STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS

ACTUARIAL VALUATION COMPLETED AS OF JUNE 30, 1989

Chicago, Illinois
October 1989

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INTRODUCTION

The law governing the State Universities Retirement System requires the Actuary, as the technical advisor to the Board of Trustees, to make:

> an annual determination of the liabilities and reserves of this System and an annual determination of the amount and distribution of required employer contributions. (Chapter 108½, Par. 15-173).

The Wyatt Company, as Actuary, has completed a valuation as of June 30, 1989, based upon membership and financial data compiled by the administrative staff of the System, and the results of the valuation are presented in this report.

Sante Bill 95 and House Bill 332 were passed by the Illinois legislature in June and approved by the governor in August. These bills contained provisions affecting benefits and annual appropriation requirements. As these bills were approved after the end of the 1989 fiscal year, the accrued actuarial liability disclosed in this report does not reflect the amendments they contain. However, because the bills were approved before completion of the actuarial valuation, and because this valuation calculates the contribution requirements for the 1991 fiscal year, the annual funding requirements developed herein do reflect the provisions of these bills.

Senate Bill 95 contained a provision requiring annual State appropriations to be based on the projected unit credit normal cost method, and requiring the unfunded accrued actuarial liability to be funded as a level percent of payroll over a forty-year period, after an initial phase-in period ending June 30, 1996. The Board has adopted the entry age normal cost method for purposes of funding the System. Schedules showing appropriation requirements under both cost methods are included in this report.

The valuation was completed using the same actuarial assumptions and methods as used in our prior valuation. The assumptions, which were based on our experience review for the five years ending August 31, 1986, are described in detail beginning on page .

Changes Since Last Valuation

Senate Bill 95 and House Bill 332, passed in June and approved in August, affect the current funding of the System, but not the liabilities disclosed at June 30, 1989. Three changes which affect both costs and disclosed liabilities are: First, the System has provided the Actuary with additional individual data for non-retired members detailing reciprocal service information. This information was estimated in previous valuations. Second, the money purchase factors were revised retroactive to 1982 resulting in increased benefits to current annuitants. Third, 550 retirees and 40 survivors increased their benefits by purchasing military service credit. Changes in membership data and fund assets also affected the results of the valuation.

		June 30, 1988	June 30, 1989
1.	Number of Active Members	52,002	52,709
2.	Annualized Reported Earnings	$1,427,634,230	$1,536,743,149
	(Average)	($27,453)	($29,156)
3.	Number of Members Receiving Payments	16,475	17,261
4.	Annual Benefit Payments	$ 147,699,754	$165,201,676
	(Average)	($8,965)	($9,571)
5.	Assets: (a) Book Value	$2,698,000,610	$2,990,015,638
	(b) Market Value	$3,030,620,779	$3,582,384,488
6.	State Normal Cost	$ 108,619,063	$134,881,285
	(% Payroll)	(7.608%)	(8.777%)
7.	Accrued Actuarial Liability	$4,977,823,040	$5,597,211,055
	(Funded Percentage)	(54.2%)	(53.4%)
8.	Unfunded Accrued Actuarial Liability	$2,279,822,430	$2,607,195,417

The increase in the unfunded accrued actuarial liability (UAAL) of $327,372,987 was due to the following:

1.	Contribution being less than the amount necessary to fund normal cost and interest on the unfunded.			
	(a)	UAAL at 6/30/88		$ 2,279,822,430
	(b)	Contributions Due		
		(i)	Interest on the UAAL to 6/30/89	$ 182,385,794
		(ii)	Total Normal Cost	221,170,701
		(iii)	Early Retirement Option (ERO) payments	3,182,263
		(iv)	Service Credit Purchases	7,424,288
		(v)	Interest on Normal Cost and ERO payments to 6/30/89	9,063,962
		(vi)	Total Contributions Due	$ 423,227,008
	(c)	Contributions Paid		
		(i)	Participants (including ERO payments)	$ 132,153,246
		(ii)	State Appropriations	80,212,229
		(iii)	Employer ERO Payments	2,550,667
		(iv)	Reciprocity	338,202
		(v)	Federal, Trust Funds and Other	10,704,084
		(vi)	Interest on contributions to 6/30/89	8,864,459
		(vii)	Total Contributions Paid	$ 234,822,887
	(d)	Increase in the UAAL (b) minus (c)		$ 188,404,121
2.	Actuarial (Gains) Losses			
	(a)	(Gain) from investment return greater than 8%		$ (43,306,806)
	(b)	Loss from salary increases greater than 7%		$ 77,385,567
	(c)	Loss due to age and service retirement		$ 33,936,331
	(d)	Loss due to terminations		$ 19,879,931
	(e)	Loss from other sources		$ 4,414,261
3.	Non-recurring items			
	(a)	Increase due to reciprocal service data		$ 23,789,550
	(b)	Increase due to money purchase recalculations		$ 14,171,599
	(c)	Increase due to military service purchases		$ 8,698,433
4.	Total Increase			$ 327,372,987

