

STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS

ACTUARIAL VALUATION COMPLETED AS OF AUGUST 31, 1986

Chicago, Illinois
December, 1986

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THE *Wyatt* COMPANY

ACTUARIES AND CONSULTANTS

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December 19, 1986

Board of Trustees and Executive Director
State Universities Retirement System
50 Gerty Drive
Champaign, Illinois 61820

We have completed the annual actuarial valuation of the assets and liabilities of the State Universities Retirement System of Illinois as of August 31, 1986. This valuation was made using actuarial assumptions which were changed from the prior year.

Pursuant to the law establishing the System, we reviewed the experience under the System for the last five years as it relates to the actuarial assumptions used in the valuation. Based on the results of this study, the assumptions were revised to reflect more optimistic economic conditions; the salary increase assumption was lowered from 8 percent per annum to 7 percent while the investment return assumption is unchanged at 8 percent per annum. Certain other changes were made to the demographic assumptions (withdrawal and mortality rates) to better reflect experience. We believe that in the aggregate, these revised assumptions relate reasonably to the past and anticipated experience of the plan.

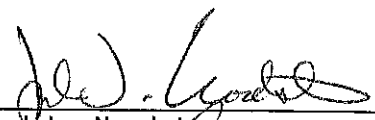
A contribution rate has been determined using the entry age normal cost method providing for the current cost (normal cost) plus interest on the unfunded accrued actuarial liability. As the normal cost is expected to remain level, over time, as a percentage of payroll whereas the interest charge would be a fixed dollar amount, the total contribution rate can be expected to decrease as a percentage of payroll. Employer contributions in recent years have been insufficient to meet this financing objective, resulting in increases in the unfunded accrued actuarial liability.

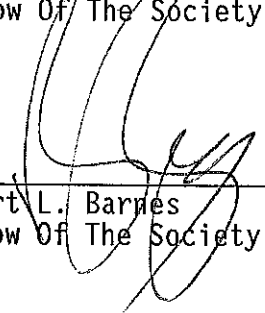
For purposes of determining the contribution rate, assets have been valued at amortized cost value. The liabilities have been valued based on employee data which is supplied by the administrative staff of the System and verified by the System's auditor. We have made additional tests to ensure its accuracy. There have been no substantive changes in the benefits provided by the System since the last valuation.

In our opinion, the following schedule of valuation results fairly present the financial condition of the State Universities Retirement System of Illinois as of August 31, 1986. The contribution rate determined complies with the applicable law in force as of the valuation date.

THE WYATT COMPANY

BY 
S. Lynn Hill
Actuarial Assistant

BY 
Lloyd L. Nordstrom
Fellow Of The Society Of Actuaries

BY 
Robert L. Barnes
Fellow Of The Society Of Actuaries

STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS

ACTUARIAL VALUATION COMPLETED AS OF AUGUST 31, 1986

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 108 1/2, Par. 15-173).

The Wyatt Company, as Actuary, has completed a valuation as of August 31, 1986, 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. In addition to the annual valuation, we have completed the five year experience study required under the law. The results of that study are presented in a separate report. A revised set of actuarial assumptions were used for this valuation reflecting the results of that experience study; the net effect of the change in assumptions was a decrease in the costs and liabilities. The revised assumptions are described in detail beginning on page 16.

Changes Since Last Valuation

SURS costs and liabilities have not been affected by legislation since the last valuation. The changes in the results of the valuation are due to changes in membership data and fund assets, and to changes in the actuarial assumptions.

Summarized below are certain important results for both years.

	<u>August 31, 1985</u>	<u>August 31, 1986</u>
1. Number of Active Members	48,447	51,235
2. Reported Earnings (Average)	\$1,141,927,203 (\$23,571)	\$1,275,917,532 (\$24,903)
3. Number of Members Receiving Payments	13,460	14,468
4. Annual Benefit Payments (Average)	\$ 99,722,006 (\$7,409)	\$ 113,482,139 (\$7,844)
5. Assets:		
(a) Book Value	\$1,752,291,817	\$2,257,974,785
(b) Market Value	\$1,903,413,731	\$2,527,687,306
6. State Normal Cost (% Payroll)	\$ 100,237,157 (8.778%)	\$ 97,177,699 (7.616%)
7. Accrued Actuarial Liability (Funded Percentage)	\$3,761,855,880 (46.6%)	\$4,182,178,347 (54.0%)
8. Unfunded Accrued Actuarial Liability	\$2,009,564,063	\$1,924,203,562

