

Report on the Annual Valuation of the Public Employees' Retirement System of Mississippi

Prepared as of June 30, 2009

# Cavanaugh Macdonald <br> consulting,llc The experience and dedication you deserve <br> The experience and dedication you deserve 

November 6, 2009
Board of Trustees
Public Employees' Retirement System of Mississippi
429 Mississippi Street
Jackson, MS 39201-1005

Ladies and Gentlemen:
Presented in this report are the results of the annual actuarial valuation of the Public Employees' Retirement System of Mississippi. The purpose of the valuation was to measure the System's funding progress and to determine the unfunded accrued liability amortization period beginning July 1, 2009.

The date of the valuation was June 30, 2009.
The valuation was based upon data, furnished by the Executive Director and the PERS staff, concerning active, inactive and retired members along with pertinent financial information. The complete cooperation of the PERS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the presentation of contribution rates on page 1 and the comments on page 7.

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 with experience in performing valuations for public retirement systems. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

## Board of Trustees

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The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the system.

Respectfully submitted,


Thomas J. Cavanaugh, FSA, FCA, EA, MAAA
Chief Executive Officer


Edward J. Koebel, FCA, EA, MAAA Senior Actuary

TJC/EJK:kc

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## REPORT ON THE ANNUAL VALUATION OF THE PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF MISSISSIPPI PREPARED AS OF JUNE 30, 2009

## SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2009, presents the results of the annual actuarial valuation of the System. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below. The current valuation and reported benefit amounts reflect the benefit increases granted to retirees as of July 1, 2009. We recommend an increase in the contribution rate from $12.00 \%$ to $13.56 \%$ of active members' compensation for the 2010/2011 fiscal year in order to keep the anticipated accrued liability payment period within 30 years in accordance with GASB Statements 25 and 27.

## SUMMARY OF PRINCIPAL RESULTS

| VALUATION DATE | June 30, 2009 |  | June 30, 2008 |  |
| :---: | :---: | :---: | :---: | :---: |
| Active members included in valuation <br> Number <br> Annual compensation | \$ | $\begin{array}{r} 167,122 \\ 5,831,863,534 \end{array}$ | \$ | $\begin{array}{r} 165,733 \\ 5,544,704,937 \end{array}$ |
| Retirees <br> Number <br> Annual allowances | \$ | $\begin{array}{r} 76,143 \\ 1,395,939,879 \end{array}$ | \$ | $\begin{array}{r} 73,540 \\ 1,305,908,320 \end{array}$ |
| Assets <br> Market related actuarial value Market value | \$ | $\begin{aligned} & 20,597,581,000 \\ & 15,134,487,000 \end{aligned}$ | \$ | $\begin{aligned} & 20,814,720,000 \\ & 19,251,069,000 \end{aligned}$ |
| Unfunded accrued liability | \$ | 9,996,964,694 | \$ | 7,719,973,880 |
| Recommended employer contribution rate <br> Normal <br> Accrued liability <br> Total |  | $\begin{aligned} & \text { 4.13\% } \\ & \frac{9.43}{13.56 \%} \end{aligned}$ |  | $\begin{aligned} & \text { 4.02\% } \\ & \frac{7.98}{12.00 \%} \end{aligned}$ |
|  |  | 30.0 years |  | 29.4 years |
| Unfunded accrued liability based on market value of assets Payment Period | \$ | $\begin{aligned} & \text { 15,460,058,694 } \\ & \text { Infinite } \end{aligned}$ | \$ | $\begin{aligned} & 9,283,624,880 \\ & 43.5 \text { years } \end{aligned}$ |

2. The valuation balance sheet showing the results of the valuation is given in Section III.
3. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains during the valuation year are given in Section V and the rates of contribution payable by employers are given in Section VI.
4. The following changes were made in the actuarial assumptions since the last valuation:

- The withdrawal rates, pre-retirement mortality rates, disability rates, and retirement rates have been revised to more closely reflect the actual experience of the System.
- The post-retirement mortality table used for service retirements and dependents of deceased pensioners has been changed from the 1983 Group Annuity Mortality Table, set forward one year for women, to the 1994 Group Annuity Mortality Table.
- The rates of salary increase for service periods on or after 13 years were lowered.
- The assumption for wage inflation has been changed from $4.00 \%$ to $4.25 \%$ and the assumption for price inflation has been changed from $3.75 \%$ to $3.50 \%$.

5. The following changes were made in the benefit provisions or actuarial methods since the last valuation:

- The maximum reportable earned compensation was increased from $\$ 230,000$ to $\$ 245,000$ to coincide with the compensation limit set pursuant to Section 401(a)(17) of the Internal Revenue Code.
- The $20 \%$ corridor around the market value of assets used to develop the actuarial value of assets was eliminated.

6. Schedule A of this report presents the development of the actuarial value of assets. Schedule B details the actuarial assumptions and methods employed. Schedule C gives a summary of the benefit and contribution provisions of the plan.
7. The table on the following page provides a ten-year history of some pertinent figures.
8. Governmental Accounting Standards Board Statement No. 27 requires employers to expense pension costs at the actuarially required contribution level, which is based on a maximum 30 year accrued liability payment period.
9. All amounts shown prior to the 2004/2005 fiscal year were developed and/or reported by the prior actuarial firm.

## Public Employees' Retirement System of Mississippi

Comparative Schedule*

| $\begin{aligned} & \text { Valuation } \\ & \text { Date June } \\ & 30 \end{aligned}$ | Active Members |  |  |  | Retired Lives |  |  |  | Valuation Results (\$ millions) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Payroll (\$ millions) | Average Salary | \% increase from previous year | Number | Active/ Retired Ratio | Annual Benefits** (\$ millions) | Benefits as \% of Payroll | Accrued Liability | Valuation Assets | UAAL |
| 2000 | 151,790 | \$4,091 | \$26,949 | 7.9\% | 51,080 | 3.0 | \$527.6 | 12.9\% | \$18,052 | \$14,899 | \$3,153 |
| 2001 | 151,080 | 4,112 | 27,219 | 1.0 | 53,665 | 2.8 | 581.2 | 14.1 | 18,495 | 16,192 | 2,303 |
| 2002 | 152,148 | 4,221 | 27,740 | 1.9 | 56,705 | 2.7 | 656.5 | 15.6 | 20,180 | 16,823 | 3,357 |
| 2003 | 154,872 | 4,432 | 28,615 | 3.2 | 59,447 | 2.6 | 715.1 | 16.1 | 21,486 | 16,980 | 4,506 |
| 2004 | 156,353 | 4,617 | 29,531 | 3.2 | 62,407 | 2.5 | 778.6 | 16.9 | 22,847 | 17,103 | 5,744 |
| 2005 | 157,101 | 4,786 | 30,466 | 3.2 | 63,939 | 2.5 | 1,022.0 | 21.4 | 23,727 | 17,181 | 6,546 |
| 2006 | 158,091 | 4,972 | 31,450 | 3.2 | 66,757 | 2.4 | 1,117.2 | 22.5 | 24,928 | 18,321 | 6,607 |
| 2007 | 162,804 | 5,196 | 31,917 | 1.5 | 70,756 | 2.3 | 1,214.4 | 23.4 | 26,863 | 19,792 | 7,071 |
| 2008 | 165,733 | 5,545 | 33,456 | 4.8 | 73,540 | 2.3 | 1,305.9 | 23.6 | 28,535 | 20,815 | 7,720 |
| 2009 | 167,122 | 5,832 | 34,896 | 4.3 | 76,143 | 2.2 | 1,395.9 | 23.9 | 30,595 | 20,598 | 9,997 |

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## SECTION II - MEMBERSHIP DATA

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the system as of June 30, 2009 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

Active Members

| Employers | Number of Employers |  | Payroll |  | Group Averages |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number |  |  | Salary | Age* | Service* |
| State Agencies | 114 | 34,465 | \$ | 1,163,244,414 | \$33,751 | 44.0 | 10.3 |
| State Universities | 9 | 18,081 |  | 817,776,512 | 45,229 | 43.4 | 9.5 |
| Public Schools | 150 | 67,174 |  | 2,271,339,222 | 33,813 | 44.2 | 10.3 |
| Community/Junior Colleges | 15 | 6,195 |  | 276,080,789 | 44,565 | 46.5 | 11.3 |
| Counties | 82 | 14,884 |  | 449,615,953 | 30,208 | 46.3 | 8.7 |
| Municipalities | 279 | 18,913 |  | 595,859,163 | 31,505 | 43.0 | 9.2 |
| Other Political Subdivisions | 211 | 7,410 |  | 257,947,481 | 34,811 | 43.4 | 7.5 |
| Total in PERS | 866 | 167,122 | \$ | 5,831,863,534 | \$34,896 | 44.2 | 9.8 |

*Years
The total number of active members includes 109,235 vested members ( 38,316 State employees and 70,919 employees of other entities), and 57,887 non-vested members (20,425 State and 37,462 others).

