STATE UNIVERSITIES
RETIREMENT SYSTEM OF ILLINOIS

## ACTUARIAL VALUATION

COMPLETED AS OF AUGUST 31, 1982

Chicago, Illinois
January, 1983

## STATE UNIVERSITIES RETIREMENT SYSTEM <br> OF ILLINOIS

ACTUARIAL VALUATION COMPLETED AS OF AUGUST 31, 1982

## Introduction

The law governing the State Universities Retirement System requires the Actuary, as the technical advisor to the Board of Trustees, to
...cause an annual determination to be made by a competent actuary of the liabilities and reserves of the system and an annual determination of the amount and distribution of the required employer contributions. (Chapter 108-1/2, Par. 15-173)

The Wyatt Company, as Actuary, has completed a valuation as of August 31, 1982, 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.

Benefit changes over the year that had an effect on the valuation include increases to pensioners and survivors, an increase in the maximum survivors' benefits, introduction of the $35 \%$ disability benefit after exhaustion of the $50 \%$ benefit and new benefits for policemen and firemen. The approximate effect of these changes was to increase the actuarial liability by $\$ 8$ million and to increase the normal cost by about $\$ 3.3$ million.

In total, the experience over the year was slightly unfavorable relative to the actuarial assumptions, with actuarial losses of less than $2 \%$ of the actuarial liability.

The remainder of this report is comprised of the following:

Valuation Results<br>Descriptions of Actuarial Method and Assumptions<br>Summary of Plan Provisions

Respectfully submitted,
The Wyatt Company


Chicago, Illinois
January, 1983

## STATE UNIVERSITIES RETIREMENT SYSTEM

## Results of Actuarial Valuation

Completed as of August 31, 1982

## BASIC DATA

1. Number of Members:
(a) Active 40,573
(b) Inactive 4,776
(c) Members Receiving:
(i) Retirement Annuities 7,731
(ii) Survivor Annuities
2,085
(iii) Disability Annuities 881
(d) Total
56,046
2. Annual Reported Earnings
\$ 872,449,875
3. Annual Benefit Payments Currently Being Made:
(a) Retirement
\$ 54,760,010
(b) Survivor

6,426,106
(c) Disability
(d) Total

6,254,628
\$ 67,440,744

## VALUATION RESULTS

4. Actuarial Liability (Reserves):
(a) For Members Receiving Annuities:
(i) Retirement Annuities
\$ 602,135,575
(ii) Survivor Annuities
(iii) Disability
(iv) Total
(b) For Inactive Members 58,906,373
51,680,906
\$ 712,722,854
121,669,343
(c) For Active Members
(d) Total

1,966,636,939
$\$ 2,801,029,136$
5. Assets (Book Value)
\$1,239,583,869
6. Unfunded Actuarial Liability
\$1,561,445,267
7. Annual Normal Cost

For Year
As a Percent
Beginning 9/1/82*
(a) Benefits
(b) Expenses
(c) Total
(d) Expected Member

Contributions
(e) Employer Normal Cost
8.014
8.712\%

Amount
16.336\% $\quad \$ 142,525,961$
0.390
16.726\%

3,400,000
$\$ 145,925,961$
69,920,460
\$76,005,501
8. "Expense" For Unfunded Actuarial Liability:*
(a) Interest Only
13.818\%
\$120,556,691
(b) 40 Year Amortization
14.602
127,396,680
9. Total Expense for Year Beginning 9/1/82:*
(a) Normal Cost and Interest
(b) Normal Cost and 40 Year Amortization
22.520\%
$\$ 196,562,192$
23.314

203,402,181

* Notes:

1. The percentage figures are based on covered pay of $\$ 872,449,875$.
2. Percentage figures may not total due to rounding.
3. The contributions have been adjusted for monthly payments.
4. The 40 year amortization period is assumed to begin September 1, 1980.
5. Any "balance sheet accruals" prior to September 1, 1982 are ignored.
6. Police officers and firefighters contribute $9.5 \%$ of pay. All other employees contribute $8.0 \%$ of pay.
7. Prospective survivors benefits are included in the "members receiving" classification for deceased members.