STATE UNIVERSITIES RETIREMENT SYSTEM
APPROPRIATION REQUIREMENTS FOR
FISCAL YEAR JULY 1, 1990 - JUNE 30, 1991*

The law governing the System requires that the State shall make contributions to the System which, with employee contributions, investment income and other income of the System

> ...will be sufficient to meet the requirements of this Article in accordance with actuarial determinations. In no event shall employer contributions from State appropriations for any fiscal year be less than an amount which, when added to contributions from other sources, is sufficient to meet (1) the total accruing normal costs plus interest at the prescribed rate on the unfunded accrued liabilities or (2) the accruing requirements necessary to retain qualified status under Section 401(a) of the United States Internal Revenue Code[1], or any similar provision as successor thereof.
>
> 1 26 U.S.C.A. §401

The law defines normal cost as:

> ...the liability for pensions and other benefits which accrues to the system because of the credits earned for service rendered by the participants during the fiscal year and expenses of administering the system.

Section 401(a) of the Internal Revenue Code would require essentially the same contribution as required under (1) above, and this amount is shown as the required contribution. The cited Section does require a different minimum contribution for private plans. The "40-year amortization" amount shown for comparison purposes corresponds to the minimum requirements for private plans upon passage of ERISA. It may also be deemed the minimum amount required as expense pursuant to Accounting Principles Board Opinion No. 8, although any "balance sheet accruals" prior to June 30, 1990 are ignored.

Entry Age Cost Method*	% of Payroll(1)	Required Appropriation(1)
Normal Cost and Interest	23.648%	$404,384,000
Normal Cost and 40-Year Amortization(2)	24.426%	$417,687,000

(1) Based upon an assumed payroll of $1,710,000,000 for fiscal year July 1, 1990 - June 30, 1991.

(2) Assuming a starting date of July 1, 1989.

* The Board has adopted the Entry Age Normal actuarial cost method for purposes of funding the System, and the results under that cost method are shown in this exhibit.

STATE UNIVERSITIES RETIREMENT SYSTEM

APPROPRIATION REQUIREMENTS FOR

FISCAL YEARS 1991-1996

The law governing the System provides that:

Starting with ... fiscal year ... 1990, the State's contribution shall be increased incrementally over a 7-year period so that by ... fiscal year ... 1996, the minimum contribution ... shall be ... sufficient to meet the normal cost and amortize the unfunded liability over 40 years as a level percentage of payroll, determined under the projected unit credit actuarial cost method. (Chapter 108-1/2, Par. 15-155(a))

The required contribution rates and amounts are as follows:

Fiscal Year	Normal Cost	Amortization of Unfunded Liability	Total Required Rate	Assumed Payroll (Billions)	Total Required Contribution
1991	9.354%	(0.991%)	8.363%	$1.710	$143,007,000
1992	9.354%	0.672%	10.026%	1.799	180,368,000
1993	9.354%	2.336%	11.690%	1.894	221,409,000
1994	9.354%	3.999%	13.353%	1.993	266,125,000
1995	9.354%	5.662%	15.016%	2.098	315,036,000
1996	9.354%	7.325%	16.679%	2.208	368,272,000

Contribution levels are shown on a gross basis. The net State appropriation requirements can be determined by adjusting for such things as State Pension Fund appropriations and contributions from federal and trust funds.

The results are based on the projected unit credit actuarial cost method, and on the data provided, and assumptions used, for the June 30, 1989 actuarial valuations. In order to determine projected contribution rates and amounts the following additional assumptions and estimates were used:

(1) Covered payroll of $1,624,000,000 for fiscal year 1990.

(2) 5.25% per annum rate of increase in covered payroll.

(3) Total employer contributions of $108,803,947 for fiscal year 1990.