Retired Lives

|  |  |  | Group Averages |  |
| :--- | ---: | ---: | ---: | ---: |
| Type of Benefit Payment | No. | Annual Benefits | Benefit | Age* |
| Retirement | 61,466 | $\$ 1,199,194,571$ | $\$ 19,510$ | 69.8 |
| Disability | 5,257 | $80,117,118$ | 15,240 | 60.1 |
| Survivor | 9,420 | $116,628,190$ | 12,381 | 65.0 |
| Total in PERS | 76,143 | $\$ 1,395,939,879$ | 18,333 | 68.5 |

*Years
The total retired lives include 27,117 from State employment and 49,026 from other employment.
This valuation also includes 126,524 inactive members (40,250 State and 86,274 others; 18,038 vested and 108,486 non-vested.)

## SECTION III - VALUATION BALANCE SHEET

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of June 30, 2009 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2008. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.

VALUATION BALANCE SHEET

## SHOWING THE ASSETS AND LIABILITIES OF THE

 PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF MISSISSIPPI|  | JUNE 30, 2009 |  | JUNE 30, 2008 |  |
| :---: | :---: | :---: | :---: | :---: |
| ASSETS |  |  |  |  |
| Current actuarial value of assets: |  |  |  |  |
| Annuity Savings Account | \$ | 4,235,466,036 | \$ | 3,991,804,456 |
| Annuity Reserve |  | 2,904,307,316 |  | 2,691,758,847 |
| Employers' Accumulation Account |  | 13,457,807,648 |  | 14,131,156,697 |
| Total current assets | \$ | 20,597,581,000 | \$ | 20,814,720,000 |
| Future member contributions to Annuity Savings Account | \$ | 3,257,549,985 | \$ | 3,230,270,674 |
| Prospective contributions to Employer's Accumulation Account |  |  |  |  |
| Normal contributions | \$ | 1,855,680,198 | \$ | 1,789,732,947 |
| Unfunded accrued liability contributions |  | 9,996,964,694 |  | 7,719,973,880 |
| Total prospective contributions | \$ | 11,852,644,892 | \$ | 9,509,706,827 |
| Total assets | \$ | 35,707,775,877 | \$ | 33,554,697,501 |
| LIABILITIES |  |  |  |  |
| Present value of benefits payable on account of present retired members and beneficiaries | \$ | 15,665,712,114 | \$ | 14,306,528,473 |
| Present value of benefits payable on account of active members |  | 19,134,696,371 |  | 18,399,105,442 |
| Present value of benefits payable on account of inactive members for service rendered before the valuation date |  | 907,367,392 |  | 849,063,586 |
| Total liabilities | \$ | 35,707,775,877 | \$ | 33,554,697,501 |

## SECTION IV - COMMENTS ON VALUATION

The valuation balance sheet gives the following information with respect to the funds of the System as of
June 30, 2009.
Total Assets
The Annuity Savings Account is the fund to which are credited contributions made by members together with interest thereon. When a member retires, the amount of his accumulated contributions is transferred from the Annuity Savings Account to the Annuity Reserve. The Employer's Accumulation Account is the fund to which are credited employer contributions and investment income, and from which are paid all employer-provided benefits under the plan. The assets credited to the Annuity Savings Account as of the valuation date, which represent the accumulated contributions of members to that date, amounted to $\$ 4,235,466,036$. The assets credited to the Annuity Reserve were $\$ 2,904,307,316$ and the assets credited to the Employer's Accumulation Account totaled $\$ 13,457,807,648$. Current actuarial assets as of the valuation date equaled the sum of these three funds, $\$ 20,597,581,000$. Future member contributions to the Annuity Savings Account were valued to be $\$ 3,257,549,985$. Prospective contributions to the Employer's Accumulation Account were calculated to be $\$ 11,852,644,892$, of which $\$ 1,855,680,198$ is attributable to service rendered after the valuation date (normal contributions) and $\$ 9,996,964,694$ is attributable to service rendered before the valuation date (unfunded accrued liability contributions).

Therefore, the balance sheet shows the present value of current and future assets of the System to be $\$ 35,707,775,877$ as of June 30, 2009.

Total Liabilities
The present value of benefits payable on account of presently retired members and beneficiaries totaled $\$ 15,665,712,114$ as of the valuation date. The present value of future benefit payments on behalf of active members amounted to $\$ 19,134,696,371$. In addition, the present value of benefits for inactive members, due to service rendered before the valuation date, was calculated to be \$907,367,392.

Therefore, the balance sheet shows the present value for all prospective benefit payments under the System to be $\$ 35,707,775,877$ as of June 30, 2009.

Section 25-11-123(a)(1) of State law requires that active members contribute $7.25 \%$ of annual compensation to the System.

Section 25-11-123(c) requires that the State contribute a certain percentage of the annual compensation of members to cover the normal contributions and a certain percentage to cover the accrued liability contributions of the System. These individual contribution percentages are established in accordance with an actuarial valuation. We recommend the sum of these normal and accrued liability contributions increase from $12.00 \%$ to $13.56 \%$ of the annual compensation of all members. The amortization period of the unfunded accrued liability of the System is therefore calculated on an open-ended basis.

## SECTION V - DERIVATION OF EXPERIENCE GAINS AND LOSSES

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended June 30, 2009 is shown below.
\$ millions
(1) UAAL* as of June 30, 2008 7,720.0
(2) Normal cost from last valuation 222.9
(3) Actual employer contributions 713.6
(4) Interest accrual: (1) $\times .080+[[(2)-(3)] \times .0392]$ 598.4
(5) Expected UAAL before changes: $(1)+(2)-(3)+(4)$ 7,827.7
(6) Change due to plan amendments 1.1
(7) Change due to new actuarial assumptions or methods 331.5
(8) Expected UAAL after changes: (5) + (6) + (7) 8,160.3
(9) Actual UAAL as of June 30, 2009

9,997.0
(10) Gain/(loss): (8) - (9)
(11) Gain/(loss) as percent of actuarial accrued \$ (6.4)\% liabilities at start of year $(\$ 28,534.7)$
*Unfunded actuarial accrued liability.

Actuarial Gain/(Loss) as a \% of Beginning Accrued Liabilities
Valuation Date June 30
2004 2005 2006 2007 2008 2009

## SECTION VI - REQUIRED CONTRIBUTION RATES

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement System. The following table shows the rates of contribution payable by employers as determined from the present valuation for the 2010/2011 fiscal year.

| Contribution for | Contributions Expressed as Percents of Payroll |
| :---: | :---: |
| Normal Cost: |  |
| Service retirement benefits | 10.12\% |
| Disability benefits | 0.42 |
| Survivor benefits | 0.12 |
| Total | 10.66\% |
| Member Contributions: | 7.25\% |
| Less future refunds | (.72) |
| Available for benefits | 6.53\% |
| Employer Normal Cost | 4.13\% |
| Unfunded Actuarial Accrued Liabilities (30.0 year level \% of payroll amortization*) | 9.43\% |
| Total Computed Employer Contribution Rate | 13.56\% |

*Amortization period a year ago was 29.4 years.
The components of the change in the computed unfunded accrued liability amortization period from 29.4 years to 30.0 years are as follows:
Previous Reported Period29.4 years
Change due to:
Normal amortization ..... (1.0)
Actuarial experience ..... 0.6
Assumption changes ..... 0.8
Plan amendments ..... 0.0
Method Change ..... 0.0
UAL contribution experience ..... 0.2
Computed Period30.0 years

## SECTION VII - CASH FLOW PROJECTION

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 relationship between future benefit payout and future investment income can be very useful.

