



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

Prepared as of June 30, 2012





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

October 17, 2012

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, 2012. The results may not be applicable for other purposes.

The date of the valuation was June 30, 2012.

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. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. 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 8.

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. We have reviewed the actuarial methods, including the asset valuation method, and continue to believe they are appropriate for the purpose of determining employer contribution levels.

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.

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Board of Trustees
October 17, 2012
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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,

A handwritten signature in blue ink, appearing to read 'Thomas J. Cavanaugh'.

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

A handwritten signature in blue ink, appearing to read 'Edward J. Koebel'.

Edward J. Koebel, FCA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Jonathan T. Craven'.

Jonathan T. Craven, ASA, EA, FCA, MAAA
Senior Actuary

TJC/EJK:mjn



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**REPORT ON THE ANNUAL VALUATION OF THE
PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF MISSISSIPPI
PREPARED AS OF JUNE 30, 2012**

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2012, 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 any benefit increases granted to retirees as of July 1, 2012. A contribution rate of 15.83% of active members' compensation for the 2013/2014 fiscal year would be needed 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, 2012	June 30, 2011
Active members included in valuation		
Number	162,311	161,676
Annual compensation	\$ 5,857,789,376	\$ 5,684,624,214
Retirees		
Number	86,829	83,115
Annual allowances	\$ 1,752,606,759	\$ 1,627,813,430
Assets		
Market related actuarial value	\$ 19,992,797,000	\$ 20,315,165,000
Market value	\$ 19,781,387,000	\$ 20,377,236,000
Unfunded accrued liability	\$ 14,500,076,009	\$ 12,339,300,368
Funded Ratio	58.0%	62.2%
Employer contribution rate		
Normal	2.21%	2.31%
Accrued liability	<u>13.62</u>	<u>11.95</u>
Total	15.83%	14.26%
Anticipated accrued liability payment period	30.0 years	30.0 years
Unfunded accrued liability based on market value of assets	\$ 14,711,486,009	\$ 12,277,229,368
Funded Ratio	57.3%	62.4%
Payment Period	30.8 years	29.7 years



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 and losses during the valuation year are given in Section V and the rates of contribution payable by employers are given in Section VI.
4. There were no changes in actuarial assumptions or methods since the last valuation.
5. There were no changes in the plan provisions since the last valuation.
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***

Valuation Date June 30	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
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
2010	164,896	5,764	34,953	0.2	79,168	2.1	1,498.7	26.0	31,400	20,143	11,257
2011	161,676	5,685	35,161	0.6	83,115	1.9	1,627.8	28.6	32,654	20,315	12,339
2012	162,311	5,858	36,090	2.6	86,829	1.9	1,752.6	29.9	34,493	19,993	14,500

*All amounts prior to 2005 reported by prior actuarial firm.

**Excluding COLA for years prior to 2005



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, 2012 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

Active Members

Employers	Number of Employers	Number	Payroll	Group Averages		
				Salary	Age	Service
State Agencies	112	32,618	\$1,119,478,546	\$34,321	44.3	10.7
State Universities	9	17,746	873,539,345	49,225	43.5	9.6
Public Schools	150	64,252	2,215,375,191	34,479	44.2	10.6
Community/Junior Colleges	15	6,265	287,592,117	45,905	47.0	11.7
Counties	82	14,771	457,546,263	30,976	46.7	9.2
Municipalities	285	18,527	607,688,461	32,800	43.9	9.9
Other Political Subdivisions	217	8,132	296,569,453	36,469	43.7	7.8
Total in PERS	870	162,311	\$5,857,789,376	\$36,090	44.4	10.2

The total number of active members includes 104,319 vested members (36,063 State employees and 68,256 employees of other entities), and 57,992 non-vested members (20,566 State and 37,426 others).

Retired Lives

Type of Benefit Payment	No.	Annual Benefits	Group Averages	
			Benefit	Age
Retirement	70,843	\$1,514,741,424	\$21,382	69.9
Disability	5,845	96,834,134	16,567	60.8
Survivor	10,141	141,031,201	13,907	65.6
Total in PERS	86,829	\$1,752,606,759	\$20,185	68.8

The total retired lives include 30,842 from State employment and 55,987 from other employment.



Deferred Vested/Inactive Lives

Type of Member	No.	Deferred Benefits	Outstanding Refunds
Deferred Vested - Benefit Provided	15,838	\$ 74,724,440	N/A
Deferred Vested – Missing Benefit	2,871	N/A	\$ 109,822,661
Inactive	112,432	N/A	103,826,567
Total in PERS	131,141	\$ 74,724,440	\$ 213,649,228

The total deferred vested and inactive lives include 42,031 from State employment and 89,110 from other employment.

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, 2012 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2011. 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, 2012	June 30, 2011
ASSETS		
Current actuarial value of assets:		
Annuity Savings Account	\$ 4,463,252,302	\$ 4,356,556,375
Annuity Reserve	3,836,308,400	3,497,973,699
Employers' Accumulation Account	<u>11,693,236,298</u>	<u>12,460,634,926</u>
Total current assets	\$ 19,992,797,000	\$ 20,315,165,000
Future member contributions to Annuity Savings Account	\$ 4,142,443,569	\$ 4,014,397,836
Prospective contributions to Employer's Accumulation Account		
Normal contributions	\$ 1,017,200,032	\$ 1,030,362,111
Unfunded accrued liability contributions	<u>14,500,076,009</u>	<u>12,339,300,368</u>
Total prospective contributions	\$ 15,517,276,041	\$ 13,369,662,479
Total assets	<u>\$ 39,652,516,610</u>	<u>\$ 37,699,225,315</u>
 LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 19,547,366,899	\$ 18,001,718,176
Present value of benefits payable on account of active members	19,169,155,900	18,772,388,399
Present value of benefits payable on account of inactive members for service rendered before the valuation date	<u>935,993,811</u>	<u>925,118,740</u>
Total liabilities	<u>\$ 39,652,516,610</u>	<u>\$ 37,699,225,315</u>



