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*ACTUARIAL VALUATION*  
*CONNECTICUT STATE EMPLOYEES*  
*RETIREMENT SYSTEM*  
*AT JUNE 30, 1998*

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
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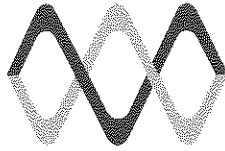
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November 18, 1998

State of Connecticut  
State Employees Retirement Commission  
55 Elm Street  
Hartford, CT 06106

Re: Connecticut State Employees Retirement System

Members of the Commission:

At your request, we have made an actuarial valuation of the Connecticut State Employees Retirement System (SERS) as of June 30, 1998. The results of the valuation are contained in the following report.

Section I contains an Executive Summary in which we present the principal results of this valuation. Details regarding SERS assets, liabilities, and costs are found in Sections II, III, and IV, respectively. Section V presents the costs for the second year in the biennial budget period. Section VI contains the disclosure information required by GASB #25. The Appendices contain information regarding SERS membership, an outline of the benefit provisions, a description of the actuarial methods and assumptions employed in this valuation, and details on the Actuarial Surplus as of June 30, 1998.

As developed in Section IV, the actuarially determined contribution for the fiscal year beginning July 1, 1999 is \$342,760,331. For the fiscal year beginning July 1, 2000, the actuarially determined contribution is \$375,623,183.

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November 18, 1998

In our opinion, this report fairly presents the financial and actuarial position of the Connecticut State Employees Retirement System at June 30, 1998. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices set forth by the American Academy of Actuaries.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.



Althea A. Schwartz, F.S.A.  
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Enclosures

**SECTION I**

***EXECUTIVE SUMMARY***

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

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**PURPOSE OF REPORT**

This report presents the results of the June 30, 1998 actuarial valuation of the Connecticut State Employees Retirement System (SERS). The primary purposes for performing the valuation are:

- to determine the Employer contributions for the Fiscal Year beginning July 1, 1999;
- to determine the Employer contributions for the Fiscal Year beginning July 1, 2000, in accordance with the biennial budget process;
- to disclose asset and liability measures as of June 30, 1998; and
- to analyze and report on trends in SERS contributions, assets, and liabilities over the past several years.

**ORGANIZATION OF THE EXECUTIVE SUMMARY**

- **Major Findings...** shows graphically, key results for each of the last eight actuarial valuations.
- **Discussion of Results - July 1, 1997 to June 30, 1998...** highlights the major events influencing this valuation.
- **Principal Results...** contains a summary of comparative statistics for the June 30, 1997 and the June 30, 1998 valuations.

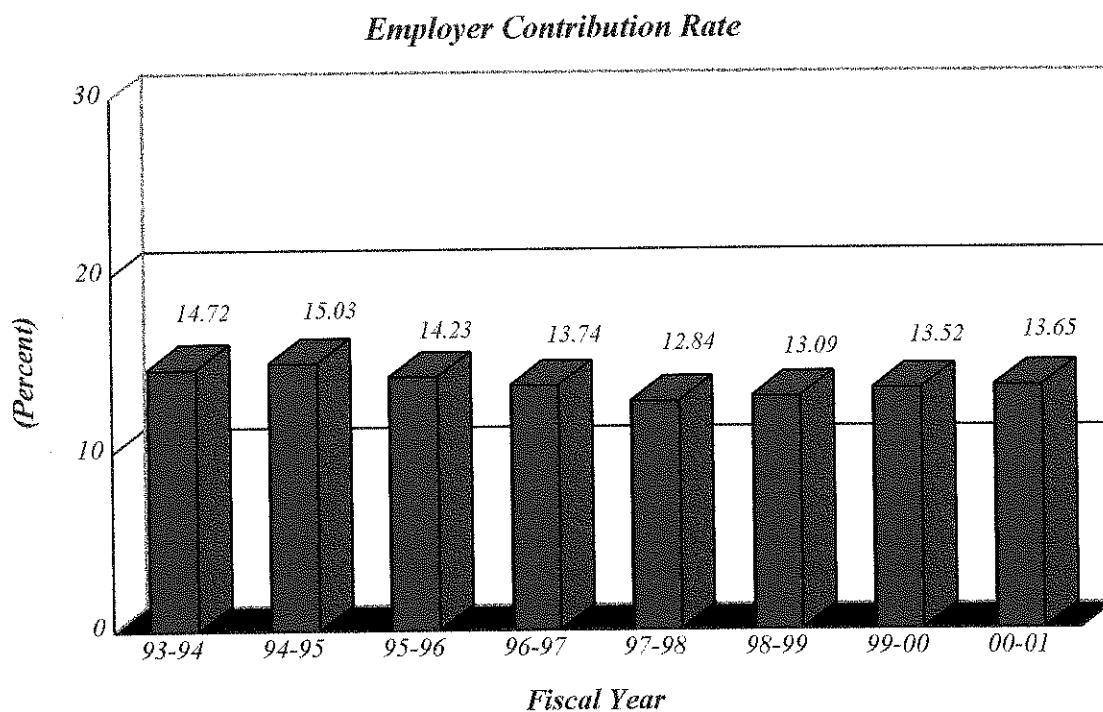
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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

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***MAJOR FINDINGS***

The major findings of the 1998 valuation are summarized and compared in the following charts:



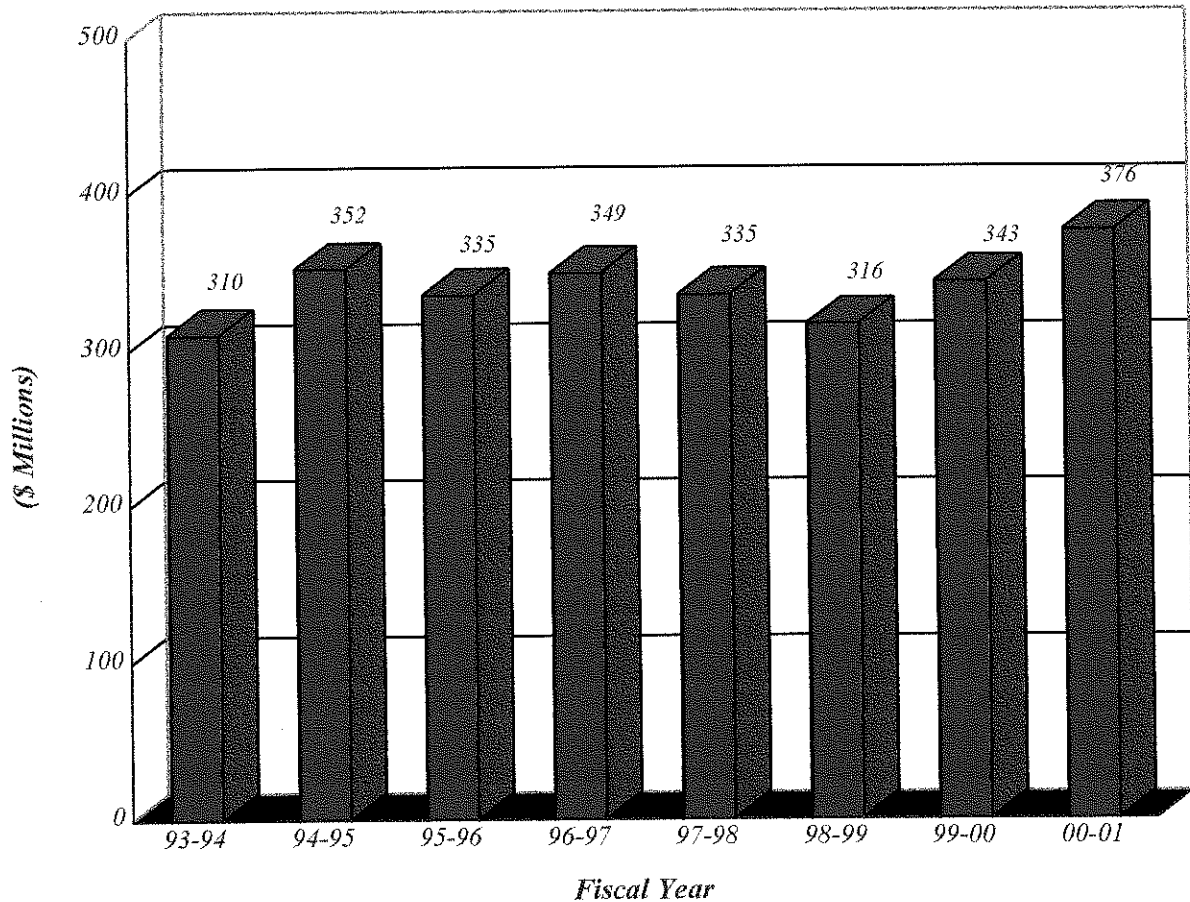
*The bar graph depicts the Employer's contribution rate. The contribution rates have remained relatively stable over this eight year period.*

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

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*Employer Contribution*

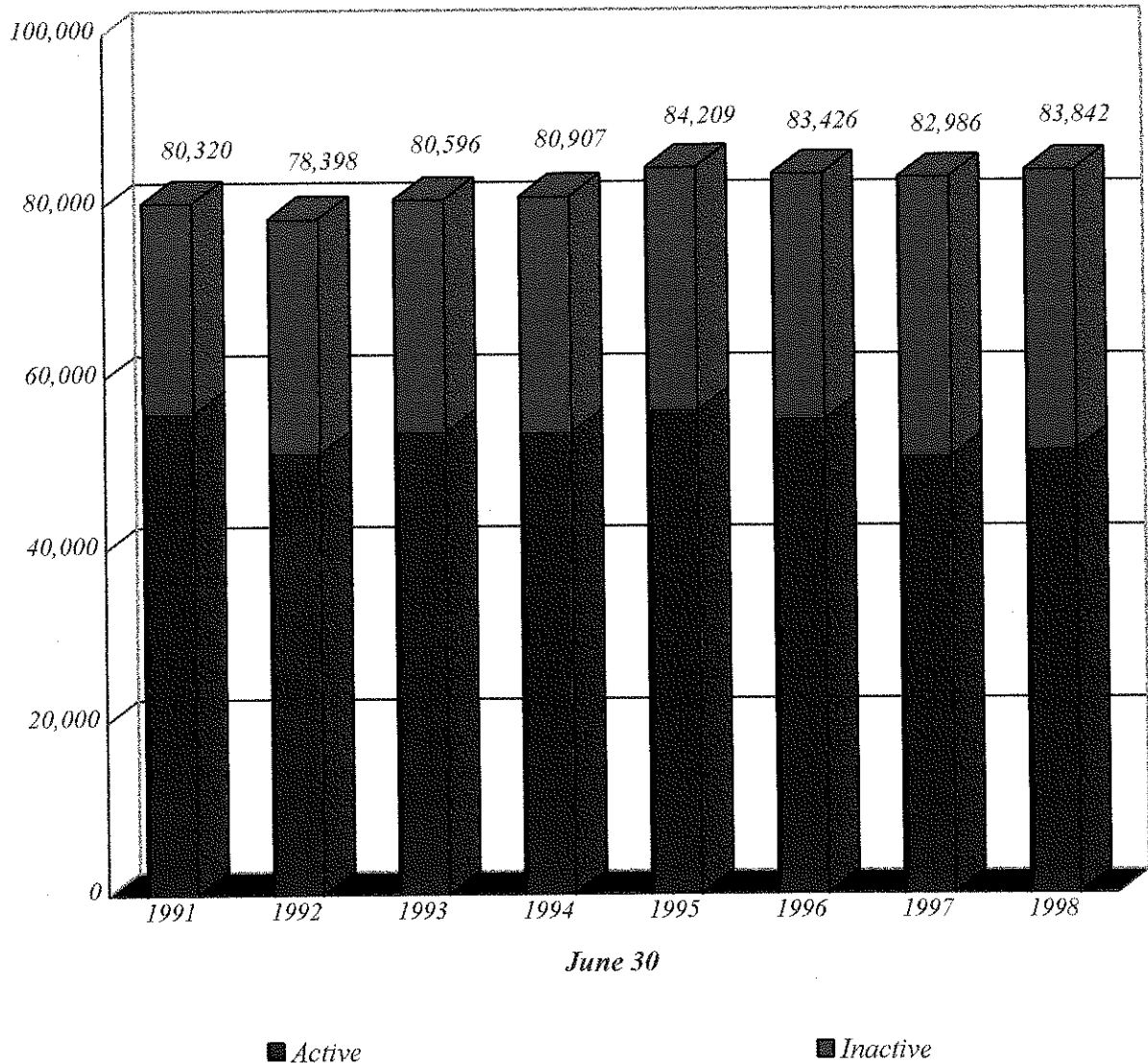


*The dollar amount of the Employer's contribution equals the contribution rate shown on the prior table times the projected payroll. The increases shown for FY 1999-00 and 2000-01 reflect growth in projected payroll.*