Public Employees' Retirement System of Mississippi

## Twenty-five Year Cash Flow Projection

| Year Beginning July 1 | Valuation Payroll | Market Value of Assets Balance July 1 | Contributions | Projected <br> Benefit <br> Payments | Expected Investment Return | Cash Flow | Market Value of Assets Balance June 30 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2009 | 5,948,500,805 | 15,134,487,000 | 1,145,086,405 | 1,463,824,090 | 1,198,009,453 | 879,271,768 | 16,013,758,768 | 2010 |
| 2010 | 6,186,440,837 | 16,013,758,768 | 1,287,398,338 | 1,563,964,015 | 1,270,038,074 | 993,472,397 | 17,007,231,165 | 2011 |
| 2011 | 6,433,898,470 | 17,007,231,165 | 1,338,894,272 | 1,680,692,759 | 1,346,906,554 | 1,005,108,067 | 18,012,339,232 | 2012 |
| 2012 | 6,691,254,409 | 18,012,339,232 | 1,392,450,043 | 1,807,355,748 | 1,424,390,910 | 1,009,485,205 | 19,021,824,437 | 2013 |
| 2013 | 6,958,904,585 | 19,021,824,437 | 1,448,148,044 | 1,939,964,740 | 1,502,073,287 | 1,010,256,591 | 20,032,081,028 | 2014 |
| 2014 | 7,237,260,768 | 20,032,081,028 | 1,506,073,966 | 2,070,876,400 | 1,579,974,385 | 1,015,171,951 | 21,047,252,979 | 2015 |
| 2015 | 7,526,751,199 | 21,047,252,979 | 1,566,316,925 | 2,196,144,348 | 1,658,587,141 | 1,028,759,718 | 22,076,012,697 | 2016 |
| 2016 | 7,827,821,247 | 22,076,012,697 | 1,628,969,602 | 2,322,425,482 | 1,738,342,781 | 1,044,886,901 | 23,120,899,598 | 2017 |
| 2017 | 8,140,934,097 | 23,120,899,598 | 1,694,128,386 | 2,461,402,499 | 1,818,981,003 | 1,051,706,890 | 24,172,606,488 | 2018 |
| 2018 | 8,466,571,461 | 24,172,606,488 | 1,761,893,521 | 2,602,987,063 | 1,900,164,777 | 1,059,071,235 | 25,231,677,724 | 2019 |
| 2019 | 8,805,234,319 | 25,231,677,724 | 1,832,369,262 | 2,744,862,110 | 1,982,034,504 | 1,069,541,656 | 26,301,219,380 | 2020 |
| 2020 | 9,157,443,692 | 26,301,219,380 | 1,905,664,032 | 2,886,615,546 | 2,064,859,490 | 1,083,907,976 | 27,385,127,355 | 2021 |
| 2021 | 9,523,741,440 | 27,385,127,355 | 1,981,890,594 | 3,028,148,573 | 2,148,959,869 | 1,102,701,890 | 28,487,829,246 | 2022 |
| 2022 | 9,904,691,098 | 28,487,829,246 | 2,061,166,217 | 3,168,188,185 | 2,234,745,461 | 1,127,723,493 | 29,615,552,739 | 2023 |
| 2023 | 10,300,878,742 | 29,615,552,739 | 2,143,612,866 | 3,305,511,749 | 2,322,768,264 | 1,160,869,381 | 30,776,422,119 | 2024 |
| 2024 | 10,712,913,892 | 30,776,422,119 | 2,229,357,381 | 3,441,157,146 | 2,413,641,779 | 1,201,842,014 | 31,978,264,133 | 2025 |
| 2025 | 11,141,430,448 | 31,978,264,133 | 2,318,531,676 | 3,572,256,226 | 2,508,112,149 | 1,254,387,599 | 33,232,651,732 | 2026 |
| 2026 | 11,587,087,666 | 33,232,651,732 | 2,411,272,943 | 3,698,622,071 | 2,607,118,173 | 1,319,769,045 | 34,552,420,778 | 2027 |
| 2027 | 12,050,571,173 | 34,552,420,778 | 2,507,723,861 | 3,820,230,910 | 2,711,693,380 | 1,399,186,331 | 35,951,607,109 | 2028 |
| 2028 | 12,532,594,020 | 35,951,607,109 | 2,608,032,816 | 3,937,810,165 | 2,822,937,475 | 1,493,160,126 | 37,444,767,234 | 2029 |
| 2029 | 13,033,897,781 | 37,444,767,234 | 2,712,354,128 | 4,052,682,228 | 2,941,968,255 | 1,601,640,155 | 39,046,407,389 | 2030 |
| 2030 | 13,555,253,692 | 39,046,407,389 | 2,820,848,293 | 4,162,294,688 | 3,070,054,735 | 1,728,608,340 | 40,775,015,730 | 2031 |
| 2031 | 14,097,463,840 | 40,775,015,730 | 2,933,682,225 | 4,265,094,150 | 3,208,744,781 | 1,877,332,856 | 42,652,348,586 | 2032 |
| 2032 | 14,661,362,394 | 42,652,348,586 | 3,051,029,514 | 4,360,052,971 | 3,359,826,949 | 2,050,803,492 | 44,703,152,078 | 2033 |
| 2033 | 15,247,816,890 | 44,703,152,078 | 3,173,070,695 | 4,446,977,159 | 3,525,295,908 | 2,251,389,444 | 46,954,541,521 | 2034 |

Public Employees' Retirement System of Mississippi 25 Year Cash Flow Projection Based on Valuation Assumptions

Projected Contributions and Benefits Expressed as Percents of Active Member Payroll


Net Change in Asset Values


## SECTION VIII - SUPPLEMENTAL DISCLOSURE INFORMATION

1. Statement Nos. 25 and 27 of the Governmental Accounting Standards Board (GASB) set forth certain items of information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

NUMBER OF ACTIVE AND RETIRED PARTICIPANTS AS OF JUNE 30, 2009

| GROUP | NUMBER |
| :--- | :---: |
| Retired participants and beneficiaries <br> currently receiving benefits | 76,143 |
| Terminated participants and beneficiaries <br> entitled to benefits but not yet receiving <br> benefits | 126,524 |
| Active Participants | $\underline{167,122}$ |
| Total | 369,789 |

2. Another such item is the schedule of funding progress as shown below.

## SCHEDULE OF FUNDING PROGRESS

 (\$ Thousands)| Plan Year Ended | (1) <br> Actuarial Value of Assets | (2) <br> Actuarial <br> Accrued <br> Liability <br> (AAL) <br> Entry Age | (3) <br> Percent Funded (1)/(2) | (4) Unfunded AAL (2) - (1) | (5) <br> Annual Covered Payroll | (6) <br> Unfunded AAL as a Percentage of Covered Payroll (4)/(5) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 06/30/00* | \$14,899,074 | \$18,052,096 | 82.5\% | \$3,153,022 | \$4,090,596 | 77.1\% |
| 06/30/01*\# | 16,191,631 | 18,494,207 | 87.5 | 2,302,576 | 4,112,238 | 56.0 |
| 06/30/02* | 16,823,185 | 20,180,347 | 83.4 | 3,357,162 | 4,220,539 | 79.5 |
| 06/30/03\# | 16,979,457 | 21,485,838 | 79.0 | 4,506,381 | 4,431,600 | 101.7 |
| 06/30/04* | 17,103,285 | 22,847,260 | 74.9 | 5,743,975 | 4,617,273 | 124.4 |
| 06/30/05\# | 17,180,705 | 23,727,098 | 72.4 | 6,546,393 | 4,786,280 | 136.8 |
| 06/30/06 | 18,321,063 | 24,928,464 | 73.5 | 6,607,401 | 4,971,974 | 132.9 |
| 06/30/07\# | 19,791,564 | 26,862,636 | 73.7 | 7,071,072 | 5,196,295 | 136.1 |
| 06/30/08* | 20,814,720 | 28,534,694 | 72.9 | 7,719,974 | 5,544,705 | 139.2 |
| 06/30/09*\# | 20,597,581 | 30,594,546 | 67.3 | 9,996,965 | 5,831,864 | 171.4 |

* After change in benefit provisions.
\# After change in actuarial assumptions.

Note: All amounts prior to June 30, 2005 reported by prior actuarial firm.
3. The annual required contribution (ARC) of the employer as a percentage of payroll, determined in accordance with the parameters of GASB 25/27, is shown below. The accrued liability rate is based on amortization of the unfunded actuarial accrued liability of $\$ 9,996,964,694$ over a 30.0 year period from the valuation date.

| Annual Required Contribution (ARC) |  |  |
| :--- | :---: | :---: |
| Valuation Date June 30 | 2009 | 2008 |
| For Fiscal Year | $2010 / 2011$ | $2009 / 2010$ |
| UAL Payment Period (years) | 30.0 | 29.4 |
| Annual Required Contribution \% of Payroll | $13.56 \%$ | $12.00 \%$ |

4. Additional information as of June 30, 2009 follows.

| Valuation date | $6 / 30 / 09$ |
| :--- | :---: |
| Actuarial cost method | Entry age |
| Amortization method | Level percent open |
| Remaining amortization period | 30.0 years |
| Asset valuation method | 5-year smoothed market |
| Actuarial assumptions: | $8.00 \%$ |
| Investment rate of return* | $4.5 \%-15.0 \%$ |
| Projected salary increases ${ }^{\#}$ | $3.50 \%$ |
| ${ }^{\text {*Includes price inflation at }}$ |  |
| \#Includes wage inflation at | $4.25 \%$ |
| Cost of living adjustments | $3.00 \%$ |

Schedule of Employer Contributions

| Fiscal Year | Valuation date | Annual Required |  |
| :---: | :---: | :---: | :---: |
| Ending June 30 | June 30 | Contribution | Percentage <br> Contributed |
| 2001 | 1999 | $\$ 398,833,149$ | $100 \%$ |
| 2002 | 2000 | $400,943,179$ | 100 |
| 2003 | 2001 | $411,502,537$ | 100 |
| 2004 | 2002 | $432,080,954$ | 100 |
| 2005 | 2003 | $482,966,753$ | 100 |
| 2006 | 2004 | $514,525,143$ | 100 |
| 2007 | 2005 | $621,496,708$ | 90 |
| 2008 | 2006 | $636,546,125$ | 97 |
| 2009 | 2007 | $657,047,535$ | 100 |
| 2010 | 2008 | $699,823,624$ |  |

