.7 years | 40.9 years | 41.2 years |
| Average service at termination | 9.1 years | 9.0 years | 9.0 years |

**Active Members Who Left Active Status with NO BENEFIT PAYABLE
(Other than Deaths)
During Plan Year 2006 - 2007**

| Ages | Men | | Women | | Total | |
|---------------|--------------|--------------|--------------|----------------|--------------|----------------|
| | Actual | Expected | Actual | Expected | Actual | Expected |
| Under 20 | | | | | | |
| 20- 24 | 161 | 80.1 | 274 | 147.2 | 435 | 227.3 |
| 25- 29 | 301 | 193.9 | 473 | 305.0 | 774 | 498.9 |
| 30- 34 | 184 | 128.3 | 266 | 181.6 | 450 | 309.9 |
| 35- 39 | 115 | 102.6 | 202 | 153.0 | 317 | 255.6 |
| 40- 44 | 88 | 83.9 | 168 | 144.4 | 256 | 228.3 |
| 45- 49 | 97 | 79.3 | 142 | 133.6 | 239 | 212.9 |
| 50- 54 | 60 | 77.1 | 130 | 114.6 | 190 | 191.7 |
| 55- 59 | 59 | 72.7 | 83 | 84.5 | 142 | 157.2 |
| 60- 64 | 42 | 36.3 | 30 | 35.8 | 72 | 72.1 |
| 65- 69 | 14 | 8.8 | 9 | 6.7 | 23 | 15.5 |
| 70 & Over | 5 | 3.2 | 1 | 1.4 | 6 | 4.6 |
| Totals | 1,126 | 866.2 | 1,778 | 1,307.8 | 2,904 | 2,174.0 |

| | Men | Women | Total |
|--------------------------------|------------|------------|------------|
| Average age at termination | 35.4 years | 34.6 years | 34.9 years |
| Average service at termination | 2.0 years | 1.8 years | 1.9 years |

| Service at Termination | Men | | Women | | Total | |
|------------------------|--------------|--------------|--------------|----------------|--------------|----------------|
| | Actual | Expected | Actual | Expected | Actual | Expected |
| 0 | 359 | 242.2 | 691 | 370.5 | 1,050 | 612.7 |
| 1 | 299 | 226.7 | 469 | 384.6 | 768 | 611.2 |
| 2 | 200 | 158.3 | 278 | 221.4 | 478 | 379.7 |
| 3 | 183 | 157.0 | 221 | 190.3 | 404 | 347.4 |
| 4 | 85 | 82.0 | 119 | 141.0 | 204 | 223.0 |
| 5 & Over | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Totals | 1,126 | 866.2 | 1,778 | 1,307.8 | 2,904 | 2,174.0 |

**Comparison of Actual to Expected Deaths
Among Retired Lives
(Service Retirement Only)
As of June 30, 2007**

| Age | Male Deaths | | | Female Deaths | | | Total Deaths | | |
|---------------------|-------------|-------------|--------------|---------------|-------------|---------------|--------------|-------------|---------------|
| | Actual | Expected | Exposure | Actual | Expected | Exposure | Actual | Expected | Exposure |
| 50-54 | | 1 | 319 | 6 | 2 | 636 | 6 | 3 | 955 |
| 55-59 | 17 | 12 | 1,418 | 20 | 12 | 2,164 | 37 | 24 | 3,582 |
| 60-64 | 25 | 25 | 1,918 | 30 | 24 | 2,864 | 55 | 49 | 4,782 |
| 65-69 | 35 | 42 | 1,883 | 41 | 38 | 2,798 | 76 | 80 | 4,681 |
| 70-74 | 39 | 55 | 1,520 | 39 | 50 | 2,221 | 78 | 105 | 3,741 |
| 75-79 | 53 | 60 | 1,052 | 60 | 65 | 1,764 | 113 | 125 | 2,816 |
| 80-84 | 56 | 58 | 640 | 61 | 69 | 1,185 | 117 | 127 | 1,825 |
| 85-89 | 31 | 34 | 250 | 78 | 62 | 666 | 109 | 96 | 916 |
| 90-94 | 13 | 15 | 84 | 46 | 33 | 238 | 59 | 48 | 322 |
| 95-99 | 6 | 4 | 16 | 14 | 8 | 47 | 20 | 12 | 63 |
| 100 & Up | 1 | | 1 | 4 | 1 | 3 | 5 | 1 | 4 |
| Totals | 276 | 306 | 9,101 | 399 | 364 | 14,586 | 675 | 670 | 23,687 |
| Average Ages | 75.8 | 75.7 | 67.8 | 78.4 | 78.0 | 68.5 | 77.4 | 77.0 | 68.2 |

DATA USED IN VALUATIONS

**Missouri State Employees' Retirement System
 Summary of Benefit Provisions Evaluated
 June 30, 2007 Actuarial Valuation**

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

| MSEP | MSEP 2000 |
|---|---|
| <p>NORMAL RETIREMENT ELIGIBILITY (unreduced benefits)</p> <p><i>Members of the General Assembly:</i> Age 55 with completion of at least 3 full biennial assemblies.</p> <p><i>Statewide Elected Officials:</i> 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.</p> <p><i>General Employees:</i> The earliest of attaining: (1) Age 65 and active with at least 4 years of credited service. (2) Age 65 with at least five years of credited service. (3) Age 60 with at least 15 years of credited service. (4) Age 48 with age plus credited service equal to 80 or more.</p> <p><i>Uniform Water Patrol Employees:</i> 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.</p> <p>AVERAGE COMPENSATION USED FOR BENEFIT DETERMINATION The average annual compensation of a member for the three consecutive years of service during which pay was highest (overtime pay is included for purposes of determining Average Compensation). Lump sum payments are excluded, but unused sick leave may be converted to additional credited service (usable only for benefit computation, not eligibility).</p> | <p><i>Members of the General Assembly:</i> The earlier of attaining: (1) Age 55 with completion of at least 2 full biennial assemblies. (2) Age 50 with completion of at least 2 full biennial assemblies and with age plus credited service equal to 80 or more.</p> <p><i>Statewide Elected Officials:</i> The earlier of attaining: (1) Age 55 with at least 4 years of credited service as a statewide elected official. (2) Age 50 with age plus credited service equal to 80 or more.</p> <p><i>General Employees:</i> The earlier of attaining: (1) Age 62 with at least 5 years of credited service. (2) Age 48 with age plus credited service equal to 80 or more.</p> <p>The average annual pay of a member for the three consecutive years of service during which pay was highest (overtime pay is included for purposes of determining Average Pay). A lump sum payment is included unless it is for unused vacation or sick leave. However, unused sick leave may be converted to additional credited service (usable only for benefit computation, not eligibility).</p> |

| MSEP | MSEP 2000 |
|---|--|
| <p>BENEFIT AMOUNT</p> <p><i>Members of the General Assembly:</i> \$150 per month per biennial assembly served.</p> <p><i>Statewide Elected Officials:</i></p> <p>(1) Less than 12 years of credited service: 1.6% of Average Compensation times years of credited service.</p> <p>(2) 12 or more years of credited service: 50% of pay of the highest elected position held prior to retirement.</p> <p><i>General Employees:</i></p> <p>1.6% of Average Compensation times years of credited service.</p> <p>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.</p> <p><i>Uniformed Water Patrol Employees:</i> 2.13% of Average Compensation times years of credited service.</p> | <p><i>Members of the General Assembly:</i> 1/24 of pay times first 24 years of credited service as a member of the General Assembly.</p> <p><i>Statewide Elected Officials:</i> 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.</p> <p><i>General Employees:</i></p> <p>Life Benefit: 1.7% of Average Pay times years of credited service.</p> <p>Temporary Benefit: If member retires between ages 50 and 62 with age plus credited service equal to 80 or more, a temporary benefit is payable until the attainment of the minimum age at which reduced social security benefits are payable, in the amount of 0.8% of Average Pay times years of credited service.</p> <p>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.</p> |

MSEP**MSEP 2000****EARLY RETIREMENT FOR GENERAL EMPLOYEES:****Eligibility:**

Age 55 with at least 10 years of credited service.