As of June 30, 1989, the unfunded accrued actuarial liability (UAAL) to be amortized was:

(1)	UAAL for purposes of disclosure	$2,226,327,330
(2)	Increase due to Senate Bill 95 and House Bill 332	373,452,795
(3)	Total	$2,599,780,125

METHOD OF CALCULATION

I. The contribution rates were determined in the following manner:

The projected unit credit actuarial cost method was used. The normal cost rate calculated for fiscal year 1990 was based on the results of the June 30, 1989 valuation and reflected the benefit increases included in Senate Bill 95 and House Bill 332. The difference between the total 1990 appropriation and the required normal cost was considered the 1990 amortization payment, and this payment was converted to a percentage of the expected 1990 payroll. An amortization schedule was then determined on the assumptions that:

(1) The unfunded accrued actuarial liability existing at June 30, 1989 (including the effect of the benefit increases in Senate Bill 95 and House Bill 332) would be completely amortized by June 30, 2035.

(2) The amortization rates for fiscal years 1991 - 1996 would not be uniform, but the rate for any one of these years would exceed the rate for the previous year by a uniform percentage of payroll.

(3) The amortization rates for fiscal years 1996 - 2035 would be a uniform percentage of payroll.

The normal cost rate calculated for fiscal year 1991 (based on the results of the June 30, 1989 valuation) was assumed to remain unchanged.

II. In the future, the amortization and normal cost schedules will be revised as follows:

(1) Gains and losses (including contribution shortfalls) for a fiscal year will affect contribution rates for the fourth following fiscal year.

(2) A change in actuarial assumptions adopted as of the end of a fiscal year will affect contribution rates for the second following fiscal year.

(3) Benefit increases passed by the General Assembly and approved by the Governor during any fiscal year will affect contribution rates for the second following fiscal year.

(4) Amortization schedules will be revised on the assumption that the amortization will be completed by June 30, 2035, that the rates for fiscal years after 1995 will be a uniform percentage of payroll, and that 1991 - 1996 is a phase-in period. There will be no phase-in period for changes in normal cost.

GASB: Value of Accrued Pension Benefit Obligation

Statement Number 5 of the Governmental Accounting Standards Board sets forth certain standards of financial accounting and reporting for the annual financial statements of a defined benefit pension plan.

This statement requires the disclosure of actuarial present value of credited projected benefits and the effect of any changes in actuarial assumptions or benefit provisions. The actuarial present value of credited projected benefits is a standardized measure of the accrued pension benefit obligation. It is the discounted amount of benefits estimated to be payable in the future as a result of employee service through the balance sheet date, computed by attributing an equal benefit amount (including the effects of projected salary increases and step-rate benefits) to each year of credited and expected future employee service.

This measure of the pension benefit obligation was computed for both this year's and last year's valuation, using the same assumptions as were used to process the respective valuations. Summarized below are key results for both years.

Actuarial Present Value (APV) of Credited Projected Benefits	June 30, 1988	June 30, 1989
Accumulated Contributions of current employees	$1,261,514,093	$1,374,963,865
Accumulated Contributions of inactive members	77,768,756	101,889,599
Payable to Retirees and Beneficiaries	1,498,942,681	1,677,093,887
Payable to Terminated Employees not yet receiving benefits - employer-financed portion	98,982,750	131,356,305
Payable to Vested Current Employees - employer-financed portion	1,621,650,368	1,843,159,429
Payable to Nonvested Current Employees - employer-financed portion	82,051,965	87,879,883
Total APV of Credited Projected Benefits	$4,640,910,613	$5,216,342,968
Net Assets available for benefits (Market value at June 30, 1989 is $3,582,384,488)	$2,698,000,610	$2,990,015,638
Unfunded APV of Credited Projected Benefits	$1,942,910,003	$2,226,327,330

Compared to the assets valued on the same basis as for funding purposes, the credited projected benefits are 57.3% funded compared with 58.1% last year. Changes in reporting procedures and benefits since the last valuation had the following effects on the actuarial present value of credited projected benefits.

1.	Increase due to reciprocal service data	20,259,186
2.	Increase due to money purchase recalculations	14,171,599
3.	Increase due to military service purchases	8,698,433

15 Year Projection

Based on the results of our valuation and the assumptions used therefor, we have projected what the valuation results will be for the next 15 years under both the Entry Age Normal and the Projected Unit Credit cost methods. It was assumed that total Employer Contributions (including monies from trust and Federal Funds) would be based on the funding requirements contained in Senate Bill 95. This bill calls for contributions based on the Projected Unit Credit Normal Cost method.

The results of the projections are shown in Table 4. Certain key results are summarized below. ($ amounts are in millions.)