Solvency Tests
(\$ in Thousands)

| Actuarial Accrued Liabilities for |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Valuation Date | (1) <br> Accumulated Employee Contributions Including Allocated Investment Earnings | (2) <br> Retirees and Beneficiaries Currently Receiving Benefits | (3) <br> Active and Inactive Members Employer Financed Portion | Net Assets Available for Benefits | (1) | Portions of Accrued Liabilities Covered by Assets <br> (2) | (3) |
| 6/30/00 | \$2,992,726 | \$7,227,395 | \$7,831,975 | \$14,899,074 | 100\% | 100\% | 59.7\% |
| 6/30/01 | 3,061,697 | 7,856,268 | 7,576,242 | 16,191,631 | 100 | 100 | 69.6 |
| 6/30/02 | 3,221,756 | 8,913,895 | 8,044,696 | 16,823,185 | 100 | 100 | 58.3 |
| 6/30/03 | 3,400,765 | 9,758,473 | 8,326,600 | 16,979,457 | 100 | 100 | 45.9 |
| 6/30/04 | 3,571,428 | 10,657,920 | 8,617,912 | 17,103,285 | 100 | 100 | 33.3 |
| 6/30/05 | 3,819,498 | 11,260,642 | 8,646,958 | 17,180,705 | 100 | 100 | 24.3 |
| 6/30/06 | 3,955,066 | 12,228,330 | 8,745,068 | 18,321,063 | 100 | 100 | 24.4 |
| 6/30/07 | 3,788,781 | 13,342,531 | 9,731,324 | 19,791,564 | 100 | 100 | 27.3 |
| 6/30/08 | 3,991,804 | 14,306,528 | 10,236,362 | 20,814,720 | 100 | 100 | 24.6 |
| 6/30/09 | 4,235,466 | 15,665,712 | 10,693,368 | 20,597,581 | 100 | 100 | 6.5 |

Schedule of Active Member Valuation Data

|  |  |  | Active Members |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Valuation Date | Number of <br> Employers | Number | Annual Payroll | Annual <br> Average Pay | \% Increase in <br> Average Pay |
| 2000 | 847 | 151,790 | $\$ 4,090,596,398$ | $\$ 26,949$ | $7.9 \%$ |
| 2001 | 863 | 151,080 | $4,112,237,738$ | 27,219 | 1.0 |
| 2002 | 866 | 152,148 | $4,220,538,845$ | 27,740 | 1.9 |
| 2003 | 871 | 154,872 | $4,431,599,526$ | 28,615 | 3.2 |
| 2004 | 880 | 156,353 | $4,617,272,973$ | 29,531 | 3.2 |
| 2005 | 861 | 157,101 | $4,786,280,398$ | 30,466 | 3.2 |
| 2006 | 861 | 158,091 | $4,971,973,661$ | 31,450 | 3.2 |
| 2007 | 861 | 162,804 | $5,196,294,899$ | 31,917 | 1.5 |
| 2008 | 863 | 165,733 | $5,544,704,937$ | 33,456 | 4.8 |
| 2009 | 866 | 167,122 | $5,831,863,534$ | 34,896 | 4.3 |

Schedule of Retirants Added to and Removed From Rolls Last Ten Fiscal Years

| Item | Fiscal Year Ended June 30 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Beginning of Year | 48,766 | 51,080 | 53,665 | 56,705 | 59,447 | 62,407 | 63,939 | 66,757 | 70,756 | 73,540 |
| Added | 4,313 | 4,584 | 5,138 | 4,857 | 5,174 | 4,610 | 5,360 | 6,218 | 5,335 | 4,965 |
| Removed | $(1,999)$ | $(1,999)$ | $(2,098)$ | $(2,115)$ | $(2,214)$ | $(3,078)$ | $(2,542)$ | $(2,219)$ | $(2,551)$ | $(2,362)$ |
| End of Year | 51,080 | 53,665 | 56,705 | 59,447 | 62,407 | 63,939 | 66,757 | 70,756 | 73,540 | 76,143 |

## Schedule of Annual Benefit Payments Added to and Removed From Rolls

 Last Seven Fiscal Years| Year Ending | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Beginning of Year | \$656,547,390 | \$715,099,701 | \$778,636,196 | \$1,022,022,560 | \$1,117,210,600 | \$1,214,384,863 | \$1,305,908,320 |
| Added | 76,047,174 | 82,912,445 | 74,999,488 | 92,495,367 | 97,985,045 | 93,694,780 | 87,403,913 |
| Removed | $(17,494,863)$ | $(19,375,950)$ | $(25,851,732)$ | $(26,749,850)$ | $(31,700,099)$ | $(35,621,113)$ | $(33,633,667)$ |
| Benefit increase due to annual |  |  |  |  |  |  |  |
| COLA | N/A | N/A | 194,238,608 | 28,442,523 | 30,889,317 | 33,449,790 | 36,261,313 |
| Benefit increase due to plan amendments | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| End of Year | \$715,099,701 | \$778,636,196 | \$1,022,022,560 | \$1,117,210,600 | \$1,214,384,863 | \$1,305,908,320 | \$1,395,939,879 |


|  | Years of Credited Service |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25 | 26-29 | 30 | 31+ |
| July 1, 2008 to June 30, 2009 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$395.82 | \$373.84 | \$581.94 | \$874.55 | \$1,314.05 | \$1,672.61 | \$1,865.25 | \$2,115.68 | \$2,821.82 |
| Average Final Salary | \$26,414 | \$26,280 | \$29,481 | \$32,707 | \$37,865 | \$42,352 | \$45,058 | \$47,003 | \$53,867 |
| Number of Active Retirants | 192 | 703 | 669 | 572 | 535 | 378 | 732 | 223 | 961 |
| July 1, 2007 to June 30, 2008 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$400.20 | \$382.62 | \$586.58 | \$900.09 | \$1,221.01 | \$1,738.22 | \$1,844.70 | \$2,070.82 | \$2,726.23 |
| Average Final Salary | \$25,527 | \$25,618 | \$28,649 | \$33,139 | \$36,537 | \$44,534 | \$45,142 | \$48,053 | \$53,245 |
| Number of Active Retirants | 201 | 690 | 703 | 614 | 586 | 386 | 855 | 226 | 1,074 |
| July 1, 2006 to June 30, 2007 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$411.52 | \$369.97 | \$536.43 | \$817.54 | \$1,113.79 | \$1,671.02 | \$1,761.30 | \$2,127.34 | \$2,615.87 |
| Average Final Salary | \$22,554 | \$24,146 | \$27,269 | \$30,518 | \$34,644 | \$42,366 | \$43,541 | \$47,398 | \$51,466 |
| Number of Active Retirants | 340 | 986 | 827 | 747 | 684 | 381 | 917 | 251 | 1,085 |
| July 1, 2005 to June 30, 2006 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$489.98 | \$331.00 | \$492.09 | \$765.75 | \$1,137.28 | \$1,574.92 | \$1,729.20 | \$1,942.37 | \$2,380.21 |
| Average Final Salary | \$21,672 | \$22,459 | \$25,293 | \$29,138 | \$33,142 | \$38,998 | \$41,558 | \$43,360 | \$46,793 |
| Number of Active Retirants | 121 | 671 | 692 | 632 | 627 | 358 | 973 | 217 | 1,069 |
| July 1, 2004 to June 30, 2005 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$478.93 | \$354.32 | \$556.04 | \$872.26 | \$1,239.41 | \$1,569.12 | \$1,683.54 | \$1,878.27 | \$2,382.38 |
| Average Final Salary | \$22,862 | \$22,656 | \$24,775 | \$29,619 | \$34,563 | \$38,437 | \$40,090 | \$41,687 | \$46,505 |
| Number of Active Retirants | 108 | 543 | 666 | 516 | 421 | 296 | 853 | 223 | 984 |