Amount:

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

VESTED DEFERRED BENEFITS

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

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

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.

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

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

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

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

MSEP**MSEP 2000****POST-RETIREMENT BENEFIT ADJUSTMENTS**

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

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

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

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

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

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

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

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

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

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

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

| MSEP | MSEP 2000 |
|--|--------------|
| <p>BACKDROP</p> <p>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.</p> <p>A member may elect the back DROP period for the accumulation of the BackDROP account in 12 month increments prior to their actual retirement date or back to the earliest possible date. This results in a BackDROP period of two to five years depending upon the individual situation.</p> <p>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.</p> <p>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.</p> <p>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.</p> | <p>Same.</p> |

**Retirants & Beneficiaries as of June 30, 2007
Tabulated by Plan Year of Retirement**

| Plan Year Ended 6/30 | No. | Total Annual Benefits | Average Monthly Benefit |
|----------------------------|---------------|-----------------------------|-------------------------------|
| 2007 * | 997 | \$ 14,938,594 | \$1,249 |
| 2006 | 2,294 | 31,862,388 | 1,157 |
| 2005 | 2,095 | 28,799,016 | 1,146 |
| 2004 | 1,555 | 20,721,132 | 1,110 |
| 2003 | 2,821 | 45,753,528 | 1,352 |
| 2002 | 2,099 | 32,130,732 | 1,276 |
| 2001 | 1,797 | 28,757,064 | 1,334 |
| 2000 | 2,338 | 38,291,376 | 1,365 |
| 1999 | 1,320 | 19,304,796 | 1,219 |
| 1998 | 1,257 | 18,969,636 | 1,258 |
| 1997 | 1,107 | 16,288,332 | 1,226 |
| 1996 | 972 | 13,537,356 | 1,161 |
| 1995 | 1,087 | 15,865,164 | 1,216 |
| 1994 | 765 | 9,746,400 | 1,062 |
| 1993 | 830 | 11,613,060 | 1,166 |
| 1992 | 696 | 9,165,816 | 1,097 |
| 1991 | 690 | 9,803,532 | 1,184 |
| 1990 | 529 | 7,106,280 | 1,119 |
| 1989 | 516 | 6,330,732 | 1,022 |
| 1988 | 520 | 6,533,976 | 1,047 |
| 1987 | 393 | 4,089,576 | 867 |
| 1986 | 366 | 3,274,644 | 746 |
| 1985 | 291 | 2,591,904 | 742 |
| 1984 | 224 | 1,959,036 | 729 |
| 1983 | 226 | 2,047,368 | 755 |
| 1982 | 199 | 1,696,068 | 710 |
| 1981 | 164 | 1,342,932 | 682 |
| 1980 | 112 | 913,920 | 680 |
| 1979 | 81 | 582,168 | 599 |
| 1978 | 82 | 616,932 | 627 |
| 1977 | 83 | 562,380 | 565 |
| 1976 | 70 | 473,940 | 564 |
| 1975 | 49 | 377,940 | 643 |
| 1974 | 30 | 139,452 | 387 |
| 1973 | 24 | 163,596 | 568 |
| 1972 | 4 | 30,792 | 642 |
| 1971 | 4 | 24,600 | 513 |
| 1969 | 3 | 19,152 | 532 |
| 1966 | 1 | 5,700 | 475 |
| 1964 & PRIOR | 1 | 8,100 | 675 |
| Totals | 28,692 | \$406,439,110 | \$1,180 |

* *Eleven months ended May 31, 2007.*

Benefits Payable June 30, 2007
Tabulated by Option and Type of Benefit

MSEP Benefits*

| Type of Benefit | No. | Annual Funded Benefits |
|--------------------------|---------------|---------------------------|
| Service Retirement | | |
| Life Annuity | 4,764 | \$ 50,725,961 |
| 50% Joint and Survivor | 5,099 | 73,679,258 |
| 75% Joint and Survivor | 3 | 47,168 |
| 100% Joint and Survivor | 2,363 | 40,219,201 |
| 5 Year Certain and Life | 120 | 1,153,106 |
| 10 Year Certain and Life | 112 | 900,360 |
| Survivor Beneficiary | 1,841 | 17,132,116 |
| Total | 14,302 | 183,857,170 |
| Disability Retirement | 12 | 39,588 |
| Death-in-Service | 1,303 | 10,980,615 |
| Total | 15,617 | \$ 194,877,373 |

** Includes 11 Lincoln University members and 35 members of the ALJ.*

MSEP 2000 Benefits

| Type of Benefit | No. | Annual Funded Benefits |
|--------------------------|---------------|---------------------------|
| Service Retirement | | |
| Life Annuity | 8,475 | \$ 126,942,766 |
| 50% Joint and Survivor | 1,982 | 42,968,886 |
| 100% Joint and Survivor | 1,754 | 32,576,523 |
| 5 Year Certain and Life | 50 | 698,011 |
| 10 Year Certain and Life | 341 | 4,133,280 |
| 15 Year Certain and Life | 224 | 2,007,907 |
| Survivor Beneficiary | 234 | 2,197,735 |
| Total | 13,060 | 211,525,108 |
| Disability Retirement | 0 | 0 |
| Death-in-Service | 15 | 35,713 |
| Total | 13,075 | \$ 211,560,821 |

Total Benefits Payable June 30, 2007

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 | | | | | 74 | \$ 290,577 | 74 | \$ 290,577 |
| 20-24 | | | | | 25 | 77,155 | 25 | 77,155 |
| 25-29 | | | | | 7 | 51,300 | 7 | 51,300 |
| 30-34 | | | | | 23 | 131,679 | 23 | 131,679 |
| 35-39 | | | | | 39 | 235,126 | 39 | 235,126 |
| 40-44 | | | | | 56 | 352,935 | 56 | 352,935 |
| 45-49 | 14 | \$ 377,280 | | | 105 | 726,800 | 119 | 1,104,080 |
| 50-54 | 770 | 21,460,655 | 2 | 6,072 | 197 | 1,788,178 | 969 | 23,254,905 |
| 55-59 | 3,513 | 75,417,914 | 8 | 25,404 | 300 | 2,714,561 | 3,821 | 78,157,879 |
| 60-64 | 5,366 | 80,089,309 | 2 | 8,112 | 337 | 3,472,501 | 5,705 | 83,569,922 |
| 65-69 | 5,102 | 64,849,203 | | | 406 | 4,661,467 | 5,508 | 69,510,670 |
| 70-74 | 3,932 | 52,691,556 | | | 515 | 4,972,238 | 4,447 | 57,663,794 |
| 75-79 | 2,934 | 40,690,490 | | | 551 | 4,625,841 | 3,485 | 45,316,331 |
| 80-84 | 2,105 | 25,290,301 | | | 437 | 3,783,883 | 2,542 | 29,074,184 |
| 85-89 | 1,073 | 11,216,536 | | | 230 | 1,896,974 | 1,303 | 13,113,510 |
| 90-94 | 372 | 3,211,182 | | | 72 | 508,571 | 444 | 3,719,753 |
| 95 | 44 | 294,015 | | | 6 | 20,097 | 50 | 314,112 |
| 96 | 23 | 196,580 | | | 2 | 11,436 | 25 | 208,016 |
| 97 | 15 | 123,890 | | | 3 | 7,932 | 18 | 131,822 |
| 98 | 14 | 76,340 | | | 1 | 4,296 | 15 | 80,636 |
| 99 | 7 | 44,196 | | | 1 | 2,421 | 8 | 46,617 |
| 100 | 2 | 17,136 | | | 1 | 2,784 | 3 | 19,920 |
| 103 | 1 | 5,844 | | | 1 | 816 | 2 | 6,660 |
| 105 | | | | | 1 | 2,016 | 1 | 2,016 |
| 106 | | | | | 1 | 911 | 1 | 911 |
| 107 | | | | | 2 | 3,684 | 2 | 3,684 |
| Totals | 25,287 | \$ 376,052,427 | 12 | \$ 39,588 | 3,393 | \$ 30,346,179 | 28,692 | \$ 406,438,194 |

Average age at Retirement: 60.4 years.