**BREAKDOWN OF TOTAL AND ACCRUED LIABILITIES
AS OF JUNE 30, 2012**

	Total Liability	Accrued Liability
Active Members		
Retirement	\$ 16,066,495,204	\$ 12,872,515,993
Death	156,647,160	96,840,175
Disability	505,202,239	282,770,935
Termination	2,440,811,297	757,385,196
Total	\$ 19,169,155,900	\$ 14,009,512,299
Retirees		
Retirement	\$ 17,277,555,506	\$ 17,277,555,506
Survivor	1,297,468,643	1,297,468,643
Disability	972,342,750	972,342,750
Total	\$ 19,547,366,899	\$ 19,547,366,899
Deferred Vested Members	728,340,677	728,340,677
Inactive Members	207,653,134	207,653,134
Total Actuarial Values	\$ 39,652,516,610	\$ 34,492,873,009
Actuarial Value of Assets		19,992,797,000
Unfunded Actuarial Accrued Liability		\$ 14,500,076,009



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, 2012.

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 or her 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 \$4,463,252,302. The assets credited to the Annuity Reserve were \$3,836,308,400 and the assets credited to the Employer's Accumulation Account totaled \$11,693,236,298. Current actuarial assets as of the valuation date equaled the sum of these three funds, \$19,992,797,000. Future member contributions to the Annuity Savings Account were valued to be \$4,142,443,569. Prospective contributions to the Employer's Accumulation Account were calculated to be \$15,517,276,041 of which \$1,017,200,032 is attributable to service rendered after the valuation date (normal contributions) and \$14,500,076,009 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 \$39,652,516,610 as of June 30, 2012.

Total Liabilities

The present value of benefits payable on account of presently retired members and beneficiaries totaled \$19,547,366,899 as of the valuation date. The present value of future benefit payments on behalf of active members amounted to \$19,169,155,900. In addition, the present value of benefits for inactive members, due to service rendered before the valuation date, was calculated to be \$935,993,811.

Therefore, the balance sheet shows the present value for all prospective benefit payments under the System to be \$39,652,516,610 as of June 30, 2012.

Section 25-11-123(a)(1) of State law requires that active members contribute 9.00% 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. The sum of these normal and accrued liability contributions would need to be increased from 14.26% to 15.83% of the annual compensation of all members in order to maintain the UAL amortization period at 30 years. The amortization period of the unfunded accrued liability of the System is therefore calculated on an open-ended basis.

The primary reasons for the increase in the employer contribution rate are the continued recognition of the investment losses from the 2008 and 2009 fiscal years and the investment loss for the 2012 fiscal year. In addition, since the overall payroll growth rate was less than expected, it has caused upward pressure on the contribution rate attributed to the unfunded accrued liability.



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, 2012 is shown below.

		<u>\$ millions</u>
(1)	UAAL* as of June 30, 2011	\$ 12,339.3
(2)	Total Normal cost from last valuation	642.9
(3)	Total Employee and Employer Contributions	1,314.5
(4)	Interest accrual: $(1) \times .080 + [(2) - (3)] \times .0392$	<u>960.8</u>
(5)	Expected UAAL before changes: $(1) + (2) - (3) + (4)$	12,628.5
(6)	Change due to plan amendments	0.0
(7)	Change due to new actuarial assumptions or methods	<u>0.0</u>
(8)	Expected UAAL after changes: $(5) + (6) + (7)$	\$ 12,628.5
(9)	Actual UAAL as of June 30, 2012	\$ 14,500.1
(10)	Gain/(loss): $(8) - (9)$	\$ (1,871.6)
(11)	Gain/(loss) as percent of actuarial accrued liabilities at start of year (\$32,654.5)	(5.7)%

*Unfunded actuarial accrued liability.

Valuation Date June 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2007	0.8 %
2008	(2.1)
2009	(6.4)
2010	(3.1)
2011	(3.4)
2012	(5.7)



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 2013/2014 fiscal year and a comparison to the previous valuation results.

Contribution for	2013/2014 Fiscal Year	2012/2013 Fiscal Year
Normal Cost:		
Service retirement benefits	9.75%	9.96%
Disability benefits	0.44	0.46
Survivor benefits	<u>0.12</u>	<u>0.12</u>
Total	10.31%	10.54%
Member Contributions:	9.00%	9.00%
Less future refunds	<u>(0.90)</u>	<u>(0.77)</u>
Available for benefits	8.10%	8.23%
Employer Normal Cost	2.21%	2.31%
Unfunded Actuarial Accrued Liabilities (30.0 year level % of payroll amortization*)	13.62%	11.95%
Total Computed Employer Contribution Rate	15.83%	14.26%

*Amortization period a year ago was 30.0 years.

The components of the change in the employer contribution rate from 14.26% to 15.83% are as follows:

Previously Reported Employer Rate	14.26%
Change due to:	
Actuarial experience	1.57
Assumption changes	0.00
Plan amendments	0.00
Method Change	<u>0.00</u>
Computed Employer Rate	15.83%



The components of the change in the computed unfunded accrued liability amortization period from 30.0 years to 30.0 years are as follows:

Previously Reported Period	30.0 years
Change due to:	
Normal amortization	(1.0)
Actuarial experience	1.0
Assumption changes	0.0
Plan amendments	0.0
Method Change	0.0
UAL contribution experience	0.0
Computed Period	30.0 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.

The following projections assume an 8.00% investment return and salary increases of 4.25% each year in the future. In addition, the employer and employee contribution rates are assumed to remain at the 2012 valuation results for all years beginning in 2013.