|  | Years of Credited Service |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-15 | 16-20 | 21-24 | 25 | 26-29 | 30 | 31+ |
| July 1, 2003 to June 30, 2004 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$380.68 | \$354.90 | \$584.96 | \$821.55 | \$1,068.15 | \$1,605.52 | \$1,709.53 | \$1,871.84 | \$2,437.30 |
| Average Final Salary | \$21,732 | \$23,875 | \$26,052 | \$29,035 | \$30,841 | \$38,021 | \$40,186 | \$41,374 | \$47,014 |
| Number of Active Retirants | 202 | 651 | 738 | 535 | 368 | 496 | 862 | 274 | 1,048 |
| July 1, 2002 to June 30, 2003 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$429.80 | \$355.18 | \$526.23 | \$787.32 | \$1,052.00 | \$1,502.35 | \$1,657.46 | \$1,739.17 | \$2,328.86 |
| Average Final Salary | \$21,698 | \$21,817 | \$25,046 | \$26,377 | \$28,859 | \$36,308 | \$38,977 | \$38,459 | \$44,883 |
| Number of Active Retirants | 157 | 535 | 732 | 507 | 327 | 459 | 868 | 236 | 1,036 |
| July 1, 2001 to June 30, 2002 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$330.83 | \$302.81 | \$494.46 | \$732.10 | \$1,038.00 | \$1,500.85 | \$1,551.53 | \$1,727.10 | \$2,147.68 |
| Average Final Salary | \$15,636 | \$18,981 | \$22,674 | \$26,147 | \$28,479 | \$35,591 | \$36,779 | \$38,801 | \$42,421 |
| Number of Active Retirants | 234 | 653 | 743 | 507 | 402 | 402 | 854 | 244 | 1,099 |
| July 1, 2000 to June 30, 2001 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$284.55 | \$313.67 | \$471.15 | \$731.04 | \$1,021.25 | \$1,324.77 | \$1,529.02 | \$1,678.21 | \$2,131.09 |
| Average Final Salary | \$18,107 | \$19,827 | \$21,900 | \$24,910 | \$27,921 | $\$ 32,937$ | \$36,110 | \$37,850 | $\$ 42,329$ |
| Number of Active Retirants | 117 | 418 | 623 | 456 | 354 | 391 | 833 | 287 | 1,105 |
| July 1, 1999 to June 30, 2000 |  |  |  |  |  |  |  |  |  |
| Average Monthly Benefit | \$328.36 | \$298.90 | \$447.08 | \$628.27 | \$941.69 | \$1,305.57 | \$1,520.20 | \$1,782.05 | \$2,260.55 |
| Average Final Salary | \$17,800 | \$19,195 | \$21,859 | \$23,447 | \$27,265 | \$32,354 | \$34,786 | \$37,244 | \$40,862 |
| Number of Active Retirants | 144 | 491 | 571 | 519 | 515 | 394 | 692 | 207 | 780 |

SCHEDULE A

## Development of Actuarial Value of Assets <br> (\$ thousands)

| Valuation Date June 30: | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A. Actuarial Value Beginning of Year | \$19,791,564 | \$20,814,720 |  |  |  |  |
| B. Market Value End of Year | 19,251,069 | 15,134,487 |  |  |  |  |
| C. Market Value Beginning of Year | 21,353,016 | 19,251,069 |  |  |  |  |
| D. Cash Flow |  |  |  |  |  |  |
| D1. Contributions | 1,100,308 | 1,147,650 |  |  |  |  |
| D2. Other Revenue | 0 | 0 |  |  |  |  |
| D3. Benefit Payments | $(1,465,925)$ | $(1,535,550)$ |  |  |  |  |
| D4. Administrative Expenses | $(11,078)$ | $(11,823)$ |  |  |  |  |
| D5. Investment Expenses | $(35,719)$ | $(25,937)$ |  |  |  |  |
| D6. Net | $(412,414)$ | $(425,660)$ |  |  |  |  |
| E. Investment Income |  |  |  |  |  |  |
| E1. Market Total: B.-C.-D6. | $(1,689,533)$ | $(3,690,922)$ |  |  |  |  |
| E2. Assumed Rate | 8.00\% | 8.00\% |  |  |  |  |
| E3. Amount for Immediate Recognition | 1,728,892 | 1,550,034 |  |  |  |  |
| E4. Amount for Phased-In Recognition | $(3,418,425)$ | $(5,240,956)$ |  |  |  |  |
| F. Phased-In Recognition of Investment Income |  |  |  |  |  |  |
| F1. Current Year: 0.20*E4. | $(683,685)$ | $(1,048,191)$ |  |  |  |  |
| F2. First Prior Year | 390,363 | $(683,685)$ | $(1,048,191)$ |  |  |  |
| F3. Second Prior Year | 0 | 390,363 | $(683,685)$ | $(1,048,191)$ |  |  |
| F4. Third Prior Year | 0 | 0 | 390,363 | $(683,685)$ | $(1,048,191)$ |  |
| F5. Fourth Prior Year | 0 | 0 | 0 | 390,363 | $(683,685)$ | (1,048,191) |
| F6. Total Recognized Investment Gain | $(293,322)$ | $(1,341,513)$ | $(1,341,513)$ | $(1,341,513)$ | $(1,731,876)$ | $(1,048,191)$ |
| G. Actuarial Value End of Year: |  |  |  |  |  |  |
| A.+D6.+E3.+F6. | \$20,814,720 | \$20,597,581 |  |  |  |  |
| H. Difference Between Market \& Actuarial Values | \$(1,563,651) | \$(5,463,094) | \$(4,121,581) | \$(2,780,068) | \$(1,048,192) | \$(1) |


 tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value

|  |  | Asset Summary June 30, 2009 <br> (\$ in Thousands) |  |
| :---: | :---: | :---: | :---: |
|  | Market Value | Book Value | Actuarial Value |
| 1. Assets at June 30, 2008 | \$19,251,069 | \$17,269,609 | \$20,814,720 |
| 2. Contributions and Misc. Revenue | 1,147,650 | 1,147,650 | 1,147,650 |
| 3. Investment Increment | $(3,716,859)$ | $(1,142,193)$ | 182,584 |
| 4. Benefit Payments | $(1,535,550)$ | $(1,535,550)$ | $(1,535,550)$ |
| 5. Administrative Expenses | $(11,823)$ | $(11,823)$ | $(11,823)$ |
| 6. Assets at June 30,2009 |  |  |  |
| $(1)+(2)+(3)+(4)+(5)$ | \$15,134,487 | \$15,727,693 | \$20,597,581 |
| 7. Investment Increment/Mean Assets* | (19.51)\% | (6.69)\% | 0.89\% |

*Based on the approximation formula: $1 /[.5 \times(A+B-I)]$, where
I = Investment increment
A = Beginning of year asset value
B = End of year asset value

## SCHEDULE B

## STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: $8.00 \%$ per annum, compounded annually (net after investment expenses).
SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation from active service are as follows:

| Age | Annual Rates of |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Withdrawal and Vesting* |  | Death** |  | Disability** |  |
|  | Male | Female | Male | Female | Male | Female |
| 20 | 20.0\% | 20.0\% | .01\% | .00\% | .01\% | .01\% |
| 25 | 15.5 | 15.0 | . 02 | . 01 | . 02 | . 01 |
| 30 | 11.0 | 11.0 | . 02 | . 01 | . 02 | . 02 |
| 35 | 9.5 | 9.0 | . 03 | . 01 | . 05 | . 03 |
| 40 | 7.0 | 6.5 | . 04 | . 02 | . 12 | . 08 |
| 45 | 6.0 | 5.5 | . 06 | . 02 | . 23 | . 13 |
| 50 | 6.0 | 5.5 | . 08 | . 04 | . 29 | . 21 |
| 55 | 6.0 | 5.5 | . 11 | . 06 | . 52 | . 32 |
| 60 | 6.0 | 5.5 | . 22 | . 09 | . 40 | . 30 |
| 65 | 6.0 | 5.5 | . 36 | . 16 |  |  |
| 70 | 6.0 | 5.5 | . 61 | . 27 |  |  |
| 74 | 6.0 | 5.5 | . 90 | . 47 |  |  |


| Age | Annual Rates of Service Retirements |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Under 25 Years of Service | 25 Years of Service and Over | Under 25 Years of Service | 25 Years of Service and Over |
| 45 |  | 13.0\% |  | 11.0\% |
| 50 |  | 13.0 |  | 11.0 |
| 55 |  | 15.0 |  | 18.0 |
| 60 | 11.0\% | 15.0 | 13.0\% | 20.0 |
| 62 | 19.0 | 30.0 | 18.0 | 30.0 |
| 65 | 20.0 | 28.0 | 25.0 | 38.0 |
| 70 | 17.0 | 20.0 | 19.0 | 25.0 |
| 75 | 100.0 | 100.0 | 100.0 | 100.0 |

[^1]SALARY INCREASES: Representative values of the assumed annual rates of salary increase are as follows:

|  |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Annual Rates of |  |  |
| Service | Merit \& Seniority | Base (Economy) | Increase Next Year |
| 0 | $10.75 \%$ | $4.25 \%$ | $15.00 \%$ |
| 1 | 10.75 | 4.25 | 15.00 |
| 2 | 10.75 | 4.25 | 15.00 |
| 3 | 1.25 | 4.25 | 5.50 |
| 4 | 1.25 | 4.25 | 5.50 |
| 5 | 1.25 | 4.25 | 5.50 |
| 10 | 0.75 | 4.25 | 5.00 |
| 15 | 0.75 | 4.25 | 5.00 |
| 20 | 0.75 | 4.25 | 5.00 |
| 25 | 0.75 | 4.25 | 5.00 |
| 30 | 0.25 | 4.25 | 4.50 |
| 35 | 0.25 | 4.25 | 4.50 |

PAYROLL GROWTH: 4.25\% per annum, compounded annually.

