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October 17, 2002

Board of Trustees
Connecticut State Teachers' Retirement System
21 Grand Street
Hartford, Connecticut 06106

Re: Experience Study and Selection of Actuarial Assumptions

Dear Board Members:

At the September 12, 2002 Board Meeting, my associate, Mark Johnson, and I presented to you a report on the results of our study of the economic and demographic experience of the Retirement System for the period July 1, 1996 through June 30, 2001. We also presented a comparison of the effect on the State Contribution Rate using some of the many alternative combinations of assumptions.

To assist you in deciding which set of assumptions should be adopted for the next series of valuations, we thought it would be helpful to review the economic assumption alternatives that were presented in that report as well as some other variations. The format we will use is a set of questions and answers based on comments we have already received from various sources as well as our own ongoing deliberations and internal discussions.

A few points before we begin:

1. Recall that on page A-1 of our report we pointed out the risks of adopting an unrealistic set of actuarial assumptions:

“Understated costs can result in either an inability to pay benefits when due, or sharp increases in required contributions at some point in the future;

Overstated costs can result in either benefit levels that are kept below the level that could be supported by the computed rate, or an unnecessarily large burden on the current generation of members and taxpayers.”

2. The Actuarial Standards Board's Actuarial Standard of Practice No. 27 (ASOP No. 27) offers the following guidelines in selecting assumptions:

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"In choosing assumptions, there is no single right answer. The actuary's best-estimate assumption is generally represented by a range of values."

"Because no one knows what the future holds with respect to economic and other contingencies, the best an actuary can do is to use professional judgment to estimate possible future economic outcomes based on past experience and future expectations..."

"The actuary should not give undue weight to recent experience."

Question: What would the State Contribution be for the next several years if the actuary were to continue to use the current set of assumptions?

Answer: The June 30, 2000 actuarial valuation determined the State's Contribution Rate to be 7.64% of member payroll for the two-year period beginning July 1, 2001. Assuming all assumptions will be met exactly starting June 30, 2000, the State's Contributions (in millions of dollars) would be:

Fiscal Year	Contribution Dollars
2001-02	\$210.7
2002-03	221.2
2003-04	232.3
2004-05	243.9
2005-06	256.1
2006-07	268.9

Question: What would the results be if the Board adopted the proposed changes in the demographic assumptions, but decided to keep the current economic assumptions?

Answer: The State Contribution Rate would increase from 7.64% of member payroll to 9.89%. The results can be seen under **Scenario #1** on the attached table. It shows a comparison of the contribution dollar amounts shown above due to the 7.64% rate, and the contribution dollar amounts due to the 9.89% rate. Also shown in that table is the result if the 9.89% rate were phased-in over a 4-year period.

8.5% earnings
3%
4%

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Question: Are there other sets of assumptions that the Board should consider?

Answer: It is our understanding that the Investment Advisory Commission and the State Treasurer have not made any substantive changes in the overall investment policy and strategy used to invest the assets of the Teachers' Retirement System. Therefore, it can be argued that there are not compelling reasons at this time for the Board to change the long-term interest assumption from the current 8.5%. It should be noted that a significant number of statewide public retirement systems are current using a rate that is lower than 8.5%.

With this in mind, please turn to **Scenario #2** on the attached table, where we show results based on: Proposed new demographic assumptions, an 8.5% interest rate, a 4.0% rate of growth for the total member payroll, and a 3.0% cost-of-living rate for members who retired prior to September 1, 1992. Again we have displayed a comparison of results based on the current assumptions with the assumption set described in this paragraph. These new assumptions produced a State Contribution Rate of 7.89%. Results for both immediate recognition and phased-in recognition of the increase in the Contribution Rate are included.

Important Note: Please keep in mind that the "phase-in" applies to the increase in the Contribution Rate, not to the increase in the Contribution Dollars. While the Phased-In Rates in the last column appear to be only slightly higher than the current Rate of 7.64%, the member payrolls to which each is applied are growing at different rates: 5.0% under the current assumptions and 4.0% under the proposed assumptions.

Question: In spite of the above comments on the investment policy and strategy, suppose the Board were to lower the interest rate assumption from 8.5% to 8.25%, while keeping all of the other new assumptions described in the previous Question. What would be the results?

Answer: Please turn to **Scenario #3** on the attached table.

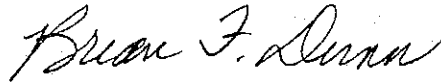
Question: What about other economic alternatives?

Answer: While there are in theory an infinite number of combinations of interest rates, member payroll growth rates, and COLA rates, we have only included three others as **Scenarios #4, #5, and #6**.

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Hopefully, this information will put the Board in a position to make its decision during today's meeting. This will enable us to complete the June 30, 2002 actuarial valuation and report the results to you next month.

Sincerely,

A handwritten signature in cursive script that reads "Brian F. Dunn".

Brian F. Dunn, ASA, EA, MAAA

BFD:lr

cc: Mark K. Johnson

Connecticut State Teachers Retirement System
Contribution Rate Comparison for Alternate Assumptions

Scenario #1 includes*: Interest Rate = 8.50%, Wage Inflation = 5.00%
and the COLA assumption for pre-92 retirees is 4.00%.