**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

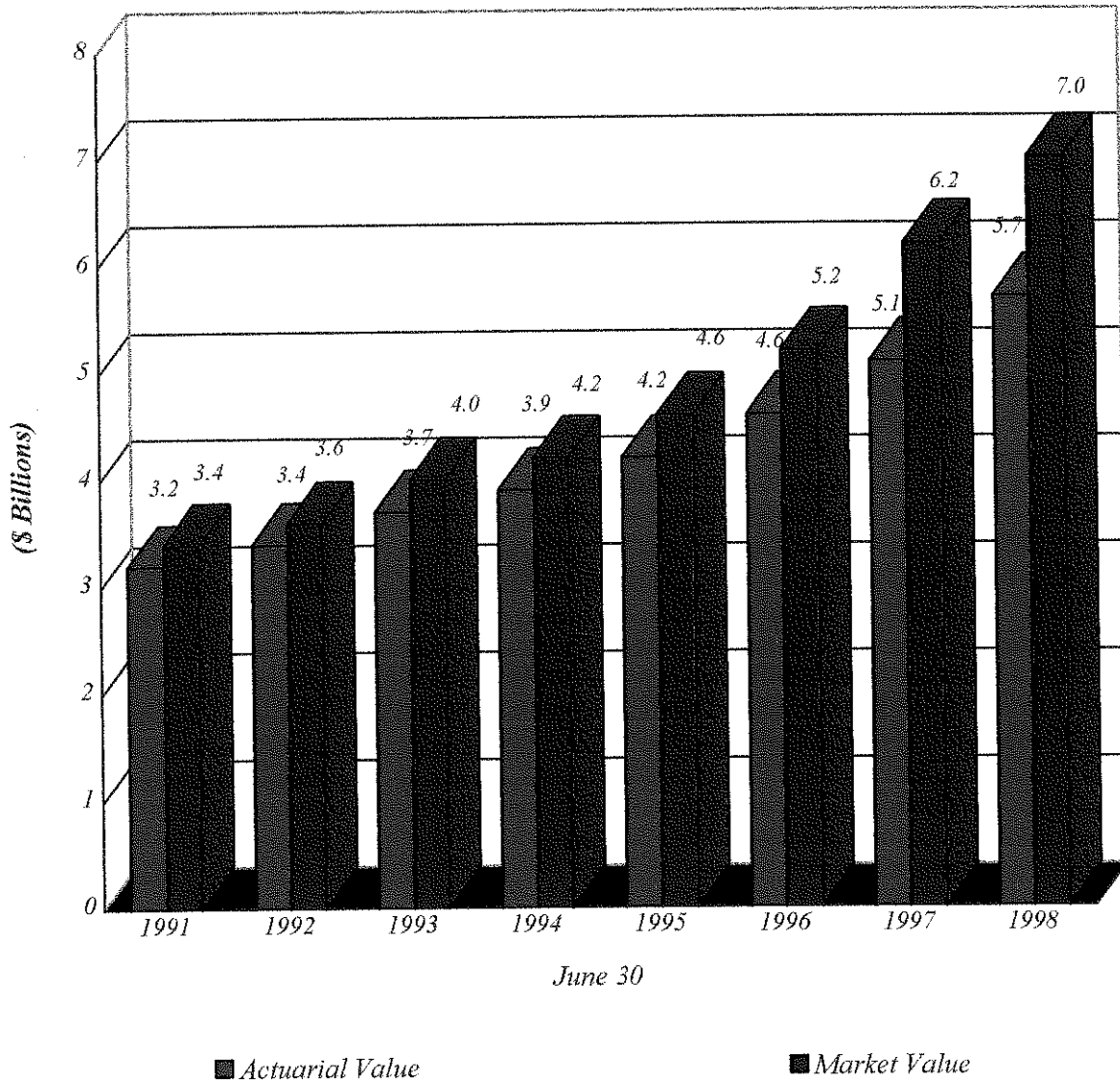
*Membership*



*SERS membership has increased slightly over last year. The active membership shows a decrease in membership for the Tier I and Tier II closed groups, with all new members entering the new Tier IIA group. Overall, there were 782 more active members than last year. The inactive membership is virtually unchanged from last year, with 74 net new members.*

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

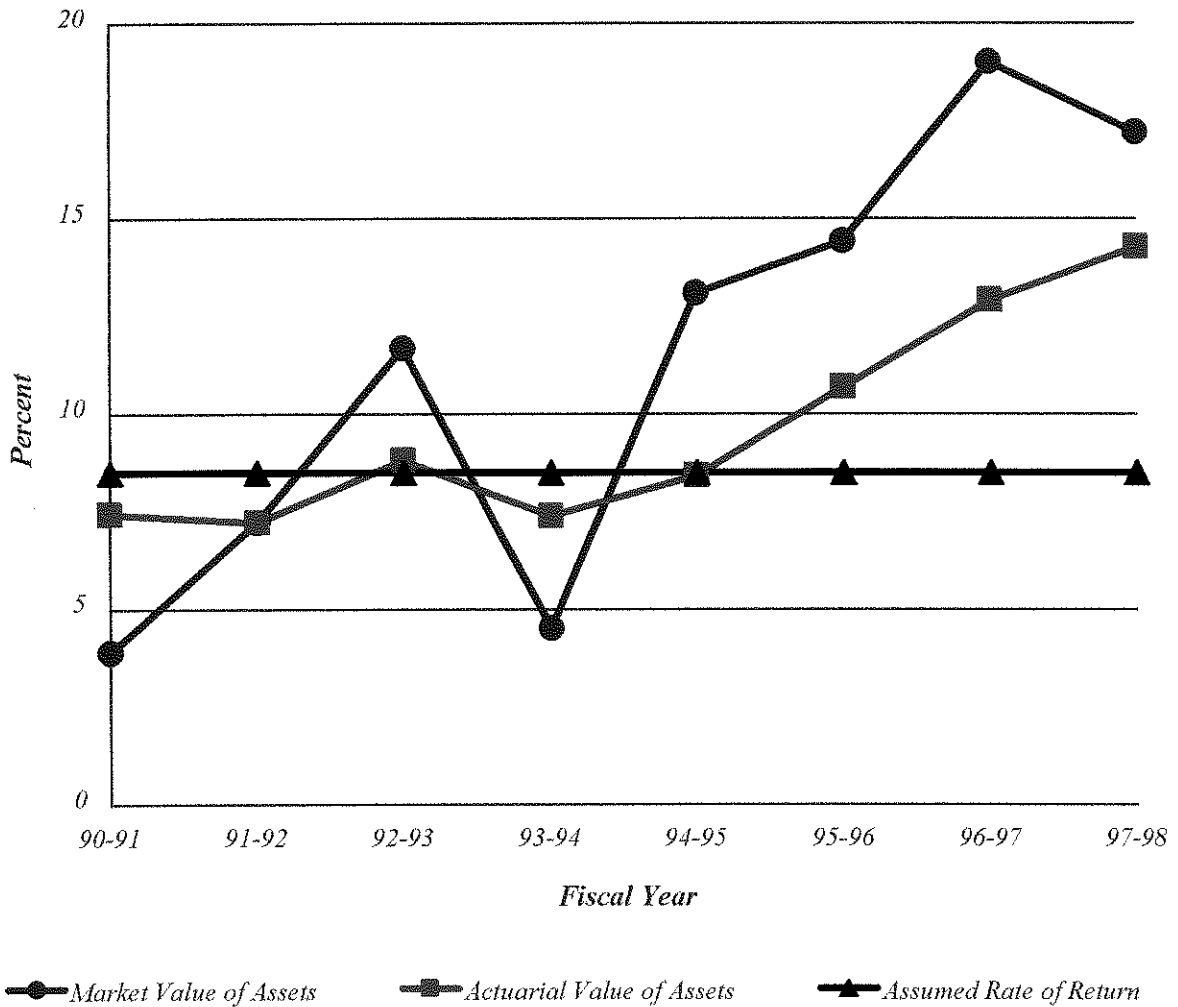
*SERS Assets*



*The SERS assets have grown in recent years due to investment results and positive cashflow. The rate of return on a Market Value basis for the past year exceeded 17%. Because there have been several straight years of market gains, the gap between Actuarial Value and Market Value has widened.*

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

*Historical Rates of Return*



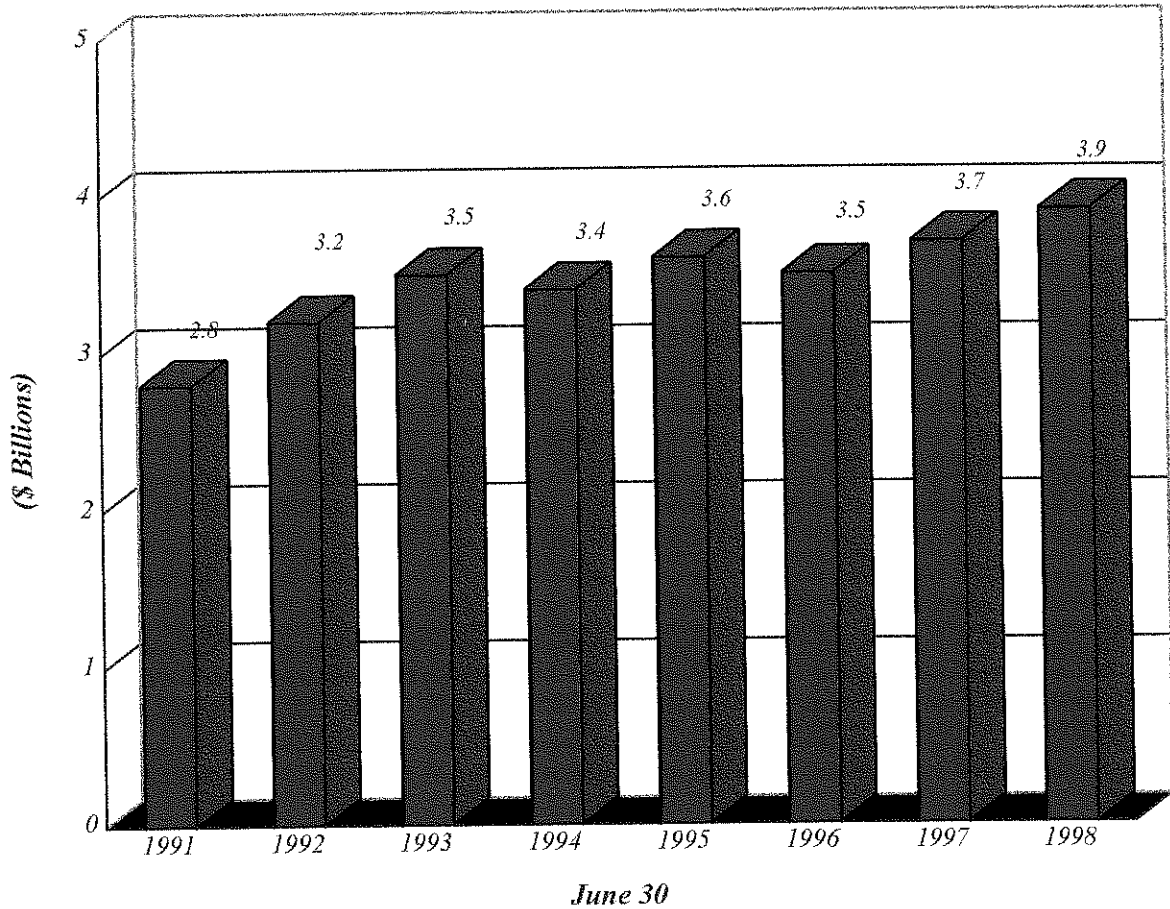
*This graph shows the historical rates of return on a market value basis, the impact of “smoothing” (the rates of return on an actuarial value basis), and the “benchmark” (assumed 8.5% rate of return). For the third year in a row, both the market value rate and the actuarial value rate exceeded the assumed rate.*

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

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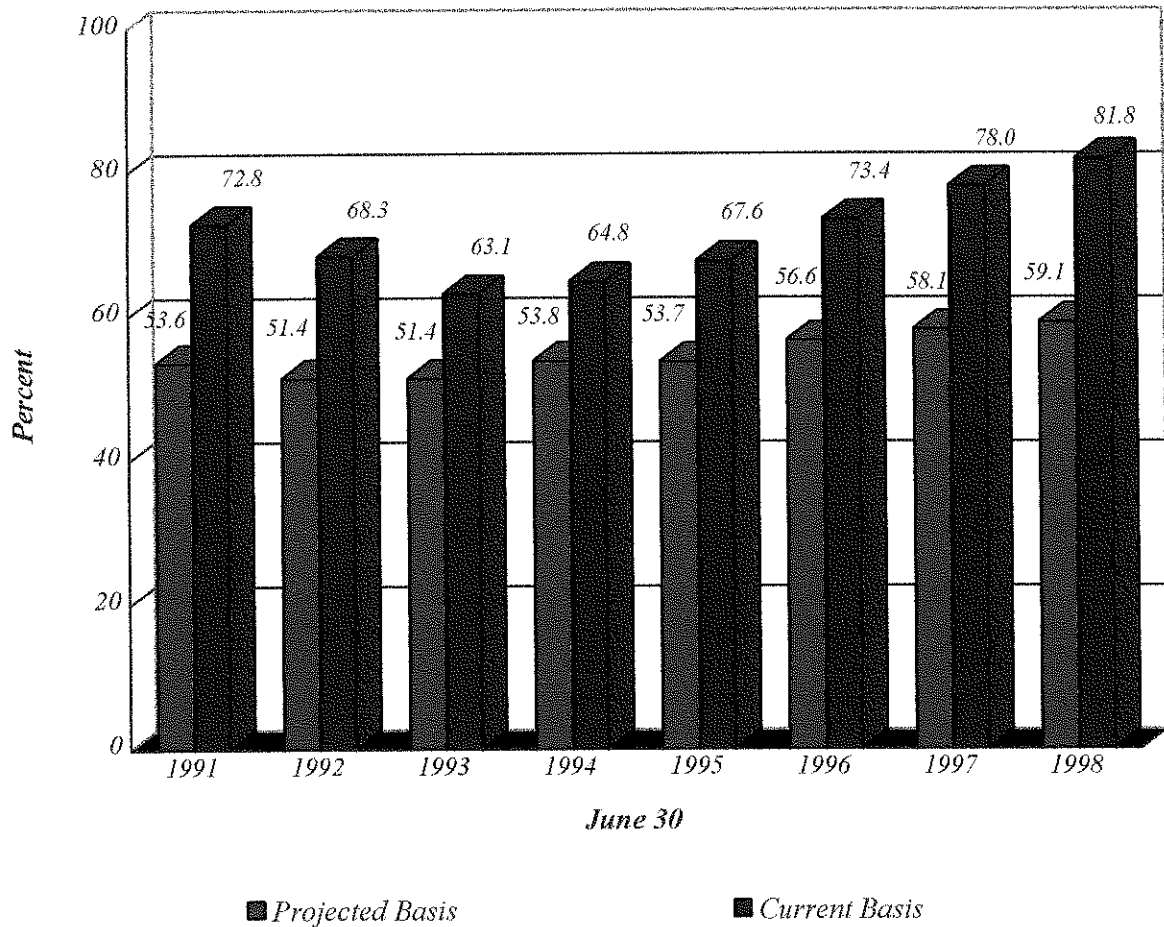
*Unfunded Liabilities*



