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State Universities Retirement System

Champaign, Illinois

REPORT ON

AN ACTUARIAL VALUATION OF THE ASSETS

AND LIABILITIES OF THE SYSTEM

AS OF AUGUST 31, 1980

A. A. Weinberg, Consulting Actuary  
Chicago

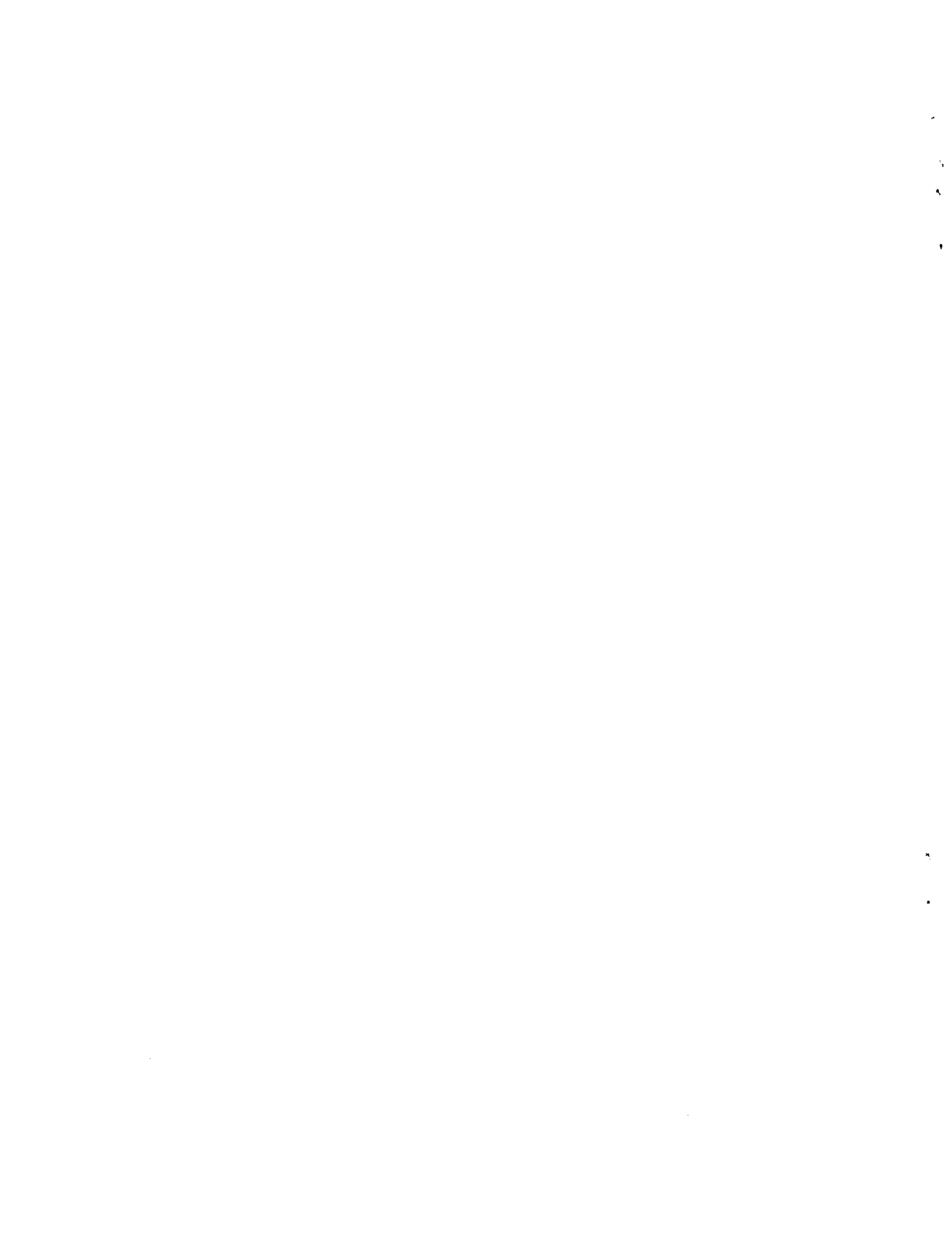


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A. A. WEINBERG  
CONSULTING ACTUARY

April 28, 1981

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

Gentlemen:

Submitted herewith is our report on an Actuarial Valuation of the State Universities Retirement System, as of August 31, 1980.

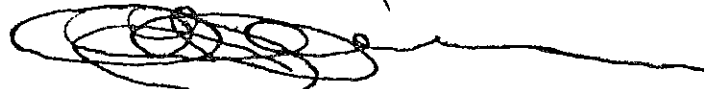
The valuation was based upon the benefit and contribution provisions of the retirement plan in force at the aforesaid date. These provisions are summarized in the appendix.

The report presents the accrued liabilities for the prescribed benefits of the System and the net assets at the said date for meeting these liabilities. The basic operating factors applied in this valuation are described in the report. The inadequacy of revenues to meet the full funding costs of the system in accordance with actuarial criteria has resulted in an increase in the unfunded liability.

The policies in effect in the management and administration of the System reflect progressive standards and assure the maintenance of a high level of efficiency in administration.

The statistical and financial data required for the preparation of this report were compiled in excellent form under the able direction of Donald E. Hoffmeister, Executive Director. His courtesy and cooperation are hereby acknowledged with sincere appreciation.

Respectfully submitted,



A. A. Weinberg,  
Consulting Actuary





REPORT ON AN ACTUARIAL VALUATION OF THE  
STATE UNIVERSITIES RETIREMENT SYSTEM

AS OF AUGUST 31, 1980

Under Section 15-173 of the "Illinois Pension Code" governing the operation of the State Universities Retirement System, the Board of Trustees is mandated 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".

In accordance with this authority, such a determination has been made and the results are presented in this report. A calculation was made of the employer's contributions for meeting the accruing funding requirements of the system. The valuation was based upon the benefit and contribution provisions in force at the valuation date. These provisions are briefly summarized in the appendix of this report, together with statistical tables reflecting the membership, including annuitants, at that date.

PART 1. PURPOSE OF AN ACTUARIAL VALUATION

The fundamental aspects of pension liabilities have given emphasis to the necessity for periodic valuations of the accruing pension cost. By these valuations, the pension liability and the prospective costs are calculated with the results to be utilized for providing for the systematic funding of the accruing liability and for budgeting purposes.

The accepted method for funding pension cost, one that has proved most practical for public agencies, is that technically referred to as "Entry-Age-Normal-Cost". This method reflects the current budgeting concept. It contemplates a level annual contribution by the employer from the date of an employee's entry into service until attainment of the assumed age of retirement. Thus, provision is made for each year's accruing pension liability for funding the ultimate retirement annuity. This is frequently referred to as the "year's pension liability", or the "normal cost". Under this method, the contributions to be made by the employer do not include the liability for previous service, or the interest accruing on such liability, although for "normal cost" purposes the accruing interest properly forms a part of total annual cost.

In the presentation of the financial condition of the retirement system, an actuarial balance sheet is prepared, showing the accrued liabilities and the accumulated assets available to meet these liabilities. Such a statement is technically designated as a "Valuation Balance Sheet". The excess of the accrued liabilities over net present assets at any given date constitutes an actuarial deficiency, otherwise known as the "unfunded accrued liability". The liabilities for the several pension and benefit obligations and the required reserves are presented. The rates of mortality before and after retirement, rates of turnover in employment and the investment earnings expectancy are major factors that are basic in this procedure. Some of the other factors to be considered are: the rates of salary increments and their progression to the assumed retirement ages, the incidence of disability among the members, and

the possible survivors' benefits that may become payable.

The required actuarial functions reflecting these basic factors are formulated and applied in the valuation process. Some variations from the stated assumptions frequently occur in current operations. These variations are taken into account by the Actuary by means of arbitrary revisions or adjustments during the course of the valuation, as may be required.