The decrease in the unfunded accrued actuarial liability (UAAL) of \$85,360,501 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 8/31/85	\$2,009,564,063
	(b) Contributions Due	
	(i) Interest on the UAAL to 8/31/86	\$ 160,765,125
	(ii) Total Normal Cost	191,617,346
	(iii) Early Retirement Option (ERO) payments	3,057,974
	(iv) Interest on Normal Cost and ERO payments to 8/31/86	<u>7,787,013</u>
	(v) Total Due	\$ 363,227,458
	(c) Contributions Paid	
	(i) Participants	\$ 110,844,617
	(ii) Employing State Agencies	75,457,695
	(iii) State Pension Fund	4,592,872
	(iv) Reciprocity	363,124
	(v) Federal, Trust Funds and Other	14,332,637
	(vi) Interest on contributions to 8/31/86	<u>8,223,638</u>
	(vii) Total Paid	\$ 213,814,583
	(d) Increase in the UAAL (b) minus (c)	\$ 149,412,875
2.	Actuarial (Gains) Losses	
	(a) (Gain) from investment return greater than 8%	(\$ 291,534,349)
	(b) Loss from salary increases greater than 8%	\$ 69,083,701
	(c) Loss from other sources	\$ 31,790,301
3.	(Decrease) in the UAAL due to change in the actuarial assumptions	(\$ 44,113,029)
4.	Total (Decrease)	(\$ 85,360,501)

APPROPRIATION REQUIREMENTS FOR
FISCAL YEAR SEPTEMBER 1, 1986 - AUGUST 31, 1987

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 State Internal Revenue Code¹, 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 September 1, 1986 are ignored.

<u>Basis</u>	<u>% of Payroll</u> ⁽¹⁾	<u>Required Appropriation</u> ⁽¹⁾
Normal Cost and Interest	19.260%	\$245,742,384
Normal Cost and 40 Year Amortization ⁽²⁾	19.822%	\$252,910,930

(1) Based upon an assumed payroll of \$1,275,917,532 for fiscal year September 1, 1986 - August 31, 1987.

(2) Assuming a starting date of September 1, 1986.

GASB: Value of Accrued Pension Benefit Obligation

The Governmental Accounting Standards Board has adopted a statement of governmental accounting standards which sets forth certain standards of financial accounting and reporting for the annual financial statements of a defined benefit pension plan, effective for plan years beginning after December 15, 1986.

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 disclosure 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 of Credited Projected Benefits	<u>August 31, 1985</u>	<u>August 31, 1986</u>
Accumulated Contributions of current employees	\$ 927,746,670	\$1,058,842,485
Accumulated Contributions of inactive members	64,183,991	75,906,956
Payable to Retirees and Beneficiaries	984,656,297	1,145,899,388
Payable to Terminated Employees not yet receiving benefits employer-financed portion	114,646,012	113,996,315
Payable to Vested Current Employees - employer-financed portion	1,381,997,801	1,429,661,090
Payable to Nonvested Current Employees - employer-financed portion	<u>75,865,491</u>	<u>61,694,395</u>
Total APV of Credited Projected Benefits	\$3,549,096,262	\$3,886,000,629
Net Assets available for benefits (Market value at August 31, 1986 is \$2,527,687,306)	\$1,752,291,817	\$2,257,974,785
Unfunded APV of Credited Projected Benefits	\$1,796,804,445	\$1,628,025,844

Compared to the assets valued on the same basis as for funding purposes, the credited projected benefits are 58.1% funded compared with 49.4% last year. This increase reflects the net effect of a gain due to investment performance being larger than actuarial losses from other sources, and to a decrease in the actuarial present value of credited projected benefits of \$147,191,466 resulting from a change in the actuarial assumptions.

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 the Entry Age Normal Cost method. The projection was completed on the assumption that the State makes contributions equal to 100% of the estimated annual benefit payments (excluding refunds) and administrative expenses, beginning with fiscal year 1987.

The results of the projection are shown in Table 4. Certain key results are summarized below. (\$ amount are in millions.)