*Unfunded actuarial liabilities have increased this valuation. This pattern is a normal outgrowth of the method of paying off this liability: a number of years of increase followed by a gradual decline.*

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

*Funded Ratio*



*The System's Funded Ratio tracks the relationship between the System's assets and liabilities. The Employer's contribution is based on projected liabilities (the Projected Benefit Obligation) and smoothed assets (the Actuarial Value of Assets); the **Funded Ratio – Projected Basis** tracks these amounts and indicates the progress that has been made over the years in funding the System's long-term obligations. The **Funded Ratio – Current Basis** looks at the SERS liability for benefits already earned (the Present Value of Accrued Benefits) compared to the assets currently available (the Market Value of Assets). This ratio indicates the System's ability to fund current benefits.*

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

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***DISCUSSION OF RESULTS – July 1, 1997 to June 30, 1998***

In this section of the Executive Summary, we will discuss the significant events impacting the June 30, 1998 actuarial valuation.

***I. INVESTMENT EXPERIENCE***

The investment performance was strong during the past year. The actual return was 17.2% on a market value basis compared to 19.0% for the prior valuation. On a smoothed actuarial basis, the rate was 14.3% compared to 12.9% for the prior valuation, reflecting continuing recognition of previous years' market gains. The assumed rate is 8.5%.

Between June 30, 1997 and June 30, 1998, the actuarial value of assets (measured on a five year smoothing basis) increased by \$538.9 million. This change was attributable to the following:

<u><i>Reconciliation of Actuarial Value of Assets</i></u>		<u><i>(\$ million)</i></u>
Actuarial Value of Assets on July 1, 1997		\$5,131.0
<b><i>Change in Assets</i></b>		
• Employer and Member Contributions	387.7	
• Benefits Paid	(568.6)	
• Expected Total Net Return on Investments	429.2	
• Investment Gain/(Loss)	<u>290.6</u>	
Total Changes	538.9	
Actuarial Value of Assets on July 1, 1998		\$5,669.9

The expected total return on investments shown above is based on an assumed rate of return of 8.5%. However, the actual investment earnings of \$719.8 million (an approximate rate of 14.3% on the actuarial value of assets) resulted in a significant actuarial gain of \$290.6 million. More details on SERS assets are presented in Section II of this report.

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

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**II. UNFUNDED ACTUARIAL LIABILITY**

The unfunded actuarial liability is the shortfall between SERS projected liabilities and assets. During the past year, the unfunded actuarial liability increased from \$3.7 billion to \$3.9 billion. Each year the unfunded liability is increased because of interest and expected benefit accruals and is decreased by contributions made to the fund. Asset and liability gains and losses also impact the unfunded liability, as do plan changes. The following table shows the development of the unfunded actuarial liability from 1997 to 1998:

<u>Reconciliation of Unfunded Actuarial Liability</u>		<u>(\$ million)</u>
Unfunded Actuarial Liability on July 1, 1997		\$3,702.2
<b><i>Change in Unfunded Actuarial Liability</i></b>		
• Interest and Expected Benefit Accruals	582.3	
• Expected Contribution with Interest for FY 97-98	(402.6)	
• Asset (Gain)/Loss	(290.6)	
• Liability (Gain)/Loss	<u>331.2</u>	
Total Changes	220.3	
Unfunded Actuarial Liability on July 1, 1998		\$3,922.5

The liability loss of \$331.2 million is modest (3.5%) when compared to the total SERS liability of \$9,592.4 million. It is attributable to the difference between actual and expected experience with respect to the number of retirements, employment terminations, disabilities and deaths. Salary increases and new employees also contribute to experience gains and losses. We have made a detailed analysis of the experience to determine the particular amount each component contributed to the total liability loss. The results are discussed on the following page.

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

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**III. COMPONENTS OF THE LIABILITY GAIN/(LOSS)**

**Active Decremental Gain/(Loss) \$4.1 million**

The System experienced a small net gain from active decrements. The gains and losses that fall under this heading represent the impact on the liability of members who were active employees last year but are not this year. The gain during 1997-98 is primarily attributable to 1,200 *more* members leaving the System before retirement than predicted by the actuarial assumptions, and 1,100 *fewer* members retiring than predicted.

**Other Active Sources of Gain/(Loss) \$(21.3) million**

The loss from other active sources was \$21.3 million. The breakdown of the liability gain/(loss) included in this category are:

	<u>Gain/(Loss)</u>
• Changes in the data, service purchases, and movement between plans	(16.8) million
• Salary increases lower than expected	13.2 million
• Liability for new members who have credit for prior service	(19.7) million
• Active members who have returned from inactive status	2.0 million

**Inactive Sources of Gain/(Loss) \$(314.0) million**

The net loss to the System from inactive sources was \$314.0 million. This is the result of several factors:

	<u>Gain/(Loss)</u>
• Cost of living adjustment less than expected for pre-1980 retirees	7.4 million
• Mortality patterns different than assumed	(51.1) million
• New inactives who could not be identified in our data for the prior valuation as either actives or inactives	(96.1) million
• Inactive members leaving the System	103.8 million
• Data changes, including benefit finalizations, corrections to dates of birth and other census data, movement from healthy to disabled status and vice versa	(278.0) million



**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

**IV. SERS CONTRIBUTIONS**

SERS contributions projected to the Fiscal Year beginning July 1, 1999 are \$342.8 million. The table below compares the prior year's contribution to this year's and identifies the components of change.

<u>Reconciliation of Contribution</u>		<u>(\$ million)</u>
Contribution for FY 1998-99		\$315.6
 <i>Change in Contribution</i>		
• Increase due to payroll growth and changes in membership profile	25.2	
• Asset (Gain)/Loss	(14.1)	
• Liability (Gain)/Loss	<u>16.1</u>	
Total Changes	27.2	
 Contribution for FY 1999-00		 \$342.8

**V. MEMBERSHIP**

System membership has increased slightly over the past year:

<u>Reconciliation of Membership</u>						
	<i>Active</i>	<i>Term. Vested</i>	<i>Healthy Retired</i>	<i>Disabled Retired</i>	<i>Benefic.</i>	<i>Total Members</i>
<b>Count July 1, 1997</b>	50,601	743	27,689	1,568	2,385	82,986
Left System	(2,886)	(7)	(812)	(85)	(106)	(3,896)
Term. vested	(78)	78				
Retired	(460)	(53)	520	(7)		
Disabled	(63)		(46)	109		
Died w/ benefic.	(4)				4	
Rehired	17	(14)	(3)			
New	<u>4,256</u>	<u>81</u>	<u>120</u>	<u>21</u>	<u>274</u>	<u>4,752</u>
<b>Count July 1, 1998</b>	51,383	828	27,468	1,606	2,557	83,842

More information on SERS membership can be found on the following page and in Appendix A.

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
EXECUTIVE SUMMARY**

**PRINCIPAL RESULTS**

	<i>June 30, 1997</i>	<i>June 30, 1998</i>	<i>% Change</i>
<b><i>SERS Membership</i></b>			
1. Active Membership			
- Number of Participants	50,601	51,383	1.55
- Payroll	\$2,225,185,096	\$2,338,957,445	5.11
- Average Pay	43,975	45,520	3.51
2. Inactive Membership			
- Number of Vested Deferred Members	743	828	11.44
- Number of Retired Members	31,642	31,631	(0.03)
- Annual Retired Members' Benefits	\$527,943,030	\$553,383,095	4.82
- Average Annual Retired Members' Benefits	16,685	17,495	4.85
<b><i>Assets and Liabilities</i></b>			
1. Assets			
- Market Value	\$6,161,895,413	\$7,025,610,619	14.02
- Actuarial Value	5,130,967,057	5,669,865,527	10.50
2. Liabilities			
- Retired and Deferred Vested Members	5,630,426,410	5,984,014,782	6.28
- Active Members	3,202,776,394	3,608,392,954	12.66
- Total Liability	8,833,202,804	9,592,407,736	8.59
- Unfunded Liability	3,702,235,747	3,922,542,209	5.95
<b><i>Employer Contributions</i></b>			
1. Contributions as a Percent of Projected Payroll			
- Normal Cost	7.97%	8.21%	3.01
- Unfunded Liability	5.12%	5.31%	3.71
- Total Contribution %	13.09%	13.52%	3.28
2. Contribution Dollars Projected to the following FY			
- Normal Cost	\$192,046,321	\$208,183,674	8.40
- Unfunded Liability	123,515,464	134,576,657	8.96
- Total Employer Contribution	315,561,785	342,760,331	8.62

**SECTION II**

***SERS ASSETS***

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SERS ASSETS**

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In this section we present the values assigned to the assets held by SERS. These assets are valued on two different bases: the actuarial value and the market value.

**Actuarial Value of Assets**

For purposes of determining ongoing costs, the recognition of capital gains and losses is spread over five years. The resulting value is called the actuarial value of assets and is further adjusted as necessary so that the final actuarial value is within 20% (plus or minus) of the market value of assets.

**Market Value of Assets**

The Market Value of Assets represents the "snapshot" or "cash-out" value of SERS assets as of the valuation date. In addition, the market value of assets provides a reference point to compare to current accrued liabilities.

The following tables present information regarding the actuarial and market values of SERS assets as of June 30, 1998.

<b><u>Table</u></b>	<b><u>Contents</u></b>
II-1	Market Value - Summary of Fund Transactions
II-2	Market Value - Breakdown on June 30, 1998
II-3	Actuarial Value of Assets
II-4	Development of Asset Gain/Loss
II-5	Historical Summary (Actuarial and Market)

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SERS ASSETS**

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**TABLE II-1**

***Market Value of Assets***  
***Summary of Fund Transactions***

Market Value as of July 1, 1997		\$6,161,895,413
 <b><u>Contributions</u></b>		
State	\$253,350,361	
Federal	98,947,789	
Employee	<u>35,408,824</u>	
Total		387,706,974
 <b><u>Investment Income</u></b>		
Interest & Dividends	242,330,198	
Realized Gains	357,937,509	
Change in Unrealized Gains	<u>444,728,029</u>	
Total		1,044,995,736
 <b><u>Disbursements</u></b>		
Benefit Payments	565,414,001	
Employee Refunds	3,171,889	
Expenses	<u>401,614</u>	
Total		568,987,504
Market Value as of June 30, 1998		7,025,610,619
Rate of Return as of June 30, 1998		17.21%
Rate of Return as of June 30, 1997		19.02%
Change		-1.81%

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SERS ASSETS**

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**TABLE II-2**

***Market Value of Assets***  
***Breakdown on June 30, 1998***

The following is the Market Value of the State Employees Retirement Fund assets as reported to by the Retirement Division:

	<u>Amount</u>	<u>% of Total</u>
Cash	\$250,211	0.00%
Accrued Interest	0	0.00%
Investments:		
Cash Reserve Account	170,894,952	2.43%
Mutual Fixed Income Fund	2,412,461,973	34.34%
Mutual Equity Fund	2,929,991,323	41.71%
Real Estate Fund	159,293,023	2.27%
International Stock Fund	939,076,575	13.37%
Commercial Mortgage Fund	104,973,593	1.49%
Venture Capital Fund	308,668,969	4.39%
Connecticut Programs Fund	0	0.00%
<b>Total Market Value as of June 30, 1998</b>	<b>7,025,610,619</b>	<b>100.00%</b>

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS ASSETS**

**TABLE II-3**

*Actuarial Value of Assets*

<u>Year</u> <u>Ending</u>	<u>Realized</u> <u>Gains/Losses</u>	<u>Change in</u> <u>Unrealized</u> <u>Gains/Losses</u>	<sup>100%</sup> <u>Total</u> <u>Gains/Losses</u>
6/30/98	\$357,937,509	\$444,728,029	\$802,665,538
6/30/97	(107,532,938)	876,586,648	769,053,710
6/30/96	84,290,358	370,384,456	454,674,814
6/30/95	4,672,238	346,880,314	351,552,552