PRICE INFLATION: 3.50\% per annum, compounded annually.

DEATH AFTER RETIREMENT: The mortality table, for post-retirement mortality, used in evaluating allowances to be paid is the 1994 Group Annuity Mortality Table. Special tables are used for the period after disability retirement. This assumption is used to measure the probabilities of each benefit payment being made after retirement.

MARRIAGE ASSUMPTION: 85\% married with the husband three years older than his wife.

UNUSED SICK LEAVE: 0.75 years at retirement.

VALUATION METHOD: Entry age normal cost method. Entry age is established on an individual basis.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is $20 \%$ of the difference between market value and expected market value.

## SCHEDULE C

## SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The following summary presents the main benefit and contribution provisions of the System in effect June 30, 2008, as interpreted in preparing the actuarial valuation. As used in the summary, "average compensation" means the average annual covered earnings of an employee during the four highest years of service. "Covered earnings" means gross salary not in excess of the maximum amount on which contributions were required. "Fiscal year" means a year commencing on July 1 and ending June 30. The maximum covered earnings for employers and employees over the years are as follows:

## EMPLOYER AND EMPLOYEE RATES OF CONTRIBUTION

 AND MAXIMUM COVERED EARNINGS| Fiscal Date From | Fiscal Date To | Employer Rate | Maximum Covered Earnings | Employee Rate | Maximum Covered Earnings |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2/1/53 | 6/30/58 | 2.50\% | \$6,000 | 4.00\% | \$4,800* |
| 7/1/58 | 6/30/60 | 2.50 | 9,000 | 4.00 | 7,800* |
| 7/1/60 | 6/30/66 | 2.50 | 15,000 | 4.00 | 13,800* |
| 7/1/66 | 6/30/68 | 3.00 | 15,000 | 4.50 | 13,800* |
| 7/1/68 | 3/31/71 | 4.50 | 15,000 | 4.50 | 15,000 |
| 4/1/71 | 6/30/73 | 4.50 | 35,000 | 4.50 | 35,000 |
| 7/1/73 | 6/30/76 | 5.85 | 35,000 | 5.00 | 35,000 |
| 7/1/76 | 6/30/77 | 7.00 | 35,000 | 5.00 | 35,000 |
| 7/1/77 | 6/30/78 | 7.50 | 35,000 | 5.50 | 35,000 |
| 7/1/78 | 6/30/80 | 8.00 | 35,000 | 5.50 | 35,000 |
| 7/1/80 | 6/30/81 | 8.00 | 53,000 | 5.50 | 53,000 |
| 7/1/81 | 12/31/83 | 8.75 | 53,000 | 6.00 | 53,000 |
| 1/1/84 | 6/30/88 | 8.75 | 63,000 | 6.00 | 63,000 |
| 7/1/88 | 6/30/89 | 8.75 | 75,600 | 6.00 | 75,600 |
| 7/1/89 | 12/31/89 | 8.75 | 75,600 | 6.50 | 75,600 |
| 1/1/90 | 6/30/91 | 9.75 | 75,600 | 6.50 | 75,600 |
| 7/1/91 | 6/30/92 | 9.75 | 75,600 | 7.25 | 75,600 |
| 7/1/92 | 6/30/02 | 9.75 | 125,000 | 7.25 | 125,000 |
| 7/1/02 | 6/30/05 | 9.75 | 150,000 | 7.25 | 150,000 |
| 7/1/05 | 6/30/06 | 10.75 | 150,000 | 7.25 | 150,000 |
| 7/1/06 | 6/30/07 | 11.30 | 150,000 | 7.25 | 150,000 |
| 7/1/07 | 6/30/08 | 11.85 | 150,000 | 7.25 | 150,000 |
| 7/1/08 | 6/30/09 | 11.85 | 230,000 | 7.25 | 230,000 |
| 7/1/09 | 6/30/10 | 12.00 | 245,000 | 7.25 | 245,000 |

*From February 1, 1953 through June 30, 1968 the first $\$ 100$ in monthly earnings or $\$ 1,200$ in annual earnings were not covered earnings for the employee.

## BENEFITS

## Superannuation Retirement

Condition for Retirement

Amount of Allowance
(a) A retirement allowance is paid upon the request of any member who retires and has attained age 60 and completed at least eight years* of creditable service, or has completed at least 25 years of creditable service.
(b) Any member who withdraws from service prior to his attainment of age 60 and who has completed at least eight years* of creditable service is entitled to receive, in lieu of a refund of his accumulated contributions, a retirement allowance commencing at age 60.
(c) Upon the death of a member who has completed at least eight years* of creditable service, a benefit is payable, in lieu of a refund of the member's accumulated contributions, to his spouse, if said spouse has been married to the member for not less than one year.

* four years for those who entered the system before July 1, 2007.

The annual retirement allowance payable to a member who retires under condition (a) above is equal to:

1. A member's annuity which is the actuarial equivalent of the member's accumulated contributions at the time of his retirement, plus
2. An employer's annuity which, together with the member's annuity, is equal to $2 \%$ of his average compensation for each of the first 25 years of creditable service plus 2-1/2\% for each year of creditable service over 25 years.

The minimum allowance is $\$ 120$ for each year of creditable service.

The annual retirement allowance payable to the spouse of a member who dies under condition (c) above is equal to the greater of (i) the allowance that would have been payable had the member retired and elected Option 2, reduced by $3 \%$ per year for each year the member lacked in qualifying for unreduced retirement benefits, or (ii) a benefit equal to the greater of $20 \%$ of average compensation or $\$ 50$ per month.

In addition, a benefit is payable to dependent children until age 19 ( 23 if a full time student). The benefit is equal to the greater of $10 \%$ of average compensation or $\$ 50$ per month for each dependent child up to 3.

## Disability Retirement

Condition for Retirement

Amount of Allowance

A retirement allowance is paid to a member who is totally and permanently disabled, as determined by the Board of Trustees, and has accumulated eight or more years* of creditable service.

* four years for those who entered the system before July 1, 2007

For those who were active members prior to July 1, 1992 and did not elect the benefit structure outlined below, the annual disability retirement allowance payable is equal to a superannuation retirement allowance if the member has attained age 60, otherwise it is equal to a superannuation retirement allowance calculated as follows:

1. A member's annuity equal to the actuarial equivalent of his accumulated contributions at the time of retirement, plus
2. An employer's annuity equal to the amount that would have been payable had the member continued in service to age 60.

For those who become active members after June 30, 1992 and for those who were active members prior to July 1, 1992 who so elected, the following benefits are payable:

1. A temporary allowance equal to the greater of (a) $40 \%$ of average compensation plus $10 \%$ for each dependent child up to a maximum of 2 , or (b) the member's accrued allowance. This temporary allowance is paid for a period of time based on the member's age at disability, as follows:

| Age at Disability | Duration |
| :---: | :---: |
| 60 and earlier | to age 65 |
| 61 | to age 66 |
| 62 | to age 66 |
| 63 | to age 67 |
| 64 | to age 67 |
| 65 | to age 68 |
| 66 | to age 68 |
| 67 | to age 69 |
| 68 | to age 70 |
| 69 and later | one year |

The minimum allowance is $\$ 120$ per year of creditable service.
2. A deferred allowance commencing when the temporary allowance ceases equal to the greater of (a) the allowance the member would have received based on service to the termination age of the temporary allowance, but not more than $40 \%$ of average compensation, or (b) the member's accrued allowance.

The minimum allowance is $\$ 120$ per year of creditable service.

Effective July 1, 2004, a temporary benefit can be paid out of a member's accumulated contribution balance while the member is awaiting a determination for eligibility for disability benefits. Future disability payments, if any, would be offset by advanced payments made from the member's accumulated contributions.

## Accidental Disability Retirement

Condition for Retirement

Amount of Allowance

## Accidental Death Benefit

Condition for Benefit

Amount of Allowance

## Return of Contributions

A retirement allowance is paid to a member who is totally and permanently disabled in the line of performance of duty.

The annual accidental disability retirement allowance is equal to the allowance payable on disability retirement but not less than 50\% of average compensation. There is no minimum benefit.

A retirement allowance is paid to a spouse and/or dependent children upon the death of an active member in the line of performance of duty.

The annual retirement allowance is equal to $50 \%$ of average compensation payable to the spouse and $25 \%$ of average compensation payable to one dependent child or $50 \%$ to two or more children until age 19 (23 if a full time student). There is no minimum benefit.

Upon the withdrawal of a member without a retirement benefit, his contributions are returned to him, together with accumulated regular interest thereon.

Upon the death of a member before retirement, his contributions, together with the full accumulated regular interest thereon, are paid to his designated beneficiary, if any, otherwise, to his estate provided no other survivor benefits are payable.