## PART 2. RESULTS OF ACTUARIAL VALUATION

One of the major purposes of the annual valuation of the State Universities Retirement System is to establish the annual requirements from the employer for the year's pension liability. These requirements consist of: (1) the normal cost as determined according to the "entry-age-normal-cost" method; and (2) the year's interest accrual on the unfunded liability. This constitutes the minimum actuarial cost for funding the pension liability of a public retirement system.

Death, disability and survivors' benefits which are basically insurance benefits, were valued on a "one-year-term" basis, similar to that generally used in the valuation of group life insurance. The cost of each year's accruing pension liability is designed to cover the value of pension credits earned by the members during the year, plus the cost of these several ancillary benefits.

Based upon the existing provisions of the retirement law and on the stated assumptions as to appropriate actuarial funding, determined by the actuary, a valuation has been made of the State Universities

Retirement System. This valuation has disclosed the normal cost requirements for the several components of the benefit schedule covering the fiscal year beginning September 1, 1980, and the unfunded accrued liability at August 31, 1980, as reported herein.

1) <u>Employer's Normal Cost</u>	<u>Percent of Budgeted Payroll</u>	<u>Annual Amount on Valuation Payroll</u>
Service retirement pensions	14.96%	
Disability benefits	1.12	
Death benefits - Employer's cost	0.06	
Survivors' benefits	2.10	
Post retirement increment	2.26	
Administrative expense	<u>0.16</u>	
Total Normal Cost	20.66%	
<u>Less:</u>		
Employees' Contributions	<u>-8.00</u>	
Employer's Normal Cost	<u>12.66%</u>	<u>\$ 89,898,120</u>
		<u>Annual Amount</u>
2) <u>Actuarial reserve requirements for accrued liabilities -</u>		\$1,866,440,751
<u>Less:</u> Net present assets		<u>987,304,732</u>
Unfunded Accrued Liability @ 8/31/80		<u>\$ 879,136,019</u>
3) Annual requirements from the employer to finance its share of <u>total cost -</u>		
Normal cost	12.66%	\$ 89,898,120
Accrued liability (interest at 5% on the unfunded accrued liability at 9/1/80	<u>6.19</u>	<u>43,954,927</u>
Employer's cost, effective as of September 1, 1980	<u>18.85%</u>	<u>\$ 133,853,047</u>

4) Reconciliation of changes in the unfunded accrued liability during the fiscal year ended August 31, 1980	<u>Annual Amount</u>
(a) Normal cost requirements - 12.66% applied to payroll of \$710,095,738	\$ 89,898,120
<u>Less:</u> Actual employer's contributions for the year	<u>72,700,571</u>
Deficiency in normal cost contributions -	\$ 17,197,549
(b) Interest accrual for the year at 5% per annum on the unfunded accrued liability	43,956,802
(c) Investment income for the year above 5% of average net assets	(19,555,507)
(d) Lower mortality among active participants and annuitants than assumed under applied mortality table	19,329,814
(e) Average annual salaries above assumed rate of increment of 4% per year	<u>(31,515,000)</u>
TOTAL - Increase in unfunded accrued liability for the 1980 fiscal year	<u>\$ 29,413,658</u>
5) <u>Alternate standard for minimum reserve requirements of the system</u>	
(a) Contribution credits of the participants at August 31, 1980	\$577,322,890
(b) Actuarial value of annuities and benefits in force	<u>488,669,823</u>
Total	\$1,065,992,713
(c) <u>Less:</u> Net present assets	<u>987,304,782</u>
Deficiency in reserves at August 31, 1980 to meet the minimum standard for funded reserve requirements	<u>\$ 78,687,981</u>

PART 3. SUMMARY OF STATISTICS

The statistical data applied in this valuation are summarized below. The statistics were compiled by the administrative staff of the system in excellent form. Statistical tables, reflecting this data, are presented in the appendix.

<u>Active participants</u>	<u>Male</u>	<u>Female</u>
Number	21,812	17,739
Percent of total	55.1%	44.9%
Aggregate earnings	\$481,308,999	\$228,786,739
Average annual earnings	\$22,066	\$12,897
Average age	44.1	41.8
Average service	10.1 yrs.	6.8 yrs.
Accumulated contributions	\$403,471,069	\$136,749,434
Average contributions	\$18,498	\$7,709

<u>Inactive participants</u>		
Number	2,599	2,450
Percent of total	51.6%	48.4%
Aggregate earnings	\$11,499,578	\$6,516,086
Average age	46.5	43.8
Average service	6.4 yrs	4.0 yrs.
Accumulated contributions	\$27,253,027	\$9,782,350
Average contributions	\$10,486	\$3,993

<u>Service retirement</u>		
Number	3,608	3,069
Percent of total	54.0%	46.0%
Total annual payments	\$27,909,273	\$10,931,756
Average annual payment	\$7,735	\$3,562
Average age	69.5	70.0

<u>Disability beneficiaries</u>		
Number	694	726
Percent of total	48.9%	51.1%
Total annual payments	\$5,164,812	\$3,977,179
Average annual payment	\$7,442	\$5,478
Average age	57.9 yrs.	54.1 yrs.

<u>Reversionary annuity beneficiaries -</u> <u>Death Before Retirement</u>	<u>Male</u>	<u>Female</u>
Number	---	5
Total annual payments	---	\$11,727
Average annual payment	---	\$2,345
Average age (years)	---	81.6

<u>Reversionary annuity beneficiaries -</u> <u>Death After Retirement</u>		
Number	---	83
Total annual payments	---	\$193,232
Average annual payments	---	\$2,328
Average age (years)	---	77.2

<u>Beneficiary annuitants -</u>		
Number	8	108
Percent of total	6.9%	93.1%
Total annual payments	\$6,128	\$59,269
Average annual payment	\$766	\$549
Average age (years)	62.5	70.7

<u>Survivors' insurance beneficiaries -</u>	<u>Widows</u>	<u>Children</u>
Number	1,348	330
Total annual payments	\$3,801,545	\$617,893
Average annual payment	\$2,820	\$1,872
Average age (years)	64.0	13.3

<u>Survivors' insurance beneficiaries -</u>	<u>Widowers</u>	<u>Parents</u>
Number	125	5
Annual payments	\$274,915	\$11,365
Average annual payment	\$2,199	\$2,273
Average age (years)	63.5	83.4

Prospective survivors' insurance beneficiaries

	<u>Widowers</u>	<u>Widows</u>
Number	5	54
Percent of total	8.5%	91.5%
Total annual payments	\$14,773	\$136,780
Average annual payments	\$2,955	\$2,533
Average age (years)	44.0	49.4

Refund Payments

	<u>Male</u>	<u>Female</u>
Number	1,098	1,723
Percent of total	38.9%	61.1%
Total payments	\$5,236,620	\$3,796,666
Average payment	\$4,769	\$2,204
Average Age (years)	35.2	32.9
Average service (years)	3.3	2.5

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PART 4. ACTUARIAL STANDARDS AND ASSUMPTIONS

The benefit and contribution provisions of the retirement plan that were applied in this valuation are described in the appendix. The several actuarial factors that were assumed in this valuation are:

1) Mortality expectancy. 1971 Group Annuity Mortality Table

2) Rates of death of employees in active service per 1,000

Select Ages	Male	Female
20	0.50	0.26
25	0.62	0.35
30	0.81	0.47
35	1.12	0.65
40	1.63	0.94
45	2.92	1.40
50	5.29	2.15
55	8.42	3.79
60	12.25	6.63

3) Rates of death among retirants per 1,000

Select Ages	Male	Female
55	8.4	3.8
60	12.3	6.6
65	17.4	9.3
70	26.0	14.0
75	40.5	25.2
80	64.6	46.4
85	101.7	85.8
90	168.0	152.5