The Actuarial Value of Assets as of June 30, 1998 is derived as follows:

1. Market Value of Assets as of June 30, 1998:		\$7,025,610,619
2. Five-Year Gains and Losses Not Yet Recognized:		
80% of FY 98	642,132,430	
60% of FY 97	461,432,226	
40% of FY 96	181,869,926	
20% of FY 95	<u>70,310,510</u>	
		1,355,745,092
3. 20% of (1)		1,405,122,124
4. Actuarial Value of Assets as of June 30, 1998: (1) - (2), within (1) +/- (3)		\$5,669,865,527
5. Rate of Return as of June 30, 1998		14.28%
6. Rate of Return as of June 30, 1997		12.91%
7. Change		Up 1.37%

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS ASSETS**

**TABLE II-4**

***Development of Asset Gain/Loss***

	<b><u>Market Value of Assets</u></b>	<b><u>Actuarial Value of Assets</u></b>
1. Value of Assets as of July 1, 1997	6,161,895,413	5,130,967,057
2. Contributions	387,706,974	387,706,974
3. Benefit Payments, Refunds and Transfers paid during 1996-97	568,585,890	568,585,890
4. Expected Net Investment Income at 8.5% on (1) through (3)	516,818,073	429,189,163
5. Actual Investment Income Net of Expenses	1,044,594,122	719,777,386
6. Expected Value of Assets as of June 30, 1998: (1) + (2) - (3) + (4)	6,497,834,570	5,379,277,304
7. Actual Value of Assets as of June 30, 1998: (1) + (2) - (3) + (5)	7,025,610,619	5,669,865,527
8. Asset Gain/Loss: (7) - (6)	527,776,049	290,588,223
9. Approximate Effective Yield Represented by Actual Investment Income	17.21%	14.28%

***Note:***

The rate shown here is a rough estimate of the return on plan assets used in the valuation. It assumes all transactions occur in the middle of the period. This rate may therefore not be the same as the yield earned on the plan's invested assets.



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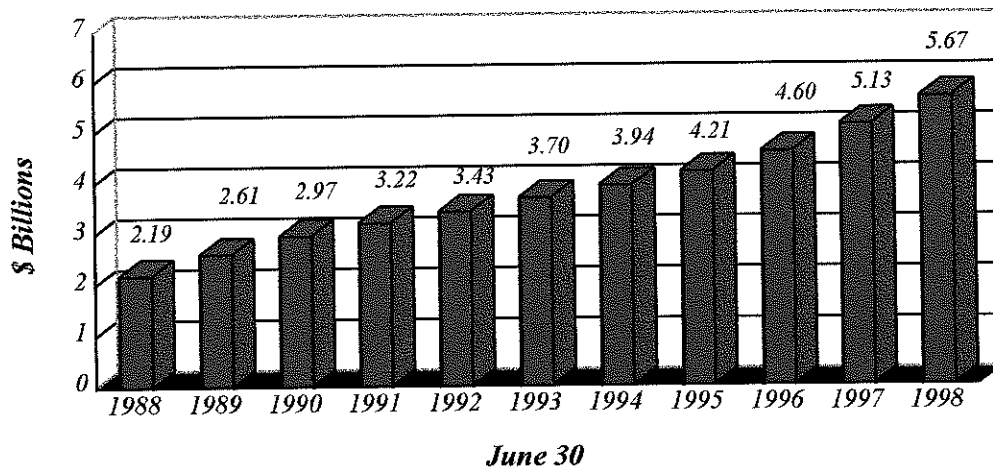
**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS ASSETS**

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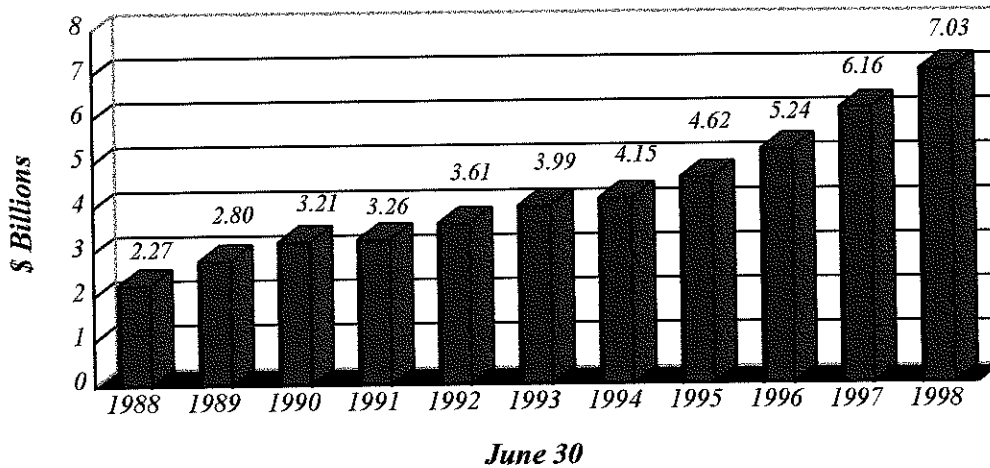
*Table II-5*

*Historical Summary of System Assets*

*Actuarial Value*



*Market Value*



**SECTION III**

***SERS LIABILITIES***

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SERS LIABILITIES**

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In this section we present values assigned to the liabilities of SERS and then compare these liabilities to SERS assets.

The actuarial funding method used to determine SERS costs is based on the Projected Unit Credit method. A more detailed description of this method can be found in Appendix C.

The tables in this section present SERS liabilities as follows:

<u><i>Table</i></u>	<u><i>Contents</i></u>
III-1	SERS Liabilities
III-2	Active Liabilities by Tier and Plan
III-3	Historical Summary of Unfunded Actuarial Liabilities

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SERS LIABILITIES**

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**TABLE III-1**

***SERS Liabilities***

	<b><u>June 30, 1997</u></b>	<b><u>June 30, 1998</u></b>
1. Liability for Retired Members	\$5,579,892,876	\$5,923,030,128
2. Liability for Deferred Vested Members	<u>50,533,534</u>	<u>60,984,654</u>
3. Total Inactive Liability	5,630,426,410	5,984,014,782
4. Active Members Actuarial Liability	<u>3,202,776,394</u>	<u>3,608,392,954</u>
5. Total SERS Actuarial Liability	8,833,202,804	9,592,407,736
6. Actuarial Value of Assets	5,130,967,057	5,669,865,527
7. Total SERS Unfunded Actuarial Liability	3,702,235,747	3,922,542,209

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS LIABILITIES**

**TABLE III-2**

***Active Actuarial Liability by Tier and Plan***

	<u>June 30, 1997</u>	<u>June 30, 1998</u>
<b><u>TIER I</u></b>		
Hazardous Duty	\$353,901,466	\$397,506,411
Plan B	1,806,129,592	1,987,541,684
Plan C	<u>111,295,417</u>	<u>120,879,990</u>
<b>Total</b>	2,271,326,475	2,505,928,085
<b><u>TIER II</u></b>		
Hazardous Duty	354,693,597	413,239,473
All Others	<u>576,756,322</u>	<u>683,303,655</u>
<b>Total</b>	931,449,919	1,096,543,128
<b><u>TIER II A</u></b>		
Hazardous Duty	N/A	1,631,997
All Others	<u>N/A</u>	<u>4,289,744</u>
<b>Total</b>	N/A	5,921,741
<b><u>GRAND TOTAL</u></b>	3,202,776,394	3,608,392,954

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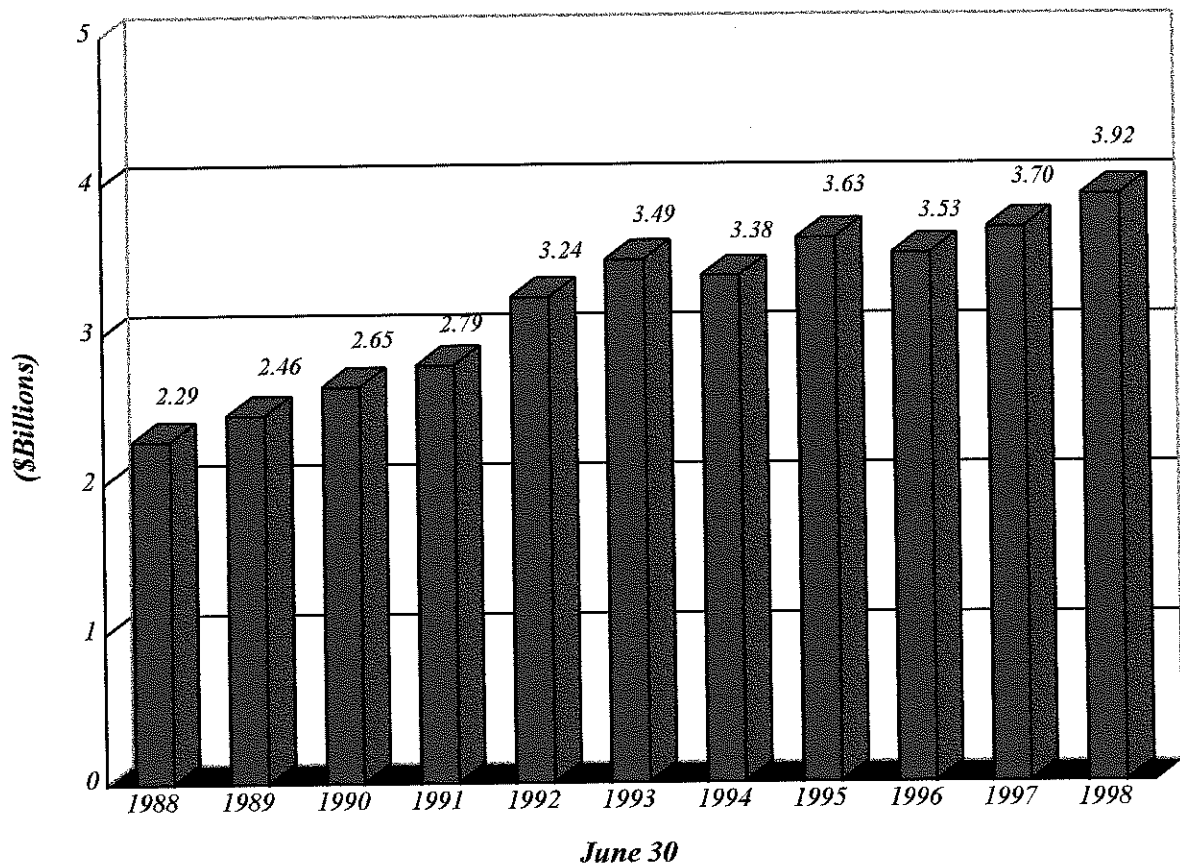
**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS LIABILITIES**

---

**TABLE III-3**

***Historical Summary of Unfunded Actuarial Liabilities***

***Unfunded Actuarial Liability***



**SECTION IV**

***SERS CONTRIBUTIONS***

---

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS CONTRIBUTIONS**

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In this section we present the contributions required of the Employer in the upcoming fiscal year. Due to the timing of both the actuarial valuation process and the Employer's budget cycle, valuation results each June 30 must be projected to the following fiscal year in order to determine the Employer's required contribution.

In the following pages we present information on SERS contributions as follows:

<u><i>Table</i></u>	<u><i>Contents</i></u>
IV-1	Projected Unit Credit Normal Cost Projections
IV-2	Projected Unit Credit Unfunded Liability
IV-3	Projected Unit Credit Total Costs
IV-4	Comparison of Normal Cost Rates



**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS CONTRIBUTIONS**

**TABLE IV-1**

***Projected Unit Credit Normal Cost Projections***

	<b><i>July 1, 1998 Normal Cost</i></b>	<b><i>July 1, 1998 Earnings</i></b>	<b><i>Normal Cost %</i></b>	<b><i>July 1, 1999 Projected Earnings</i></b>	<b><i>July 1, 1999 Projected Normal Cost</i></b>
<b><i>TIER I</i></b>					
Hazardous Duty	\$15,640,846	\$90,971,457	17.1931%	\$94,064,487	\$16,172,601
Plan B	74,430,297	733,925,511	10.1414%	758,878,978	76,960,953
Plan C	3,513,337	39,288,058	8.9425%	40,623,852	3,632,788
Total	<u>93,584,480</u>	<u>864,185,026</u>		<u>893,567,317</u>	<u>96,766,342</u>
<b><i>TIER II</i></b>					
Hazardous Duty	33,565,708	331,127,533	10.1368%	342,385,869	34,706,971
All Others	67,448,337	1,080,409,290	6.2429%	1,117,143,206	69,742,133
Total	<u>101,014,045</u>	<u>1,411,536,823</u>		<u>1,459,529,075</u>	<u>104,449,104</u>
<b><i>TIER IIIA</i></b>					
Hazardous Duty	621,852	9,219,160	6.7452%	31,034,976	2,093,371
All Others	1,741,874	54,016,436	3.2247%	151,172,412	4,874,857
Total	<u>2,363,726</u>	<u>63,235,596</u>		<u>182,207,388</u>	<u>6,968,228</u>