	Fiscal Year Ending			
	6/30/89	6/30/94	6/30/99	6/30/04
Number of Active Members	52,708	52,708	52,708	52,708
Payroll	$1,543	$1,993	$2,574	$3,325
Employer Normal Cost	$117	$175	$226	$292
(% Payroll)	7.6%	8.8%	8.8%	8.8%
Assets (Book Value)	$2,990	$4,709	$7,793	$12,011
Entry Age Normal				
Actuarial Liability	$5,597	$9,100	$13,290	$18,791
(Funded %)	53.4%	51.7%	58.6%	63.9%
Value of Accrued Benefits	$4,984	$8,110	$11,817	$16,672
(Funded %)	60.0%	58.1%	65.9%	72.1%
Projected Unit Credit				
Actuarial Liability	$5,216	$8,465	12,329	17,343
(Funded %)	57.3%	55.6%	63.2%	69.3%

The effects of Senate Bill 95 and House Bill 332 are reflected beginning with the results of fiscal year 1990.

The remainder of this report is comprised of the following:

To the best of our knowledge, this actuarial statement is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

Respectfully submitted,

THE WYATT COMPANY

By S. Lynn Hill
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Consultant

By
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By
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Chicago, Illinois
October 1989

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Table 1

STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS

RESULTS OF ACTUARIAL VALUATION AS OF JUNE 30, 1989

MEMBER DATA

1. Number of Members:	
(a) Members Receiving Annuities	
(i) Retirement	13,132
(ii) Survivor (includes Prospective Widows and Widowers)	3,227
(iii) Disability	902
(b) Other Inactive Members	6,646
(c) Active	52,708
(d) Total	76,615
2. Annual Reported Earnings of Active Members	$1,536,743,149
3. Annual Annuity Payments Currently Being Made:	
(a) Retirement	$143,600,945
(b) Survivor	13,266,155
(c) Disability	8,334,576
(d) Total	$165,201,676

VALUATION RESULTS

4. Actuarial Liability for Members Receiving Annuities:	
(a) Retirement	$1,511,095,951
(b) Survivors	107,464,022
(c) Disability	58,533,914
(d) Total	$1,677,093,887
5. Actuarial Liability for Inactive Members	$233,245,904

	Normal Cost	Actuarial Liability
6. Active Members:		
(a) Pension Benefits	$114,598,245	$2,564,057,855
(b) Cost-of-Living Adjustments	35,127,649	595,267,231
(c) Death Benefits: (Excludes Refunds)	18,110,613	229,465,515
(d) Disability:		
(i) Accidental	612,665	3,062,694
(ii) Ordinary	8,454,946	78,411,416
(iii) Total	$9,067,611	$81,474,110
(e) Withdrawals and Refunds	67,155,957	216,606,553
(f) Expenses	12,610,140	---
(g) Total Actives	$256,670,215	$3,686,871,264

	Normal Cost**	Actuarial Liability**
7. TOTAL	$256,670,215	$5,597,211,055
8. Assets		$2,990,015,638
9. Unfunded Actuarial Liability		$2,607,195,417
10. Expected Employee Contributions	$121,788,930	
11. Annual Normal Cost to be Provided by the State (Percent of Pay)	$134,881,285 (8.777%)	

ANNUAL EXPENSE FOR FISCAL YEAR 1991

	Percent Of Payroll*	Amount*
12. "Interest Only Funding":		
(a) Normal Cost	8.777%	$150,087,000
(b) Interest on Unfunded	14.871%	254,297,000
(c) Total	23.648%	$404,384,000
13. "Forty Year Amortization" (from 7/1/89):		
(a) Normal Cost	8.777%	$150,087,000
(b) Contributions Towards Unfunded	15.649%	267,600,000
(c) Total	24.426%	$417,687,000

All figures have been adjusted by the appropriate interest factor for monthly contributions.

*Based on an assumed payroll of $1,710,000,000 for fiscal year 1991.

**For purposes of funding, both the normal cost and amortization requirements reflect the effect of Senate Bill 95 and House Bill 332. For purposes of disclosure, the actuarial liability shown does not reflect these bills.