	<u>Fiscal Year Ending</u>			
	<u>8/31/86</u>	<u>8/31/91</u>	<u>8/31/96</u>	<u>8/31/01</u>
Number of Active Members	51,235	51,235	51,235	51,235
Payroll	\$1,315	\$1,643	\$2,093	\$2,664
Normal Cost	\$ 115	\$ 135	\$ 184	\$ 247
(% Payroll)	(8.8%)	(8.2%)	(8.8%)	(9.3%)
Actuarial Liability	\$4,182	\$6,689	\$9,869	\$14,051
Assets (Book Value)	\$2,258	\$3,980	\$6,694	10,927
(Funded %)	(54.0%)	(59.5%)	(67.8%)	(77.8%)
<u>FASB #35</u>				
Value of Accrued Benefits	\$3,702	\$5,892	\$8,896	\$12,913
(Funded %)	(61.0%)	(67.6%)	(75.2%)	(84.6%)

The remainder of this report is comprised of the following:

Table 1	-	Results of Actuarial Valuation
Table 2	-	Value of Accumulated Plan Benefits
Table 3	-	Value of Credited Projected Benefits (GASB)
Table 4	-	15 Year Projection
Table 5	-	Analysis of Financial Experience
		Description of Actuarial Method and Assumptions
		Summary of Plan Provisions

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

Respectfully submitted,

THE WYATT COMPANY

By *S. Lynn Hill*
S. Lynn Hill
Actuarial Assistant

By *Lloyd L. Nordstrom*
Lloyd L. Nordstrom
Fellow of The Society of Actuaries

By *Robert L. Barnes*
Robert L. Barnes
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Chicago, Illinois
December 1986

Table 1

STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS

RESULTS OF ACTUARIAL VALUATION COMPLETED AS OF AUGUST 31, 1986

MEMBER DATA

1.	Number of Members	
	(a) Members Receiving Annuities	
	(i) Retirement	10,809
	(ii) Survivor (includes prospective widows and widowers)	2,850
	(iii) Disability	809
	(b) Other Inactive Members	5,226
	(c) Active	<u>51,235</u>
	(d) Total	70,929
2.	Annual Reported Earnings of Active Members	\$1,275,917,532
3.	Annual Annuity Payments Currently Being Made	
	(a) Retirement	\$ 96,204,913
	(b) Survivor	10,039,763
	(c) Disability	<u>7,237,463</u>
	(d) Total	\$113,482,139

VALUATION RESULTS

4.	Actuarial Liability for Members Receiving Annuities:		
	(a) Retirement		\$1,013,249,742
	(b) Survivors		80,174,381
	(c) Disability		<u>52,475,265</u>
	(d) Total		\$1,145,899,388
5.	Actuarial Liability for Inactive Members		\$189,903,271
		<u>Normal Cost*</u>	<u>Actuarial Liability</u>
6.	Active Members:		
	(a) Pension Benefits	\$ 95,479,891	\$1,992,247,290
	(b) Cost-of-Living Adjustments	21,059,101	433,443,391
	(c) Death Benefits (excludes refunds)	12,234,013	182,104,810
	(d) Disability		
	(i) Accidental	519,803	2,452,479
	(ii) Ordinary	7,041,881	63,332,121
	(iii) Total	7,561,684	65,784,600
	(e) Withdrawals and Refunds	51,606,537	172,795,597
	(f) Expenses	<u>9,945,000</u>	---
	(g) Total Actives	\$197,886,226	<u>\$2,846,375,688</u>

(Table 1 con't.)

	<u>Normal Cost*</u>	<u>Actuarial Liability</u>
7. Total	\$197,886,226	\$4,182,178,347
8. Assets		\$2,257,974,785
9. Unfunded Accrued Actuarial Liability		\$1,924,203,562
10. Expected Employee Contributions	\$100,708,527	
11. Annual Normal Cost To Be Provided by the State (Percent of Payroll)	\$97,177,699 7.616%	

Annual Expense*

	<u>Percent Of Payroll</u>	<u>Amount</u>
12. "Interest Only Funding":		
(a) Normal Cost	7.616%	\$ 97,177,699
(b) Interest on Unfunded	11.644%	148,564,685
(c) Total	19.260%	\$245,742,384
13. "Forty Year Amortization" (from 9/1/86):		
(a) Normal Cost	7.616%	\$ 97,177,699
(b) Contribution Towards Unfunded	12.206%	155,733,231
(c) Total	19.822%	\$252,910,930

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

STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS

ACTUARIAL PRESENT VALUE OF
ACCUMULATED PLAN BENEFITS AT AUGUST 31, 1986 (FASB #35)