SERS Normal Cost Projected to July 1, 1999: \$208,183,674

SERS Projected Earnings at July 1, 1999: 2,535,303,780

SERS Projected Normal Cost Percent at July 1, 1999: 8.2114%

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SERS CONTRIBUTIONS**

---

**TABLE IV-2**

***Projected Unit Credit Unfunded Liability***

1. Unfunded Actuarial Liability as of July 1, 1998	\$3,922,542,209
2. One Year's Interest at 8.50%	333,416,088
3. Employer Normal Cost (FY 1997-98)	192,046,321
4. Employee Normal Cost (Expected Employee Contributions)	39,160,210
5. Interest on Total Normal Cost [(3) + (4)]	8,874,863
6. State Payments	216,613,996
7. Expected Federal Payments	98,947,789
8. Expected Employee Contributions	39,160,210
9. Interest on Total Contributions [(6) + (7) + (8)]	13,616,004
10. Unfunded Actuarial Liability as of July 1, 1999	4,127,701,692

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SERS CONTRIBUTIONS**

---

**TABLE IV-3**

***Projected Unit Credit Total Costs***

1. Unfunded Actuarial Liability as of July 1, 1999	\$4,127,701,692
2. Amortization Period	33 Years
3. Amortization Payment Towards Unfunded Actuarial Liability	185,183,146
4. SEBAC IV Asset Adjustment Amortization Payment	(20,977,383)
5. SEBAC V Asset Adjustment Amortization Payment	(29,629,106)
6. Net Amortization Payment: (3) + (4) + (5)	134,576,657
7. Employer Normal Cost	208,183,674
8. Total Employer Cost for Fiscal Year beginning July 1, 1999: (6) + (7)	342,760,331
9. Projected Payroll	2,535,303,780
10. Total Employer Cost Percent: (8) / (9)	13.52%

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS CONTRIBUTIONS**

---

**TABLE IV-4**

***Comparison of Normal Cost Rates***

	<b><u>July 1, 1997</u></b>	<b><u>July 1, 1998</u></b>
<hr/> <b><i>TIER I</i></b> <hr/>		
Hazardous Duty	16.75%	17.19%
Plan B	9.65%	10.14%
Plan C	8.42%	8.94%
Total	10.33%	10.83%
<hr/> <b><i>TIER II</i></b> <hr/>		
Hazardous Duty	9.67%	10.14%
All Others	5.92%	6.24%
Total	6.81%	7.16%
<hr/> <b><i>TIER IIA</i></b> <hr/>		
Hazardous Duty	N/A	6.75%
All Others	N/A	3.22%
Total	N/A	3.82%
<hr/> <b><i>GRAND TOTAL</i></b> <hr/>		
	7.97%	8.21%

**SECTION V**

**SERS CONTRIBUTIONS FOR SECOND FISCAL YEAR**

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS CONTRIBUTIONS FOR SECOND FISCAL YEAR**

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In this section we present the contributions required of the Employer in the second fiscal year of the biennial budget year.

In the following pages we present information on SERS contributions as follows:

<u><i>Table</i></u>	<u><i>Contents</i></u>
V-1	Projected Unit Credit Normal Cost Projections
V-2	Projected Unit Credit Unfunded Liability
V-3	Projected Unit Credit Total Costs

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS CONTRIBUTIONS FOR SECOND FISCAL YEAR**

**TABLE V-1**

**Projected Unit Credit Normal Cost Projections For Second Fiscal Year**

	<b>July 1, 1999 Normal Cost</b>	<b>July 1, 1999 Earnings</b>	<b>July 1, 1999 Normal Cost Percent</b>	<b>July 1, 2000 Projected Earnings</b>	<b>July 1, 2000 Normal Cost Percent</b>	<b>July 1, 2000 Projected Normal Cost</b>
<b><u>TIER I</u></b>						
Hazardous Duty	\$16,172,601	\$94,064,487	17.1931%	\$97,262,680	17.6466%	\$17,163,556
Plan B	76,960,953	758,878,978	10.1414%	784,680,863	10.6577%	83,628,932
Plan C	3,632,788	40,623,852	8.9425%	42,005,063	9.4949%	3,988,339
Total	<u>96,766,342</u>	<u>893,567,317</u>		<u>923,948,606</u>		<u>104,780,827</u>
<b><u>TIER II</u></b>						
Hazardous Duty	34,706,971	342,385,869	10.1368%	354,026,989	10.6243%	37,612,889
All Others	69,742,133	1,117,143,206	6.2429%	1,155,126,075	6.5785%	75,989,969
Total	<u>104,449,104</u>	<u>1,459,529,075</u>		<u>1,509,153,064</u>		<u>113,602,858</u>
<b><u>TIER IIIA</u></b>						
Hazardous Duty	2,093,371	31,034,976	6.7452%	55,742,767	6.7452%	3,759,961
All Others	4,874,857	151,172,412	3.2247%	261,163,632	3.2247%	8,421,744
Total	<u>6,968,228</u>	<u>182,207,388</u>		<u>316,906,399</u>		<u>12,181,705</u>

SERS Normal Cost Projected to July 1, 2000: \$230,565,390

SERS Projected Earnings at July 1, 2000: 2,750,008,069

SERS Projected Normal Cost Percent at July 1, 2000: 8.3842%

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS CONTRIBUTIONS FOR SECOND FISCAL YEAR**

---

**TABLE V-2**

***Projected Unit Credit Unfunded Liability for Second Fiscal Year***

1. Unfunded Actuarial Liability as of July 1, 1999	\$4,127,701,692
2. One Year's Interest at 8.50%	350,854,644
3. Employer Normal Cost (FY 1998-99)	208,183,674
4. Employee Normal Cost (Expected Employee Contributions)	41,321,316
5. Interest on Total Normal Cost [(3) + (4)]	9,577,249
6. State Payments	243,812,542
7. Expected Federal Payments	98,947,789
8. Expected Employee Contributions	41,321,316
9. Interest on Total Contributions [(6) + (7) + (8)]	14,742,974
10. Unfunded Actuarial Liability as of July 1, 2000	4,338,813,954



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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SERS CONTRIBUTIONS FOR SECOND FISCAL YEAR**

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**TABLE V-3**

***Projected Unit Credit Total Costs for Second Fiscal Year***

1. Unfunded Actuarial Liability as of July 1, 2000	\$4,338,813,954
2. Amortization Period	32 Years
3. Amortization Payment Towards Unfunded Actuarial Liability	198,700,672
4. SEBAC IV Asset Adjustment Amortization Payment	(22,236,026)
5. SEBAC V Asset Adjustment Amortization Payment	(31,406,853)
6. Net Amortization Payment: (3) + (4) + (5)	145,057,793
7. Employer Normal Cost	230,565,390
8. Total Employer Cost for Fiscal Year beginning July 1, 2000: (6) + (7)	375,623,183
9. Projected Payroll	2,750,008,069
10. Total Employer Cost Percent: (8) / (9)	13.65%

**SECTION VI**

***GASB ACCOUNTING INFORMATION***

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**GASB INFORMATION**

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Government Accounting Standards Board Statement No. 25 requires that SERS disclose certain information on an annual basis regarding the funding of SERS. In this section we present this information. Additional information regarding SERS Assets, a Summary of Plan Provisions and the Actuarial Method and Assumptions can be found in Section II and Appendices B and C, respectively.

The following tables present the information required by GASB #25:

<u><i>Table</i></u>	<u><i>Contents</i></u>
VI-1	Statement of Plan Net Assets
VI-2	Statement of Changes in Plan Net Assets
VI-3	Schedule of Funding Progress
VI-4	Schedule of Employer Contributions
VI-5	Summary of Membership

**Background Information**

The Connecticut State Employee Retirement System was created by the State of Connecticut to provide defined benefit pensions to its employees. SERS is described in Chapter 66, State Employees Retirement Act, in Sections 5-152 to 5-192 of Title 5 of the General Statutes of Connecticut.

The Employer's funding policy has been to contribute each year an amount equal to the normal cost plus an amount representing amortization of the unfunded actuarial liability over thirty years (ending June 30, 2022), less amounts reimbursed by the Federal Government. Pursuant to a collectively bargained agreement, as of June 30, 1992, the unfunded actuarial liability will be amortized over forty years (ending June 30, 2032). Per negotiations the past service payment is determined as a level percent of payroll. The actuarial assumptions used to calculate the figures reported herein are the same as those used to calculate the contribution level.

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**GASB INFORMATION**

---

**TABLE VI-1**

***Statement of Plan Net Assets***

	<u>June 30, 1997</u>	<u>June 30, 1998</u>
Cash	\$ (592,484.54)	\$ 250,210.95
Accrued Interest	0.00	0.00
Cash Reserve Account	324,539,317.17	170,894,951.69
Mutual Fixed Income Fund	1,596,942,197.40	2,412,461,973.35
Mutual Equity Fund	2,789,338,475.74	2,929,991,323.61
Real Estate Fund	188,018,407.13	159,293,022.82
International Stock Fund	940,433,870.54	939,076,574.63
Commercial Mortgage Fund	126,100,803.41	104,973,593.18
Venture Capital Fund	197,114,826.43	308,668,969.25
Connecticut Programs Fund	0.00	0.00
Total Assets	<u>6,161,895,413.28</u>	<u>7,025,610,619.48</u>
Liabilities	<u>0.00</u>	<u>0.00</u>
Net assets held in trust for pension benefits	6,161,895,413.28	7,025,610,619.48

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**GASB INFORMATION**

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**TABLE VI-2**

*Statement of Changes in Plan Net Assets*

**ADDITIONS**

***Contributions***

State	\$253,350,361	
Federal	98,947,789	
Employee	<u>35,408,824</u>	
Total Contributions		\$387,706,974

***Investment Income***

Interest & Dividends	242,330,198	
Net Appreciation/(Depreciation)	<u>802,665,538</u>	
Total Investment Income		1,044,995,736
Total Additions		1,432,702,710

**DEDUCTIONS**

Benefit Payments	565,414,001	
Employee Refunds	3,171,889	
Expenses	<u>401,614</u>	
Total Deductions		<u>568,987,504</u>
Net Increase		863,715,206

***Net assets held in trust for pension benefits***

Beginning of year		<u>6,161,895,413</u>
End of year		7,025,610,619

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
GASB INFORMATION**

**TABLE VI-3**

*Schedule of Funding Progress*

<b>Actuarial Valuation Date</b>	<b>(1) Actuarial Value of Assets</b>	<b>(2) Actuarial Accrued Liability (AAL)</b>	<b>(3) Unfunded AAL (UAAAL) (2) - (1)</b>	<b>(4) Funded Ratio (1)/(2)</b>	<b>(5) Covered Payroll</b>	<b>(6) UAAAL as a Percentage of Covered Payroll (2) - (1)/(5)</b>
June 30, 1991	\$3,207,958,056	\$5,982,687,195	\$2,774,729,139	53.62%	\$1,956,585,318	141.81%
June 30, 1992	3,425,886,181	6,668,685,334	3,242,799,153	51.37%	1,931,381,254	167.90%
June 30, 1993	3,696,176,885	7,189,740,494	3,493,563,609	51.41%	2,144,793,466	162.89%
June 30, 1994	3,944,521,448	7,329,181,184	3,384,659,736	53.82%	2,155,860,555	157.00%
June 30, 1995	4,209,235,826	7,838,210,805	3,628,974,979	53.70%	2,325,787,000	156.03%
June 30, 1996	4,604,227,717	8,138,610,053	3,534,382,336	56.57%	2,385,532,750	148.16%
June 30, 1997	5,130,967,057	8,833,202,804	3,702,235,747	58.09%	2,225,185,096	166.38%
June 30, 1998	5,669,865,527	9,592,407,736	3,922,542,209	59.11%	2,338,957,445	167.70%

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
GASB INFORMATION**

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**TABLE VI-4**

***Schedule of Employer Contributions***

<b><i>Fiscal Year Ending June 30</i></b>	<b><i>Annual Required Contribution</i></b>	<b><i>Actual Contribution</i></b>	<b><i>Percent Funded</i></b>
1991	\$398,016,908	\$263,818,607	66.28%
1992	431,236,846	250,324,285	58.05%
1993	444,243,379	290,827,685	65.47%
1994	310,206,351	310,206,351	100.00%
1995	351,773,796	290,801,000	82.67%
1996	335,111,972	335,111,971	100.00%
1997	349,230,712	365,723,214	104.72%
1998	334,846,361	352,298,150	105.21%
1999	315,561,785	#N/A	#N/A
2000	342,760,331	#N/A	#N/A

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
GASB INFORMATION**

**TABLE VI-5**

***Summary of Membership***

	<u>June 30, 1997</u>	<u>June 30, 1998</u>
<b><u>Current Employees</u></b>		
<b><u>Vested</u></b>		
Tier I, Hazardous Duty	1,454	1,459
Tier I, Plan B	13,020	12,688
Tier I, Plan C	772	747
Tier II, Hazardous Duty	4,446	5,138
Tier II, Other	19,002	19,853
Tier IIA, Hazardous Duty	0	0
Tier IIA, Other	0	23
<b>Total</b>	<b>38,694</b>	<b>39,908</b>
<b><u>Not yet vested</u></b>		
Tier I, Hazardous Duty	28	15
Tier I, Plan B	182	167
Tier I, Plan C	10	10
Tier II, Hazardous Duty	2,800	2,060
Tier II, Other	8,887	6,357
Tier IIA, Hazardous Duty	0	358
Tier IIA, Other	0	2,508
<b>Total</b>	<b>11,907</b>	<b>11,475</b>
<b>Total current employees</b>	<b>50,601</b>	<b>51,383</b>
<b><u>Former Employees</u></b>		
Retirees and beneficiaries currently receiving benefits	31,642	31,631
Terminated employees entitled to benefits but not yet receiving them	743	828
<b>Total former employees</b>	<b>32,385</b>	<b>32,459</b>
<b>Total Members</b>	<b>82,986</b>	<b>83,842</b>



*APPENDIX A*

*SUMMARY STATISTICS ON SERS MEMBERSHIP*

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX A**

---

<u><i>Table</i></u>	<u><i>Contents</i></u>
A-1	Summary of Active Membership Data
A-2	Detail of Active Membership Data by Plan
A-3	Summary of Inactive Membership Data
A-4	Reconciliation of Changes in Membership
A-5	Analysis by Age and Service - Tier I - Hazardous Duty
A-6	Analysis by Age and Service - Tier I - Plan B
A-7	Analysis by Age and Service - Tier I - Plan C
A-8	Analysis by Age and Service - Tier II - Hazardous Duty
A-9	Analysis by Age and Service - Tier II - All Others
A-10	Analysis by Age and Service - Tier IIA- Hazardous Duty
A-11	Analysis by Age and Service - Tier IIA- All Others
A-12	Analysis of Retired Members by Current Age

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX A**

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**TABLE A-1**

***Summary of Active Membership Data***

We received data on a total of 51,776 eligible active members, including employees of State Aided Institutions. Of the active records submitted to us, 393 (0.8%) were rejected due to missing or invalid dates of birth and/or hire. Cost calculations were not revised to reflect these records. The following analysis compares this data with the July 1, 1997 data (see Tables A-5 through A-1 for distribution by age and service).