Table 2

STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS

ACTUARIAL PRESENT VALUE OF
ACCUMULATED PLAN BENEFITS AT JUNE 30, 1989

	Vested	Non-Vested	Total
1. Participants Currently Receiving Payments	$1,677,093,887	---	$1,677,093,887
2. Inactive Members	233,245,904	---	233,245,904
3. Active Members:			
(a) Pension Benefits	1,798,348,144	65,834,143	1,864,182,287
(b) Cost-of-Living Adjustments	414,832,220	15,497,660	430,329,880
(c) Death Benefits: (Without Refunds)	187,814,503	19,501,621	207,316,124
(d) Disability:			
(i) Accidental	3,763,599	1,171,542	4,935,141
(ii) Ordinary	73,778,011	17,133,938	90,911,949
(iii) Total	$77,541,610	$18,305,480	$95,847,090
(e) Withdrawal and Refunds	414,427,747	61,637,221	476,064,968
(f) Total	$2,892,964,224	$180,776,125	$3,073,740,349
4. TOTAL	$4,803,304,015	$180,776,125	$4,984,080,140
5. Non-Retired Member Contributions with Interest:			
(a) Active			$1,374,963,865
(a) Inactive			101,889,599
(a) Total			$1,476,853,464

NOTES:

(1) Accumulated benefits were calculated in accordance with plan provisions in effect on June 30, 1989, based on the members' history of pay and service as of such date.

(2) Projected years of service were considered only in determining members' expected eligibility for particular benefits.

(3) Future automatic cost-of-living increases were recognized.

(4) The actuarial assumptions utilized were the same as those adopted for funding purposes.

Table 3

STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS

ACTUARIAL PRESENT VALUE OF CREDITED PROJECTED BENEFITS AT JUNE 30, 1989

	Vested	Non-Vested	Total
1. Participants Currently Receiving Payments	$1,677,093,887	---	$1,677,093,887
2. Inactive Members	233,245,904	---	233,245,904
3. Active Members:			
(a) Pension Benefits	1,983,763,362	69,114,711	2,052,878,073
(b) Cost-of-Living Adjustments	458,417,886	16,279,743	474,697,629
(c) Death Benefits: (Without Refunds)	199,546,797	10,721,836	210,268,633
(d) Disability:			
(i) Accidental	3,948,627	644,430	4,593,057
(ii) Ordinary	76,364,111	9,170,168	85,534,279
(iii) Total	$80,312,738	$9,814,598	$90,127,336
(e) Withdrawal and Refunds	416,465,727	61,565,779	478,031,506
(f) Total	$3,138,506,510	$167,496,667	$3,306,003,177
(g) Employee Contributions	1,295,347,081	79,616,784	1,374,963,865
(h) Employer Financed	1,843,159,429	87,879,883	1,931,039,312
4. TOTAL	$5,048,846,301	$167,496,667	$5,216,342,968

NOTES:

(1) Credited projected benefits were calculated in accordance with plan provisions in effect on June 30, 1989, based on the members' service as of such date and on the members' historical and projected pay.

(2) Projected years of service were considered only in determining members' expected eligibility for particular benefits.

(3) Future automatic cost-of-living increases were recognized.

(4) The actuarial assumptions utilized were the same as those adopted for funding purposes.

Table 4

STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS
FIFTEEN YEAR PROJECTION OF COSTS AND LIABILITIES
(All Dollar Amounts in Billions)

	Fiscal Year Ending 6/30							
	1989	1990	1991	1992	1993	1994	1999	2004
1. Number of Active Members	52,708	52,708	52,708	52,708	52,708	52,708	52,708	52,708
2. Total Payroll	$1.543	$1.624	$1.710	$1.799	$1.894	$1.993	$2.574	$3.325
3. Annual Benefit Payments	$.166	$.188	$.208	$.229	$.256	$.281	$.447	$.702
4. Entry Age Normal AAL	$5.597	$6.551	$7.130	$7.748	$8.402	$9.100	$13.290	$18.791
(Retired Lives Reserves)	(1.677)	(2.003)	(2.184)	(2.433)	(2.632)	(2.861)	(4.460)	(7.001)
5. Assets (Book)	$2.990	$3.244	$3.538	$3.877	$4.264	$4.709	$7.793	$12.011
6. Unfunded Actuarial Liability	($2.607)	($3.307)	($3.592)	($3.871)	($4.139)	($4.391)	($5.497)	($6.780)
(Funded Percentage)	53.4%	49.5%	49.6%	50.0%	50.7%	51.7%	58.6	63.9%
7. Employee Contributions	$.132	$.130	$.137	$.144	$.152	$.160	$.206	$.266
8. State Normal Cost	$.117	$.143	$.150	$.158	$.166	$.175	$.226	$.292
(% Payroll)	7.6%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%
9. State Contribution	$.094	$.109	$.143	$.180	$.221	$.266	$.429	$.555
(% Payroll)	6.1%	6.7%	8.4%	10.0%	11.7%	13.4%	16.7%	16.7%
10. Value of Accrued Benefits	$4.984	$5.849	$6.363	$6.911	$7.491	$8.110	$11.817	$16.672
(Funded Percentage)	60.0%	55.5%	55.6%	56.1%	56.9%	58.1%	65.9%	72.1%
11. Projected Unit Credit AAL	$5.216	$6.097	$6.636	$7.211	$7.818	$8.465	$12.329	$17.343
(Funded Percentage)	57.3%	53.2%	53.3%	53.8%	54.5%	55.6%	63.2%	69.3%