Average age now: 69.0 years.

Count includes 35 members of the ALJ.

Summary of Member Data Included in Valuation

June 30, 2007

Active Members

| Valuation Group | Number | Payroll | Group Averages | | |
|---------------------------------|---------------|-------------------------|------------------|-------------|---------------|
| | | | Salary | Age(yrs.) | Service(yrs.) |
| Regular State Employees | 50,331 | \$ 1,640,905,677 | \$ 32,602 | 44.6 | 10.3 |
| Elected Officials | 6 | 592,060 | 98,677 | 47.4 | 6.3 |
| Legislative Clerks | 55 | 1,666,865 | 30,307 | 57.9 | 18.3 |
| Legislators | 198 | 6,219,774 | 31,413 | 49.7 | 1.6 |
| Uniformed Water Patrol | 92 | 4,415,599 | 47,996 | 39.2 | 14.0 |
| Conservation Department | 1,541 | 62,182,642 | 40,352 | 43.9 | 13.5 |
| Contract Employees | 2,099 | 127,066,006 | 60,536 | 53.6 | 17.8 |
| Administrative Law Judges | 41 | 3,594,707 | 87,676 | 52.4 | 13.3 |
| Total in Funding Program | 54,363 | \$ 1,846,643,330 | \$ 33,969 | 45.0 | 10.7 |
| Other Judges | 400 | 40,846,581 | 102,116 | 54.4 | 11.2 |

Retired Lives

| Type of Benefit Payment | No. | Annual Benefit | Group Averages | |
|---------------------------------|---------------|-----------------------|------------------|-------------|
| | | | Benefit | Age(yrs.) |
| Retirement | 25,287 | \$ 376,052,427 | \$ 14,871 | 69.1 |
| Disability | 12 | 39,588 | 3,299 | 57.3 |
| Survivor of Active Member | 1,318 | 11,016,328 | 8,358 | 59.6 |
| Survivor of Retired Member | 2,075 | 19,329,851 | 9,316 | 74.0 |
| Total in Funding Program | 28,692 | \$ 406,438,194 | \$ 14,166 | 69.0 |
| Other Judges | 437 | 21,666,281 | 49,580 | 72.8 |

This valuation also includes 16,518 terminated vested members, 277 members on leave and 1,031 members on long-term disability.

Active Members in Funding Program as of June 30, 2007

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 | 47 | | | | | | | 47 | \$ 926,565 |
| 20-24 | 1,580 | 18 | | | | | | 1,598 | 37,261,740 |
| 25-29 | 3,811 | 811 | 10 | | | | | 4,632 | 128,408,471 |
| 30-34 | 2,502 | 2,177 | 480 | 5 | | | | 5,164 | 157,926,545 |
| 35-39 | 2,066 | 2,196 | 1,769 | 378 | 27 | | | 6,436 | 208,102,452 |
| 40-44 | 1,839 | 1,831 | 1,456 | 1,210 | 592 | 33 | | 6,961 | 236,292,484 |
| 45-49 | 1,832 | 1,899 | 1,415 | 1,255 | 1,230 | 748 | 79 | 8,458 | 296,581,060 |
| 50-54 | 1,549 | 1,761 | 1,382 | 1,287 | 1,176 | 1,023 | 479 | 8,657 | 314,968,885 |
| 55-59 | 1,280 | 1,497 | 1,160 | 1,201 | 1,010 | 622 | 564 | 7,334 | 270,871,970 |
| 60 | 210 | 248 | 224 | 193 | 146 | 60 | 76 | 1,157 | 42,713,970 |
| 61 | 165 | 205 | 192 | 176 | 118 | 73 | 72 | 1,001 | 37,745,041 |
| 62 | 100 | 161 | 132 | 113 | 86 | 42 | 39 | 673 | 26,103,554 |
| 63 | 76 | 126 | 93 | 83 | 65 | 28 | 34 | 505 | 19,265,394 |
| 64 | 64 | 99 | 110 | 72 | 52 | 28 | 47 | 472 | 18,937,010 |
| 65 | 62 | 95 | 63 | 62 | 31 | 13 | 39 | 365 | 14,373,272 |
| 66 | 14 | 53 | 56 | 46 | 17 | 11 | 28 | 225 | 8,595,405 |
| 67 | 17 | 41 | 26 | 29 | 14 | 7 | 15 | 149 | 6,252,303 |
| 68 | 20 | 24 | 21 | 20 | 9 | 6 | 22 | 122 | 5,145,162 |
| 69 | 20 | 16 | 21 | 17 | 6 | 6 | 18 | 104 | 4,445,001 |
| 70 & Over | 42 | 57 | 61 | 56 | 35 | 15 | 37 | 303 | 11,727,046 |
| Totals | 17,296 | 13,315 | 8,671 | 6,203 | 4,614 | 2,715 | 1,549 | 54,363 | \$ 1,846,643,330 |

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

Age: 45.0 years.

Service: 10.7 years.

Annual Pay: \$33,969

Includes 41 ALJ members.

* A breakdown by gender is included on pages 65 and 66.

Development of Actuarial Value of Assets

| Valuation Date: | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|-----------------|------------------------|----------------|----------------|----------------|----------------|
| A. Actuarial Value Beginning of Year | \$6,435,344,102 | \$6,836,567,188 | | | | |
| B. Market Value End of Year | 6,988,714,635 | 8,056,993,537 | | | | |
| C. Market Value Beginning of Year | 6,435,344,102 | 6,988,714,635 | | | | |
| D. Cash Flow | | | | | | |
| D1. Contributions | 230,467,123 | 243,122,610 | | | | |
| D2. Benefit Payments | (400,304,770) | (447,292,751) | | | | |
| D3. Administrative Expenses | (6,486,597) | (6,689,710) | | | | |
| D4. Net | (176,324,244) | (210,859,851) | | | | |
| E. Investment Income | | | | | | |
| E1. Market Total: B - C - D4 | 729,694,777 | 1,279,138,753 | | | | |
| E2. Assumed Rate | 8.5% | 8.5% | | | | |
| E3. Amount for Immediate Recognition: E2*(A+D4*.5) | 539,510,468 | 572,146,667 | | | | |
| E4. Amount for Phased-In Recognition: E1 - E3 | 190,184,309 | 706,992,086 | | | | |
| F. Phased-In Recognition of Investment Income | | | | | | |
| F1. Current Year: 0.2 * E4 | 38,036,862 | 141,398,417 | | | | |
| F2. First Prior Year | | 38,036,862 | \$ 141,398,417 | | | |
| F3. Second Prior Year | | | 38,036,862 | \$ 141,398,417 | | |
| F4. Third Prior Year | | | | 38,036,862 | \$ 141,398,417 | |
| F5. Fourth Prior Year | | | | | 38,036,861 | \$ 141,398,418 |
| F6. Total Recognized Investment Gain: Sum(F1:F5) | 38,036,862 | 179,435,279 | 179,435,279 | 179,435,279 | 179,435,278 | 141,398,418 |
| G. Adjustment | - | - | | | | |
| H. Actuarial Value End of Year: A + D4 + E3 + F6 + G | | | | | | |
| Minimum 80% of B, Maximum 120% of B | \$6,836,567,188 | \$7,377,289,283 | | | | |
| I. Difference Between Market & Actuarial Values: B-H | 152,147,447 | 679,704,254 | | | | |
| J. Recognized Rate of Return | 9.10% | 11.17% | | | | |
| K. Market Value Rate of Return | 11.50% | 18.58% | | | | |
| L. Actuarial Value as a % of Market Value: H / B | 98% | 92% | | | | |