## FASB \#35 - Value of Accrued Benefits

Financial Accounting Standards Board Statement No. 35 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 June 15, 1982). As of the valuation date, the specified information is as follows:

Actuarial Present Value of Accumulated Plan Benefits

Vested Benefits:
Currently Receiving Payments \$ 712,722,854
Other
Total
1,342,189,059
$\$ 2,054,911,913$
Non-Vested Benefits
Total
391,291,996
\$2,446,203,909
Non-retired members' contributions and interest (the rate credited has varied), included above

Interest rate used to discount the above values: $8 \%$

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 the contributions of employers from State appropriations for any fiscal year be less than an amount which when added to contributions from other sources and investment income for that year is sufficient to meet (a) the total accruing normal costs plus interest at the prescribed rate on the unfunded accrued liabilities or (b) 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 (a) above. The cited Section does require a different minimum contribution for private plans. The "40 year amortization" amount shown 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, 1982 are ignored.

| Basis | Required <br> Appropriation |
| :--- | ---: |
| Normal Cost and Interest | $\$ 196,562,192$ |
| Normal Cost and | $\$ 203,402,181$ |

## 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 both active and inactive members, in particular disability benefits, death and survivor benefits, termination benefits and the postretirement increments, the same procedure as outlined above is followed.

Estimated annual administrative expenses are added to the normal cost.

ACTUARIAL ASSUMPTIONS

Mortality:

Interest:
Termination:

Salary Increases:
Disability Rates:

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 one year setback.

8\% per annum, compounded annually.
Illustrative rates of withdrawal from the plan are as follows:

| Age |  | Males |  | Females |
| ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |
| 20 |  | 0.374 |  | 0.524 |
| 25 |  | 0.249 |  | 0.324 |
| 30 |  | 0.174 |  | 0.219 |
| 35 |  | 0.124 |  | 0.154 |
| 40 |  | 0.073 |  | 0.104 |
| 45 |  | 0.047 |  | 0.064 |
| 50 |  | 0.020 |  | 0.038 |
| 55 | - |  | 0.013 |  |

It is assumed that terminated employees will not be rehired.
$8 \%$ per annum, compounded annually.
Incidence of disability amongst employees.

| Age |  | Males |  |
| :---: | :---: | :---: | :---: |
|  |  |  | Females |
| 20 |  | 0.0018 |  |
| 25 |  | 0.0018 |  |
| 30 |  | 0.0034 |  |
| 35 |  | 0.0018 |  |
| 40 |  | 0.0034 |  |
| 45 | 0.0034 |  | 0.0034 |
| 50 | 0.0009 |  | 0.0060 |
| 55 | 0.0140 |  | 0.0123 |
| 60 | 0.0234 |  | 0.0164 |
|  |  |  |  |

$5 \%$ 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.

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

| Age | Rate of <br> Recovery | Rate of <br> Mortality |
| ---: | ---: | ---: |
| 20 | 0.256 | 0.044 |
| 25 | 0.156 | 0.044 |
| 30 | 0.096 | 0.044 |
| 35 | 0.056 | 0.044 |
| 40 | 0.016 | 0.044 |
|  |  |  |
| 50 | - | 0.045 |
| 60 | - | 0.053 |
| 70 | - | 0.075 |
| 80 | - | 0.130 |
| 90 | - | 0.240 |

Retirement Rates:
Assets:
Expenses:

Marital Status:
Spouse's Age:

Remarriage Rates:

Retirement was assumed to occur at age 62.
Assets available for benefits are used at book value.
As estimated and advised by SURS staff, based on current expenses with an allowance for expected increases.
$85 \%$ of employees are assumed to be married.
The female spouse is assumed to be 3 years younger than the male spouse.

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

|  | Rate of <br> Age | Rate of <br> Remarriage |  | Age |
| ---: | :---: | ---: | :---: | :---: | | Ag |
| :---: |
|  |
| Remarriage |

Children:
It is assumed that married members have 2.5 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 <br> Death Of <br> Employee | Age Of <br> Youngest <br> Child |
| :---: | :---: |
|  | 2 Years |
| 20 | 3 |
| 25 | 4 |
| 30 | 5 |
| 35 | 6 |
| 40 | 8 |
|  | 10 |
| 45 | 12 |
| 50 | 14 |

Effective Rate of Interest:

Earnings Data:

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.

If earnings were not available, the annual salary was assumed to be $\$ 18,000$.

STATE UNIVERSITIES RETIREMENT SYSTEM

The following is a summary of the major provisions of the State Universities Retirement System as in effect on the date of the valuation (9/1/82).