	6/30/2000 Valuation	Scenario #1	Phased-In Contribution	Phased-In Contribution Rate Used
Contribution rate	7.64%	9.89%		
Projected Contribution Dollar Amounts (Millions of \$)				
Fiscal Year				
2001-2002	\$210.7	N/A	N/A	N/A
2002-2003	221.2	N/A	N/A	N/A
2003-2004	232.3	\$300.7	\$249.4	8.20%
2004-2005	243.9	315.7	279.8	8.77%
2005-2006	256.1	331.5	312.7	9.33%
2006-2007	268.9	348.1	348.1	9.89%

Scenario #2 includes*: Interest Rate = 8.50%, Wage Inflation = 4.00%
and the COLA assumption for pre-92 retirees is 3.00%.

	6/30/2000 Valuation	Scenario #2	Phased-In Contribution	Phased-In Contribution Rate Used
Contribution rate	7.64%	7.89%		
Projected Contribution Dollar Amounts (Millions of \$)				
Fiscal Year				
2001-2002	\$210.7	N/A	N/A	N/A
2002-2003	221.2	N/A	N/A	N/A
2003-2004	232.3	\$230.9	\$225.4	7.70%
2004-2005	243.9	240.1	236.3	7.77%
2005-2006	256.1	249.7	247.8	7.83%
2006-2007	268.9	259.7	259.7	7.89%

*less plc
plc going up @ 1%
(lower rate)*

Scenario #3 includes*: Interest Rate = 8.25%, Wage Inflation = 4.00%
and the COLA assumption for pre-92 retirees is 3.00%.

	6/30/2000 Valuation	Scenario #3	Phased-In Contribution	Phased-In Contribution Rate Used
Contribution rate	7.64%	8.87%		
Projected Contribution Dollar Amounts (Millions of \$)				
Fiscal Year				
2001-2002	\$210.7	N/A	N/A	N/A
2002-2003	221.2	N/A	N/A	N/A
2003-2004	232.3	\$259.6	\$232.6	7.95%
2004-2005	243.9	270.0	251.2	8.26%
2005-2006	256.1	280.7	271.0	8.56%
2006-2007	268.9	292.0	292.0	8.87%

** All Scenarios include the changes for rates of mortality, withdrawal, retirement and the merit and seniority component of the salary scale as recommended in the recent Experience Study.*

Connecticut State Teachers Retirement System
Contribution Rate Comparison for Alternate Assumptions

**Scenario #4 includes*: Interest Rate = 8.25%, Wage Inflation = 4.25%
and the COLA assumption for pre-92 retirees is 3.25%.**

	6/30/2000 Valuation	Scenario #4	Phased-In Contribution	Phased-In Contribution
Contribution rate	7.64%	9.17%		
Projected Contribution Dollar Amounts (Millions of \$)				Rate Used
Fiscal Year				
2001-2002	\$210.7	N/A	N/A	N/A
2002-2003	221.2	N/A	N/A	N/A
2003-2004	232.3	\$270.9	\$237.0	8.02%
2004-2005	243.9	282.5	258.9	8.41%
2005-2006	256.1	294.5	282.2	8.79%
2006-2007	268.9	307.0	307.0	9.17%

**Scenario #5 includes*: Interest Rate = 8.00%, Wage Inflation = 4.00%
and the COLA assumption for pre-92 retirees is 3.00%.**

	6/30/2000 Valuation	Scenario #5	Phased-In Contribution	Phased-In Contribution
Contribution rate	7.64%	9.85%		
Projected Contribution Dollar Amounts (Millions of \$)				Rate Used
Fiscal Year				
2001-2002	\$210.7	N/A	N/A	N/A
2002-2003	221.2	N/A	N/A	N/A
2003-2004	232.3	\$288.2	\$239.7	8.19%
2004-2005	243.9	299.8	266.1	8.75%
2005-2006	256.1	311.8	294.3	9.30%
2006-2007	268.9	324.2	324.2	9.85%

**Scenario #6 includes*: Interest Rate = 7.50%, Wage Inflation = 3.50%
and the COLA assumption for pre-92 retirees is 3.00%.**

	6/30/2000 Valuation	Scenario #6	Phased-In Contribution	Phased-In Contribution
Contribution rate	7.64%	11.48%		
Projected Contribution Dollar Amounts (Millions of \$)				Rate Used
Fiscal Year				
2001-2002	\$210.7	N/A	N/A	N/A
2002-2003	221.2	N/A	N/A	N/A
2003-2004	232.3	\$329.5	\$246.9	8.60%
2004-2005	243.9	341.1	284.0	9.56%
2005-2006	256.1	353.0	323.5	10.52%
2006-2007	268.9	365.4	365.4	11.48%

** All Scenarios include the changes for rates of mortality, withdrawal, retirement and the merit and seniority component of the salary scale as recommended in the recent Experience Study.*

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**Payroll Projections Used In
Contribution Rate Comparisons**

	Assumed Wage Inflation		
	5.00%	4.25%	4.00%
6/30/2000 Valuation Pay	\$2,501.5	\$2,501.5	\$2,501.5
Projected pay for FY 2001-2002	2,757.9	2,718.6	2,705.6
Projected pay for FY 2002-2003	2,895.8	2,834.2	2,813.8
Projected pay for FY 2003-2004	3,040.6	2,954.6	2,926.4
Projected pay for FY 2004-2005	3,192.6	3,080.2	3,043.4
Projected pay for FY 2005-2006	3,352.2	3,211.1	3,165.2
Projected pay for FY 2006-2007	3,519.8	3,347.6	3,291.8