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, 2007

| | Market Value | Actuarial Value |
|---|---------------------|------------------------|
| 1. Assets at June 30, 2006 | \$6,988,714,635 | \$6,836,567,188 |
| 2. Contributions and Transfers in | 243,122,610 | 243,122,610 |
| 3. Investment Increment* | 1,279,138,753 | 751,581,946 |
| 4. Benefit Payments and Transfers out | 447,292,751 | 447,292,751 |
| 5. Administrative and Misc. Expenses | 6,689,710 | 6,689,710 |
| 6. Assets at June 30, 2007 (1) + (2) + (3) - (4) - (5) | \$8,056,993,537 | \$7,377,289,283 |
| 7. Investment Increment/Mean Assets** | 18.58% | 11.17% |

* *Net of investment expenses.*

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

I = Investment Increment

A = Beginning of year asset value

B = End of year asset value

CASH FLOW PROJECTION

The Nature of Actuarial Projections

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

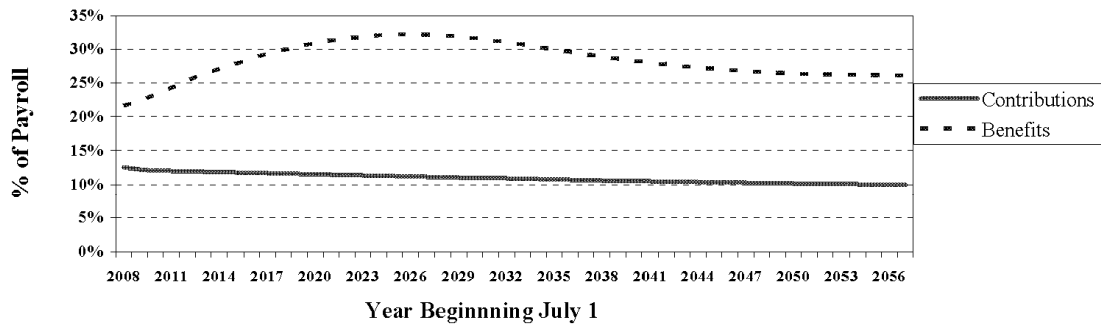
Whereas valuations provide a snapshot of the retirement system as of a given date, projections provide a moving picture. Projected active and retired groups are developed from year to year by the application of assumptions regarding pre-retirement withdrawal from service, retirements, deaths, disabilities,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

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

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

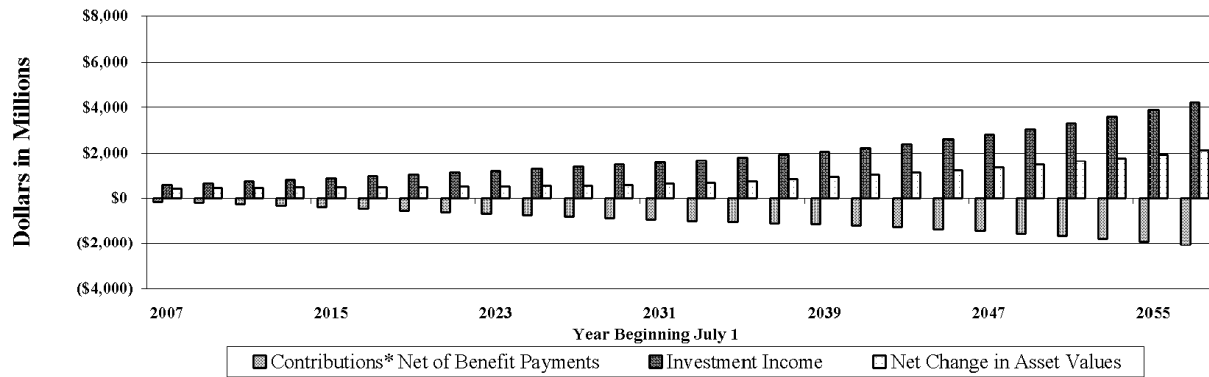
50-Year Cash Flow Projection Based on Valuation Assumptions

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



* Does not include contributions for administrative expenses.

Net Change in Asset Values

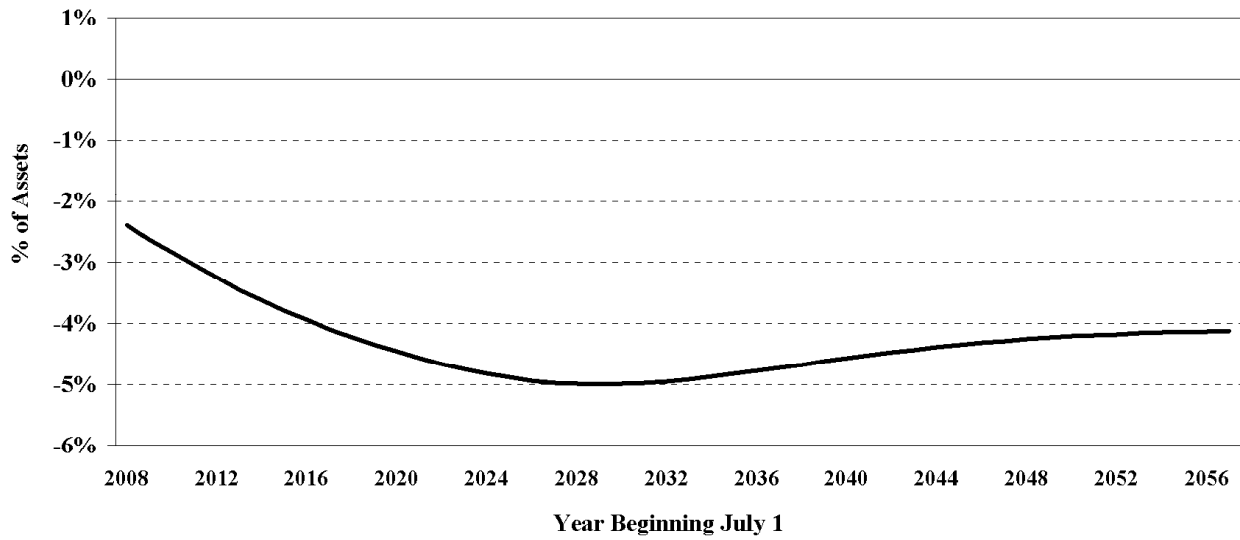


Fifty-Year Cash Flow Projection (in Thousands)