Total payroll is assumed to increase at the rate of 5.25% per year.
Expenses estimated at $13 million for FY90; increasing at the same rate as total payroll thereafter.
Beginning with FY91 State Contributions based on the requirements of Senate Bill 95.
Employee Contributions include qualifying payments.
Total Payroll, Benefit Payments, Contributions and Normal Cost represent cash flow for the year just ended.
All other dollar amounts are values at the end of the fiscal year.
Items 4., 10., and 11. reflect the effect of Senate Bill 95 and House Bill 332 beginning with FY90.

Table 5

STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS

ANALYSIS OF FINANCIAL EXPERIENCE

Gains and losses in Accrued Actuarial Liability for Fiscal Year ending June 30, 1989.

Activity	Gain (Loss)
1. Actuarial Gains and Losses	
(a) Age & Service Retirements	($ 33,936,331)
(b) Incidence of Disability	667,734
(c) In-Service Mortality	(4,026,464)
(d) Retiree Mortality	(254,878)
(e) Disabled Mortality	(729,698)
(f) Termination of Employment	(19,879,931)
(g) Salary Increases	(77,385,567)
(h) Investment Income	43,306,806
(i) Other	(70,955)
(j) Total Actuarial Gain (Loss)	($ 92,309,284)
2. Contribution Income	($188,404,121)
3. Non-Recurring Items (Plan amendments)	
(a) Reciprocal Service Data	($ 23,789,550)
(b) Money Purchase Recalculations	(14,171,599)
(c) Military Service Purchases	(8,698,433)
4. Total Financial Gain (Loss)	($327,372,987)

ACTUARIAL COST METHOD

An entry age normal cost method is used. Under this method, the projected pensions at retirement age are first determined and the values thereof at the individual member's entry age or hire age are determined. The values so determined are divided by the value at entry age of all future compensation payable to the member to determine the normal cost as a level percentage of covered pay. The normal cost for a particular year is that percentage of covered compensation for the year.

The actuarial liability at any point in time is the value of the projected pensions at that time, less the value of future normal costs.

For ancillary benefits for active and inactive members, in particular for disability benefits, death and survivor benefits, termination benefits and the post-retirement increments, the same procedure as outlined above is followed.

Estimated annual administrative expenses are added to the normal cost.

ACTUARIAL ASSUMPTIONS

Mortality: 1986 Projected Experience Table, a table based on experience underlying the 1971 Group Annuity Mortality Table, without margins, with a projection for mortality improvements to 1986, with a three year setback for males and a two-year setback for females.

Interest: 8% per annum, compounded annually.

Termination: Illustrative rates of withdrawal from the plan are as follows:

Age	Males	Females
20	0.184	0.224
25	0.152	0.188
30	0.120	0.152
35	0.087	0.116
40	0.059	0.083
45	0.041	0.059
50	0.029	0.045
55	--	--

It is assumed that terminated employees will not be rehired.

Salary Increases: 7% per annum, compounded annually.

Disability Rates: Incidence of disability amongst employees.

Age	Males	Females
20	0.0002	0.0006
25	0.0002	0.0007
30	0.0004	0.0010
35	0.0007	0.0014
40	0.0011	0.0019
45	0.0019	0.0025
50	0.0032	0.0035
55	0.0055	0.0052
60	0.0094	0.0080

5% of disabilities amongst active employees are assumed to be caused by "on-the-job" accidents where a qualifying workers' compensation award is granted. During the first two years of service, one quarter of disabilities are assumed to arise as a result of an accident.

Employees receiving a disability allowance are assumed to recover or die in accordance with the following tables:

Age	Rate of Recovery	Rate of Mortality
20	0.591	0.044
25	0.478	0.044
30	0.377	0.044
35	0.288	0.044
40	0.211	0.044
50	0.094	0.045
60	0.024	0.053
70	0.001	0.075
80	--	0.130
90	--	0.240

Retirement Rates: General employees are assumed to retire at age 62. Police and firefighters are assumed to retire upon the attainment of age 55 and completion of twenty years of service, or at age 62 if earlier.