Public Employees' Retirement System of Mississippi



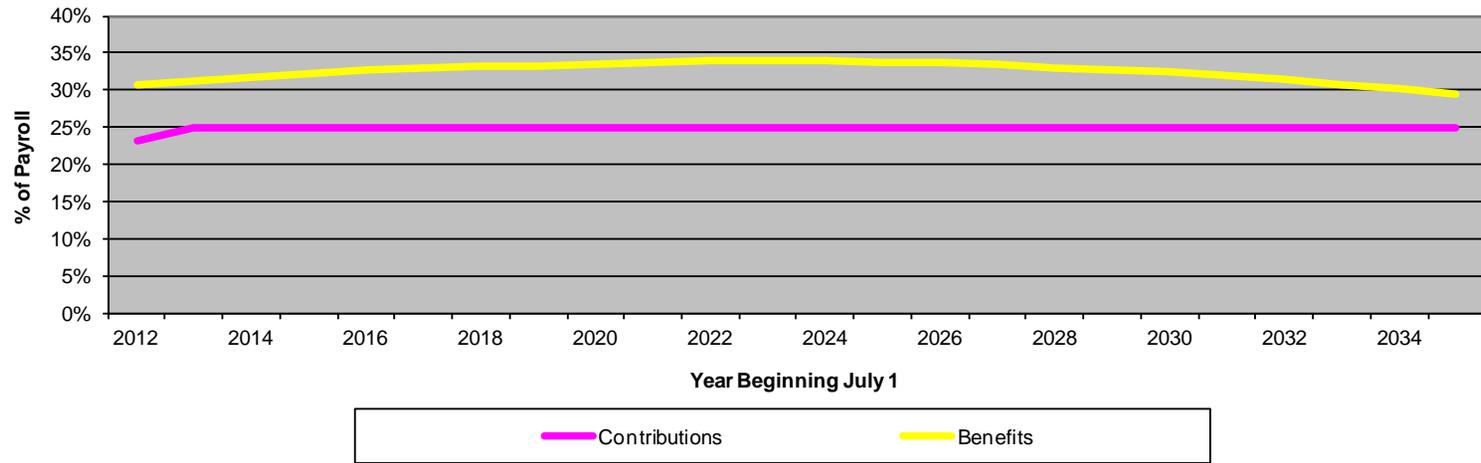
Twenty-five Year Cash Flow Projection

Year Beginning July 1	Valuation Payroll	Market Value of Assets Balance July 1	Contributions	Projected Benefit Payments	Expected Investment Return	Cash Flow	Market Value of Assets Balance June 30	Year Ending June 30
2012	5,974,945,164	19,781,387,000	1,389,772,245	1,832,511,911	1,564,801,373	1,122,061,707	20,903,448,707	2013
2013	6,228,880,333	20,903,448,707	1,546,630,987	1,942,474,961	1,656,442,138	1,260,598,164	22,164,046,871	2014
2014	6,493,607,747	22,164,046,871	1,612,362,804	2,064,226,813	1,755,049,189	1,303,185,180	23,467,232,051	2015
2015	6,769,586,076	23,467,232,051	1,680,888,223	2,182,909,788	1,857,297,702	1,355,276,137	24,822,508,188	2016
2016	7,057,293,484	24,822,508,188	1,752,325,972	2,302,966,041	1,963,775,052	1,413,134,983	26,235,643,171	2017
2017	7,357,228,457	26,235,643,171	1,826,799,826	2,420,489,672	2,075,103,860	1,481,414,014	27,717,057,185	2018
2018	7,669,910,666	27,717,057,185	1,904,438,818	2,541,254,450	2,191,891,950	1,555,076,318	29,272,133,502	2019
2019	7,995,881,869	29,272,133,502	1,985,377,468	2,662,003,515	2,314,705,638	1,638,079,591	30,910,213,094	2020
2020	8,335,706,848	30,910,213,094	2,069,756,010	2,795,206,794	2,443,799,016	1,718,348,232	32,628,561,326	2021
2021	8,689,974,389	32,628,561,326	2,157,720,641	2,931,071,865	2,579,350,857	1,805,999,633	34,434,560,959	2022
2022	9,059,298,301	34,434,560,959	2,249,423,768	3,066,816,429	2,722,069,170	1,904,676,509	36,339,237,468	2023
2023	9,444,318,479	36,339,237,468	2,345,024,278	3,201,400,534	2,872,883,947	2,016,507,691	38,355,745,160	2024
2024	9,845,702,014	38,355,745,160	2,444,687,810	3,335,258,296	3,032,836,793	2,142,266,307	40,498,011,467	2025
2025	10,264,144,350	40,498,011,467	2,548,587,042	3,466,511,755	3,203,123,929	2,285,199,216	42,783,210,683	2026
2026	10,700,370,485	42,783,210,683	2,656,901,991	3,595,405,640	3,385,116,709	2,446,613,060	45,229,823,742	2027
2027	11,155,136,231	45,229,823,742	2,769,820,326	3,722,214,383	3,580,290,137	2,627,896,080	47,857,719,822	2028
2028	11,629,229,521	47,857,719,822	2,887,537,690	3,846,249,163	3,790,269,127	2,831,557,654	50,689,277,476	2029
2029	12,123,471,776	50,689,277,476	3,010,258,042	3,968,694,755	4,016,804,730	3,058,368,017	53,747,645,493	2030
2030	12,638,719,326	53,747,645,493	3,138,194,009	4,086,783,660	4,261,868,053	3,313,278,402	57,060,923,895	2031
2031	13,175,864,897	57,060,923,895	3,271,567,254	4,199,800,685	4,527,744,574	3,599,511,143	60,660,435,039	2032
2032	13,735,839,155	60,660,435,039	3,410,608,862	4,307,627,899	4,816,954,042	3,919,935,005	64,580,370,043	2033
2033	14,319,612,319	64,580,370,043	3,555,559,739	4,409,489,621	5,132,272,408	4,278,342,526	68,858,712,569	2034
2034	14,928,195,843	68,858,712,569	3,706,671,028	4,502,983,466	5,476,844,508	4,680,532,070	73,539,244,639	2035
2035	15,562,644,166	73,539,244,639	3,864,204,546	4,587,081,546	5,854,224,491	5,131,347,491	78,670,592,131	2036
2036	16,224,056,543	78,670,592,131	4,028,433,240	4,658,544,032	6,268,442,939	5,638,332,147	84,308,924,277	2037