| Year Ended June 30 | Assets BOY | Contributions* | | | Benefits | Investment Income | Assets EOY | |
|-----------------------|-------------------|----------------|----------|------------------|------------------|----------------------|-------------|-------------|
| | | Normal | UAAL | Total | | | Inflated | 2008 \$ |
| 2008 | \$7,377,289 | \$163,567 | \$76,216 | \$239,783 | \$416,595 | \$619,555 | \$7,820,032 | \$7,820,032 |
| 2009 | 7,820,032 | 169,903 | 72,787 | 242,690 | 448,401 | 655,960 | 8,270,281 | 7,952,194 |
| 2010 | 8,270,281 | 176,377 | 72,307 | 248,684 | 483,700 | 692,986 | 8,728,251 | 8,069,759 |
| 2011 | 8,728,251 | 183,056 | 73,742 | 256,798 | 522,703 | 730,602 | 9,192,948 | 8,172,497 |
| 2012 | 9,192,948 | 189,954 | 75,208 | 265,162 | 564,106 | 768,696 | 9,662,700 | 8,259,716 |
| 2013 | 9,662,700 | 197,080 | 76,707 | 273,787 | 607,580 | 807,144 | 10,136,051 | 8,331,095 |
| 2014 | 10,136,051 | 204,477 | 78,250 | 282,727 | 650,218 | 845,945 | 10,614,505 | 8,388,797 |
| 2015 | 10,614,505 | 212,181 | 79,834 | 292,015 | 693,677 | 885,162 | 11,098,005 | 8,433,572 |
| 2016 | 11,098,005 | 220,236 | 81,461 | 301,697 | 738,823 | 924,752 | 11,585,631 | 8,465,507 |
| 2017 | 11,585,631 | 228,652 | 83,116 | 311,768 | 785,246 | 964,656 | 12,076,809 | 8,485,006 |
| 2018 | 12,076,809 | 237,449 | 84,804 | 322,253 | 832,211 | 1,004,856 | 12,571,707 | 8,492,995 |
| 2019 | 12,571,707 | 246,667 | 86,532 | 333,199 | 879,588 | 1,045,374 | 13,070,692 | 8,490,472 |
| 2020 | 13,070,692 | 256,303 | 88,285 | 344,588 | 927,180 | 1,086,249 | 13,574,349 | 8,478,498 |
| 2021 | 13,574,349 | 266,370 | 90,070 | 356,440 | 975,807 | 1,127,496 | 14,082,478 | 8,457,571 |
| 2022 | 14,082,478 | 276,902 | 91,893 | 368,795 | 1,024,471 | 1,169,146 | 14,595,948 | 8,428,796 |
| 2023 | 14,595,948 | 287,915 | 93,750 | 381,665 | 1,073,495 | 1,211,252 | 15,115,370 | 8,393,028 |
| 2024 | 15,115,370 | 299,424 | 95,639 | 395,063 | 1,122,669 | 1,253,884 | 15,641,648 | 8,351,204 |
| 2025 | 15,641,648 | 311,455 | 97,566 | 409,021 | 1,172,035 | 1,297,113 | 16,175,747 | 8,304,196 |
| 2026 | 16,175,747 | 324,020 | 99,527 | 423,547 | 1,221,123 | 1,341,041 | 16,719,212 | 8,253,073 |
| 2027 | 16,719,212 | 337,134 | 101,522 | 438,656 | 1,268,920 | 1,385,848 | 17,274,796 | 8,199,351 |
| 2028 | 17,274,796 | 350,828 | 103,559 | 454,387 | 1,315,378 | 1,431,765 | 17,845,570 | 8,144,485 |
| 2029 | 17,845,570 | 365,133 | 105,636 | 470,769 | 1,361,508 | 1,479,017 | 18,433,848 | 8,089,392 |
| 2030 | 18,433,848 | 380,052 | 107,746 | 487,798 | 1,406,800 | 1,527,819 | 19,042,665 | 8,035,155 |
| 2031 | 19,042,665 | 395,589 | 109,892 | 505,481 | 1,451,437 | 1,578,423 | 19,675,132 | 7,982,719 |
| 2032 | 19,675,132 | 411,758 | 112,077 | 523,835 | 1,496,412 | 1,631,051 | 20,333,606 | 7,932,577 |
| 2033 | 20,333,606 | 428,580 | 114,304 | 542,884 | 1,540,607 | 1,685,953 | 21,021,836 | 7,885,644 |
| 2034 | 21,021,836 | 446,078 | 116,575 | 562,653 | 1,585,454 | 1,743,387 | 21,742,422 | 7,842,257 |
| 2035 | 21,742,422 | 464,274 | 118,889 | 583,163 | 1,630,795 | 1,803,581 | 22,498,371 | 7,802,808 |
| 2036 | 22,498,371 | 483,191 | 121,250 | 604,441 | 1,676,957 | 1,866,780 | 23,292,635 | 7,767,569 |
| 2037 | 23,292,635 | 502,843 | 123,653 | 626,496 | 1,725,300 | 1,933,175 | 24,127,006 | 7,736,358 |
| 2038 | 24,127,006 | 523,252 | 126,104 | 649,356 | 1,774,658 | 2,002,969 | 25,004,673 | 7,709,408 |
| 2039 | 25,004,673 | 544,445 | 128,604 | 673,049 | 1,826,230 | 2,076,387 | 25,927,879 | 7,686,586 |
| 2040 | 25,927,879 | 566,450 | 131,154 | 697,604 | 1,880,589 | 2,153,593 | 26,898,487 | 7,667,627 |
| 2041 | 26,898,487 | 589,302 | 133,757 | 723,059 | 1,937,221 | 2,234,770 | 27,919,095 | 7,652,461 |
| 2042 | 27,919,095 | 613,034 | 136,413 | 749,447 | 1,996,944 | 2,320,104 | 28,991,702 | 7,640,824 |
| 2043 | 28,991,702 | 637,682 | 139,122 | 776,804 | 2,059,791 | 2,409,768 | 30,118,483 | 7,632,489 |
| 2044 | 30,118,483 | 663,285 | 141,888 | 805,173 | 2,125,474 | 2,503,957 | 31,302,139 | 7,627,352 |
| 2045 | 31,302,139 | 689,884 | 144,709 | 834,593 | 2,195,357 | 2,602,850 | 32,544,225 | 7,625,009 |
| 2046 | 32,544,225 | 717,524 | 147,589 | 865,113 | 2,268,241 | 2,706,627 | 33,847,724 | 7,625,399 |
| 2047 | 33,847,724 | 746,250 | 150,528 | 896,778 | 2,345,322 | 2,815,493 | 35,214,673 | 7,628,224 |
| 2048 | 35,214,673 | 776,104 | 153,526 | 929,630 | 2,426,813 | 2,929,616 | 36,647,106 | 7,633,191 |
| 2049 | 36,647,106 | 807,133 | 156,584 | 963,717 | 2,512,705 | 3,049,171 | 38,147,289 | 7,640,060 |
| 2050 | 38,147,289 | 839,387 | 159,704 | 999,091 | 2,603,389 | 3,174,338 | 39,717,329 | 7,648,562 |
| 2051 | 39,717,329 | 872,920 | 162,888 | 1,035,808 | 2,698,609 | 3,305,304 | 41,359,832 | 7,658,526 |
| 2052 | 41,359,832 | 907,785 | 166,136 | 1,073,921 | 2,798,880 | 3,442,274 | 43,077,147 | 7,669,729 |
| 2053 | 43,077,147 | 944,039 | 169,449 | 1,113,488 | 2,904,231 | 3,585,450 | 44,871,854 | 7,681,990 |
| 2054 | 44,871,854 | 981,741 | 172,829 | 1,154,570 | 3,014,725 | 3,735,052 | 46,746,751 | 7,695,163 |
| 2055 | 46,746,751 | 1,020,952 | 176,278 | 1,197,230 | 3,130,620 | 3,891,305 | 48,704,666 | 7,709,099 |
| 2056 | 48,704,666 | 1,061,736 | 179,795 | 1,241,531 | 3,252,019 | 4,054,451 | 50,748,629 | 7,723,676 |
| 2057 | 50,748,629 | 1,104,157 | 183,383 | 1,287,540 | 3,379,033 | 4,224,744 | 52,881,880 | 7,738,794 |

* Does not include contributions for administrative expenses.

50-Year Cash Flow Projection
Projected Net External Cash Flow Expressed as a Percent of Assets