## Membership:

The System covers faculty and non-academic permanent employees of State Universities and Colleges, Community Colleges, State Scientific Surveys and other related agencies. Participation is compulsory after three years of service but is optional during the first three years of employment.

Employees hired after age 68, employed less than $50 \%$ full-time or employed 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:

| General |  <br> Firemen |
| :---: | ---: |
|  |  |
| $1.67 \%$ | $2.25 \%$ |
| $1.90 \%$ | $2.50 \%$ |
|  |  |
| $2.10 \%$ | $2.75 \%$ |
| $2.30 \%$ | $2.75 \%$ |

(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 September 8, 1981 and June 30, 1987.
(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 not 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 . 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 eliminates 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 until June 30, 1987, 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.

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.
(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 retirement 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.

If the member continues to accept a disability retirement allowance after attainment of age 60 , he/she shall forfeit the right to receive a retirement annuity.

## Death Benefits Before Retirement:

Upon death of an active member 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\%) 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 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 in active service, a lump sum payment of $\$ 2,500$ or, if the beneficiary is a dependent, an amount equal to the member's average annual earnings up to $\$ 5,000$.

## Death Benefits After Retirement:

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 to 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.

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 .

STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS

## ACTUARIAL VALUATION COMPLETED AS OF AUGUST 31, 1982

## SUPPLEMENTAL REPORT

Chicago, Illinois
February, 1983

## STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS

## Introduction

In this report we present the basic results of the actuarial valuation and certain supplemental information which may be helpful to the Board members. The actuarial assumptions and methods used are the same as those used for the prior year so that the valuation results are directly comparable.

In total, the recommended contribution as a percentage of reported earnings did not change materially from last year's level. However, there were some minor benefit changes which increased the contribution, specifically, an ad-hoc cost-of-living increase to pensioners and survivors, an increase in the maximum survivors' benefits, the introduction of a $35 \%$ disability benefit, and a new benefit formula for policemen and firemen. Other variations in the contribution level were due to the changes in membership data and fund assets which produced an actuarial loss of about $2 \%$ of the actuarial liability. Summarized below are certain important results for both years.

1. Number of Active Members
2. Reported Earnings (Average)
3. Number of Members Receiving Payments
4. Annual Benefit Payments (Average)
5. Assets:
(a) Book Value $\quad \$ 1,239,583,869$
(b) Market Value
6. State Normal Cost (\% Payroll)
7. Actuarial Liability (Funded Percentage)
8. Unfunded Actuarial Liability

August 31, 1981
39,181
\$ 784,733,956
$(20,028)$

10,165
\$ $54,342,610$
$(5,346)$
\$1,124,443,479 932,523,519
8.809\%
\$2,513,575,407
(44.7\%)
\$1,389,131,933

## Appropriation Requirements

The procedures set forth in the Act to determine the annual appropriations do not precisely define the required contribution for a particular fiscal year. For example, if the "normal cost" was defined as a percentage of actual pay, the State's contribution would not be known until the end of the fiscal year when the actual covered pay was known. On the other hand, if the normal cost was defined as a dollar amount based on annualized earnings as of the valuation date, the normal cost would be known upon completion of the valuation. (This procedure is the most common amongst plans and we recommend that it be adopted.) Following this procedure, the expense requirement would be as indicated, including a 40 year amortization of the unfunded actuarial liability from $9 / 1 / 80$.

For the fiscal year $9 / 1 / 82-8 / 31 / 83$

For the fiscal year beginning September 1, 1983, the appropriation requirement has been estimated as follows:
$\begin{array}{lll}\text { (1) If covered compensation increases } 8 \% & \$ 221,894,457 \\ \text { (2) If covered compensation increases } 10 \% & \$ 226,742,024\end{array}$ THE

Funded Status An Alternate View

The Board has gauged the funded status of the System by examining the ratio of assets to the actuarial liability. FASB \#35 requires an alternate approach, details of which are shown in Table 3. The following outlines a third alternative that may be useful to the Board in assessing the financial status of the System at September 1, 1982.