4) Rates of separation from service with refunds - per 1,000

Select Ages	Male	Female
20	281.3	303.5
25	185.2	292.5
30	158.4	209.6
35	104.5	135.1
40	72.0	88.4
45	38.0	60.5
50	14.2	22.1
55	2.1	4.0

5) Rates of retirement per 1,000 members

Select Ages	Male	Female
55	5.2	6.4
56	5.6	10.2
57	7.9	13.0
58	10.1	15.9
59	12.3	18.7
60	21.1	23.2
61	29.0	27.8
62	37.4	32.3
63	45.8	36.8
64	54.3	60.0
65	62.7	83.2
68	100.0	100.0

- 6) Interest rate assumption - 5% per annum
- 7) Annual salary increments - 4% per year
- 8) Disability rates - Actual operating experience; 15% of disablements assumed to occur in line of duty.
- 9) Marital status - 80% of male employees and 70% of female employees in service were assumed to be married with an average age differential between the employee and spouse of 4-years.  
- 66-2/3% of employees retiring on pension assumed to be married.
- 10) Administrative Expense - Actual budget requirements

#### PART 5. ACTUARIAL VALUATION

As required under Section 15-173 of the law governing the System, the usual actuarial analysis of the System has been completed as of August 31, 1980.

A Valuation Balance Sheet, embodying the results of the computation of the reserves and accrued liabilities, is presented in the succeeding pages. The procedure followed in the preparation of this statement is similar to that used in the preparation of a financial balance sheet, except that the Valuation Balance Sheet is broader in scope. It includes, in addition to present assets and current liabilities, the Actuary's evaluation of the accrued actuarial liabilities, which are generally referred to as "actuarial reserve requirements".

A retirement system represents a long term commitment which results in a continuous upward trend in pension and benefit payouts.

The system experiences relatively small pension payouts during its early years of existence. The expenditures increase steadily with continued operation until considerably higher levels are attained. An actuarial valuation is made periodically, generally at annual intervals, for the purpose of evaluating the accrued and prospective liabilities under the prescribed benefit schedule, thus determining whether these liabilities can be met by the prescribed revenues under the method of funding in effect.

As previously stated, the valuation is made with the use of the actuarial functions selected by the Actuary in a survey of the operations of the system for past years. In formulating these functions, the Actuary assumes that the operations with respect to mortality among active and retired members, separation from service with no vested rights, salary increments and investment earnings will be substantially duplicated in the future. It is his responsibility to evaluate the results of past operations and update his findings to give effect to current and prospective trends with the view of formulating actuarial functions for each valuation that will reflect realistically the probable future experience.

Long range valuations, or cost determinations, regardless of how they are determined, cannot be precise no matter how accurately they are computed. Differences generally arise between actual results in operations and the stated assumptions with respect to the several operating factors available for such valuations.

Nevertheless, valuations and cost determinations are made in order that information may be had regarding the possible future experience for the calculation of the current accruing cost and the accrued obligations for past service and to determine current cost trends. This is especially important for a retirement system in which a steady and persistent increase in pension payouts occurs over the years.

VALUATION BALANCE SHEET

AUGUST 31, 1980

VALUATION BALANCE SHEET - AUGUST 31, 1980

A S S E T S

PRESENT ASSETS:

Cash	\$ 1,857,931	
Contributions receivable	11,649,389	
Accrued interest on investments	14,275,942	
Investments at cost	962,431,215	
Due from Building Fund	<u>486,768</u>	\$990,701,245
<u>Less: Current liabilities</u>		<u>3,396,513</u>
NET PRESENT ASSETS		\$987,304,732

DEFERRED ASSETS:

Due from the employer for accrued and unfunded pension credits prior to Sept. 1, 1980		<u>879,136,019</u>
<u>TOTAL ASSETS</u>		<u>\$1,866,440,751</u>

VALUATION BALANCE SHEET - AUGUST 31, 1980

LIABILITIES AND RESERVE REQUIREMENTS

PARTICIPANTS' CONTRIBUTION CREDITS

Applied to accrued service retirement, disability, survivors' and death benefits	\$ 398,405,409	
For future refunds and death benefits of participants' contributions	<u>178,917,481</u>	\$ 577,322,890

EMPLOYER'S CONTRIBUTIONS

Accrued requirements for service retirement, disability, survivors' and death benefits	\$1,158,853,447	
<u>Less:</u> Participants' contribution credits	<u>358,405,409</u>	800,448,038

RETIREMENT AND BENEFITS IN FORCE

Actuarial value of:

Retirement annuities	\$ 366,269,420	
Present and prospective reversionary annuities	5,831,103	
Beneficiary annuities	787,182	
Disability benefits	79,862,431	
Survivors' insurance beneficiaries	<u>35,919,687</u>	<u>488,669,823</u>

TOTAL LIABILITIES AND RESERVES

\$1,866,440,751

Following is an explanatory statement concerning the several items on the "Valuation Balance Sheet".

Present Assets - consists of the assets on hand as shown in the report of audit submitted by Allsup, Vollbracht, Coffman & Morris, Certified Public Accountants, dated November 25, 1980.

Current Liabilities - represents the accrued benefits and the administrative expenses shown by the said audit report.

Deferred Assets - are the accrued and unfinanced pension credits for service rendered prior to the balance sheet date. This is an unfunded obligation of the employer to be discharged in future years by increased appropriations to the system.

Reserve Requirements - comprise the several items representing the amounts necessary to provide for the accrued liabilities for pensions earned on account of service rendered prior to the balance sheet date, namely:

1) Participants' Contribution Credits.

Represents the total participants' contributions and the accumulated interest thereon at the balance sheet date.

Part of these credits are refundable in future years upon separation from service due to resignation, dismissal or death of the participants. The remainder in this account is to finance part of the retirement annuities and survivors' benefits payable to present participants in service who may retire and to meet payments to beneficiaries of participants



who may qualify for benefits.

2) Employer's Contributions

Represents the amounts required to finance the employer's share of the accrued and earned pension credits of the participants. These amounts concern participants now in service who may ultimately qualify for retirement annuities at the assumed ages for retirement, or whose beneficiaries may become eligible for benefit payments from the Fund.

3) Retirement and Benefits in Force

Constitutes the lifetime value, actuarially computed, of the amounts payable in future years to present pensioners and beneficiaries as pensions or other benefits that have been granted and are in force at the balance sheet date.

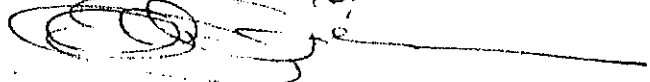
PART 6. CERTIFICATION

We have completed an actuarial valuation of the Assets and Liabilities of the State Universities Retirement System as of August 31, 1980.

Present assets and current liabilities at the aforesaid date were derived from financial statements embodied in the report of Allsup, Vollbracht, Coffman & Morris, Certified Public Accountants, dated November 25, 1980.

In our opinion, the accompanying Valuation Balance Sheet correctly presents the condition of the State Universities Retirement System at August 31, 1980, giving effect to accrued liabilities and actuarial reserve requirements under the law in force at such date.

A. A. Weinberg,



Consulting Actuary

April 28, 1981

PART 7. FUTURE PENSION AND BENEFIT PAYOUTS

A projection of future pension and benefit payouts for a period of years is presented as a part of this report to illustrate the funds that will be required to meet pension payouts during the next twenty years. This statement is intended to illustrate the importance of current or accrual funding of the pension costs on a systematic basis.

The statement presents the amount of the yearly pension payout liability. It gives emphasis to the meaning of pension costs in terms that may be more readily understood.

<u>Fiscal Year Ended August 31</u>	<u>Estimated Future Pension and Benefit Payments (in millions)</u>
1980 .....	\$ 52.8
1985 .....	96.7
1990 .....	148.2
1995 .....	234.6
2000 .....	388.2

Any liberalizing changes in the rates of benefit, or in the qualifying conditions of the retirement plan will necessitate a revision of this projection.