	<u>Vested</u>	<u>Non-Vested</u>	<u>Total</u>
1. Participants Currently Receiving Payments	\$1,145,899,388	---	\$1,145,899,388
2. Inactive Members	\$ 189,903,271	---	\$ 189,903,271
3. Active Members:			
(a) Pension Benefits	\$1,388,121,354	\$ 51,302,992	\$1,439,424,346
(b) Cost-Of-Living Adjustments	300,128,777	11,345,041	311,473,818
(c) Death Benefits (excludes refunds)	149,474,072	18,125,096	167,599,168
(d) Disability:			
(i) Accidental	3,060,558	1,003,826	4,064,384
(ii) Ordinary	59,379,050	13,968,148	73,347,198
(iii) Total	62,439,608	14,971,974	77,411,582
(e) Withdrawals and Refunds	<u>319,143,653</u>	<u>51,006,631</u>	<u>370,150,284</u>
(f) Total Actives	\$2,219,307,464	\$146,751,734	\$2,366,059,198
4. Total	\$3,555,110,123	\$146,751,734	\$3,701,861,857
5. Non-Retired Member Contributions With Interest			
(a) Active			\$1,058,842,485
(b) Inactive			75,906,956
(c) Total			\$1,134,749,441

NOTES:

- (1) Accumulated benefits were calculated in accordance with plan provisions in effect on August 31, 1986, 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 AUGUST 31, 1986 (GASB)

	<u>Vested</u>	<u>Non-Vested</u>	<u>Total</u>
1. Participants Currently Receiving Payments	\$1,145,899,388	--	\$1,145,899,388
2. Inactive Members	189,903,271	--	189,903,271
3. Active Members			
(a) Pension Benefits	1,542,919,383	51,129,258	1,594,048,641
(b) Cost-of-Living Adjustments	334,240,187	11,307,985	345,548,172
(c) Death Benefits (excludes refunds)	158,840,381	8,668,564	167,508,945
(d) Disability:			
(i) Accidental	3,214,832	513,631	3,728,463
(ii) Ordinary	61,987,171	6,904,452	68,891,623
(iii) Total	65,202,003	7,418,083	72,620,086
(e) Withdrawals and Refunds	321,430,969	49,041,157	370,472,126
(f) Total	2,422,632,923	127,565,047	2,550,197,970
(g) Employee Contributions	992,971,833	65,870,652	1,058,842,485
(h) Employer Financed	1,429,661,090	61,694,395	1,491,355,485
4. Total	\$3,758,435,582	\$127,565,047	\$3,886,000,629

NOTES:

- (1) Credited projected benefits were calculated in accordance with plan provisions in effect on August 31, 1986, based on the members' history of pay and service as of such date.
- (2) Projected years of service and future pay increases were considered in determining benefits ultimately payable. An equal benefit amount was then attributed to each year of credited and expected future employee service. The values shown are those attributed to credited service.
- (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
 (Assuming State Contributions Continue On Current Basis)
 (All Dollar Amounts in Billions)

	Fiscal Year Ending 8/31							
	1986	1987	1988	1989	1990	1991	1996	2006
1. Number of Active Members	51,235	51,235	51,235	51,235	51,235	51,235	51,235	51,235
2. Annual Compensation	\$1.315	\$1.365	\$1.426	\$1.493	\$1.566	\$1.643	\$2.093	\$ 2.664
3. Annual Benefit Payments & Administrative Expense	\$.134	\$.150	\$.170	\$.189	\$.207	\$.232	\$.363	\$.564
4. Actuarial Liability (Retired Life Reserves)	\$4.182 (1.146)	\$4,766 (1.350)	\$5.200 (1.518)	\$5.667 (1.671)	\$6.162 (1.886)	\$6.689 (2.058)	\$9.869 (3.295)	\$14.051 (5.239)
5. Assets (Book)	\$2.258	\$2.543	\$2.855	\$3.197	\$3.571	\$3.980	\$6.694	\$10.927
6. Unfunded Actuarial Liability (Funded Percentage)	\$1.924 (54.0%)	\$2.223 (53.4%)	\$2.345 (54.9%)	\$2.470 (56.4%)	\$2.591 (57.9%)	\$2.709 (59.5%)	\$3.174 (67.8%)	\$ 3.124 (77.8%)
7. Employee Contributions	\$0.111	\$0.109	\$0.114	\$0.120	\$0.125	\$0.132	\$.168	\$.213
8. State Normal Cost (% Payroll)	\$0.115 (8.8%)	\$0.104 (7.6%)	\$0.110 (7.7%)	\$0.118 (7.9%)	\$0.126 (8.1%)	\$0.135 (8.2%)	\$.184 (8.8%)	\$.247 (9.3%)
9. State Contribution (% Payroll)	\$0.080 (6.1%)	\$0.130 (9.5%)	\$0.148 (10.4%)	\$0.165 (11.0%)	\$0.182 (11.6%)	\$0.205 (12.5%)	\$0.331 (15.8%)	\$ 0.525 (19.7%)
10. Other Contributions (Federal, Reciprocity, Etc.)	\$0.015	\$0.011	\$0.011	\$0.012	\$0.013	\$0.013	\$0.017	\$ 0.021
<u>FASB #35</u>								
11. Value of Accrued Benefits (Funded Percentage)	\$3.702 (61.0%)	\$4.102 (62.0%)	\$4.507 (63.4%)	\$4.938 (64.7%)	\$5.400 (66.1%)	\$5.892 (67.6%)	\$8.896 (75.2%)	\$12.913 (84.6%)