	<u>7/1/97</u>	<u>7/1/98</u>	<u>Change</u>	<u>Percent Change</u>
Total Employees	50,601	51,383	782	1.5%
Total Earnings (millions)	\$2,225.2	\$2,338.9	113.7	5.1%
Average Earnings	\$43,975	\$45,520	1,545	3.5%

Earnings figures as of July 1 are actual amounts paid during the previous July 1 to June 30 period, adjusted for anticipated increases and merit adjustments through the end of FY 98-99; new entrant earnings are annualized.

These figures are broken down by Plan on the following page.

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-2**

***Detail of Active Membership Data by Plan***

<b><u>Number of Members</u></b>	<b><u>July 1, 1997</u></b>	<b><u>July 1, 1998</u></b>	<b><u>% Change</u></b>
Tier I Hazardous Duty	1,482	1,474	-0.5%
Tier I Plan B	13,202	12,855	-2.6%
Tier I Plan C	782	757	-3.2%
Tier II Hazardous Duty	7,246	7,198	-0.7%
Tier II Others	27,889	26,210	-6.0%
Tier IIA Hazardous Duty	0	358	n/a
Tier IIA Others	0	2,531	n/a
<b>Total</b>	<b>50,601</b>	<b>51,383</b>	<b>1.5%</b>
<b><u>Total Annual Compensation (\$ Millions)</u></b>			
Tier I Hazardous Duty	\$88.8	\$91.0	2.5%
Tier I Plan B	723.3	733.9	1.5%
Tier I Plan C	39.0	39.3	0.8%
Tier II Hazardous Duty	325.0	331.1	1.9%
Tier II Others	1,049.1	1,080.4	3.0%
Tier IIA Hazardous Duty	0.0	9.2	n/a
Tier IIA Others	0.0	54.0	n/a
<b>Total</b>	<b>2,225.2</b>	<b>2,338.9</b>	<b>5.1%</b>
<b><u>Average Compensation</u></b>			
Tier I Hazardous Duty	\$59,921	\$61,717	3.0%
Tier I Plan B	54,784	57,093	4.2%
Tier I Plan C	49,882	51,900	4.0%
Tier II Hazardous Duty	44,859	46,003	2.6%
Tier II Others	37,616	41,221	9.6%
Tier IIA Hazardous Duty	0	25,752	n/a
Tier IIA Others	0	21,342	n/a
<b>Total</b>	<b>43,975</b>	<b>45,520</b>	<b>3.5%</b>

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-2 Continued**

***Detail of Active Membership Data by Plan***

<b><i>Average Age</i></b>	<b><i>July 1, 1997</i></b>	<b><i>July 1, 1998</i></b>
Tier I Hazardous Duty	44.8	45.9
Tier I Plan B	47.4	48.3
Tier I Plan C	50.6	51.5
Tier II Hazardous Duty	36.8	37.6
Tier II Others	41.0	42.1
Tier IIA Hazardous Duty	0.0	31.1
Tier IIA Others	0.0	35.4
Total	42.3	42.9
<b><i>Average Service</i></b>		
Tier I Hazardous Duty	17.2	18.3
Tier I Plan B	19.6	20.6
Tier I Plan C	20.2	21.2
Tier II Hazardous Duty	6.3	7.3
Tier II Others	7.3	8.4
Tier IIA Hazardous Duty	0.0	0.4
Tier IIA Others	0.0	0.6
Total	10.8	11.4

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**SUMMARY STATISTICS ON SERS MEMBERSHIP**

---

**TABLE A-3**

***Summary of Inactive Membership Data***

	<b><u>July 1, 1997</u></b>	<b><u>July 1, 1998</u></b>	<b><u>% Change</u></b>
<b><u>Retired</u></b>			
Number	31,642	31,631	0.0%
Total Annual Benefits (\$ 000s)	\$527,943	\$553,383	4.8%
Average Annual Benefit	16,685	17,495	4.9%
<b><u>Terminated Vested</u></b>			
Number	743	828	11.4%

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-4**

***Reconciliation of Changes in Membership***

	<b>Active Members</b>	<b>Deferred Vested Members</b>	<b>Retired Members</b>	<b>Disabled Members</b>	<b>Beneficiaries</b>	<b>Total Members</b>
<b>Count as of July 1, 1997</b>	50,601	743	27,689	1,568	2,385	82,986
<b>Changed status within System</b>						
to active status	17	(14)	(3)	0	0	0
to deferred vested status	(78)	78	0	0	0	0
to retired status	(460)	(53)	520	(7)	0	0
to disabled status	(63)	0	(46)	109	0	0
to beneficiary status	(4)	0	0	0	4	0
<b>Left System</b>	(2,886)	(7)	(812)	(85)	(106)	(3,896)
<b>Entered System</b>	4,256	81	120	21	274	4,752
<b>Count as of June 30, 1998</b>	51,383	828	27,468	1,606	2,557	83,842

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-5**

*Analysis of Active Members by Age and Service - Tier I Hazardous Duty*

Age \ Service	Number of Members											All Years	
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up				
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	2	3	1	0	0	0	0	0	0	0	0	6
35 to 39	3	6	43	130	3	0	0	0	0	0	0	0	185
40 to 44	5	18	59	296	126	4	0	0	0	0	0	0	508
45 to 49	2	15	23	144	150	47	2	0	0	0	0	0	383
50 to 54	3	11	18	77	79	61	14	0	0	0	0	0	263
55 to 59	1	2	10	35	19	11	12	4	0	0	0	0	94
60 to 64	0	1	2	11	8	0	2	0	0	0	0	0	24
65 & Up	1	0	0	5	4	1	0	0	0	0	0	0	11
Totals	15	55	158	699	389	124	30	4	0	0	0	0	1,474

Age \ Service	Average Salaries											All Years	
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up				
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	55,996	48,598	42,311	0	0	0	0	0	0	0	0	50,016
35 to 39	46,750	52,734	57,049	59,868	44,394	0	0	0	0	0	0	0	58,517
40 to 44	44,864	56,085	56,602	60,675	66,758	70,356	0	0	0	0	0	0	61,469
45 to 49	58,835	50,991	56,395	59,489	67,233	71,462	52,135	0	0	0	0	0	63,431
50 to 54	44,333	51,002	52,127	54,422	65,389	71,296	67,670	0	0	0	0	0	61,920
55 to 59	44,164	49,793	67,218	54,582	61,733	59,931	75,408	80,167	0	0	0	0	61,532
60 to 64	0	38,546	60,853	58,062	74,193	0	73,588	0	0	0	0	0	64,152
65 & Up	49,130	0	0	59,701	70,251	88,335	0	0	0	0	0	0	65,180
Totals	47,235	52,763	56,758	59,212	66,434	70,458	70,124	80,167	0	0	0	0	61,717



**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-6**

*Analysis of Active Members by Age and Service - Tier I Plan B*

Age \ Service	Number of Members										All Years
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up		
Under 20	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0
30 to 34	3	2	26	38	0	0	0	0	0	0	69
35 to 39	19	22	157	784	101	0	0	0	0	0	1,083
40 to 44	40	73	208	1,398	961	59	0	0	0	0	2,739
45 to 49	60	85	190	1,017	1,576	618	57	0	0	0	3,603
50 to 54	20	71	122	748	893	879	423	20	0	0	3,176
55 to 59	18	21	57	428	367	275	205	50	4	0	1,425
60 to 64	7	4	21	179	137	77	104	36	3	0	568
65 & Up	1	1	6	40	47	37	31	16	13	0	192
Totals	168	279	787	4,632	4,082	1,945	820	122	20	0	12,855

Age \ Service	Average Salaries										All Years
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up		
Under 20	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0
30 to 34	22,226	39,326	42,659	42,490	0	0	0	0	0	0	41,581
35 to 39	40,173	43,170	47,187	45,999	44,706	0	0	0	0	0	45,891
40 to 44	35,340	43,558	51,101	51,894	52,088	51,683	0	0	0	0	51,433
45 to 49	41,879	48,837	54,742	55,530	59,643	58,510	59,924	0	0	0	57,483
50 to 54	50,510	57,517	52,790	56,033	61,313	66,706	62,373	58,404	0	0	61,205
55 to 59	36,480	52,653	49,405	52,840	57,718	74,274	79,211	68,520	66,884	0	62,269
60 to 64	82,277	49,117	63,069	52,076	58,734	71,266	83,613	85,829	99,958	0	65,208
65 & Up	83,787	24,882	63,841	52,289	61,692	79,807	78,754	80,755	80,282	0	68,817
Totals	42,160	49,355	51,476	52,384	57,680	65,146	69,725	73,574	80,554	0	57,093

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-7**

*Analysis of Active Members by Age and Service - Tier I Plan C*

Age \ Service	Number of Members											All Years		
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up					
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	6	0	0	0	0	0	0	0	0	0	6
35 to 39	2	0	5	18	1	0	0	0	0	0	0	0	0	26
40 to 44	2	1	6	65	50	5	0	0	0	0	0	0	0	129
45 to 49	2	5	11	50	61	38	3	0	0	0	0	0	0	170
50 to 54	3	1	7	46	44	58	21	0	0	0	0	0	0	180
55 to 59	0	2	4	38	33	27	9	0	0	0	0	0	0	113
60 to 64	1	3	5	28	25	11	3	4	0	0	0	0	0	80
65 & Up	0	0	3	6	15	9	12	1	7	7	7	7	7	53
Totals	10	12	41	257	229	148	48	5	7	7	7	7	7	757

Age \ Service	Average Salaries											All Years		
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up					
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	53,595	0	0	0	0	0	0	0	0	0	53,595
35 to 39	58,261	0	41,859	45,014	42,275	0	0	0	0	0	0	0	0	45,321
40 to 44	39,855	36,755	51,499	46,644	48,938	48,131	0	0	0	0	0	0	0	47,635
45 to 49	38,383	39,654	42,525	49,547	52,592	47,502	49,274	0	0	0	0	0	0	49,301
50 to 54	26,860	65,877	51,761	50,496	50,804	51,542	47,730	0	0	0	0	0	0	50,326
55 to 59	0	33,837	39,166	47,377	60,082	66,042	63,168	0	0	0	0	0	0	56,275
60 to 64	34,341	41,061	56,306	47,491	57,846	70,234	62,592	84,327	0	0	0	0	0	56,408
65 & Up	0	0	37,514	62,025	58,038	64,625	65,073	99,348	73,518	73,518	73,518	73,518	73,518	62,863
Totals	38,792	40,980	46,320	48,506	53,415	55,220	55,986	87,331	73,518	73,518	73,518	73,518	73,518	51,900

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-3**

**Analysis of Active Members by Age and Service - Tier II Hazardous Duty**

Age \ Service	Number of Members											All Years	
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up				
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	69	1	0	0	0	0	0	0	0	0	0	0	70
25 to 29	629	418	14	0	0	0	0	0	0	0	0	0	1,061
30 to 34	501	1,067	392	6	0	0	0	0	0	0	0	0	1,966
35 to 39	360	642	631	28	1	0	0	0	0	0	0	0	1,662
40 to 44	223	397	364	33	6	0	0	0	0	0	0	0	1,023
45 to 49	146	273	178	32	4	0	0	0	0	0	0	0	633
50 to 54	93	202	137	29	1	2	1	0	0	0	0	0	465
55 to 59	27	87	66	12	1	0	2	0	0	0	0	0	195
60 to 64	10	49	31	5	0	0	0	0	0	0	0	0	95
65 & Up	2	15	8	2	1	0	0	0	0	0	0	0	28
Totals	2,060	3,151	1,821	147	14	2	3	0	0	0	0	0	7,198