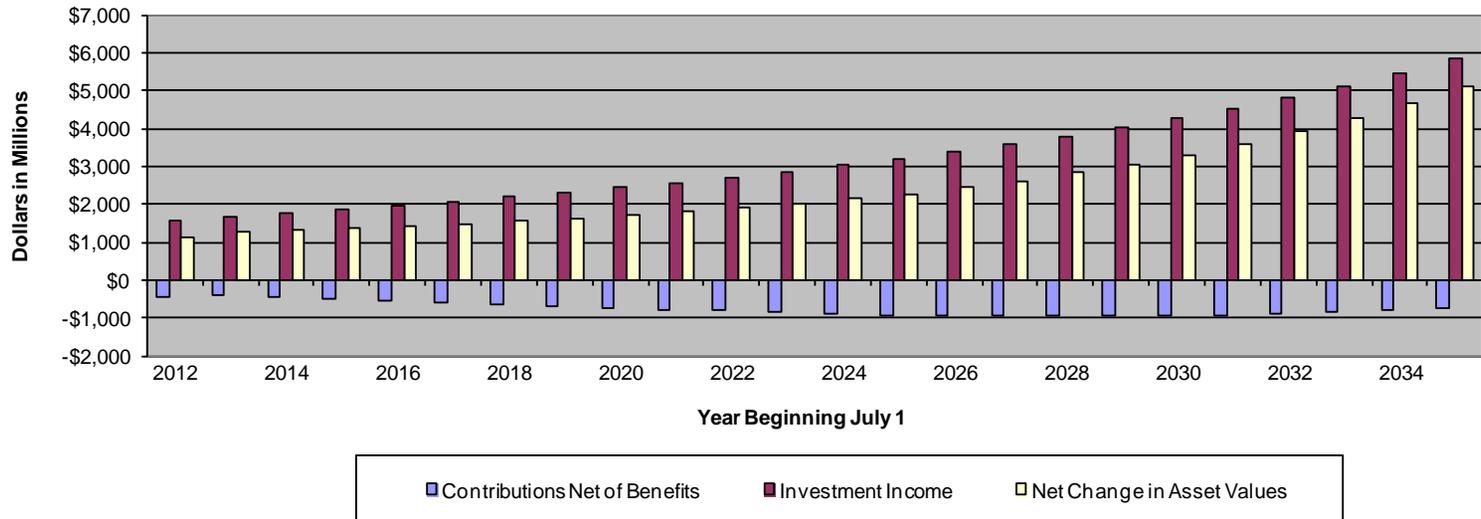


Public Employees' Retirement System of Mississippi 25 Year Cash Flow Projection Based on Valuation Assumptions

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, 2012**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	86,829
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	131,141
Active Participants	<u>162,311</u>
Total	380,281



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

SCHEDULE OF FUNDING PROGRESS
(\$ Thousands)

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)
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
06/30/10*	20,143,426	31,399,988	64.2	11,256,562	5,763,556	195.3
06/30/11#	20,315,165	32,654,465	62.2	12,339,300	5,684,624	217.1
06/30/12	19,992,797	34,492,873	58.0	14,500,076	5,857,789	247.5

* After change in benefit provisions.

After change in actuarial assumptions.

Note: All amounts prior to June 30, 2005 reported by prior actuarial firm.

As can be seen from the table above, the funded ratio has declined over the 10-year period. This is due in large part to the less than expected investment returns over this 10-year span. The open 30-year amortization period and contributions below the actuarially required amounts during the latter half of the time period have also contributed to the decline.



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 \$14,500,076,009 over a 30.0 year period from the valuation date.

Annual Required Contribution (ARC)		
Valuation Date June 30	2012	2011
For Fiscal Year	2013/2014	2012/2013
UAL Payment Period (years)	30.0	30.0
Annual Required Contribution % of Payroll	15.83%	14.26%

4. Additional information as of June 30, 2012 as follows.

Valuation date	6/30/2012
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:	
Investment rate of return*	8.00%
Projected salary increases [#]	4.5% – 20.0%
*Includes price inflation at	3.50%
[#] Includes wage inflation at	4.25%
Cost of living adjustments	3.00%



Schedule of Employer Contributions

Fiscal Year Ending June 30	Valuation date June 30	Annual Required Contribution	Percentage Contributed
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	100
2011	2009	687,015,898	100
2012	2010	735,021,911	100
2013	2011	835,320,765	



**Solvency Tests
(\$ in Thousands)**

Actuarial Accrued Liabilities for							
Valuation Date	(1) Accumulated Employee Contributions Including Allocated Investment Earnings	(2) Retirees and Beneficiaries Currently Receiving Benefits	(3) Active and Inactive Members Employer Financed Portion	Net Assets Available for Benefits	Portions of Accrued Liabilities Covered by Assets		
					(1)	(2)	(3)
6/30/03	\$3,400,765	\$9,758,473	\$8,326,600	\$16,979,457	100.0%	100.0%	45.9%
6/30/04	3,571,428	10,657,920	8,617,912	17,103,285	100.0	100.0	33.3
6/30/05	3,819,498	11,260,642	8,646,958	17,180,705	100.0	100.0	24.3
6/30/06	3,955,066	12,228,330	8,745,068	18,321,063	100.0	100.0	24.4
6/30/07	3,788,781	13,342,531	9,731,324	19,791,564	100.0	100.0	27.3
6/30/08	3,991,804	14,306,528	10,236,362	20,814,720	100.0	100.0	24.6
6/30/09	4,235,466	15,665,712	10,693,368	20,597,581	100.0	100.0	6.5
6/30/10	4,266,621	16,763,455	10,369,912	20,143,426	100.0	94.7	0.0
6/30/11	4,356,556	18,001,718	10,296,191	20,315,165	100.0	88.7	0.0
6/30/12	4,463,252	19,547,367	10,482,254	19,992,797	100.0	79.4	0.0



Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Active Members			
		Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
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
2010	868	164,896	5,763,556,195	34,953	0.2
2011	872	161,676	5,684,624,214	35,161	0.6
2012	870	162,311	5,857,789,376	36,090	2.6

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

Item	Fiscal Year Ended June 30									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beginning of Year	56,705	59,447	62,407	63,939	66,757	70,756	73,540	76,143	79,168	83,115
Added	4,857	5,174	4,610	5,360	6,218	5,335	4,965	5,747	6,566	6,569
Removed	(2,115)	(2,214)	(3,078)	(2,542)	(2,219)	(2,551)	(2,362)	(2,722)	(2,619)	(2,855)
End of Year	59,447	62,407	63,939	66,757	70,756	73,540	76,143	79,168	83,115	86,829



**Schedule of Annual Benefit Payments Added to and Removed From Rolls
Last Seven Fiscal Years**

Year Ending	2006	2007	2008	2009	2010	2011	2012
Beginning of Year	\$1,022,022,560	\$1,117,210,600	\$1,214,384,863	\$1,305,908,320	\$1,395,939,879	\$1,498,662,976	\$1,627,813,430
Added	93,495,367	97,985,045	93,694,780	87,403,913	103,950,841	127,035,815	125,378,708
Removed	(26,749,850)	(31,700,099)	(35,621,113)	(33,633,667)	(40,358,965)	(39,518,227)	(45,787,704)
Benefit increase due to annual COLA	28,442,523	30,889,317	33,449,790	36,261,313	39,131,221	41,632,866	45,202,325
Benefit increase due to plan amendments	0	0	0	0	0	0	0
End of Year	\$1,117,210,600	\$1,214,384,863	\$1,305,908,320	\$1,395,939,879	\$1,498,662,976	\$1,627,813,430	\$1,752,606,759



Schedule of Average Benefit Payments

	Years of Credited Service								
	0-4	5-9	10-14	15-19	20-24	25	26-29	30	31+
July 1, 2011 to June 30, 2012									
Average Monthly Benefit	\$503.45	\$425.55	\$655.76	\$984.40	\$1,325.25	\$1,823.47	\$1,956.67	\$2,283.30	\$2,938.26
Average Final Salary	\$27,325	\$29,424	\$32,872	\$37,561	\$40,246	\$46,050	\$47,965	\$51,720	\$56,263
Number of Active Retirants	146	861	867	779	736	501	1,138	260	1,281
July 1, 2010 to June 30, 2011									
Average Monthly Benefit	\$490.21	\$444.82	\$637.24	\$974.84	\$1,347.49	\$1,791.74	\$1,996.32	\$2,176.08	\$2,910.64
Average Final Salary	\$26,297	\$29,798	\$31,063	\$36,095	\$39,613	\$45,296	\$48,620	\$49,084	\$55,608
Number of Active Retirants	247	837	808	741	743	456	1,050	245	1,439
July 1, 2009 to June 30, 2010									
Average Monthly Benefit	\$320.17	\$386.23	\$620.46	\$905.46	\$1,239.55	\$1,717.84	\$1,897.84	\$2,174.78	\$2,833.34
Average Final Salary	\$23,675	\$27,192	\$30,890	\$33,781	\$37,426	\$43,924	\$46,537	\$49,426	\$54,049
Number of Active Retirants	220	765	773	641	627	428	867	237	1,189
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



Schedule of Average Benefit Payments

	Years of Credited Service								
	0-4	5-9	10-15	16-20	21-24	25	26-29	30	31+
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
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



SCHEDULE A

**Development of Actuarial Value of Assets
(\$ thousands)**

Valuation Date June 30:	2011	2012	2013	2014	2015	2016
A. Actuarial Value Beginning of Year	\$20,143,426	\$20,315,165				
B. Market Value End of Year	20,377,236	19,781,387				
C. Market Value Beginning of Year	16,788,214	20,377,236				
D. Cash Flow						
D1. Contributions	1,257,205	1,314,501				
D2. Other Revenue	0	0				
D3. Benefit Payments	(1,822,818)	(1,956,205)				
D4. Administrative Expenses	(12,637)	(13,744)				
D5. Investment Expenses	<u>(41,809)</u>	<u>(43,332)</u>				
D6. Net	(620,059)	(698,780)				
E. Investment Income						
E1. Market Total: B.-C.-D6.	4,209,081	102,931				
E2. Assumed Rate	8.00%	8.00%				
E3. Amount for Immediate Recognition	1,374,879	1,661,587				
E4. Amount for Phased-In Recognition	2,834,202	(1,558,656)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	566,840	(311,731)				
F2. First Prior Year	191,592	566,840	(311,731)			
F3. Second Prior Year	(1,048,191)	191,592	566,840	(311,731)		
F4. Third Prior Year	(683,685)	(1,048,191)	191,592	566,840	(311,731)	
F5. Fourth Prior Year	<u>390,363</u>	<u>(683,685)</u>	<u>(1,048,191)</u>	<u>191,592</u>	<u>566,840</u>	<u>(311,731)</u>
F6. Total Recognized Investment Gain	(583,081)	(1,285,175)	(601,490)	446,701	255,109	(311,731)
G. Actuarial Value End of Year:						
A.+D6.+E3.+F6.	\$20,315,165	\$19,992,797				
H. Difference Between Market & Actuarial Values	\$(62,071)	\$211,410	\$(390,080)	\$56,621	\$311,730	\$(1)