1. Assets
\$1,239,583,869
2. Value of benefits for members and survivors receiving payments
$712,722,854$
3. Assets available for non-retired members:
(1) - (2)

526,861,015
4. Value of benefits for terminated members 121,669,343
5. Assets available for active members: (3) - (4)
$405,191,672$
6. Value of accrued benefits for active employees
$1,611,811,712$
7. Accumulated contributions and interest for non-retired employees
$718,669,827$

In other words, the funds available for active members, $\$ 405$ million, amount to only $56.4 \%$ of active members contributions (and interest) and only $25.1 \%$ of the value of accrued benefits for active employees.

The remainder of the report is comprised of the following:

Table 1 - Results of Actuarial Valuation
Table 2 - Fifteen Year Projection
Table 3 - Value of Accumulated Benefits (FASB \#35)
Experience Study For The Year 9/1/81-8/31/82


Chicago, Illinois
February, 1983

Table 1

## STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS

RESULTS OF ACTUARIAL VALAUTION AS OF AUGUST 31, 1982

## MEMBER DATA

1. Number of Members:
(a) Active
40,573
(b) Members Receiving Annuities:
(i) Retirement 7,731
(ii) Survivor (includes prospective widows and widowers) 2,085
(iii) Disability 881
(c) Other Inactive Members 4,776
(d) Total
$\overline{56,046}$
2. Annual Reported Earnings
\$ 872,449,875
3. Annual Annuity Payments Currently Being Made:
(a) Retirement
(b) Survivor
(c) Disability
(d) Total
\$ 54,760,010
6,426,106
6,254,628
\$ 67,440,744

## VALUATION RESULTS

4. Actuarial Liability for Members Receiving Annuities:
(a) Retirement
(b) Survivors
(c) Disability
(d) Total
5. Actuarial Liability for Inactive Members
6. Active Members:
(a) Pension Benefits
(b) Cost-of-Living Adjustments
(c) Death Benefits (excludes refunds)
(d) Disability:
(i) Accidental
(ii) Ordinary
(iii) Total
(e) Withdrawals and Refunds
(f) Expenses
(g) Total Actives
\$ 602,135,575 58,906,373
51,680,906
\$ 712,722,854
\$ 121,669,343
Actuarial
Liability
\$1,283,267,989
\$ 57,647,146
11,940,340
12,226,900
1,205,496
20,415,882
21,621,378
39,090,197
3,400,000
$\$ 145,925,961$

262,352,245
184,925,366
8,034,318
173,289,992
181,324,310 54,767,029
\$1,966,636,939

## STATE UNIVERSTTIES RETIREMENT SYSTEM OF ILLINOIS

FIFTEEN YEAR PROJECTION OF COSTS AND LIABILITIES
(Assuming State Contributions Continue On Current Basis) (All Dollar Amounts In Billions)


## VALUATION RESULTS

4. Actuarial Liability
(Retired Life Reserves)
5. Assets (Book)
6. Unfunded Actuarial Liability

| $\$ 2.801$ | $\$ 3.090$ | $\$ 3.411$ | $\$ 3.732$ | $\$ 4.084$ | $\$ 4.460$ | $\$ 6.801$ | $\$ 9.995$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $(0.713)$ | $(0.827)$ | $(0.954)$ | $(1.087)$ | $(1.229)$ | $(1.378)$ | $(2.248)$ | $(3.362)$ |
| 1.240 | 1.374 | 1.550 | 1.747 | 1.965 | 2.206 | 3.861 | 6.585 |
| 1.561 | 1.716 | 1.861 | 1.985 | 2.119 | 2.254 | 2.940 | 3.410 |
| $(44.3 \%)$ | $(44.5 \%)$ | $(45.4 \%)$ | $(46.8 \%)$ | $(48.1 \%)$ | $(49.5 \%)$ | $(56.8 \%)$ | $(65.9 \%)$ |
|  |  |  |  |  |  |  |  |
| $\$ 0.146$ | $\$ 0.158$ | $\$ 0.170$ | $\$ 0.184$ | $\$ 0.199$ | $\$ 0.215$ | $\$ 0.316$ | $\$ 0.464$ |
|  |  |  |  |  |  |  |  |
| 0.070 | 0.075 | 0.081 | 0.088 | 0.095 | 0.103 | 0.151 | 0.221 |
| 0.076 | 0.083 | 0.089 | 0.096 | 0.104 | 0.112 | 0.165 | 0.243 |
| $(8.7 \%)$ | $(8.8 \%)$ | $(8.7 \%)$ | $(8.7 \%)$ | $(8.8 \%)$ | $(8.7 \%)$ | $(8.8 \%)$ | $(8.8 \%)$ |