PART 8. FUNDING THE PENSION LIABILITY

In its real meaning, pension cost is a current operating cost of government. It is an obligation which cannot logically be deferred. It has a direct and immediate relationship to the entire fiscal operations of government. There is no short cut method for financing its cost. A retirement plan is considered to be a legitimate part of an employee welfare program of governmental concern. The plan operates as an essential adjunct of a progressive personnel policy.

The principle that government should bear a measure of responsibility for employees whose productivity has become impaired due to old age or disability is now universally accepted. Since this is the case, government must face up to its responsibility and provide for the cost of the retirement plan on the most practical basis. The most effective method of meeting this cost is according to actuarial standards. This constitutes, in essence, current or accrual funding which reflects actuarial considerations.

The basic cost of pensions, for any year, consists of the value of the pension credits earned by the members during the year. These yearly pension credits, in a cumulative form, constitute the ultimate retirement benefits that will become payable to the members when they fulfill the prescribed age and service conditions. The annuity payments made during any year, therefore, are derived from the accumulation of these earned pension credits covering a number

of years which comprises the total service of the annuitants. It is the sum total of these yearly pension credits which makes up the reserve required to finance the pension payments to the qualifying members as the pension obligations mature. This current accumulation of pension credits represents the real annual cost of pensions for any fiscal period.

The foregoing statement illustrates the funding principle underlying a retirement system. Actuarial principles govern all retirement system operations. The accrual concept is implicit in all actuarial procedures. Even if a retirement law did not specifically spell out the method of funding, the foregoing principle would still apply. Rates of contribution on the part of the employees, or employer, or both, must be formulated with the view of accumulating reserves in the form of present assets to meet the ultimate payouts by the retirement system. The revenues produced by these rates generally exceed total expenditures for benefits because the excess creates the reserve required to meet the maturing pension payments in future years.

It is this reserve for future pension payouts which frequently finds appeal among some public official for diversion or reduction, particularly in the case of officials having to do with the formulation of budgets. These officials view the reserve as a means of withholding current revenues from the retirement system by arbitrary reductions in appropriations. Pressures from public officials also arise from time to time for the application of some or all of the accumulated reserves for other governmental purposes.

PART 9.     RECOMMENDED STANDARDS FOR FINANCING, ACCOUNTING  
AND REPORTING FOR PUBLIC EMPLOYEE RETIREMENT SYSTEMS

For the purpose of providing adequate information concerning the financial operations of a retirement system, including the present and prospective liabilities of the system and methods of adequately funding these liabilities, the Financial Accounting Standard's Board, created by the American Institute of Certified Public Accountants, has formulated certain standards for funding, accounting and reporting to govern the operation of these retirement systems. While these standards were designed primarily for retirement systems operating in private enterprise, the standards could well be applicable to retirement systems relating to employees in public administration.

These standards are to apply principally to defined pension plans. The great majority of the retirement plans in operation in public administration are of that form. These retirement plans, for the most part, also provide benefits on account of death, disability, and termination of employment. Such a schedule of benefits is a basic characteristic of the retirement plans in operation for public employees.

The "ANNUAL REPORT" of the public retirement plan should include, among other things, the following information:

- 1). The actuarial value of vested benefits at the close of the fiscal year.
- 2). The amount of liabilities pertaining to employees in service who have not acquired vested rights.
- 3). The amount of net present assets available to fund the liabilities of the retirement plan.
- 4). The assumed rate of interest applied in the calculation of the actuarial value of the plan benefits.
- 5). The several actuarial assumptions applied in determining the liabilities, both present and prospective, defining fully the actuarial standards.
- 6). Finally, a summary of the statistical data compiled for the determination of costs and liabilities giving pertinent information; such as, the number of plan participants, their aggregate salaries, their average periods of service and their marital status, with a possible division between male and female members. The division of the membership as to sex is rapidly becoming outmoded because of the unisex factor which is now being accepted in the operation of pension plans.

PART 10.    LEGISLATION

The following changes in the retirement law occurred during the year under review, affecting the retirement annuities and the survivors insurance benefits. These changes were made by HOUSE BILL 1009, approved on January 1, 1981:

1). Under this legislation, each annuitant receiving a retirement annuity who retired before January 1, 1971, became entitled to an increase equal to \$1.00 per month for each year of service. This is a "one time" increase and cannot be used as a base for future automatic increases in the retirement annuity.

2). Each survivor insurance beneficiary receiving a benefit on or before January 1, 1971, was granted an increase equal to 1% of the benefit for each full year that had elapsed since the commencement date of the survivor's insurance benefit.



A P P E N D I X

Summary of Benefit and Contribution

Provisions in force at August 31, 1980

Statistical Tables

Table 1 including Table 21

Summary of Benefit and Contribution Provisions <sup>1/</sup>

1. RETIREMENT ANNUITY

Conditions for retirement. A participant may retire beginning at age 60 with at least 8-years of service at an unreduced benefit, or between ages 55 and 60-years on an actuarially equated benefit. A participant may retire at any age on an unreduced benefit with 35 or more years of validated service. Retirement may also occur beginning at age 62, after 5 years of service at the full rate of annuity.

Vesting of pension rights. A participant who terminates employment after contributing to the retirement system for 5 or more years receives a vested interest in his retirement annuity which may be exercised at age 62 or over.

A participant who terminates his employment after 8 or more years of service is entitled to a retirement annuity beginning at age 60, at an unreduced rate; or at age 55 on an actuarially reduced basis.

Amount of retirement annuity. The annuity payable is the larger of the amounts provided under the following paragraphs (a) and (b):

(a) An amount based upon "final rate of earnings" (defined below); equal to 1.67% for each of the first 10-years of service; 1.90% for each of the next 10-years of service; 2.10% for each of the third 10-years of service; and 2.30% for each year of service above 30-years. The annuity is subject to reduction by 1/2 of 1% for each month that a participant is under age 60 at date of retirement, unless the participant has 35 or more years of service; or

(b) The amount produced as an actuarial equivalent at the beginning date of annuity from (1) the participant's normal contributions (6½% of earnings), plus credited interest, plus (2) 1.4 times that portion of the normal annuity which is applicable to normal contributions, based upon earnings paid by an employer covered by the system, plus (3) an amount equal to that portion of the normal annuity which is applicable to regular normal contributions paid for other public employment.

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<sup>1/</sup> In force at August 31, 1980

Maximum retirement annuity. The maximum retirement annuity is 75% of final rate of earnings for retirement at age 62 or under; 76% for retirement at age 63; 78% at age 64; and 80% at age 65 or over.

"Final rate of earnings" defined. Highest average earnings for any 4 consecutive years within the total service of the participant.

Additional annuity. In addition to the aforesaid annuities, as may be applicable, a participant is entitled to receive, on an actuarial equivalent basis, an annuity from additional contributions over and above the normal rate, plus credited interest.

Post-retirement adjustment in retirement annuity. Beginning on January 1st nearest the first anniversary of retirement, or January 1st nearest the 61st birthday of the annuitant, whichever is later, and on January 1st of each year thereafter during the lifetime of the annuitant, the retirement annuity described above shall be increased 1-1/2% each year based upon the initial grant of annuity, if service of the participant terminated after August 14, 1969. The rate of increase is 2% per year (not compounded) between the period from January 1, 1971 through December 31, 1977; and 3% per year (not compounded) beginning January 1, 1978.

## 2. SUPPLEMENTAL ANNUITY TO PAST RETIREES

Any participant whose status as an employee terminated prior to August 15, 1969, with 15 years of total service or more, was granted an increase in retirement annuity, effective January 1, 1972, or September 1st nearest his 65th birthday. The increase is 1-1/2% of the initial grant of annuity for each year on retirement to January 1, 1972; 2% per year from that date until January 1, 1978; and 3% per year thereafter.