The Actuarial Valuation 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, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will 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, 2012 (\$ in Thousands)			
	Market Value	Book Value	Actuarial Value
1. Assets at June 30, 2011	\$20,377,236	\$17,281,698	\$20,315,165
2. Contributions and Misc. Revenue	1,314,501	1,314,501	1,314,501
3. Investment Increment	102,931	1,093,723	376,412
4. Benefit Payments	(1,956,205)	(1,956,205)	(1,956,205)
5. Expenses	(57,076)	(57,076)	(57,076)
6. Assets at June 30, 2012 (1) + (2) + (3) + (4) + (5)	\$19,781,387	\$17,676,641	\$19,992,797
7. Investment Increment/Mean Assets*	0.51%	6.46%	1.89%

*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



SCHEDULE B

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 8.00% per annum, compounded annually (net of all 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	22.0%	22.0%	.01%	.00%	.01%	.01%
25	15.0	15.0	.01	.01	.02	.01
30	10.0	10.5	.02	.01	.02	.02
35	8.0	8.0	.03	.01	.05	.02
40	6.0	6.0	.04	.02	.12	.08
45	5.5	5.0	.07	.02	.23	.14
50	5.5	5.0	.14	.04	.29	.21
55	5.5	5.0	.19	.06	.52	.37
60	5.5	5.0	.22	.09	.40	.32
65	5.5	5.0	.40	.16		
70	5.5	5.0	.40	.27		
74	5.5	5.0	.40	.47		

Age	Annual Rates of Service Retirements			
	Male		Female	
	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

* For all ages, rates of 34% for 1st year of employment and 22% for 2nd year.

** 94% are presumed to be non-duty related, and 6% are assumed to be duty related.



SALARY INCREASES: Representative values of the assumed annual rates of salary increases are as follows:

Service	Merit & Seniority	Annual Rates of	
		Base (Economy)	Increase Next Year
0	15.75%	4.25%	20.00%
1	5.75	4.25	10.00
2	3.25	4.25	7.50
3	2.25	4.25	6.50
4	1.75	4.25	6.00
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.

TIMING OF DECREMENTS AND PAY INCREASES: Middle of Year.

DEATH AFTER RETIREMENT: The mortality table, for post-retirement mortality, used in evaluating allowances to be paid is the 1994 Group Annuity Mortality Table. The RP-2000 Disabled Mortality Table (set back 2 years for males and set forward 3 years for females) was used for the period after disability retirement. This assumption is used to measure the probabilities of each benefit payment being made after retirement. Mortality improvement is anticipated under this assumption as recent mortality experience shows actual deaths 11% greater than expected under the selected table.

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

UNUSED SICK LEAVE: 0.50 years at retirement.

MILITARY SERVICE: 0.25 years at retirement.



VALUATION METHOD: The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 8.00%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

The employer contributions required to support the benefits of PERS are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.

The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made for pension benefits to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.

The unfunded accrued liability is determined by subtracting the current assets and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from the PERS. The accrued liability contribution amortizes the balance of the unfunded accrued liability over a period of years from the valuation date.

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 July 1, 2012, as interpreted in preparing the actuarial valuation.

DEFINITIONS

Average Compensation	Average annual covered earnings of an employee during the four highest years of service.
Covered Earnings	Gross salary not in excess of the maximum amount on which contributions were required.
Fiscal Year	Year commencing on July 1 and ending June 30.
Credited Service	Service while a contributing member plus additional service as described below.
Unused Sick and Vacation Leave	Service credit is provided at no charge to members for unused sick and vacation time that has accrued at the time of retirement.
Additional Service	Additional service credit may be granted for service prior to February 1, 1953, active duty military service, out-of-state service, professional leave and non-covered and retroactive service



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
7/1/10	6/30/11	12.00	245,000	9.00	245,000
7/1/11	12/31/11	12.00	245,000	9.00	245,000
1/1/12	6/30/12	12.93	245,000	9.00	245,000
7/1/12	6/30/13	14.26	250,000	9.00	250,000

*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

- (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 membership service. A retirement allowance may also be paid upon the completion of 25 years of creditable service for members hired prior to July 1, 2011 or upon the completion of 30 years of creditable service for members hired on or after July 1, 2011.
- (b) Any member who withdraws from service prior to his or her attainment of age 60 and who has completed at least eight years* of membership service is entitled to receive, in lieu of a refund of his or her accumulated contributions, a retirement allowance commencing at age 60.

Amount of Allowance

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 or her retirement, plus
2. For a member hired prior to July 1, 2011, an employer's annuity which, together with the member's annuity, is equal to 2% of his or her 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.
3. For a member hired on or after July 1, 2011, an employer's annuity which, together with the member's annuity, is equal to 2% of his or her average compensation for each of the first 30 years of creditable service plus 2-1/2% for each year of creditable service over 30 years. There will be an actuarial reduction for each year of creditable service below 30 or for each year of age below age 65, whichever is less.

For members hired prior to July 1, 2011, the minimum allowance is \$120 for each year of creditable service.

Disability Retirement

Condition for Retirement

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 membership service.

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



Amount of Allowance

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 or her 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:

<u>Age at Disability</u>	<u>Duration</u>
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

For members hired prior to July 1, 2011, 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.

For members hired prior to July 1, 2011, 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

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

Amount of Allowance

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.

Accidental Death Benefit

Condition for 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.

Amount of Allowance

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.

Ordinary Death Benefit

Condition for Benefit

Upon the death of a member who has completed at least eight years* of membership service, a benefit is payable, in lieu of a refund of the member's accumulated contributions, to his or her 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.

Amount of Allowance

The annual retirement allowance payable to the lawful spouse of a vested member who dies is equal to the greater of (i) the allowance that would have been payable had the member retired and elected Option 2, reduced by an actuarially determined factor based on the number of years the member lacked in qualifying for unreduced retirement benefits, or (ii) a lifetime benefit equal to 20% of the deceased member's average compensation, but not less than \$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.