| $\$ 0.057$ | $\$ 0.094$ | $\$ 0.107$ | $\$ 0.121$ | $\$ 0.137$ | $\$ 0.154$ | $\$ 0.256$ | $\$ 0.384$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $(7.2 \%)$ | $(10.0 \%)$ | $(10.5 \%)$ | $(11.0 \%)$ | $(11.5 \%)$ | $(12.0 \%)$ | $(13.6 \%)$ | $(13.9 \%)$ |

## FASB \#35

| 9. | Value of Accrued Benefits | $\$ 2.446$ | $\$ 2.719$ | $\$ 3.014$ | $\$ 3.305$ | $\$ 3.627$ | $\$ 3.991$ | $\$ 6.112$ | $\$ 9.028$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | (Funded Percentage) | $(50.7 \%)$ | $(50.5 \%)$ | $(51.4 \%)$ | $(52.8 \%)$ | $(54.2 \%)$ | $(55.3 \%)$ | $(63.2 \%)$ | $(72.9 \%)$ |

* Expenses estimated at $\$ 3.4$ million for fiscal year ended $8 / 31 / 83$; increasing by $10 \%$ per annum thereafter.

|  |  | Actuarial <br> Normal Cost <br> Liability |  |
| :--- | :--- | ---: | :--- |
| 8. Totals | Assets | $\$ 145,925,961$ | $\$ 2,801,029,136$ |
| 9. Unfunded Actuarial Liability |  | $\$ 1,239,583,869$ |  |
| 10. | Expected Employee Contributions | $\$ 69,920,460$ | $\$ 1,561,445,267$ |
| 11. | Annual Normal Cost To Be <br> Provided by the State | $\$ 76,005,501$ |  |

## ANNUAL EXPENSE*

Percent Of Pay

Amount
12. "Forty Year Amortization":
(a) Normal Cost
(b) Contribution towards Unfunded
(c) Total
$8.712 \% \quad \$ \quad 76,005,501$
14.602
23.314\%
\$ 203,402,181
13. "Interest Only Funding":
(a) Normal Cost
$8.712 \% \quad \$ \quad 76,005,501$
13.818

120,556,691
(b) Interest on Unfunded
(c) Total

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

Table 3

STATE UNIVERSITIES RETIREMENT SYSTEM
OF ILLINOIS
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS AT AUGUST 31, 1982
(FASB \#35)

|  |  | Vested |  | Non-Vested | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | Participants Currently Receiving Payments | \$ | 712,722,854 | - | \$ | 712,722,854 |
| 2. | Inactive Members | \$ | 121,669,343 | - | \$ | 121,669,343 |
| 3. | Active Members: |  |  |  |  |  |
|  | (a) Pension Benefits | \$ | 837,916,820 | \$ 10,636,391 | \$ | 848,553,211 |
|  | (b) Cost-of-Living |  |  |  |  |  |
|  | Adjustments |  | 166,747,331. | 5,620,040 |  | 172,367,371 |
|  | (c) Death Benefits <br> (excludes refunds) |  |  |  |  | 157,067,966 |
|  | (excludes refunds) <br> (d) Disability: |  | - | 157,067,966 |  | 157,067,966 |
|  | (i) Accidental |  | - | 10,706,789 |  | 10,706,789 |
|  | (ii) Ordinary |  | - | 186,480,724 |  | 186,480,724 |
|  | (iii) Total |  | - | \$197,187,513 | \$ | 197,187,513 |
|  | (e) Withdrawals |  |  |  |  |  |
|  | and Refunds |  | 215,855,565 | 20,780,086 |  | 236,635,651 |
|  | (f) Total Actives |  | ,220,519,716 | \$391,291,996 |  | 611,811,712 |
| 4. | Grand Total |  | 2,054,911,913 | \$391,291,996 |  | 2,446,203,909 |
| 5. | Non-retired Member Contributions and Interest (included in above): |  |  |  |  |  |
|  | (a) Active |  |  |  | \$ | 673,203,827 |
|  | (b) Inactive |  |  |  |  | 45,466,360 |
|  | (c) Total |  |  |  | \$ | 718,669,827 |

# STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS 

EXPERIENCE STUDY
FOR THE YEAR 9/1/81 TO 8/31/82

## Introduction

Revised actuarial assumptions were adopted effective September 1, 1981 for purposes of the actuarial valuation as of that date.