## 3. OPTIONAL REVERSIONARY ANNUITY

A reversionary annuity option is prescribed which must be exercised by a participant at least 30-days before the date of retirement, of not less than \$10.00 per month, nor more than the amount which when added to the survivor's annuity would exceed the participant's reduced annuity.

This annuity is payable in addition to the death benefit provided upon death after retirement, or the survivor's annuity.

#### 4. DISABILITY BENEFITS

Conditions for payment. A disability benefit is payable to any participant who becomes incapacitated from any cause so as to render the participant unfit for service to an employer in his assigned position.

Immediate coverage is provided for accidental disability but at least 2 years' service is required for disability resulting from causes other than bodily injuries.

Waiting period. Payment of benefits begins to accrue from the 61st day following the date of disability, or upon expiration of salary and sick leave payments, whichever date is later.

Amount of benefit. The disability benefit is equal to the greater of the following: (a) 50% of base salary on the date disability occurs; or (b) 50% of the average earnings during the 24-months immediately preceding the month in which disability occurs. The rate of earnings during disability for retirement annuity purposes is equal to the greater of the following: (a) base salary on the date disability occurs; or (b) average earnings during the 24 months immediately preceding the month in which disability occurs. During disability for which benefits are payable, the participant also receives service credit for retirement annuity purposes.

Duration of payment. Payable until the total paid is equal to 50% of the total earnings received by the participant during his membership in the system, but in no event beyond September first following his 70th birthday. If an employee is injured on the job and qualifies for Workmen's Compensation benefits, the 50% of earnings limitation is not applied until the September 1 following the 70th birthday.

Limitations. The benefit is subject to reduction by the excess of earnings from personal or professional service above the disability benefit payable during disability.

Workmen's Compensation. Disability benefits are subject to offset by Workmen's Compensation payments.

5. DEATH BENEFITS - SURVIVOR'S ANNUITY

Death before retirement. Upon the death of a contributing participant after at least 1-1/2 years of service, a qualified dependent beneficiary may elect to receive a benefit under one of the following options:

OPTION 1 -

- (a) Lump sum survivor's insurance of \$1,000, plus
- (b) A monthly survivor's annuity up to \$300 for one eligible beneficiary or \$500 for two or more eligible beneficiaries, plus
- (c) A refund of the 7% retirement deductions, including credited interest.

OPTION 2 -

- (a) Refund of the 7% retirement annuity deductions and 1% survivor's annuity deductions, including credited interest, plus
- (b) Payment from employer contributions up to \$5,000 depending upon the average earnings of the participant.

If the beneficiary elects the payments under Option 1, but remarries or dies before receiving payments equal to that under Option 2, the balance is payable to the eligible beneficiary or the Estate of the participant.

Survivor's annuity. Payable upon death of an employee participant with at least 1-1/2 years of service, or upon death of a former employee with at least 10-years of service, or upon death of a retired participant.

Beneficiaries. A beneficiary is (a) a spouse to whom the employee was married before retirement and at least a period of 1 year immediately prior to the employee's death; (b) an unmarried child under age 18, or (c) a dependent parent.

Test of dependency. Dependency is presumed in the case of a widow, widower and children under age 18. A dependent parent is one who must be receiving at the date of the employee's death at least one-half of support from the participant.

Amount of annuity. (a) To a widow or widower, 30% of average earnings (as defined for retirement annuity purposes); (b) to eligible children, 20% of average earnings, plus 10% of such earnings divided by the number of eligible children; or (c) to a dependent parent, 20% of average earnings, plus 10% thereof divided among the two parents who qualify.

Minimum and maximum payments. The minimum annuity upon death of a participant is 50% of the retirement annuity which may be payable at age 60, or on the date of death, whichever is later, from the earned accumulated pension credits. The total survivor's annuity payments to all beneficiaries may not exceed: (a) 80% of average earnings; or (b) \$300.00 per month, if no eligible children survive; or (c) \$500.00 per month if eligible children exist.

If death occurs after retirement, or after termination of employment in the case of a participant who dies while out of service with 10-or more years of credit, the total survivor's annuity may not exceed 80% of the retirement annuity received by the member or which would have been payable to him at age 60 based upon the participant's service credits at the date of death. The minimum survivor's annuity payable upon death of an annuitant is 50% of the retirement annuity.

To adjust the payments within the prescribed limitations, each annuity is reduced proportionately or eliminated entirely as the case may require.

Commencement of payments. The annuity begins at age 50 of the spouse and continues until the spouse dies or remarries prior to age 55.

If spouse has eligible minor children under care of the spouse, annuity payments begin immediately, even though the age of the spouse is under 50, but the annuity to the spouse would be suspended while under age 50 when children attain age 18 or otherwise become ineligible.

Payments on account of an unmarried child under age 18 begin immediately upon death of the participant and continue until the child attains age 18, marries or dies.

Payments to a dependent parent begin when the parent attains age 55. Payment is subject to termination upon death or remarriage.

6. REFUND OF CONTRIBUTIONS

Upon separation from service, regardless of cause, a participant may receive a refund of all accumulated normal contributions, including credited interest and survivors' annuity contributions, including credited interest. However, interest credits on refunds may not exceed 4-1/2% per annum.

7. FINANCING

Contributions by participants. Contributions by participants are at the rate of 7% of salary, by means of salary deductions. An additional 1% is to be contributed towards the survivor's annuity.

Contributions by the State of Illinois. The State is obligated to meet the remainder of the funded requirements of the system and the expense of administration after applying the contributions to be made by the participants. The established rate of State contributions for normal cost is 12.66% of payroll, as of September 1, 1981.

NUMBER OF ACTIVE PARTICIPANTS  
 Table 1. CLASSIFIED BY AGE, EARNINGS AND  
 ACCUMULATED CONTRIBUTIONS

<u>Age</u>	<u>Number</u>	<u>M A L E</u>	
		<u>Earnings</u>	<u>Accumulated Contributions</u>
18	12	\$ 35,700	\$ 3,015
19	36	200,249	19,286
20	42	329,909	35,202
21	70	510,864	64,679
22	74	648,043	90,719
23	95	778,280	108,890
24	138	1,423,581	241,598
25	188	2,122,073	403,899
26	200	2,373,882	456,328
27	275	3,388,202	685,273
28	306	4,191,825	956,800
29	394	5,788,290	1,345,807
30	407	6,353,792	1,631,081
31	415	6,877,933	1,895,708
32	527	9,012,510	2,922,574
33	637	11,595,757	4,102,509
34	513	9,979,299	4,022,738
35	593	12,184,868	5,721,262
36	661	13,607,851	6,951,626
37	780	16,905,641	9,302,395
38	669	15,313,970	9,468,883
39	699	16,288,718	10,268,704
40	595	13,961,933	9,689,867
41	674	15,898,494	11,234,105
42	688	16,658,820	12,536,721
43	624	15,438,526	11,601,615
44	644	15,930,099	12,674,354
45	645	16,132,160	13,492,306
46	604	15,241,550	12,739,540
47	620	15,539,656	13,843,738
48	620	16,033,578	14,918,540
49	656	16,862,681	15,929,121
50	612	15,715,481	15,032,219
51	604	14,946,313	15,261,301
52	624	15,782,178	15,886,998
53	592	15,052,297	15,919,028
54	577	13,951,887	15,664,265



Table 1 - continued

<u>Age</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
55	593	\$ 14,461,012	\$ 15,831,206
56	523	12,836,877	14,861,813
57	506	11,783,542	14,304,173
58	529	12,976,012	16,113,772
59	496	11,913,550	14,980,722
60	417	9,483,021	11,997,002
61	323	7,248,974	9,492,175
62	308	7,393,448	9,746,000
63	286	6,366,780	8,576,840
64	214	4,305,006	6,162,005
65	171	3,474,211	5,145,373
66	132	2,192,802	3,446,603
67	94	1,837,544	2,911,760
68	66	1,190,415	2,118,571
69	17	327,358	406,795
70	3	75,552	58,145
71	6	178,172	120,885
72	1	8,129	1,862
73	1	26,500	28,692
74	1	43,667	23,915
76	1	1,558	125
77	1	13,550	10,787
Unknown	13	114,429	9,154
<b>TOTALS</b>	<b>21,812</b>	<b>\$481,308,999</b>	<b>\$403,471,069</b>

Average Age= 44.1 yrs.