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

**Fifty-Year Cash Flow Projection
Analysis of Projected Net Cash Flow**

| Year Ended June 30 | External Cash Flow | | Net External Cash Flow | | Year Ended June 30 | External Cash Flow | | Net External Cash Flow | |
|-----------------------|--------------------|-----------|------------------------|-------------|-----------------------|--------------------|-------------|------------------------|-------------|
| | Inflow* | Outflow | \$ | % of Assets | | Inflow* | Outflow | \$ | % of Assets |
| 2008 | \$239,783 | \$416,595 | \$ (176,812) | (2.40)% | 2033 | \$542,884 | \$1,540,607 | \$ (997,723) | (4.91)% |
| 2009 | 242,690 | 448,401 | (205,711) | (2.63)% | 2034 | 562,653 | 1,585,454 | (1,022,801) | (4.87)% |
| 2010 | 248,684 | 483,700 | (235,016) | (2.84)% | 2035 | 583,163 | 1,630,795 | (1,047,632) | (4.82)% |
| 2011 | 256,798 | 522,703 | (265,905) | (3.05)% | 2036 | 604,441 | 1,676,957 | (1,072,516) | (4.77)% |
| 2012 | 265,162 | 564,106 | (298,944) | (3.25)% | 2037 | 626,496 | 1,725,300 | (1,098,804) | (4.72)% |
| 2013 | 273,787 | 607,580 | (333,793) | (3.45)% | 2038 | 649,356 | 1,774,658 | (1,125,302) | (4.66)% |
| 2014 | 282,727 | 650,218 | (367,491) | (3.63)% | 2039 | 673,049 | 1,826,230 | (1,153,181) | (4.61)% |
| 2015 | 292,015 | 693,677 | (401,662) | (3.78)% | 2040 | 697,604 | 1,880,589 | (1,182,985) | (4.56)% |
| 2016 | 301,697 | 738,823 | (437,126) | (3.94)% | 2041 | 723,059 | 1,937,221 | (1,214,162) | (4.51)% |
| 2017 | 311,768 | 785,246 | (473,478) | (4.09)% | 2042 | 749,447 | 1,996,944 | (1,247,497) | (4.47)% |
| 2018 | 322,253 | 832,211 | (509,958) | (4.22)% | 2043 | 776,804 | 2,059,791 | (1,282,987) | (4.43)% |
| 2019 | 333,199 | 879,588 | (546,389) | (4.35)% | 2044 | 805,173 | 2,125,474 | (1,320,301) | (4.38)% |
| 2020 | 344,588 | 927,180 | (582,592) | (4.46)% | 2045 | 834,593 | 2,195,357 | (1,360,764) | (4.35)% |
| 2021 | 356,440 | 975,807 | (619,367) | (4.56)% | 2046 | 865,113 | 2,268,241 | (1,403,128) | (4.31)% |
| 2022 | 368,795 | 1,024,471 | (655,676) | (4.66)% | 2047 | 896,778 | 2,345,322 | (1,448,544) | (4.28)% |
| 2023 | 381,665 | 1,073,495 | (691,830) | (4.74)% | 2048 | 929,630 | 2,426,813 | (1,497,183) | (4.25)% |
| 2024 | 395,063 | 1,122,669 | (727,606) | (4.81)% | 2049 | 963,717 | 2,512,705 | (1,548,988) | (4.23)% |
| 2025 | 409,021 | 1,172,035 | (763,014) | (4.88)% | 2050 | 999,091 | 2,603,389 | (1,604,298) | (4.21)% |
| 2026 | 423,547 | 1,221,123 | (797,576) | (4.93)% | 2051 | 1,035,808 | 2,698,609 | (1,662,801) | (4.19)% |
| 2027 | 438,656 | 1,268,920 | (830,264) | (4.97)% | 2052 | 1,073,921 | 2,798,880 | (1,724,959) | (4.17)% |
| 2028 | 454,387 | 1,315,378 | (860,991) | (4.98)% | 2053 | 1,113,488 | 2,904,231 | (1,790,743) | (4.16)% |
| 2029 | 470,769 | 1,361,508 | (890,739) | (4.99)% | 2054 | 1,154,570 | 3,014,725 | (1,860,155) | (4.15)% |
| 2030 | 487,798 | 1,406,800 | (919,002) | (4.99)% | 2055 | 1,197,230 | 3,130,620 | (1,933,390) | (4.14)% |
| 2031 | 505,481 | 1,451,437 | (945,956) | (4.97)% | 2056 | 1,241,531 | 3,252,019 | (2,010,488) | (4.13)% |
| 2032 | 523,835 | 1,496,412 | (972,577) | (4.94)% | 2057 | 1,287,540 | 3,379,033 | (2,091,493) | (4.12)% |

* Does not include contributions for administrative expenses.

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

APPENDIX

Appendix
Summary of Assumptions Used
for the June 30, 2007 Actuarial Valuation

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

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

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

The active member payroll is assumed to increase 4.0% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation.

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 3.5% and the annual COLA is assumed to be 2.8% (80% of 3.5%), on a compounded basis.

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.

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

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

Appendix

Summary of Assumptions Used for the June 30, 2007 Actuarial Valuation

The probabilities of age and service retirement are shown on page 55. It was assumed that each member will be granted one half year of service credit for unused leave upon retirement and military service purchases.

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

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

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

Actuarial value of assets. Valuation assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a closed five-year period. Valuation assets are not permitted to deviate from the market value by more than 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 male General Employees with an age at hire of 35 years or less, for female General Employees, for Contract Employees, for Elected and for General Assembly were based on MSEP 2000 benefits. All others were based on MSEP benefits. The backDROP was only explicitly valued for those assumed to receive MSEP 2000 benefits.

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

**Separations From Active Employment Before Service Retirement
& Individual Pay Increase Assumptions
June 30, 2007**

| Sample Ages | Years of Service | Percent of Active Members ----- Separating within the Next Year ----- | | | | | | Pay Increase Assumptions -- For An Individual Employee -- | | |
|----------------|---------------------|--|--------|--------|--------|------------|--------|--|-------------------|-----------------------|
| | | Withdrawal | | Death* | | Disability | | Merit & Seniority** | Base (Economy) | Increase Next Year |
| | | Men | Women | Men | Women | Men | Women | | | |
| | 0 | 23.8 % | 24.7 % | | | | | | | |
| | 1 | 16.5 | 17.2 | | | | | | | |
| | 2 | 13.4 | 13.5 | | | | | | | |
| | 3 | 11.9 | 10.7 | | | | | | | |
| | 4 | 12.0 | 10.7 | | | | | | | |
| 20 | 5+ | 12.0 | 11.0 | 0.04 % | 0.03 % | 0.16 % | 0.18 % | 2.7 % | 4.0 % | 6.7 % |
| 25 | | 12.0 | 11.0 | 0.05 | 0.04 | 0.16 | 0.18 | 2.6 | 4.0 | 6.6 |
| 30 | | 8.8 | 9.9 | 0.06 | 0.04 | 0.16 | 0.18 | 2.2 | 4.0 | 6.2 |
| 35 | | 6.2 | 6.8 | 0.08 | 0.06 | 0.21 | 0.19 | 1.9 | 4.0 | 5.9 |
| 40 | | 4.6 | 4.9 | 0.12 | 0.08 | 0.26 | 0.32 | 1.4 | 4.0 | 5.4 |
| 45 | | 3.5 | 4.3 | 0.19 | 0.11 | 0.34 | 0.37 | 1.2 | 4.0 | 5.2 |
| 50 | | 2.8 | 3.6 | 0.35 | 0.17 | 0.49 | 0.57 | 0.7 | 4.0 | 4.7 |
| 55 | | 2.4 | 2.9 | 0.59 | 0.31 | 1.07 | 0.89 | 0.7 | 4.0 | 4.7 |
| 60 | | 2.4 | 2.9 | 0.90 | 0.54 | 1.50 | 1.50 | 0.0 | 4.0 | 4.0 |
| 65 | | 2.4 | 2.9 | 1.44 | 0.83 | 1.60 | 1.70 | 0.0 | 4.0 | 4.0 |

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

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

Single Life Retirement Values June 30, 2007

| Sample Attained Ages | Present Value of \$1/Month the First Year Increasing 4.0% / 2.8% Yearly | | | | Future Life Expectancy (Years) | | | |
|----------------------------|--|----------|------------|----------|--------------------------------|-------|------------|-------|
| | Service | | Disability | | Service | | Disability | |
| | Men | Women | Men | Women | Men | Women | Men | Women |
| 40 | \$203.29 | \$213.24 | \$135.93 | \$157.34 | 38.46 | 44.22 | 19.70 | 26.02 |
| 45 | 192.77 | 205.14 | 126.72 | 150.77 | 33.73 | 39.41 | 17.50 | 23.70 |
| 50 | 180.29 | 195.04 | 116.43 | 143.29 | 29.17 | 34.67 | 15.35 | 21.39 |
| 55 | 165.93 | 182.93 | 106.32 | 135.58 | 24.82 | 30.06 | 13.43 | 19.18 |
| 60 | 149.43 | 168.96 | 97.83 | 127.14 | 20.70 | 25.67 | 11.87 | 17.01 |
| 65 | 130.80 | 152.92 | 90.83 | 117.40 | 16.82 | 21.50 | 10.56 | 14.82 |
| 70 | 111.02 | 134.67 | 82.22 | 105.26 | 13.32 | 17.57 | 9.13 | 12.50 |
| 75 | 91.88 | 114.99 | 70.84 | 89.45 | 10.36 | 13.99 | 7.49 | 10.00 |
| 80 | 73.43 | 95.64 | 56.19 | 71.98 | 7.83 | 10.91 | 5.66 | 7.62 |
| 85 | 57.86 | 76.96 | 42.26 | 56.19 | 5.89 | 8.29 | 4.08 | 5.66 |