**Average Salaries**

Age \ Service	Average Salaries											All Years	
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up				
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	33,582	34,802	0	0	0	0	0	0	0	0	0	0	33,600
25 to 29	40,014	42,668	43,412	0	0	0	0	0	0	0	0	0	41,105
30 to 34	40,611	45,239	51,859	39,762	0	0	0	0	0	0	0	0	45,363
35 to 39	40,989	44,889	53,281	54,061	43,018	0	0	0	0	0	0	0	47,384
40 to 44	42,849	46,713	51,694	54,816	59,151	0	0	0	0	0	0	0	47,977
45 to 49	42,541	46,967	51,058	54,467	62,744	0	0	0	0	0	0	0	47,575
50 to 54	42,111	48,569	51,758	52,234	65,593	71,635	59,756	0	0	0	0	0	48,606
55 to 59	44,443	46,503	52,050	52,846	44,661	0	52,784	0	0	0	0	0	48,541
60 to 64	38,723	46,513	52,512	56,962	0	0	0	0	0	0	0	0	48,200
65 & Up	20,376	54,826	44,333	62,452	43,242	0	0	0	0	0	0	0	49,498
Totals	40,728	45,473	52,153	53,488	57,314	71,635	55,108	0	0	0	0	0	46,003

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-9**

*Analysis of Active Members by Age and Service - Tier II Others*

Age \ Service	Number of Members											All Years	
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up				
Under 20	58	0	0	0	0	0	0	0	0	0	0	0	58
20 to 24	318	5	0	0	0	0	0	0	0	0	0	0	323
25 to 29	1,201	647	124	0	0	0	0	0	0	0	0	0	1,972
30 to 34	1,143	1,531	1,731	40	0	0	0	0	0	0	0	0	4,445
35 to 39	941	1,395	2,446	214	5	0	0	0	0	0	0	0	5,001
40 to 44	827	1,143	1,978	215	17	1	0	0	0	0	0	0	4,181
45 to 49	743	1,024	1,705	219	27	39	2	0	0	0	0	0	3,759
50 to 54	533	948	1,387	200	16	49	11	0	0	0	0	0	3,144
55 to 59	367	578	847	96	17	20	4	1	0	0	0	0	1,930
60 to 64	168	308	441	49	12	2	0	0	0	0	0	0	980
65 & Up	86	132	156	35	6	2	0	0	0	0	0	0	417
Totals	6,385	7,711	10,815	1,068	100	113	17	1	0	0	0	0	26,210

Age \ Service	Average Salaries											All Years	
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up				
Under 20	9,975	0	0	0	0	0	0	0	0	0	0	0	9,975
20 to 24	21,351	27,450	0	0	0	0	0	0	0	0	0	0	21,446
25 to 29	34,042	36,442	36,320	0	0	0	0	0	0	0	0	0	34,973
30 to 34	35,422	40,207	41,715	40,688	0	0	0	0	0	0	0	0	39,568
35 to 39	34,510	39,997	46,210	46,388	29,797	0	0	0	0	0	0	0	42,267
40 to 44	34,031	41,156	47,233	48,498	50,789	50,619	0	0	0	0	0	0	43,041
45 to 49	34,864	41,569	47,641	50,365	55,277	53,689	53,084	0	0	0	0	0	43,740
50 to 54	34,075	40,962	46,802	51,086	46,505	69,588	55,934	0	0	0	0	0	43,542
55 to 59	33,462	39,572	44,532	49,045	57,738	57,286	52,422	55,061	0	0	0	0	41,436
60 to 64	31,056	38,900	44,803	47,614	41,638	81,730	0	0	0	0	0	0	40,768
65 & Up	24,251	39,369	41,229	41,992	32,379	55,498	0	0	0	0	0	0	37,144
Totals	33,361	40,145	45,605	48,446	49,244	61,721	54,772	55,061	0	0	0	0	41,221

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-10**

**Analysis of Active Members by Age and Service - Tier IIA Hazardous Duty**

Age \ Service	Number of Members										All Years
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up		
Under 20	0	0	0	0	0	0	0	0	0	0	0
20 to 24	58	0	0	0	0	0	0	0	0	0	58
25 to 29	128	0	0	0	0	0	0	0	0	0	128
30 to 34	82	0	0	0	0	0	0	0	0	0	82
35 to 39	38	0	0	0	0	0	0	0	0	0	38
40 to 44	25	0	0	0	0	0	0	0	0	0	25
45 to 49	15	0	0	0	0	0	0	0	0	0	15
50 to 54	8	0	0	0	0	0	0	0	0	0	8
55 to 59	4	0	0	0	0	0	0	0	0	0	4
60 to 64	0	0	0	0	0	0	0	0	0	0	0
65 & Up	0	0	0	0	0	0	0	0	0	0	0
Totals	358	0	0	0	0	0	0	0	0	0	358

Age \ Service	Average Salaries										All Years
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up		
Under 20	0	0	0	0	0	0	0	0	0	0	0
20 to 24	25,108	0	0	0	0	0	0	0	0	0	25,108
25 to 29	25,948	0	0	0	0	0	0	0	0	0	25,948
30 to 34	25,493	0	0	0	0	0	0	0	0	0	25,493
35 to 39	23,798	0	0	0	0	0	0	0	0	0	23,798
40 to 44	29,841	0	0	0	0	0	0	0	0	0	29,841
45 to 49	24,820	0	0	0	0	0	0	0	0	0	24,820
50 to 54	29,632	0	0	0	0	0	0	0	0	0	29,632
55 to 59	22,857	0	0	0	0	0	0	0	0	0	22,857
60 to 64	0	0	0	0	0	0	0	0	0	0	0
65 & Up	0	0	0	0	0	0	0	0	0	0	0
Totals	25,752	0	0	0	0	0	0	0	0	0	25,752

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-II**

*Analysis of Active Members by Age and Service - Tier IIA Others*

Age \ Service	Number of Members										All Years	
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up			
Under 20	73	0	0	0	0	0	0	0	0	0	0	73
20 to 24	305	1	0	0	0	0	0	0	0	0	0	306
25 to 29	530	4	0	0	0	0	0	0	0	0	0	534
30 to 34	397	1	3	0	0	0	0	0	0	0	0	401
35 to 39	383	2	2	0	0	0	0	0	0	0	0	387
40 to 44	297	1	1	0	0	0	0	0	0	0	0	299
45 to 49	231	0	0	1	1	0	0	0	0	0	0	233
50 to 54	179	0	0	0	0	0	0	0	0	0	0	179
55 to 59	75	0	0	0	0	0	0	0	0	0	0	75
60 to 64	31	0	0	0	0	0	0	0	0	0	0	31
65 & Up	13	0	0	0	0	0	0	0	0	0	0	13
Totals	2,514	9	6	1	1	1	0	0	0	0	0	2,531

Age \ Service	Average Salaries										All Years	
	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 & Up			
Under 20	1,449	0	0	0	0	0	0	0	0	0	0	1,449
20 to 24	14,499	24,297	0	0	0	0	0	0	0	0	0	14,531
25 to 29	21,747	18,333	0	0	0	0	0	0	0	0	0	21,721
30 to 34	23,130	30,122	24,703	0	0	0	0	0	0	0	0	23,159
35 to 39	24,084	8,568	16,959	0	0	0	0	0	0	0	0	23,967
40 to 44	22,673	11,237	28,324	0	0	0	0	0	0	0	0	22,653
45 to 49	25,649	0	0	20,449	11,954	0	0	0	0	0	0	25,568
50 to 54	21,969	0	0	0	0	0	0	0	0	0	0	21,969
55 to 59	26,043	0	0	0	0	0	0	0	0	0	0	26,043
60 to 64	19,173	0	0	0	0	0	0	0	0	0	0	19,173
65 & Up	7,109	0	0	0	0	0	0	0	0	0	0	7,109
Totals	21,357	17,347	22,725	20,449	11,954	0	0	0	0	0	0	21,342

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM  
SUMMARY STATISTICS ON SERS MEMBERSHIP**

**TABLE A-12**

*Analysis of Retired Members and Beneficiaries by Current Age*

Current Age	NUMBER				AVERAGE BENEFIT				
	Service Retirement	Service Connected Disability	Non-Service Connected Disability	Hazardous Duty Retirement	Service Retirement	Service Connected Disability	Non-Service Connected Disability	Hazardous Duty Retirement	Other
Under 40	25	21	20	0	6,836	14,890	12,572	0	14,092
40 to 44	1	27	21	44	33,240	13,706	12,585	31,555	19,352
45 to 49	1	48	67	273	29,760	15,620	18,134	33,718	19,007
50 to 54	415	99	115	393	25,056	23,942	24,356	35,271	20,575
55 to 59	2,201	101	119	389	26,553	17,089	18,829	34,750	13,330
60 to 64	3,231	100	132	326	24,007	13,589	14,234	30,492	12,740
65 to 69	4,271	95	134	256	19,437	11,090	11,332	27,687	9,191
70 to 74	4,686	69	116	195	16,228	8,779	9,436	24,180	9,661
75 to 79	3,849	46	105	96	13,975	7,234	8,202	20,512	9,203
80 to 84	2,685	29	61	26	11,733	10,138	8,952	20,095	8,577
85 to 89	1,300	13	37	12	11,321	9,243	9,931	16,529	9,176
90 to 94	472	4	20	3	11,069	10,564	7,339	18,239	9,195
95 and up	106	1	6	1	10,025	7,410	6,371	7,725	10,953
Totals	23,243	653	953	2,014	17,726	14,309	13,876	31,017	11,818

APPENDIX B

*SUMMARY OF PLAN PROVISIONS*



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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX B**

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**CONNECTICUT STATE EMPLOYEES**  
**RETIREMENT SYSTEM**

*Established September 1, 1939*

**1. Membership**

Tier I [Sec. 5-160]: Each state employee appointed to classified service shall become a member on the first day of the pay period following permanent appointment.

Each officer elected by the people and each appointee of such officer exempt from classified service may elect to become a member, effective on the first day of the pay period following receipt of such election.

Each other state employee exempt from classified service shall become a member on the first day of the pay period following six months of employment.

Except as noted below employees hired prior to January 1, 1984 could elect (no later than January 2, 1984) to be covered under either Plan B or Plan C. Employees under contracts with Union Independent and CSEA unions hired prior to October 1, 1982 had until October 1, 1984 to make such election.

Tier II [Sec. 5-192e]: Tier II consists of employees first joining the retirement system on or after January 1, 1984 plus employees hired between July 1, 1982 and January 1, 1984 who elected Tier II. Each state employee becomes a member on the first day of employment.

Tier IIA: Tier IIA consists of employees first joining the retirement system on or after July 1, 1997.

**2. Normal Retirement Eligibility**

Tier I - Hazardous Duty [Sec. 5-173]: 20 years of service.

Tier I - Plans B and C [Sec. 5-162]: Age 55 and 25 years of service, age 60 and 10 years of service, or age 70.

Tier II [Sec. 5-192i] and Tier IIA: Age 62 and 10 years of service (effective July 1, 1992) or age 60 and 25 years of service or age 70 and 5 years of service, except hazardous duty members may retire after 20 years.

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX B**

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**3. Normal Retirement Benefit**

Tier I - Hazardous Duty [Sec. 5-173]: 50% of Final Average Earnings plus 2% for each year in excess of 20.

Tier I Plan B [Sec. 5-162]: Same as Plan C up to age 65; thereafter 1% of Final Average Earnings up to \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 times years, reduced for retirement prior to age 65 with less than 25 years. Minimum benefit with 25 years, \$300 per month.

Tier I Plan C [Sec. 5-162]: 2% of Final Average Earnings times years of service, reduced for retirement prior to age 65 with less than 25 years. Minimum with 25 years, \$300 per month.

Tier II Hazardous Duty Members [Sec. 5-192n] and Tier IIA: 2½% of Final Average Earnings times up to 20 years of service plus 2% of Final Average Earnings times years of service in excess of 20 years, if any. Minimum with 25 years, \$300 per month (or less if retirement before July 1, 1987).

Tier II All Other [Sec. 5-192l] and Tier IIA: 1⅓% of Final Average Earnings plus ½% of Final Average Earnings in excess of the year's breakpoint\*, times up to 35 years of service from October 1, 1982 plus 1⅛% of Final Average Earnings times years of service in excess of 35 years, if any. Minimum with 25 years, \$300 per month (or less if retirement before July 1, 1987).

\* \$10,700 increased by 6% each year after 1982, rounded to the nearest \$100, but not greater than Social Security Covered Compensation.

**4. Early Retirement**

Tier I - Hazardous Duty: None.

Tier I [Sec. 5-162]: Age 55 and 10 years of service; Normal Retirement Benefit reduced actuarially for retirement prior to age 60.

Tier II [Sec. 5-192m] and Tier IIA: Age 55 and 10 years of service; Normal Retirement Benefit reduced ¼% (effective July 1, 1991) for each month prior to age 65; Minimum benefit with 25 years, \$300 per month (or less if retirement prior to July 1, 1987).

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX B**

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5. **Deferred Retirement**

Tier I [Sec. 5-162]: May be deferred but not beyond age 70.

Tier II [Sec. 5-192l] and Tier IIA: May be deferred but not beyond age 70. Benefit is based on salary and service to actual retirement.