## Normal Form of Benefit

Optional Benefits

The normal form of benefit is an allowance payable during the life of the member with the provision that upon his death the excess of his total contributions at the time of retirement over the total retirement annuity paid to him will be paid to his designated beneficiary.

A member upon retirement may elect to receive his allowance in one of the following forms which are computed to be actuarially equivalent to the applicable retirement allowance.

Option 1. Reduced allowance with the provision that if the pensioner dies before he receives the value of the member's annuity as it was at the time of retirement, the balance shall be paid to his beneficiary or estate.

Option 2. Upon his death, his reduced retirement allowance shall be continued throughout the life of, and paid to, his beneficiary.

Option 3. Upon his death, 50\% of his reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary and the other $50 \%$ of his reduced retirement allowance to some other designated beneficiary.

Option 4A. Upon his death, $50 \%$ of his reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4B. A reduced retirement allowance shall be continued throughout the life of the pensioner, but with the further guarantee of payment to the pensioner, his beneficiary or his estate for a specified number of years certain.

Option 4C. A member may elect any option with the added provision that the member shall receive, so far as possible, the same total amount annually (considering both PERS and Social Security benefits) before and after the earliest age at which the member becomes eligible for a Social Security benefit. This option was only available to those who retired prior to July 1, 2004.

If a member elects either Option 2 or Option 4A there is an added provision that in the event the designated beneficiary predeceases the member, the retirement allowance payable to the member after the designated beneficiary's death shall be equal to the retirement allowance which would have been payable had the member not elected the option.

## Post-Retirement Adjustments In Allowances

A member who has at least 28 years of creditable service* can select a partial lump-sum option at retirement. Under this option, the retiree has the option of taking a partial lump-sum distribution equal to either 12, 24, or 36 times the base maximum monthly benefit. With each lump-sum amount, the base maximum monthly benefit will be actuarially reduced. A member selecting the partial lumpsum option may also select any of the regular options except Option 1, the prorated single-life annuity, and Option $4-C$, the Social Security leveling provision. The benefit is then calculated using the new reduced maximum benefit as a starting point in applying the appropriate option factors for the reduction.

* or at least age 63 with four years of service for those who entered the system before July 1, 2007.

The allowances of retired members are adjusted annually by an amount equal to (a) $3 \%$ of the annual retirement allowance for each full fiscal year of retirement prior to the year in which the member reaches age 55 , plus (b) $3 \%$ compounded for each year thereafter beginning with the fiscal year in which the member turns age 55; provided, however, that the annual adjustment will not be less than 4\% of the annual retirement allowance for each full fiscal year in retirement through June 30, 1998.

A prorated portion of the annual adjustment will be paid to the member, beneficiary, or estate of any member or beneficiary who is receiving the annual adjustment in a lump sum, but whose benefits are terminated between July 1 and December 1.

## SCHEDULE D

## DETAILED TABULATIONS OF THE DATA

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

| Year of Retirement | No. | Total Annual Benefits, excluding COLA | COLA | Total <br> Annual Benefits | Average Monthly Total Benefit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2009 | 2,199 | \$39,777,473 | \$19,341 | \$39,796,814 | \$1,508 |
| 2008 | 4,878 | 90,244,497 | 257,303 | 90,501,800 | 1,546 |
| 2007 | 4,459 | 79,134,236 | 2,181,935 | 81,316,171 | 1,520 |
| 2006 | 4,613 | 78,650,382 | 4,579,107 | 83,229,489 | 1,504 |
| 2005 | 4,365 | 71,578,324 | 6,383,332 | 77,961,656 | 1,488 |
| 2004 | 4,489 | 77,110,641 | 9,321,686 | 86,432,327 | 1,605 |
| 2003 | 4,067 | 66,177,318 | 10,116,962 | 76,294,280 | 1,563 |
| 2002 | 4,186 | 67,731,602 | 12,652,882 | 80,384,484 | 1,600 |
| 2001 | 4,138 | 64,093,429 | 14,243,770 | 78,337,199 | 1,578 |
| 2000 | 3,582 | 57,613,212 | 14,949,772 | 72,562,984 | 1,688 |
| 1999 | 2,830 | 42,051,196 | 12,427,488 | 54,478,684 | 1,604 |
| 1998 | 2,847 | 41,284,333 | 13,785,174 | 55,069,507 | 1,612 |
| 1997 | 2,786 | 36,781,009 | 13,851,386 | 50,632,395 | 1,514 |
| 1996 | 3,007 | 41,629,880 | 17,403,438 | 59,033,318 | 1,636 |
| 1995 | 2,380 | 29,930,261 | 13,801,625 | 43,731,886 | 1,531 |
| 1994 | 2,242 | 26,514,874 | 13,255,730 | 39,770,604 | 1,478 |
| 1993 | 2,186 | 24,752,210 | 13,543,968 | 38,296,178 | 1,460 |
| 1992 | 2,602 | 32,821,073 | 19,492,505 | 52,313,578 | 1,675 |
| 1991 | 2,093 | 23,863,612 | 15,297,394 | 39,161,006 | 1,559 |
| 1990 | 1,700 | 18,548,678 | 12,803,161 | 31,351,839 | 1,537 |
| 1989 | 1,375 | 12,708,656 | 9,400,961 | 22,109,617 | 1,340 |
| 1988 | 1,125 | 10,039,556 | 7,958,171 | 17,997,727 | 1,333 |
| 1987 | 923 | 7,795,517 | 6,586,386 | 14,381,903 | 1,298 |
| 1986 | 1,791 | 18,245,128 | 16,911,167 | 35,156,295 | 1,636 |
| 1985 | 840 | 7,294,903 | 6,930,405 | 14,225,308 | 1,411 |
| 1984 | 779 | 6,187,395 | 6,234,586 | 12,421,981 | 1,329 |
| 1983 | 586 | 4,130,212 | 4,400,443 | 8,530,655 | 1,213 |
| 1982 | 534 | 3,643,470 | 4,123,817 | 7,767,287 | 1,212 |
| 1981 | 555 | 3,485,867 | 4,140,714 | 7,626,581 | 1,145 |
| 1980 | 413 | 2,578,653 | 3,205,806 | 5,784,459 | 1,167 |
| 1979 | 269 | 1,629,986 | 2,156,939 | 3,786,925 | 1,173 |
| 1978 | 262 | 1,322,706 | 1,818,590 | 3,141,296 | 999 |
| 1977 | 207 | 1,091,124 | 1,587,465 | 2,678,589 | 1,078 |
| 1976 | 229 | 1,078,836 | 1,634,641 | 2,713,477 | 987 |
| 1975 | 149 | 649,910 | 1,046,813 | 1,696,723 | 949 |
| 1974 \& Prior | 457 | 1,827,882 | 3,436,975 | 5,264,857 | 960 |
| Totals | 76,143 | \$1,093,998,041 | \$301,941,838 | \$1,395,939,879 | \$1,528 |

Benefits Payable June 30, 2009

| Amount of Monthly Benefit** | Number of Rets. | Ret. Type 1* | Ret. Type 2* | Ret. Type 3* | Life | Option 1 | Option 2 | Option 3 | Option 4A | Option 4B | Option 4C | Option 5 | PLSO <br> 1 Year | $\begin{aligned} & \text { PLSO } \\ & 2 \text { Years } \end{aligned}$ | $\begin{aligned} & \text { PLSO } \\ & 3 \text { Years } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$1-\$100 | 2,400 | 1,906 | 12 | 482 | 1,705 | 79 | 329 | 8 | 30 | 238 | 6 | 11 | 51 | 32 | 359 |
| 101-200 | 5,688 | 4,191 | 126 | 1,371 | 4,131 | 242 | 652 | 18 | 82 | 494 | 25 | 69 | 89 | 59 | 362 |
| 201-300 | 5,554 | 3,949 | 296 | 1,309 | 4,133 | 226 | 564 | 10 | 106 | 449 | 39 | 66 | 73 | 49 | 267 |
| 301-400 | 4,812 | 3,350 | 371 | 1,091 | 3,455 | 217 | 544 | 20 | 109 | 420 | 60 | 47 | 66 | 63 | 233 |
| 401-500 | 4,286 | 3,028 | 405 | 853 | 3,065 | 189 | 521 | 8 | 141 | 313 | 72 | 49 | 65 | 63 | 199 |
| 501-600 | 3,645 | 2,586 | 417 | 642 | 2,536 | 151 | 471 | 14 | 116 | 311 | 89 | 46 | 75 | 52 | 185 |
| 601-700 | 3,294 | 2,384 | 393 | 517 | 2,279 | 149 | 428 | 10 | 133 | 250 | 136 | 45 | 66 | 51 | 143 |
| 701-800 | 3,145 | 2,299 | 396 | 450 | 2,131 | 173 | 387 | 10 | 166 | 203 | 171 | 75 | 47 | 42 | 150 |
| 801-900 | 2,985 | 2,272 | 339 | 374 | 1,949 | 158 | 433 | 7 | 172 | 222 | 189 | 44 | 66 | 46 | 194 |
| 901-1,000 | 2,892 | 2,236 | 315 | 341 | 1,887 | 121 | 420 | 14 | 153 | 226 | 197 | 71 | 67 | 32 | 189 |
| Over 1,000 | 37,442 | 33,265 | 2,187 | 1,990 | 22,528 | 1,535 | 6,394 | 155 | 3,472 | 2,930 | 2,116 | 428 | 1,314 | 1,194 | 5,826 |
| Totals | 76,143 | 61,466 | 5,257 | 9,420 | 49,799 | 3,240 | 11,143 | 274 | 4,680 | 6,056 | 3,100 | 951 | 1,979 | 1,683 | 8,107 |