Percent of Eligible Active Members Retiring Next Year

| Retirement Ages | Year of Eligibility | | |
|--------------------|---------------------|----------|----------|
| | 1st Year | 2nd Year | 3rd Year |
| 48 | 20.0 % | 10.0 % | 8.0 % |
| 49 | 20.0 | 10.0 | 8.0 |
| 50 | 20.0 | 10.0 | 8.0 |
| 51 | 20.0 | 10.0 | 8.0 |
| 52 | 20.0 | 10.0 | 8.0 |
| 53 | 20.0 | 10.0 | 8.0 |
| 54 | 20.0 | 10.0 | 8.0 |
| 55 | 25.0 | 10.0 | 12.0 |
| 56 | 20.0 | 10.0 | 12.0 |
| 57 | 20.0 | 10.0 | 12.0 |
| 58 | 20.0 | 10.0 | 12.0 |
| 59 | 20.0 | 10.0 | 12.0 |
| 60 | 25.0 | 10.0 | 12.0 |
| 61 | 20.0 | 10.0 | 12.0 |
| 62 | 30.0 | 15.0 | 30.0 |
| 63 | 20.0 | 12.0 | 20.0 |
| 64 | 20.0 | 12.0 | 20.0 |
| 65 | 30.0 | 15.0 | 30.0 |
| 66 | 20.0 | 12.0 | 20.0 |
| 67 | 20.0 | 12.0 | 20.0 |
| 68 | 20.0 | 12.0 | 20.0 |
| 69 | 20.0 | 12.0 | 20.0 |
| 70 | 20.0 | 12.0 | 20.0 |
| 71 | 20.0 | 12.0 | 20.0 |
| 72 | 20.0 | 12.0 | 20.0 |
| 73 | 20.0 | 12.0 | 20.0 |
| 74 | 20.0 | 12.0 | 20.0 |
| 75 & over | 20.0 | 12.0 | 100.0 |

Early retirement rates were assumed to be 5.0% from ages 57-61.

**Summary of Assumptions Used
June 30, 2007
Miscellaneous and Technical Assumptions**

| Pay Increase Timing: | Middle of (Fiscal) year. | | | | | | | | | | |
|-------------------------------------|--|------------|---------------|-----|------|-------|------|-------|------|-----|------|
| Decrement Timing: | Decrements of all types are assumed to occur mid-year. | | | | | | | | | | |
| Eligibility Testing: | Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur. | | | | | | | | | | |
| Benefit Service: | Exact fractional service is used to determine the amount of the benefit payable. | | | | | | | | | | |
| Decrement Relativity: | Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects. | | | | | | | | | | |
| Decrement Operation: | Disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during normal retirement eligibility. | | | | | | | | | | |
| Normal Form of Benefit: | The assumed normal form of benefit is the straight life form for MSEP 2000 with 50% continuing to an eligible surviving spouse for MSEP. No adjustment has been made for post-retirement option election changes. | | | | | | | | | | |
| Other Liability Adjustments: | <p><i>MSEP Benefits for Current Retirees</i></p> <ul style="list-style-type: none"> - Pop-Up Factor for 50% Survivor Benefits: 1.005 - Pop-Up Factor for 75% Survivor Benefits: 1.0075 - Pop-Up Factor for 100% Survivor Benefits: 1.010 <p><i>MSEP 2000 Benefits for Current Retirees</i></p> <ul style="list-style-type: none"> - Pop-Up Factor for 100% Survivor Benefits: 1.005 <p><i>Pre-Retirement Survivor Benefits for Spouse of Terminated Vested Member</i></p> <table border="0" style="margin-left: 40px;"> <thead> <tr> <th style="text-align: left;"><u>Age</u></th> <th style="text-align: left;"><u>Factor</u></th> </tr> </thead> <tbody> <tr> <td><30</td> <td>1.11</td> </tr> <tr> <td>30-39</td> <td>1.10</td> </tr> <tr> <td>40-49</td> <td>1.08</td> </tr> <tr> <td>>50</td> <td>1.04</td> </tr> </tbody> </table> | <u>Age</u> | <u>Factor</u> | <30 | 1.11 | 30-39 | 1.10 | 40-49 | 1.08 | >50 | 1.04 |
| <u>Age</u> | <u>Factor</u> | | | | | | | | | | |
| <30 | 1.11 | | | | | | | | | | |
| 30-39 | 1.10 | | | | | | | | | | |
| 40-49 | 1.08 | | | | | | | | | | |
| >50 | 1.04 | | | | | | | | | | |
| 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. | | | | | | | | | | |

Summary of Assumptions Used
June 30, 2007
Miscellaneous and Technical Assumptions
(Concluded)

Active and retired member data was reported as of May 31, 2007. It was brought forward to June 30, 2007 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, 2007. Financial information continues to be reported as of June 30. This procedure was instituted to provide sufficient time for the Board of Trustees to certify the appropriate contribution rate prior to the October 1 statutory deadline.

Supplemental Disclosure Information
June 30, 2007

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, 2007. 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 0.0% to 2.7% 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 2.8% per year thereafter, or (ii) at 2.8% per year, depending upon date of hire and benefit election.

At June 30, 2007, the unfunded actuarial accrued liability of the System was determined as follows:

| | <u>\$ in Thousands</u> |
|---|-------------------------------|
| Actuarial Accrued Liability of System: | |
| Active members (37,102 vested, 17,261 non-vested) | \$ 3,813,644 |
| Retirees and beneficiaries currently receiving benefits (28,692 vested) | 4,208,258 |
| Terminated members not yet receiving benefits (16,518 vested) | 478,164 |
| Future BackDROP Payments | <u>364</u> |
| Total Actuarial Accrued Liability | 8,500,429 |
| Actuarial Value of Assets | 7,377,289 |
| Unfunded Actuarial Accrued Liability | <u><u>\$ 1,123,139</u></u> |

During the year ended June 30, 2007, the System experienced a net change of \$487,223,227 in the actuarial accrued liability. There were no changes in benefit provisions or assumptions.

Supplemental Disclosure Information

June 30, 2007

(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, 2007 contributions totaling \$243,122,610 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 | 243,122,610 | 100 |
| 2007-08 | 2006 | 12.84 | | |
| 2008-09 | 2007 | 12.53 | | |

Supplemental Disclosure Information
June 30, 2007
(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 |

After changes in benefit provisions.

* After a change in assumptions.

@ After a change in asset method.

& After changes in methods other than the asset method.