Average Earnings = \$22,066

Avge. Accum.Contr. = \$18,498

NUMBER OF ACTIVE PARTICIPANTS  
 Table 2. CLASSIFIED BY AGE, EARNINGS AND  
 ACCUMULATED CONTRIBUTIONS

F E M A L E

<u>Age</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
17	5	\$ 8,912	\$ 713
18	32	117,300	9,870
19	73	345,511	34,720
20	111	628,779	73,764
21	189	1,169,621	156,227
22	225	1,661,763	258,778
23	302	2,222,834	360,183
24	317	2,559,260	423,709
25	365	3,082,806	574,479
26	422	3,993,823	781,264
27	452	4,501,537	1,022,320
28	479	5,147,873	1,289,422
29	478	5,332,740	1,517,402
30	474	5,622,796	1,604,625
31	493	6,213,610	1,947,576
32	490	6,221,988	2,179,906
33	573	7,355,137	2,620,843
34	413	5,508,009	2,242,545
35	404	5,541,246	2,430,471
36	465	6,542,498	2,801,026
37	502	7,009,882	3,633,658
38	495	6,894,444	3,468,676
39	440	6,575,325	3,269,411
40	404	5,878,677	3,183,252
41	462	6,812,915	3,790,087
42	443	6,472,579	3,797,547
43	424	6,194,911	3,311,334
44	410	6,027,910	3,453,276
45	402	5,913,092	3,583,203
46	408	5,857,863	3,666,104
47	378	5,384,937	3,539,880
48	332	4,809,836	3,278,371
49	428	6,359,104	4,437,838

Table 2 - continued

<u>Age</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
50	397	\$ 5,581,458	\$ 4,039,853
51	425	5,935,108	4,275,923
52	429	5,972,222	4,573,394
53	410	5,811,083	4,758,362
54	406	5,966,024	4,972,334
55	414	5,970,577	5,127,409
56	405	5,844,626	5,089,825
57	401	5,904,639	5,391,668
58	371	5,140,211	4,785,936
59	335	4,600,850	4,589,171
60	294	3,669,371	3,680,411
61	260	3,496,409	3,378,795
62	177	2,152,434	2,426,765
63	186	2,446,594	2,865,656
64	170	2,446,546	2,917,964
65	123	1,472,460	1,847,713
66	98	833,768	1,181,963
67	73	763,898	1,177,890
68	47	511,612	670,223
69	19	210,936	191,720
70	4	43,026	42,434
72	2	25,902	20,148
Unknown	3	17,467	1,397
<b>TOTALS</b>	<b>17,739</b>	<b>\$228,786,739</b>	<b>\$136,749,434</b>

Average Age = 41.8 yrs.

Average Earnings = \$12,897

Avg. Accum. Contr. = \$7,709

Table 3. NUMBER OF ACTIVE PARTICIPANTS  
CLASSIFIED BY LENGTH OF SERVICE,  
EARNINGS AND ACCUMULATED  
CONTRIBUTIONS

M A L E

<u>Length of Service</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
Less than 1 year	1,013	\$ 4,196,765	\$ 337,459
1	1,716	28,975,847	2,631,706
2	1,421	26,499,564	4,329,723
3	1,175	23,368,668	5,610,114
4	1,021	20,662,871	6,524,802
5	977	20,073,406	7,874,443
6	915	20,061,394	9,478,943
7	748	16,322,580	9,123,732
8	672	15,624,148	9,917,115
9	777	18,384,515	13,044,069
10	1,334	31,880,869	25,101,365
11	1,314	32,350,620	27,953,054
12	1,399	34,464,552	32,247,163
13	1,464	37,122,900	36,979,220
14	1,049	26,725,317	28,885,420
15	791	19,656,130	22,374,850
16	520	12,902,168	15,382,284
17	428	10,498,671	12,942,674
18	394	9,736,469	12,976,616
19	280	7,214,384	9,803,996
20	313	7,558,585	11,064,984
21	256	6,355,732	9,506,070
22	220	5,552,738	8,548,208
23	198	5,057,006	8,092,136
24	153	4,129,034	6,551,700
25	148	3,990,184	6,414,282
26	140	3,890,594	6,702,983
27	140	3,647,649	6,674,192
28	121	2,962,700	5,502,491
29	115	3,184,120	5,630,412

Table 3 - continued

<u>Length of Service</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
30	99	2,704,680	\$ 5,076,528
31	108	3,264,103	6,159,675
32	86	2,470,790	4,603,154
33	85	2,484,068	4,928,515
34	74	2,471,327	4,712,666
35	45	1,493,190	2,912,761
36	32	1,039,241	2,172,532
37	33	1,019,523	2,025,198
38	15	470,369	984,549
39	10	322,388	687,768
40	7	304,947	579,145
41	3	107,216	210,390
42	3	106,977	211,982
TOTALS	<u>21,812</u>	<u>\$481,308,999</u>	<u>\$403,471,069</u>

Average Service = 10.1 yrs

Average Earnings = \$22,066

Average Accum. Contr. = \$18,498

Table 4. NUMBER OF ACTIVE PARTICIPANTS  
CLASSIFIED BY LENGTH OF SERVICE,  
EARNINGS AND ACCUMULATED CONTRIBUTIONS

<u>Length of Service</u>	<u>F E M A L E</u>		
	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
Less than 1 year	1,510	\$ 4,448,230	\$ 352,064
1	2,428	25,155,103	2,263,020
2	1,881	22,126,840	3,584,583
3	1,588	19,870,610	4,682,134
4	1,143	14,575,172	4,491,996
5	1,009	14,153,372	5,394,840
6	851	11,778,400	5,313,756
7	618	8,896,555	4,721,263
8	513	7,570,328	4,532,611
9	588	9,113,474	6,153,335
10	849	13,799,473	10,338,304
11	845	13,447,942	11,142,320
12	755	12,407,163	11,060,211
13	798	13,084,004	12,625,196
14	525	9,113,998	9,517,262
15	317	5,355,746	5,771,994
16	220	3,401,252	3,873,476
17	210	3,259,276	3,987,215
18	174	2,467,565	3,191,454
19	138	2,070,628	2,680,661
20	99	1,482,339	2,019,921
21	86	1,394,130	1,955,603
22	92	1,500,560	2,286,115
23	71	1,074,556	1,719,552
24	68	1,082,122	1,830,437
25	42	623,378	991,468
26	42	646,237	1,098,970
27	51	748,055	1,361,771
28	41	606,394	1,074,905
29	39	644,732	1,153,519

Table 4 - continued

<u>Length of Service</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
30	27	\$ 510,642	\$ 956,472
31	26	455,701	913,746
32	23	472,970	869,963
33	23	415,321	829,890
34	16	359,730	679,621
35	10	176,379	357,091
36	9	165,989	315,834
37	6	140,487	268,306
38	2	48,524	99,509
39	4	105,656	213,230
41	1	15,456	28,791
44	1	22,250	47,025
TOTALS	<u>17,739</u>	<u>\$228,786,739</u>	<u>\$136,749,434</u>

AVERAGE SERVICE = 6.8 yrs.