Actual Expense used for FY86. Expenses estimated at \$9.9 million for FY87; increasing by 10% per annum thereafter. Actual State Contributions used for FY86. State Contributions equal to Benefit Payments (excluding refunds) and Administrative Expenses assumed for subsequent years. Employee contributions include qualifying payments. Compensation, 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.

STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS

ANALYSIS OF FINANCIAL EXPERIENCE

Gains and losses in Accrued Actuarial Liability for Fiscal Year ending August 31, 1986.

<u>Activity</u>	<u>Gain (Loss)</u>
1. Actuarial Gains and Losses	
(a) Age & Service Retirements	(\$ 5,384,141)
(b) Incidence of Disability	(7,762,178)
(c) In-Service Mortality	(7,724,469)
(d) Retiree Mortality	(4,018,285)
(e) Disabled Mortality	(297,808)
(f) Termination of Employment	(5,882,541)
(g) Salary Increases	(69,083,701)
(h) Investment Income	291,534,349
(i) Other	(720,879)
(j) Total Actuarial Gain (Loss)	\$190,660,347
2. Contribution Income	(\$149,412,875)
3. Non Recurring Items	\$ 44,113,029
(Plan amendments, change in actuarial assumptions, etc.)	
4. Total Financial Gain (Loss)	\$ 85,360,501

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 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:

<u>Age</u>	<u>Males</u>	<u>Females</u>
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.

<u>Age</u>	<u>Males</u>	<u>Females</u>
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 2 years of service, one quarter of disabilities are assumed to arise as a result of an accident.

ACTUARIAL ASSUMPTIONS

Page 2

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

<u>Age</u>	<u>Rate of Recovery</u>	<u>Rate of Mortality</u>
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 20 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:

<u>Age</u>	<u>Males</u>	<u>Females</u>
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 3 years younger than the male spouse.

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

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

ACTUARIAL ASSUMPTIONS

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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:

<u>Age At Death Of Employee</u>	<u>Age of Youngest Child</u>
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 as in effect for the year beginning on the valuation date is assumed to remain in effect until retirement.

Earnings Data:

If earnings were not available, the annual salary was assumed to be \$23,800.

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 (8/31/86).

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 is currently 8%. 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 35 years of covered service, after 8 years of covered service and age 60, or after 5 years of covered service and age 62. Policemen and firemen are eligible for normal retirement at age 55 with 20 years of service, or at age 50 with 25 years of service.

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

- (1) The following percentages of "average earnings", the highest earnings for any 4 consecutive years:

	<u>General</u>	<u>Police & Fireman</u>
(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%

(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 30 years, if employed one-half time or more, the following monthly amounts 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
Over \$6,500	12

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 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, or if no full-time, the full-time equivalent. The member pays 7% of the base salary 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 base salary for each year or fraction of a year prior to age 60. These one-time payments do not increase the amount of service credit, but merely eliminate the 1/2 of 1% reduction for retiring before age 60 with less than 35 years of service.

Until June 1, 1982, the number of members using this provision was limited to any number at the option of the employer. Beginning June 1, 1982 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 2 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 60 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 2 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 12 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 1-1/2 years of covered service, or of a former member with 10 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. Note that 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 nearest the annuitant's 61st birthday or the January 1st nearest the first anniversary of retirement, whichever is later, 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.