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

June 30, 2007 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, 2007 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 | \$1,847 | \$1,123 | \$1,123 | \$67 | 3.65 % | 60.82 % |
| 2 | 1,921 | 1,148 | 1,104 | 69 | 3.59 | 59.79 |
| 3 | 1,997 | 1,174 | 1,086 | 70 | 3.53 | 58.78 |
| 4 | 2,077 | 1,200 | 1,067 | 72 | 3.47 | 57.79 |
| 5 | 2,160 | 1,227 | 1,049 | 74 | 3.41 | 56.82 |
| 6 | 2,247 | 1,255 | 1,032 | 75 | 3.35 | 55.86 |
| 7 | 2,337 | 1,283 | 1,014 | 77 | 3.30 | 54.92 |
| 8 | 2,430 | 1,312 | 997 | 79 | 3.24 | 53.99 |
| 9 | 2,527 | 1,341 | 980 | 81 | 3.19 | 53.08 |
| 10 | 2,628 | 1,372 | 964 | 82 | 3.13 | 52.18 |
| 11 | 2,733 | 1,402 | 947 | 84 | 3.08 | 51.30 |
| 12 | 2,843 | 1,434 | 931 | 86 | 3.03 | 50.43 |
| 13 | 2,957 | 1,466 | 916 | 88 | 2.98 | 49.58 |
| 14 | 3,075 | 1,499 | 900 | 90 | 2.93 | 48.75 |
| 15 | 3,198 | 1,533 | 885 | 92 | 2.88 | 47.92 |
| 16 | 3,326 | 1,567 | 870 | 94 | 2.83 | 47.12 |
| 17 | 3,459 | 1,602 | 855 | 96 | 2.78 | 46.32 |
| 18 | 3,597 | 1,638 | 841 | 98 | 2.73 | 45.54 |
| 19 | 3,741 | 1,675 | 827 | 101 | 2.69 | 44.77 |
| 20 | 3,891 | 1,712 | 813 | 103 | 2.64 | 44.01 |

**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 | \$4,046 | \$1,751 | \$799 | \$105 | 2.60 % | 43.27 % |
| 22 | 4,208 | 1,790 | 786 | 107 | 2.55 | 42.54 |
| 23 | 4,376 | 1,830 | 772 | 110 | 2.51 | 41.82 |
| 24 | 4,551 | 1,871 | 759 | 112 | 2.47 | 41.12 |
| 25 | 4,734 | 1,913 | 746 | 115 | 2.43 | 40.42 |
| 26 | 4,923 | 1,956 | 734 | 117 | 2.39 | 39.74 |
| 27 | 5,120 | 2,000 | 721 | 120 | 2.35 | 39.07 |
| 28 | 5,325 | 2,045 | 709 | 123 | 2.31 | 38.41 |
| 29 | 5,538 | 2,091 | 697 | 126 | 2.27 | 37.76 |
| 30 | 5,759 | 2,138 | 686 | 128 | 2.23 | 37.12 |

Active Members in Funding Program as of June 30, 2007

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 | 15 | | | | | | | 15 | \$ 321,815 |
| 20-24 | 563 | 4 | | | | | | 567 | 13,906,056 |
| 25-29 | 1,424 | 264 | 5 | | | | | 1,693 | 48,911,742 |
| 30-34 | 1,012 | 780 | 140 | | | | | 1,932 | 62,062,718 |
| 35-39 | 777 | 836 | 662 | 98 | 7 | | | 2,380 | 84,236,123 |
| 40-44 | 679 | 693 | 570 | 495 | 157 | 7 | | 2,601 | 96,927,913 |
| 45-49 | 672 | 728 | 526 | 534 | 494 | 145 | 9 | 3,108 | 121,165,825 |
| 50-54 | 623 | 674 | 526 | 546 | 497 | 407 | 121 | 3,394 | 137,338,760 |
| 55-59 | 578 | 564 | 459 | 494 | 454 | 285 | 250 | 3,084 | 128,051,992 |
| 60 | 94 | 108 | 86 | 83 | 61 | 29 | 43 | 504 | 21,146,427 |
| 61 | 83 | 98 | 79 | 80 | 53 | 42 | 42 | 477 | 20,945,053 |
| 62 | 49 | 71 | 53 | 50 | 41 | 22 | 25 | 311 | 14,167,931 |
| 63 | 36 | 57 | 35 | 39 | 27 | 19 | 24 | 237 | 10,553,807 |
| 64 | 28 | 40 | 54 | 30 | 21 | 10 | 35 | 218 | 10,236,202 |
| 65 | 31 | 53 | 35 | 27 | 14 | 5 | 27 | 192 | 8,627,073 |
| 66 | 8 | 21 | 25 | 20 | 8 | 6 | 20 | 108 | 4,957,873 |
| 67 | 7 | 22 | 10 | 9 | 6 | 5 | 10 | 69 | 3,420,961 |
| 68 | 9 | 11 | 12 | 10 | 5 | 2 | 14 | 63 | 3,128,242 |
| 69 | 10 | 11 | 8 | 6 | 3 | 4 | 11 | 53 | 2,761,231 |
| 70 & Over | 24 | 35 | 31 | 31 | 17 | 3 | 20 | 161 | 7,289,704 |
| Totals | 6,722 | 5,070 | 3,316 | 2,552 | 1,865 | 991 | 651 | 21,167 | \$ 800,157,448 |

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: 10.8 years.

Annual Pay: \$37,802

Active Members in Funding Program as of June 30, 2007

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 | 32 | | | | | | | 32 | \$ 604,750 |
| 20-24 | 1,017 | 14 | | | | | | 1,031 | 23,355,684 |
| 25-29 | 2,387 | 547 | 5 | | | | | 2,939 | 79,496,729 |
| 30-34 | 1,490 | 1,397 | 340 | 5 | | | | 3,232 | 95,863,827 |
| 35-39 | 1,289 | 1,360 | 1,107 | 280 | 20 | | | 4,056 | 123,866,329 |
| 40-44 | 1,160 | 1,138 | 886 | 715 | 435 | 26 | | 4,360 | 139,364,571 |
| 45-49 | 1,160 | 1,171 | 889 | 721 | 736 | 603 | 70 | 5,350 | 175,415,235 |
| 50-54 | 926 | 1,087 | 856 | 741 | 679 | 616 | 358 | 5,263 | 177,630,125 |
| 55-59 | 702 | 933 | 701 | 707 | 556 | 337 | 314 | 4,250 | 142,819,978 |
| 60 | 116 | 140 | 138 | 110 | 85 | 31 | 33 | 653 | 21,567,543 |
| 61 | 82 | 107 | 113 | 96 | 65 | 31 | 30 | 524 | 16,799,988 |
| 62 | 51 | 90 | 79 | 63 | 45 | 20 | 14 | 362 | 11,935,623 |
| 63 | 40 | 69 | 58 | 44 | 38 | 9 | 10 | 268 | 8,711,587 |
| 64 | 36 | 59 | 56 | 42 | 31 | 18 | 12 | 254 | 8,700,808 |
| 65 | 31 | 42 | 28 | 35 | 17 | 8 | 12 | 173 | 5,746,199 |
| 66 | 6 | 32 | 31 | 26 | 9 | 5 | 8 | 117 | 3,637,532 |
| 67 | 10 | 19 | 16 | 20 | 8 | 2 | 5 | 80 | 2,831,342 |
| 68 | 11 | 13 | 9 | 10 | 4 | 4 | 8 | 59 | 2,016,920 |
| 69 | 10 | 5 | 13 | 11 | 3 | 2 | 7 | 51 | 1,683,770 |
| 70 & Over | 18 | 22 | 30 | 25 | 18 | 12 | 17 | 142 | 4,437,342 |
| Totals | 10,574 | 8,245 | 5,355 | 3,651 | 2,749 | 1,724 | 898 | 33,196 | \$ 1,046,485,882 |

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

Age: 44.5 years.

Service: 10.6 years.

Annual Pay: \$31,524

Basic Series

Year-by-Year Total Returns (1926-2006)

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

For Inflation,
RED means a purchasing power loss

| Year | Large Company Stocks | Small Company Stocks | Long-Term Corporate Bonds | Long-Term Government Bonds | Intermediate 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 |

GABRIEL ROEDER SMITH & COMPANY from SBBI Yearbook

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

September 14, 2007

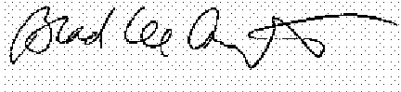
Mr. Gary W. Findlay
Executive Director
Missouri State Employees'
Retirement System
P.O. Box 209
Jefferson City, Missouri 65102

Re: MOSERS – Valuation Report

Dear Gary:

Enclosed are 20 copies of the June 30, 2007 actuarial valuation report of the Missouri State Employees' Retirement System.

Sincerely,

A handwritten signature in black ink, appearing to read "Brad Lee Armstrong", is written over a rectangular area with a light gray dotted background.

Brad Lee Armstrong

BLA:dks:bd
Enclosures

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

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