Assets: Assets available for benefits are used at book value.

Expenses: As estimated and advised by SURS staff, based on current expenses with an allowance for expected increases.

Marital Status: Employees are assumed to be married in accordance with the following table:

Age	Males	Females
20	25%	40%
30	70%	75%
40	80%	80%
50	85%	80%
60	85%	70%

Spouse's Age: The female spouse is assumed to be three years younger than the male spouse.

Remarriage Rates: The surviving spouses of deceased employees are assumed to remarry in accordance with the following table:

Age	Rate of Remarriage	Age	Rate of Remarriage
20	0.145	40	0.029
25	0.095	45	0.019
30	0.060	50	0.012
35	0.041	55	0.007

Children:

It is assumed that married members have 2.0 children one year apart in age.

The age of the youngest child of a deceased employee at his date of death is assumed to be as follows:

Age At Death Of Employee	Age of Youngest Child
20	0
25	1
30	3
35	5
40	7
45	9
50	12
55	15
60	18

Effective Rate of Interest:

The rate of interest credited on member contributions is 7.5% for FY89 and is assumed to be 8% for each fiscal year thereafter.

Earnings Data:

If earnings were not available, the annual salary was assumed to be $25,100.

Procedure for Annualizing Earnings:

A factor of 1.206 is applied to the September 1 - June 30 salaries provided by the System to estimate total salaries for the period September 1 - August 31.

STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS

The following is a summary of the major provisions of the State Universities Retirement System as in effect on the date of the valuation (6/30/89).

Membership:

The System covers faculty and non-academic permanent employees of State Universities and Colleges, Community Colleges, State Scientific Surveys and other related agencies.

Employees hired after age 68, employed less than 50% full-time or employed on a temporary basis at less than full-time and attending classes with an employer are ineligible to participate.

Member Contributions:

8% of gross earnings. 6-1/2% of the 8% contributions are designated for retirement annuities, 1/2% for automatic annual increases and 1% for survivor benefits. Police officers and firefighters contribute 9-1/2% of earnings. The additional 1-1/2% is a normal retirement contribution.

Interest Credited on member Contributions:

The interest rate credited is fixed by the Board and has been 8% in recent years. (For FY89 it was 7-1/2%.) For purposes of lump sum payments to former members, the interest rate is 4-1/2%.

Normal Retirement:

Members are eligible for normal retirement after thirty-five years of covered service, after eight years of covered service and age 60, or after five years of covered service and age 62. Policemen and firemen are eligible for normal retirement at age 55 with twenty years of service, or at age 50 with twenty-five years of service.

The annuity payable is based on the largest of three formulas:

(1) The following percentages of "average earnings":

		General	Police & Firemen
(a)	For each of the first 10 years of service	1.67%	2.25%
(b)	For each of the next 10 years of service	1.90%	2.50%
(c)	For each of the next 10 years of service	2.10%	2.75%
(d)	For each year of service over 30	2.30%	2.75%

Average earnings are the average of the highest earnings for any four consecutive years. Optionally, for all employees except academic employees paid on other than a twelve-month basis, average earnings may be based on the forty-eight consecutive calendar months ending with the last day of employment. A lump sum payment for up to 56 days of accrued vacation may be included in this computation.

(2) The actuarial equivalent of 2.4 times the accumulated member contributions for retirement annuities (6-1/2% of earnings for ordinary members, 8% of earnings for police officers and firefighters). The actuarial equivalent assumes a constant annuity payable for life.

(3) For each year of service up to a maximum of thirty years, if employed one-half time or more, the following monthly amount based on average earnings:

"Average Annual Earnings"

Under $3,500	$ 8
$3,500 - $4,500	9
$4,500 - $5,500	10
$5,500 - $6,500	11
$6,500 - $7,500	12
$7,500 - $8,500	13
$8,500 - $9,500	14
$9,500 and above	15

For members first participating hired after September 14, 1977, the maximum annuity under (1) or (2) is 75% of average earnings. The maximum is 80% of average earnings for members who participated on or before September 14, 1977.

Early Retirement:

Members are eligible for early retirement after 8 years of service and age 55 but the annuity calculated under formula (1) or (3) above is reduced by 1/2% for each month such retirement precedes age 60.

Early Retirement Without Discount:

A member may retire between the ages of 55 and 60 with at least 8, but not more than 35 years service credit, without the 1/2 of 1% reduction provided:

(1) The member does so between June 1, 1981 and September 1, 1992.