AVERAGE EARNINGS = \$12,897

AVG. ACCUM. CONTR. = \$7,709

Table 5. INACTIVE PARTICIPANTS CLASSIFIED  
BY AGE, EARNINGS AND ACCUMULATED  
CONTRIBUTIONS

<u>Age</u>	<u>Number</u>	<u>M A L E</u>	
		<u>Earnings</u>	<u>Accumulated Contributions</u>
19	5	\$ 8,444	\$ 569
20	7	27,059	2,976
21	6	12,419	2,341
22	9	24,079	2,460
23	14	58,813	9,567
24	16	30,816	6,425
25	17	64,446	14,272
26	24	62,637	17,099
27	24	137,085	19,130
28	46	136,600	39,105
29	39	155,100	43,155
30	47	182,720	43,491
31	52	186,934	58,395
32	47	265,751	96,321
33	55	361,335	158,502
34	46	260,697	139,279
35	54	200,385	176,001
36	70	492,732	334,508
37	71	381,705	391,885
38	73	414,358	530,281
39	62	256,682	522,920
40	60	202,173	409,763
41	54	214,358	446,313
42	75	256,623	754,917
43	74	192,399	794,546
44	62	152,230	524,976
45	67	255,179	779,701
46	78	175,418	1,003,223
47	65	70,508	692,362
48	61	175,038	823,716
49	73	81,845	1,065,159



Table 5 - continued

<u>Age</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
50	88	\$ 187,485	\$ 990,044
51	89	112,005	1,055,817
52	84	135,763	1,200,195
53	69	133,325	1,073,362
54	81	318,492	1,142,882
55	84	411,892	1,357,781
56	74	159,341	1,297,778
57	74	161,696	1,038,533
58	82	154,189	1,040,461
59	57	354,253	1,230,234
60	73	1,008,543	1,457,661
61	58	460,021	853,116
62	36	416,598	746,489
63	35	426,074	577,047
64	30	377,275	526,482
65	29	382,944	611,656
66	20	261,559	369,955
67	19	326,754	470,101
68	13	92,069	151,670
69	10	38,762	52,941
70	14	59,691	68,091
71	3	--	14,828
72	3	5,816	4,744
73	2	--	1,119
74	2	--	3,916
75	2	--	1,154
76	1	--	38
77	2	--	625
78	1	--	39
79	1	--	748
80	1	--	698
83	1	--	470
86	1	--	60
Unknown	7	18,463	8,934
<b>TOTALS</b>	<b>2,599</b>	<b>\$11,499,578</b>	<b>\$27,253,027</b>

AVERAGE AGE = 46.5 yrs.  
 AVG. EARNINGS = \$4,425  
 AVG. ACCUM. CONTR. = \$10,486

Table 6. INACTIVE PARTICIPANTS CLASSIFIED  
BY AGE, EARNINGS AND ACCUMULATED  
CONTRIBUTIONS

<u>Age</u>	<u>Number</u>	<u>F E M A L E</u>	
		<u>Earnings</u>	<u>Accumulated Contributions</u>
19	7	\$ 10,353	\$ 984
20	11	13,673	1,305
21	21	78,403	5,590
22	23	90,857	12,824
23	25	111,968	14,525
24	37	137,687	32,288
25	39	138,867	40,784
26	31	138,343	23,354
27	60	301,915	77,290
28	54	210,811	67,647
29	50	114,839	53,835
30	69	240,654	71,125
31	68	291,017	79,410
32	73	253,762	104,168
33	95	343,013	220,209
34	62	138,661	100,236
35	59	128,706	153,505
36	64	159,005	161,123
37	73	229,601	221,478
38	59	207,683	238,024
39	58	102,056	210,483
40	51	140,993	211,386
41	46	117,751	218,193
42	58	109,075	262,009
43	39	81,415	160,499
44	45	58,856	152,513
45	43	84,442	170,773
46	41	90,116	178,163
47	59	32,709	167,966
48	52	125,254	257,555
49	57	40,520	222,650

Table 6 - continued

<u>Age</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
50	68	\$ 111,836	\$ 351,860
51	64	105,132	462,250
52	59	48,495	305,585
53	66	67,562	449,068
54	67	40,018	264,337
55	63	130,644	436,910
56	57	84,498	394,573
57	70	30,966	330,378
58	49	144,031	435,677
59	56	154,667	476,983
60	55	178,971	306,310
61	41	128,775	326,776
62	39	188,194	277,265
63	31	158,515	209,628
64	27	128,994	173,080
65	23	145,239	181,438
66	16	75,495	134,138
67	14	21,947	55,868
68	17	162,248	214,954
69	7	9,098	8,820
70	6	31,644	48,500
71	7	3,529	8,302
72	6	33,103	33,097
74	2	--	808
75	2	--	390
76	1	--	20
82	1	--	92
84	1	--	130
86	2	--	1,533
Unknown	4	--	--
		9,480	1,686
<b>TOTALS</b>	<b>2,450</b>	<b>\$6,516,086</b>	<b>\$9,782,350</b>

AVERAGE AGE = 43.8 yrs.  
 AVG. EARNINGS = \$2,660  
 AVG. ACCUM. CONTR. = \$3,993

Table 7. INACTIVE PARTICIPANTS CLASSIFIED  
BY LENGTH OF SERVICE, EARNINGS  
AND ACCUMULATED CONTRIBUTIONS

<u>M A L E</u>			
<u>Length of Service</u>	<u>Number</u>	<u>Earnings</u>	<u>Contributions</u>
Less than 1 year	625	\$ 173,660	\$ 80,254
1	266	1,024,973	293,660
2	181	817,146	467,269
3	133	636,643	570,761
4	115	743,059	699,232
5	157	576,450	1,395,502
6	121	247,211	1,255,182
7	115	434,734	1,468,421
8	106	142,299	1,503,440
9	89	456,646	1,506,104
10	140	541,888	2,636,581
11	89	456,822	1,811,681
12	82	272,945	1,649,166
13	50	377,539	1,110,622
14	43	365,420	1,007,474
15	29	106,217	750,551
16	34	224,560	855,139
17	23	270,360	646,999
18	21	79,832	578,005
19	20	176,147	601,780
20	15	144,454	407,679
21	14	169,181	485,169
22	6	72,842	127,345
23	15	287,980	518,418
24	8	102,873	355,446
25	3	31,111	132,315
26	7	129,565	236,850
27	6	92,130	232,026
28	4	159,496	180,076
29	8	135,009	363,744

Table 7 - continued

<u>Length of Service</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
30	8	\$ 246,245	\$ 428,799
31	5	126,393	291,672
32	13	399,273	537,348
33	5	135,959	229,408
34	12	364,345	641,749
35	8	197,582	236,033
36	9	199,244	308,968
37	4	40,620	55,632
38	3	125,338	185,342
39	3	78,907	135,495
40	1	30,476	64,764
41	2	57,604	136,938
42	1	48,400	73,988
TOTALS	<u>2,599</u>	<u>\$11,499,578</u>	<u>\$27,253,027</u>

AVERAGE SERVICE = 6.4 yrs.