*Type of Retirement
1-Retirement for Age \& Service
2 - Disability Retirement
3 - Survivor Payment

**Included in other options

Public Employees' Retirement System of Mississippi
Retirant and Beneficiary Information June 30, 2009 Tabulated by Attained Ages

| Attained Age | Service Retirement |  | Disability Retirement |  | Survivors and Beneficiaries |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Annual Benefits | No. | Annual <br> Benefits | No. | Annual <br> Benefits | No. | Annual <br> Benefits |
| Under 20 |  |  |  |  | 623 | \$2,285,045 | 623 | \$2,285,045 |
| 20-24 |  |  |  |  | 187 | \$937,559 | 187 | \$937,559 |
| 25-29 |  |  | 3 | \$31,775 | 86 | \$742,601 | 89 | \$774,376 |
| 30-34 |  |  | 28 | \$302,044 | 74 | \$706,905 | 102 | \$1,008,949 |
| 35-39 | 2 | \$12,772 | 94 | \$1,282,273 | 173 | \$1,591,202 | 269 | \$2,886,247 |
| 40-44 | 19 | \$377,987 | 184 | \$3,286,157 | 210 | \$1,883,165 | 413 | \$5,547,309 |
| 45-49 | 516 | \$10,968,236 | 453 | \$7,971,425 | 350 | \$3,061,498 | 1,319 | \$22,001,159 |
| 50-54 | 2,467 | \$59,058,601 | 772 | \$13,626,808 | 525 | \$5,840,657 | 3,764 | \$78,526,066 |
| 55-59 | 5,748 | \$154,204,194 | 1,092 | \$17,912,050 | 709 | \$8,870,778 | 7,549 | \$180,987,022 |
| 60-64 | 11,938 | \$259,161,034 | 1,155 | \$17,575,581 | 886 | \$12,119,370 | 13,979 | \$288,855,985 |
| 65-69 | 12,967 | \$245,820,801 | 682 | \$9,317,025 | 1,011 | \$13,995,512 | 14,660 | \$269,133,338 |
| 70-74 | 10,184 | \$181,371,374 | 451 | \$5,171,184 | 1,117 | \$15,933,452 | 11,752 | \$202,476,010 |
| 75-79 | 7,721 | \$133,964,872 | 186 | \$2,078,542 | 1,228 | \$17,496,694 | 9,135 | \$153,540,108 |
| 80-84 | 5,508 | \$89,343,486 | 93 | \$959,763 | 1,138 | \$16,295,317 | 6,739 | \$106,598,566 |
| 85-89 | 2,891 | \$43,974,788 | 49 | \$466,604 | 719 | \$10,267,053 | 3,659 | \$54,708,445 |
| 90-94 | 1,136 | \$16,320,566 | 12 | \$110,928 | 299 | \$3,501,557 | 1,447 | \$19,933,051 |
| 95 | 113 | \$1,613,741 | 2 | \$19,212 | 27 | \$403,203 | 142 | \$2,036,156 |
| 96 | 84 | \$917,979 |  |  | 23 | \$293,829 | 107 | \$1,211,808 |
| 97 | 60 | \$706,973 | 1 | \$5,747 | 11 | \$125,035 | 72 | \$837,755 |
| 98 | 31 | \$340,398 |  |  | 11 | \$117,916 | 42 | \$458,314 |
| 99 | 34 | \$431,925 |  |  | 6 | \$59,613 | 40 | \$491,538 |
| 100 \& Over | 47 | \$604,844 |  |  | 7 | \$100,229 | 54 | \$705,073 |
| Totals | 61,466 | \$1,199,194,571 | 5,257 | \$80,117,118 | 9,420 | \$116,628,190 | 76,143 | \$1,395,939,879 |

Average Age: 68.5 years

## Public Employees' Retirement System of Mississippi

Total Active Members as of June 30, 2009 Tabulated by Attained Ages and Years of Service

| Attained Age | Years of Service to Valuation Date |  |  |  |  |  |  | Totals |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | No. | Valuation Payroll |
| Under 20 | 341 | 3 |  |  |  |  |  | 344 | \$4,678,105 |
| 20-24 | 6,950 | 105 | 3 |  |  |  |  | 7,058 | 159,293,989 |
| 25-29 | 13,814 | 3,459 | 76 | 3 |  |  |  | 17,352 | 510,263,092 |
| 30-34 | 9,250 | 7,230 | 2,117 | 40 |  |  |  | 18,637 | 615,191,941 |
| 35-39 | 8,390 | 5,632 | 5,099 | 1,984 | 84 |  |  | 21,189 | 734,794,251 |
| 40-44 | 6,820 | 4,706 | 3,905 | 3,897 | 1,766 | 71 |  | 21,165 | 737,727,439 |
| 45-49 | 6,245 | 4,740 | 3,964 | 3,259 | 3,701 | 1,603 | 62 | 23,574 | 847,477,138 |
| 50-54 | 5,243 | 4,119 | 3,583 | 3,393 | 3,228 | 2,476 | 1,265 | 23,307 | 880,463,380 |
| 55-59 | 3,875 | 3,339 | 2,828 | 2,789 | 2,792 | 1,690 | 1,979 | 19,292 | 761,616,888 |
| 60 | 550 | 506 | 448 | 436 | 422 | 261 | 332 | 2,955 | 117,961,811 |
| 61 | 533 | 481 | 450 | 397 | 385 | 250 | 277 | 2,773 | 110,330,408 |
| 62 | 439 | 423 | 391 | 313 | 321 | 195 | 248 | 2,330 | 93,271,940 |
| 63 | 266 | 284 | 231 | 192 | 165 | 107 | 159 | 1,404 | 53,711,819 |
| 64 | 247 | 254 | 186 | 146 | 127 | 93 | 136 | 1,189 | 45,269,660 |
| 65 | 166 | 176 | 144 | 113 | 94 | 71 | 97 | 861 | 35,236,533 |
| 66 | 150 | 155 | 109 | 107 | 84 | 43 | 81 | 729 | 27,770,825 |
| 67 | 123 | 119 | 105 | 58 | 60 | 33 | 52 | 550 | 19,077,056 |
| 68 | 96 | 104 | 71 | 52 | 54 | 31 | 40 | 448 | 14,574,483 |
| 69 | 80 | 87 | 68 | 49 | 35 | 23 | 37 | 379 | 12,749,398 |
| 70 \& Over | 325 | 324 | 269 | 207 | 164 | 103 | 194 | 1,586 | 50,403,378 |
| Totals | 63,902 | 36,246 | 24,047 | 17,435 | 13,482 | 7,050 | 4,960 | 167,122 | \$5,831,863,534 |

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

| Age: | 44.2 years |
| :--- | :--- |
| Service: | 9.8 years |
| Annual Pay: | $\$ 34,896$ |

## SCHEDULE E

MISSISSIPPI PERS
ANALYSIS OF FINANCIAL EXPERIENCE

Gains \& Losses in Accrued Liabilities<br>Resulting from Difference Between<br>Assumed Experience \& Actual Experience (\$ Millions)

## Type of Activity

\$ Gain (or Loss) For
Year Ending 6/30/09
\$ Gain (or Loss) For
Year Ending 6/30/08

Age \& Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.

Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.

Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.

Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.

Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.
80.3

New Members. Additional unfunded accrued liability will produce a loss.

Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.

Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.

Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.

Gain (or Loss) During Year From Financial Experience
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.
(332.6)
$\$ \quad(2,169.3)$
(202.0) (51.2)
$\$ \quad(1,836.7)$
\$ (552.6)
$\qquad$
$\$ \quad(576.1)$

## SCHEDULE F

## 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.

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.

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 valuation assets. Sometimes referred to as "unfunded accrued liability".

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.


[^0]:    *All amounts prior to 2005 reported by prior actuarial firm.
    **Excluding COLA for years prior to 2005

[^1]:    * For all ages, rates of $35 \%$ for $1^{\text {st }}$ year of employment and $21 \%$ for $2^{\text {nd }}$ year.
    ** $94 \%$ are presumed to be non-duty related, and $6 \%$ are assumed to be duty related.