6. **Vesting**

Tier I [Sec. 5-166]: Ten years of service; actuarially reduced benefit payable at age 55; in addition employees are always fully vested in their own contributions (after January 1, 1983, Tier I, contributions with 5% interest from January 1, 1982).

Tier I - Hazardous Duty [Sec. 5-173(f)]: As above.

Tier II [Sec. 5-192o] and Tier IIA: Effective July 1, 1997, five years of service or age 70 and 5 years; benefit payable at Normal Retirement Age or early retirement benefit payable at age 55; minimum benefit with 25 years, payable after age 55, \$300 per month (or less if retirement before July 1, 1987).

7. **Member Contributions**

Tier I - Hazardous Duty [Sec. 5-161]      4% of earnings up to Social Security Taxable Wage Base plus 5% above that level.

Tier I - Plan B [Sec. 5-161]                2% of earnings up to Social Security Taxable Wage Base plus 5% above that level.

Tier I - Plan C [Sec. 5-161]                5% of earnings.

Tier II - All Other [Sec. 5-192u]            None.

Tier II - Hazardous Duty [Sec. 5-192u]    4% of earnings.

Tier IIA - All other                        2% of earnings.

Tier IIA - Hazardous Duty                5% of earnings.

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX B**

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8. **Cost of Living**

[Sec. 5-162b, 5-162d]: Annual adjustment each July 1 of up to 5% for retirements prior to July 1, 1980; 3% for retirements after July 1, 1980. For members (or beneficiaries) not covered by Social Security and age 62 and over, the maximum increase is 6%. If an actuarial surplus (as defined in the law) exists, the Commission may further increase retired benefits.

For employees retiring after June 30, 1999, the annual adjustment will be 60% of the increase in the CPI up to 6% and 75% of the increase in the CPI over 6%. This adjustment will be no less than 2.5% and no greater than 6%. Employees retiring between July 1, 1997 and June 30, 1999 will have the irrevocable choice between this formula and a fixed 3% annual adjustment.

*Tier IIA*: An employee must have at least ten years of actual state service or directly make the transition into retirement in order to be eligible for annual adjustments.

9. **Death Benefits**

*Tier I - State Police [Sec. 5-146]*: Survivor benefits to spouse of \$670 per month plus \$300 to a surviving dependent child (or \$700 to surviving dependent children).

*Tier I [Sec. 5-165a]*: If eligible for early or normal retirement, spouse benefit equal to 50% of average of Life Benefit and 50% Joint & Survivor Benefit the member would have received. If not eligible to retire but 25 years, same benefit calculated as though age 55 using service and earnings at death.

[Sec. 5-168]: If not eligible for retirement, return of contributions (after October 1, 1982, Tier I, with interest from January 1, 1982 at 5%).

*Tier II [Sec. 5-192r] and Tier IIA*: If eligible for early or normal retirement, spouse benefit equal to 50% of member's benefit under a 50% Joint & Survivor Annuity. If not eligible to retire but 25 years, same benefit calculated as though age 55 using service and earnings at death.

[Sec. 5-192t]: If death is due to employment, a spouse with dependent children under 18 will be paid \$7,500 in not less than 60 installments while living and not remarried; also \$20 per month per child under 18. If no children under 18, spouse [or dependent parent(s), if no spouse] will be paid \$4,000 in not less than 60 installments.

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX B**

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**10. Disability Benefits**

Tier I [Sec. 5-142, 5-169, 5-173]: For non-service disabilities occurring prior to age 60 and after 5 years of service, benefit equals 3% times base salary times years of service (Maximum  $1\frac{2}{3}\%$  times service to 65). If disability occurs prior to age 60 and is due to service, benefit equals  $1\frac{2}{3}\%$  of salary times service projected to 65 (maximum 30 years) and is payable regardless of length of service. Exception: State Police benefit is accrued benefit if more than 20 years of service. State Police receive an additional benefit of \$360 per month plus \$300 to spouse plus \$300 to a surviving dependent child (or \$700 to surviving dependent children).

Maximum disability benefit is lesser of: 100% of salary less Workers Compensation and Social Security and less non-rehabilitation earnings, or 80% of salary less Workers Compensation and Social Security. Social Security is primary plus family.

Tier II [5-192p] and Tier IIA: Prior to age 65 and due to service or after 10 years of service, benefit is  $1\frac{1}{3}\%$  of final average earnings, plus  $\frac{1}{2}\%$  of excess earnings times service projected to 65 (maximum 30 years of service to Date of Disability if greater than 30 years). Same maximum as Tier I.

Minimum disability benefit including Workers Compensation and Social Security is 60% of salary.

**11. Optional Forms of Payment**

Tier I [Sec. 5-165]: 50% Qualified Joint and Survivor (Normal Form if married at least 12 months).

Tier II [Sec. 5-192q] and Tier IIA: 50% or 100% Joint and Survivor (Normal Form if married at least 12 months). Ten years certain and life. Twenty years certain and life. Life (Normal Form if not married at least 12 months).

**12. Part-Time Employment**

[Sec. 5-162g & Sec. 5-192k]: Service treated as if full-time for eligibility. If consistent part-time for all periods, treat as full-time. If varying schedule or some part-time, some full-time, service and salary proportionately adjusted.

APPENDIX C

*ACTUARIAL METHOD AND ASSUMPTIONS*

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX C**

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**A. Funding Method**

1. The actuarial valuation method used is the Projected Unit Credit Cost Method. Recommended annual contributions until the accrued liability is completely funded will consist of two pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability.
  - a. The Accrued Liability is determined directly as the present value of benefits accrued to date, where the accrued benefits for each Member is the pro-rata portion (based on service to date) of the projected benefit payable at death, disability, retirement or termination.
  - b. The Normal Cost is then similarly determined as the present value of the portion of the projected benefit attributable to the current year.
2. The Unfunded Accrued Liability is the Accrued Liability less Actuarial Value of Assets.
3. Since the valuation was done as of June 30, 1998, costs have been projected to July 1, 1999 in order to correspond to the fiscal year as follows:
  - a. Normal Costs were determined as a percentage of earnings, by Tier, as of July 1, 1998. Earnings were projected to July 1, 1999, separately for each Tier because of the shifting Tier populations, and the projected earnings were then multiplied by each Tier's normal cost factor.
  - b. The Unfunded Accrued Liability was determined as of June 30, 1998, and brought forward to June 30, 1999 by adding the Normal Cost plus interest and subtracting expected State and Federal contributions, also with interest. This amount was amortized over the 33 years on a level percent of pay basis.
  - c. Normal Cost and Past Service Amortization payments were adjusted to reflect payment in twelve equal installments at the end of each month.
4. The methodology described in (3) was repeated in order to project costs to July 1, 2000 for the second year in the biennial budget cycle.

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX C**

**B. Actuarial Assumptions**

**Mortality:** 1983 Group Annuity Mortality Table.

Service connected deaths are assumed to comprise 20% of total Death for Hazardous Duty employees and 0% for all other employees.

**Investment Return:** 8.5%

**Payroll Growth:** 6.0%

**Salary Scale:** Varies by service as follows:

<u>Years</u>	<u>Rate</u>
0	14.00%
1	12.00
2	10.00
3	9.00
4	8.20
5	7.50
10	5.45
15	4.45
20	3.75
25	3.25

**Disability:**

**Annual Rate of Disability (Per 1,000 Lives)**

<u>Age</u>	<u>Hazardous Duty</u>	<u>All Others</u>
20	.90	.38
25	1.02	.43
30	1.16	.49
35	1.45	.61
40	2.04	.85
45	3.35	1.40
50	6.11	2.55
55	11.10	4.63
60	17.30	7.21

Service connected disabilities are assumed to comprise 50% of total Disability for Hazardous Duty employees and 20% for all other employees.



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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX C**

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**B. Actuarial Assumptions (cont'd)**

**Social Security Wage  
Base Increases:**

6.5% compounded annually.

**Retirement Ages:**

**Hazardous Duty Employees**

<u>Age</u>	<u>First Year Eligible</u>	<u>Thereafter</u>
47	40%	30%
50	40	30
55	60	30
60	80	50
62	100	100
65	100	100
70	100	100

**Non Hazardous Duty Employees**

<u>Age</u>	<u>First Year Eligible</u>	<u>Thereafter</u>
47	0%	0%
50	0	0
55	20	0
60	20	15
62	40	40
65	80	60
70	100	100

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**APPENDIX C**

***B. Actuarial Assumptions (cont'd)***

***Turnover:***

Three year select and ultimate rates as shown below for non-hazardous duty males; the same table with rates increased by a factor of 10% for females and decreased by a factor of 60% of hazardous duty employees.

<i>Age</i>	<i>Years of Participation</i>			
	<i>0</i>	<i>1</i>	<i>2</i>	<i>3+</i>
20	30	30	20	10
25	17	15	10	8
30	15	11	8	5
35	13	10	8	3
40	10	9	7	3
45	5	8	6	2
50	3	6	4	2
55	2	4	2	0
60	0	0	0	0

***Cost of Living Increases:***

3.0% per year for retirees between July 1, 1980 and June 30, 1997.  
4.0% per year for retirees prior to July 1, 1980.  
2.5% per year for retirees on or after July 1, 1997

***Asset Valuation:***

Adjusted market value: assets are written up (or down) by spreading recognition of gains and losses over five years, plus an additional write-up (or write-down) as necessary so that the final adjusted value is within 20% of market value.

*APPENDIX D*  
*ACTUARIAL SURPLUS TEST*

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**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**ACTUARIAL SURPLUS TEST AS OF JUNE 30, 1998**

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**APPENDIX D**

*Actuarial Surplus Test as of June 30, 1998*

Section 5-162(h) of the General Statutes of Connecticut provides that the Retirement Commission may grant additional cost of living adjustments for retired employees if an actuarial surplus exists. An actuarial surplus is deemed to exist if three criteria are met:

**I. Investment Income:**

Actual rate of return for the Fiscal Year ending June 30, 1998 must exceed the actuarial assumption of 8.50%.

A.	Market Value of Assets July 1, 1997	\$6,161,895,413
B.	Market Value of Assets June 30, 1998	7,025,610,619
I.	Investment Income for FY 1997-98	1,044,995,736

Actual Rate of Return for FY 1997-98 =  $2I / (A + B - I) = 17.21\%$

*Actual Rate of Return of 17.21% is more than the assumption of 8.50%, so the first criterion is met.*

**II. Assets Versus Liabilities:**

Market value of assets must exceed 50% of specified liabilities.

A.	Market Value of Assets June 30, 1998	\$7,025,610,619
B.	Specified Liabilities June 30, 1998	
	Liability for Retired Members	5,923,030,128
	Liability for Terminated Vested Members	60,984,654
	Active Member Contributions with Interest	391,418,643
	Total	<u>6,375,433,425</u>
C.	50% of Specified Liabilities	3,187,716,713

*Market Value of Assets exceeds 50% of Specified Liabilities, so the second criterion is met.*

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM**  
**ACTUARIAL SURPLUS TEST AS OF JUNE 30, 1998**

**APPENDIX D**

***Actuarial Surplus Test as of June 30, 1998***

**III. Unfunded Liability:**

Actual unfunded liability must be less than the projected unfunded liability five years from the determination date.

A. Actual Unfunded Liability June 30, 1998	\$3,922,542,209
B. Projected Unfunded Liability June 30, 2003	1,696,191,000

*Actual Unfunded Liability does not exceed Projected Unfunded Liability so the third criterion is not met and there is no actuarial surplus.*

**Projection of Unfunded Liability**

Section 5-162-h(b)(2) of the General Statutes of Connecticut specifies the means of calculating the Projected Unfunded Liability used in the third criterion of the Actuarial Surplus Test. The Projection reflects the actual unfunded liability as of December 31, 1983 adjusted for changes in actuarial assumptions and cost methods through the determination date. The following Projection reflects the following changes: data correction (June 30, 1987), change in actuarial assumptions (June 30, 1987), change in actuarial cost method (June 30, 1988), change in actuarial assumptions - interest rate only (June 30, 1989), change in actuarial cost method - amortization period only (June 30, 1992), change in actuarial assumptions (June 30, 1993).

<i>Year</i>	<i>(\$000)</i> <i>June 30</i> <i>Unfunded</i> <i>Liability</i>	<i>Year</i>	<i>(\$000)</i> <i>June 30</i> <i>Unfunded</i> <i>Liability</i>	<i>Year</i>	<i>(\$000)</i> <i>June 30</i> <i>Unfunded</i> <i>Liability</i>
1984	2,155,459	1999	1,745,116	2014	1,440,840
1985	2,201,605	2000	1,734,339	2015	1,404,198
1986	2,206,090	2001	1,722,646	2016	1,364,443
1987	2,524,556	2002	1,709,958	2017	1,321,309
1988	1,954,257	2003	1,696,191	2018	1,274,507
1989	1,432,333	2004	1,681,255	2019	1,223,727
1990	1,939,758	2005	1,665,050	2020	1,168,632
1991	1,930,524	2006	1,647,466	2021	1,108,853
1992	1,920,505	2007	1,628,388	2022	1,043,992
1993	1,794,192	2008	1,607,689	2023	973,619
1994	1,787,586	2009	1,585,229	2024	897,265
1995	1,780,419	2010	1,560,861	2025	814,419
1996	1,772,643	2011	1,534,422	2026	724,533
1997	1,764,205	2012	1,505,736	2027	627,005
1998	1,755,050	2013	1,474,610	2028	521,188