Return of Contributions

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

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

Interest is currently credited to the member's account at 3.5% per annum.



Normal Form of Benefit

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

Optional Benefits

A member upon retirement may elect to receive his or her 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 or her beneficiary.

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

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

Option 4. Upon his or her death, 75% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4A. Upon his or her death, 50% of his or her 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 or his or her beneficiary 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.

A member who elects Option 2, Option 4, or Option 4A at retirement may revert to the normal form of benefit if the designated beneficiary predeceases the retired member or if the retired member divorces the designated beneficiary. A member who elects the normal form of benefit or Option 1 at retirement may select Option 2, Option 4, or Option 4A to provide beneficiary protection to a new spouse if married after retirement.



A member hired prior to July 1, 2011 and who has at least 28 years of creditable service* or a member hired on or after July 1, 2011 who has at least 33 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 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 lump-sum 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 membership service for those who entered the system before July 1, 2007.

Post-Retirement Adjustments In Allowances

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*.

*Age 60 for members hired on or after July 1, 2011

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, 2012
Tabulated by Year of Retirement

Year of Retirement	No.	Total Annual Benefits, excluding COLA	COLA	Total Annual Benefits	Average Monthly Total Benefit
2012	3,233	\$64,393,342	\$59,017	\$64,452,359	\$1,661
2011	5,636	108,944,305	323,174	109,267,479	1,616
2010	5,702	112,587,167	3,328,274	115,915,441	1,694
2009	4,579	81,270,143	4,753,300	86,023,443	1,566
2008	4,716	87,998,122	8,024,601	96,022,723	1,697
2007	4,319	77,058,744	9,365,726	86,424,470	1,668
2006	4,441	76,362,814	11,806,240	88,169,054	1,654
2005	4,217	69,674,955	13,113,061	82,788,016	1,636
2004	4,330	74,575,244	16,611,434	91,186,678	1,755
2003	3,888	63,552,529	16,368,854	79,921,383	1,713
2002	3,966	64,785,422	19,115,713	83,901,135	1,763
2001	3,909	61,077,404	20,418,329	81,495,733	1,737
2000	3,390	54,781,635	20,536,354	75,317,989	1,851
1999	2,694	39,954,162	16,592,031	56,546,193	1,749
1998	2,678	39,263,833	18,009,745	57,273,578	1,782
1997	2,611	35,106,646	17,707,673	52,814,319	1,686
1996	2,784	39,045,710	21,462,112	60,507,822	1,811
1995	2,201	28,110,083	16,695,946	44,806,029	1,696
1994	2,031	24,724,381	15,757,196	40,481,577	1,661
1993	1,972	22,791,015	15,663,749	38,454,764	1,625
1992	2,340	29,958,762	22,108,109	52,066,871	1,854
1991	1,834	21,476,306	16,968,312	38,444,618	1,747
1990	1,453	16,324,745	13,831,558	30,156,303	1,730
1989	1,150	10,928,650	9,833,479	20,762,129	1,505
1988	920	8,483,741	8,136,412	16,620,153	1,505
1987	784	6,779,459	6,887,455	13,666,914	1,453
1986	1,414	14,774,304	16,339,478	31,113,782	1,834
1985	645	5,777,288	6,538,163	12,315,451	1,591
1984	588	4,671,690	5,534,164	10,205,854	1,446
1983	415	2,943,045	3,677,882	6,620,927	1,330
1982	385	2,651,886	3,511,843	6,163,729	1,334
1981	383	2,433,779	3,369,679	5,803,458	1,263
1980	276	1,758,211	2,541,703	4,299,914	1,298
1979	169	1,029,618	1,564,255	2,593,873	1,279
1978	154	842,620	1,331,156	2,173,776	1,176
1977 & Prior	622	2,712,321	5,116,501	7,828,822	1,049
Totals	86,829	\$1,359,604,081	\$393,002,678	\$1,752,606,759	\$1,682



Schedule of Retired Members by Type of Benefit

Benefits Payable June 30, 2012

Amount of Monthly Benefit**	Number of Rets.	Ret. Type 1*	Ret. Type 2*	Ret. Type 3*
\$1-\$100	2,386	1,908	12	466
101-200	5,550	4,182	110	1,258
201-300	5,563	4,011	273	1,279
301-400	5,045	3,560	364	1,121
401-500	4,682	3,340	401	941
501-600	3,996	2,851	422	723
601-700	3,649	2,637	423	589
701-800	3,494	2,578	420	496
801-900	3,374	2,560	392	422
901-1,000	3,242	2,503	364	375
Over 1,000	45,848	40,713	2,664	2,471
Totals	86,829	70,843	5,845	10,141

*Type of Retirement

1 – Retirement for Age & Service

2 – Disability Retirement

3 – Survivor Payment

**Reflects reduced benefit



Schedule of Retired Members by Option

Benefits Payable June 30, 2012

Amount of Monthly Benefit**	Number of Rets.	Life	Option 1	Option 2	Option 3	Option 4	Option 4A	Option 4B	Option 4C*	Option 5	PLSO 1 Year*	PLSO 2 Years*	PLSO 3 Years*
\$1-\$100	2,386	1,725	80	318	12	1	31	211	5	8	54	41	403
101-200	5,550	3,999	223	685	26	4	91	474	23	48	102	83	458
201-300	5,563	4,125	205	607	14	9	105	447	37	51	108	74	380
301-400	5,045	3,633	222	574	24	7	114	438	56	33	95	85	332
401-500	4,682	3,358	178	574	17	12	156	354	72	33	99	83	288
501-600	3,996	2,807	147	519	13	7	116	358	96	29	112	71	278
601-700	3,649	2,579	152	464	17	8	137	263	138	29	87	71	215
701-800	3,494	2,404	163	437	11	11	175	240	180	53	83	74	225
801-900	3,374	2,227	165	472	9	14	190	262	195	35	101	63	272
901-1,000	3,242	2,144	130	461	19	12	171	249	219	56	102	51	268
Over 1,000	45,848	27,669	1,659	7,881	256	208	4,165	3,680	1,936	330	2,045	1,794	8,063
Totals	86,829	56,670	3,324	12,992	418	293	5,451	6,976	2,957	705	2,988	2,490	11,182