(2) The member retires within 6 months of the last day of employment.

(3) The member and the employer make one-time lump sum payments to the Retirement System based upon the member's highest full-time annual salary rate during the 4-year average salary period. The member pays 7% of such salary rate for each year or fraction of a year prior to age 60 or for each year or fraction of a year that his service credit is less than 35 years, whichever is less. The employer payment is 20% of the salary rate for each year or fraction of a year prior to age 60.

The number of members using this provision may be limited, at the option of the employer, to no less than 15% of those eligible during any year. The right to participate is allocated among those applying on the basis of seniority in the service of the employer.

Disability:

Members with two years of covered service who are unable to perform their duties because of illness or any amount of covered service if because of an accident, are eligible for disability after sixty days of disability. Pregnancy and childbirth are considered a disability.

The amount of the disability benefit is as follows:

(1) 50% of basic compensation at disability or 50% of average earnings for the 24 months preceding disability, whichever is greater, payable until the total benefits paid equal 50% of the total earnings in covered service, but in no event after September 1 following the employee's 70th birthday. In case of disability caused by an on-the-job accident, where workers' compensation or occupational disease payments are granted, the 50% of total earnings limitation does not apply until the employee attains age 70.

(2) After cessation of the benefit in (1), members who had 8 years of covered service will receive the normal retirement benefit commencing at or after age 55 (with no reduction for early retirement) if the member continues to be disabled.

The disability benefit will cease upon death or recovery.

Disability Retirement Allowance:

If a member's disability benefits are discontinued due to the 50% of total earnings limitation, the member is entitled to a disability retirement allowance of 35% of the basic compensation which was payable at the time the disability began, provided at least two licensed and practicing physicians appointed by the Board certify that the member has a medically determined physical or mental impairment which would prevent him/her from engaging in any substantial gainful activity, and which can be expected to result in death, or which has lasted or can be expected to last for a continuous period of not less than twelve months.

The disability retirement allowance is payable for life unless the member is able to accept substantial gainful employment, or elects to receive a retirement annuity.

Death Benefits Before Retirement:

Upon death of a participating employee* with one and one-half years of covered service, or of a former member with ten years of covered service, the following amounts are paid to the member's survivors:

(1) A death benefit equal to the retirement contributions (7% for general employees, 8-1/2% for police and firefighters) and interest, plus

(2) A lump sum payment of $1,000, plus

(3) A monthly survivor's annuity equal to the greater of 50% of the member's accrued normal retirement benefit or the following amounts if greater:

  (i) 30% of average earnings to a spouse, child or parent, up to $400 monthly.

  (ii) 60% of average earnings to a spouse and 1 child, up to $600 monthly.

  (iii) 80% of average earnings to a spouse and 2 or more children, up to $600 monthly.

Survivor's benefits are payable until children attain age 18, to a spouse after age 50 and a dependent parent after age 55. The spouse's benefit is payable at any age while children are under 18 and living with the spouse. If death occurs after termination of employment, the monthly survivors annuity may not exceed 80 percent of the earned retirement annuity.

If there are no dependent survivors, the member did not have the necessary service or if the dependent survivors so elect in lieu of any other benefits, the following amounts will be paid.

(1) A refund of all contributions and interest, and

(2) If death occurred while a participating employee*

  (i) to a dependent beneficiary an amount equal to the employee's final annual rate of earnings, but not less than $2,000 nor more than $5,000.

  (ii) to a nondependent beneficiary a lump sum payment of $2,500.

* The recipient of a disability benefit is a participating employee. The recipient of a disability retirement allowance is not.

Death Of An Annuitant:

Upon the death of an annuitant receiving a retirement annuity or disability retirement annuity, a lump sum benefit of $1,000 is payable to the member's spouse, children or dependent parent. In addition, a survivor's annuity as outlined above is payable. If no survivor annuity is payable, a minimum death benefit of $1,000 or an amount equal to the excess of the member's contributions and interest at retirement over the benefits paid is payable.

Automatic Increases:

Retirement benefits are increased annually after retirement by 3% of the original retirement annuity. The increase is not compounded and does not apply to survivor's or disability benefits. The first automatic annual increase in retirement annuity is paid on the January 1st following the annuitant's retirement date, and is based on the number of completed months that have elapsed since retirement began.

Termination of Service:

A lump sum refund of all member contributions and interest (at 4-1/2%) will be made. If a member has 5 years of covered service and does not apply for a refund, a normal retirement benefit will be payable at age 62.