This portion of the report compares the actual experience over the year beginning September 1, 1981 with the assumed or expected experience for the major assumptions. By preparing an annual experience study rather than quinquennial studies, interested parties can be alerted to trends and action taken if deemed necessary. However, it is not expected that a recommendation will be made to modify the assumptions unless the experience varies significantly from the expectations. After five years' experience has been accumulated, we shall construct new tables if necessary and recommend their adoption.

The format of this report is to report the ratio of the actual experience to the expected experience. In some instances, a ratio of over $100 \%$ will have favorable financial consequences for the System. (For example, the investment return.) For other assumptions, a ratio of over $100 \%$ will have an unfavorable financial impact. (For example, disability incidence.)

In instances where records were incomplete or questionable, the statistics were generally excluded from processing. Hence, some totals may not agree with the System's records. Two exceptions were made: (1) For younger members who were present on September 1, 1981 but who were not in the records a year later. These members were assumed to have separated from service. (2) Older retired members at September 1, 1981 who were not present a year later were presumed to have died.

## Conclusions

In total over the period, the experience was unfavorable, the major experience factors contributing to this being the salary increases and investment returns.

At this point in time, we do not recommend any changes in the assumptions as the combined experience and the outlook appears to be satisfactory.

## INVESTMENT RETURN:

Assets at carrying value are used for purposes of the actuarial valuation. This should be borne in mind when comparing these rates of return with the returns reported elsewhere. The rates assume all transactions occur at mid-year and should be regarded as approximate.

1981
Actual
5.93\%

Expected Ratio
8.00\% 74\%

Effect On Financial Status: Unfavorable.

## RATES OF SALARY INCREASE:

The rates of salary increase reported are for members who were covered by the System for the entire year. Accordingly, the figures represent merit and longevity increases, promotion increases, as well as general pay increases.

|  | 1981 |
| :--- | :---: |
| Actual | $9.97 \%$ |
| Expected | $8.00 \%$ |
| Ratio | $125 \%$ |

Effect On Financial Status: Unfavorable.

## RETIREMENT AGE:

The average retirement age assumed is 62 . 1981

Average Retirement Age 63.3

Effect On Financial Status: Favorable.

## TERMINATION:

The rates of separation from service for reasons other than death, disability or retirement are shown below.

|  | 1981 |  |  |
| :--- | ---: | ---: | ---: |
|  | Males | Females | Combined |
| Actual | 1,481 |  | 1,854 |
| Expected | 1,403 | 2,263 | 3,335 |
| Ratio | $106 \%$ | $82 \%$ | 3,666 |
|  |  |  | $91 \%$ |

Effect On Financial Status: Unfavorable in total.

## DISABILITY INCIDENCE:

The rates of separation from service for disability are shown below.

1981

|  |  | Males | Females |
| :--- | :---: | :---: | :---: |$\quad$ Combined

Effect On Financial Status: Favorable. The results may reflect revised standards of eligibility.

MORTALITY - ACTIVES:

|  | 1981 |  |  |
| :--- | :---: | :---: | :---: |
|  | Males | Females | Combined |
|  |  |  | 24 |
|  |  |  |  |
| Actual | 56 | 39 | 80 |
| Expected | 111 | $61 \%$ | 150 |
| Ratio | $51 \%$ | $53 \%$ |  |

Effect On Financial Status: Favorable. (Fewer survivor's benefits are payable and hence the experience is favorable while employees are active).

MORTALITY - RETIRED:

|  | 1981 |  |  |
| :--- | :---: | :---: | :---: |
|  | Males | Females | Combined |
| Actual | 203 |  | 83 |
| Expected | 164 | 84 | 286 |
| Ratio | $124 \%$ | $99 \%$ | $116 \%$ |

Effect On Financial Status: Favorable. Note that the "default" cause of leaving the group was assumed to be death. This may have resulted in the higher than expected rates.

MORTALITY - DISABLED:

Combined

| Actual | 40 |
| :--- | :---: |
| Expected | 43 |
| Ratio | $94 \%$ |

Effect On Financial Status: Unfavorable.