Option Selected

- Life - Return of Contributions
- Opt. 1 - Return of Member's Annuity
- Opt. 2 - 100% Survivorship
- Opt. 3 - 50%/50% Dual Survivorship
- Opt. 4 - 75% Survivorship
- Opt. 4A - 50% Survivorship
- Opt. 4B - Years Certain & Life
- Opt. 4C - Social Security Leveling *
- Opt. 5 - Pop-Up
- PLSO - Partial Lump Sum Option*

*Included in other options

** Reflects reduced benefit



Public Employees' Retirement System of Mississippi

Retirant and Beneficiary Information June 30, 2012
Tabulated by Attained Ages

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20					641	\$2,472,430	641	\$2,472,430
20 – 24					175	967,860	175	967,860
25 – 29			2	\$26,429	73	734,085	75	760,514
30 – 34			24	323,980	119	1,057,470	143	1,381,450
35 – 39	2	\$13,554	89	1,195,097	150	1,299,676	241	2,508,327
40 – 44	21	484,874	196	3,499,731	265	2,668,216	482	6,652,821
45 – 49	486	11,530,299	416	8,037,717	316	3,099,786	1,218	22,667,802
50 – 54	2,477	64,259,138	816	15,551,266	553	6,309,202	3,846	86,119,606
55 – 59	5,815	166,580,197	1,161	20,937,706	719	9,423,460	7,695	196,941,363
60 – 64	14,124	326,578,819	1,298	21,151,073	983	14,544,976	16,405	362,274,868
65 – 69	16,137	339,291,585	924	14,358,434	1,167	18,074,153	18,228	371,724,172
70 – 74	12,142	242,785,603	465	6,433,703	1,143	18,059,125	13,750	267,278,431
75 – 79	8,523	164,110,604	285	3,361,675	1,266	20,807,494	10,074	188,279,773
80 – 84	6,113	114,566,698	110	1,300,795	1,255	20,223,668	7,478	136,091,161
85 – 89	3,315	57,424,772	39	449,710	846	13,966,633	4,200	71,841,115
90 – 94	1,283	21,050,888	18	177,878	390	6,262,585	1,691	27,491,351
95	128	1,981,003	1	19,469	23	275,421	152	2,275,893
96	85	1,354,330			16	214,366	101	1,568,696
97	56	932,924	1	9,471	13	133,591	70	1,075,986
98	50	749,279			13	257,188	63	1,006,467
99	33	427,215			6	79,476	39	506,691
100 & Over	53	619,642			9	100,340	62	719,982
Totals	70,843	\$1,514,741,424	5,845	\$96,834,134	10,141	\$141,031,201	86,829	\$1,752,606,759

Average Age: 68.8 years

Average Age at Retirement: 59.2 years



Public Employees' Retirement System of Mississippi

Total Active Members as of June 30, 2012
 Tabulated by Attained Ages and Years of Service

Attained	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	263	5						268	\$3,621,032
20 – 24	6,383	112						6,495	150,098,903
25 – 29	12,170	3,645	60					15,875	478,547,580
30 – 34	8,444	8,031	2,507	51				19,033	653,231,658
35 – 39	6,860	5,524	5,450	1,727	35			19,596	715,989,208
40 – 44	6,202	5,058	4,436	4,447	1,771	55		21,969	823,375,590
45 – 49	5,168	4,488	3,833	3,316	3,453	1,407	34	21,699	807,531,258
50 – 54	4,495	4,070	3,853	3,243	3,126	2,514	877	22,178	841,037,469
55 – 59	3,363	3,531	3,170	2,840	2,896	1,842	1,694	19,336	761,161,480
60	489	541	526	439	441	340	277	3,053	120,799,077
61	445	562	462	400	368	269	264	2,770	110,824,615
62	355	452	316	314	281	190	206	2,114	83,430,661
63	265	318	274	243	218	155	153	1,626	66,906,048
64	246	284	253	218	202	131	153	1,487	60,657,108
65	209	219	226	160	141	99	117	1,171	49,009,727
66	118	141	125	98	65	51	72	670	25,862,205
67	98	121	108	74	62	30	63	556	21,845,854
68	92	95	94	62	42	33	55	473	19,837,835
69	61	92	79	52	39	26	38	387	14,040,323
70 & Over	261	319	337	204	161	102	171	1,555	49,981,745
Totals	55,987	37,608	26,109	17,888	13,301	7,244	4,174	162,311	\$5,857,789,376

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

Age: 44.4 years
 Service: 10.2 years
 Annual Pay: \$36,090



SCHEDULE E

**MISSISSIPPI PERS
ANALYSIS OF FINANCIAL EXPERIENCE**

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

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/12	\$ Gain (or Loss) For Year Ending 6/30/11
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (229.7)	\$ (238.6)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(26.0)	(28.8)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.3	0.5
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	13.0	9.2
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	102.3	459.2
New Members. Additional unfunded accrued liability will produce a loss.	(68.5)	(53.0)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(1,280.2)	(851.5)
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(17.7)	(49.2)
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(365.1)</u>	<u>(322.4)</u>
Gain (or Loss) During Year From Financial Experience	\$ (1,871.6)	\$ (1,074.6)
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method	<u>0.0</u>	<u>255.6</u>
Composite Gain (or Loss) During Year	\$ (1,871.6)	\$ (819.0)



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.