AVERAGE EARNINGS = \$4,425

AVG. ACCUM. CONTR. = \$10,486

Table 8. INACTIVE PARTICIPANTS CLASSIFIED  
BY LENGTH OF SERVICE, EARNINGS,  
AND ACCUMULATED CONTRIBUTIONS

Length of Service	<u>F E M A L E</u>		
	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
Less than 1 year	767	\$ 257,103	\$ 82,547
1	362	1,312,625	296,031
2	244	818,979	429,615
3	179	769,581	548,294
4	128	330,819	502,624
5	133	295,706	677,765
6	106	305,211	764,997
7	83	234,847	632,218
8	61	141,691	608,150
9	56	127,469	502,709
10	51	102,245	530,562
11	54	244,257	582,463
12	35	64,216	412,014
13	34	242,781	487,008
14	25	103,933	331,667
15	21	129,060	320,830
16	20	102,614	303,410
17	15	49,725	233,425
18	14	139,333	155,085
19	7	107,070	162,643
20	8	75,573	134,299
21	4	17,515	91,155
22	8	51,248	116,488
23	6	35,358	98,685
24	2	25,835	51,333
25	6	105,620	154,547
26	2	--	37,560
27	3	9,935	45,565
28	2	29,611	48,481
29	2	27,570	63,339
30	1	37,917	49,101
31	2	43,702	46,493
32	1	--	186
34	1	2,146	11

Table 8 - continued

<u>Length of Service</u>	<u>Number</u>	<u>Earnings</u>	<u>Accumulated Contributions</u>
35	1	\$ 22,693	\$ 48,113
36	2	47,891	92,055
37	3	84,679	83,144
39	1	19,528	57,738
TOTALS	2,450	\$6,516,086	\$9,782,350

AVERAGE SERVICE = 4.0 yrs.

AVERAGE EARNINGS = \$2,660

AVG. ACCUM. CONTR.= \$3,993

Table 9. RETIREMENT ANNUITANTS CLASSIFIED  
BY AGE AND ANNUAL PAYMENTS

			<u>M A L E</u>		
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
52	2	\$ 27,668	85	28	\$ 108,442
53	1	29,189	86	24	100,998
54	6	69,679	87	18	72,586
55	20	165,293	88	18	61,982
56	43	323,673	89	12	41,048
57	44	452,630	90	9	47,932
58	59	437,628	91	5	11,370
59	62	580,249	92	7	22,827
60	95	907,077	93	5	16,849
61	106	1,063,240	94	1	4,551
62	147	1,164,076	98	2	7,514
63	146	1,195,506			
64	161	1,388,850			
			TOTALS	3,608	\$27,909,273
65	169	1,363,750			
66	193	1,560,388			
67	197	1,615,275			
68	219	1,640,287			
69	206	1,486,943			
70	220	1,917,733			
71	209	1,638,500			
72	200	1,436,002			
73	171	1,447,268			
74	154	1,189,740			
75	128	983,058			
76	111	797,618			
77	77	638,776			
78	82	464,820			
79	62	403,598			
80	58	395,229			
81	39	173,425			
82	34	171,185			
83	31	142,671			
84	27	142,150			

Average Age = 69.5 yrs.

Average Annual  
Payment = \$7,735



Table 10. RETIREMENT ANNUITANTS CLASSIFIED  
BY AGE AND ANNUAL PAYMENTS

F E M A L E

<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
52	1	\$ 662	85	21	\$ 52,454
53	1	9,817	86	21	59,787
54	1	1,296	87	21	52,984
55	9	15,335	88	20	60,426
56	17	32,483	89	3	10,547
57	35	84,468	90	8	19,482
58	48	165,491	91	8	12,958
59	54	149,795	92	2	3,414
60	57	158,150	93	6	9,200
61	92	328,473	94	1	1,528
62	114	344,140	95	2	4,624
63	111	337,405	96	4	6,790
64	148	470,777	102	1	568
65	181	543,232			
66	163	544,468			
67	182	633,072			
68	188	702,027			
69	163	595,575			
70	186	738,471			
71	177	685,849			
72	163	618,004			
73	132	591,582			
74	127	534,705			
75	112	557,127			
76	69	320,025			
77	97	429,923			
78	71	260,712			
79	59	179,272			
80	48	179,374			
81	42	137,270			
82	39	104,560			
83	35	100,853			
84	29	82,601			
			TOTALS	3,069	\$10,931,756
			AVERAGE AGE =		70.0 yrs.
			AVERAGE ANNUAL PAYMENT =		\$3,562

Table 11. DISABILITY BENEFICIARIES CLASSIFIED  
BY AGE AND TOTAL ANNUAL PAYMENTS

<u>M A L E</u>					
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
24	1	\$ 5,431	55	19	\$ 125,205
			56	17	125,464
25	1	5,342	57	33	278,441
26	2	10,896	58	31	232,292
28	1	4,244	59	38	303,180
30	2	9,596			
31	2	8,632	60	40	310,418
32	2	12,514	61	26	172,100
33	4	25,929	62	38	297,072
34	2	10,195	63	43	339,098
			64	36	268,620
35	5	28,986			
36	5	36,429	65	43	313,692
37	2	10,670	66	48	316,938
38	5	41,665	67	32	214,133
39	2	10,584	68	25	156,692
			69	21	134,786
40	4	33,548			
41	3	27,120	70	8	68,891
42	7	50,998	71	1	3,786
43	4	27,665			
44	3	20,239			
			TOTALS	694	\$5,164,812
45	12	105,884			
46	6	40,492			
47	8	62,043			
48	12	101,641			
49	11	80,620			
50	20	191,095			
51	21	186,302			
52	12	92,685			
53	15	114,165			
54	21	148,394			

AVERAGE AGE = 57.9 yrs.

AVERAGE ANNUAL  
PAYMENT = \$7,442

Table 12. DISABILITY BENEFICIARIES CLASSIFIED  
BY AGE AND TOTAL ANNUAL PAYMENTS

F E M A L E

<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
Unknown	1	\$ 4,437	55	24	\$ 129,087
20	1	4,379	56	25	129,652
22	2	9,270	57	15	74,260
23	1	5,483	58	41	207,878
24	1	4,509	59	22	106,409
25	2	9,266	60	36	198,295
26	9	41,368	61	30	148,559
27	6	23,973	62	24	118,948
28	3	15,008	63	29	169,922
29	8	40,292	64	33	186,720
30	9	51,968	65	33	145,544
31	7	33,533	66	41	213,035
32	9	43,602	67	36	162,429
33	13	59,697	68	17	94,258
34	8	41,495	69	12	61,209
35	4	19,486	70	3	13,577
36	5	31,186	71	1	4,144
37	7	54,699			
38	8	55,598			
39	5	27,604			
40	6	40,559			
41	4	22,386			
42	13	68,285			
43	9	53,820			
44	7	40,316			
45	14	59,800			
46	8	32,813			
47	9	42,441			
48	17	326,835			
49	6	30,897			
50	17	93,954			
51	14	64,727			
52	22	129,999			
53	25	114,482			
54	24	115,086			
			TOTALS	726	\$3,977,179
			AVERAGE AGE	=	54.1 yrs.
			AVERAGE ANNUAL PAYMENT	=	\$5,478

Table 13. FEMALE REVERSIONARY ANNUITIES  
IN FORCE

<u>Death Before Retirement</u>		
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
72	1	\$ 2,665
74	1	1,200
83	1	3,310
89	1	1,200
90	1	3,352
Total	5	\$11,727

Average Age = 81.6 Yrs.

Average Annual  
Payment = \$2,345

<u>Death After Retirement</u>		
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
59	1	\$ 3,252
61	1	6,293
62	2	11,017
65	3	11,358
66	1	1,200
67	4	9,000
68	4	8,100
69	4	8,400
71	2	3,600
72	4	6,000
73	4	6,786
74	4	10,997
75	3	4,506
76	2	10,200
77	3	10,075
78	2	4,200
79	3	6,602
80	5	18,000
81	4	10,587
82	2	4,578
83	2	2,400
84	6	11,923
85	2	2,057
86	3	4,181
87	2	3,645
88	3	3,720
90	4	5,965
93	1	1,401
94	1	1,242
95	1	1,947
Total	83	\$193,232

Average Age - 77.2 Yrs.

Average Annual  
Payment = \$2,328

Table 14.

BENEFICIARY ANNUITANTS CLASSIFIED  
BY AGE AND ANNUAL PAYMENTS

<u>M A L E</u>			<u>F E M A L E</u>		
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
28	1	\$1,124	65	1	\$ 127
43	1	423	66	6	3,360
61	1	568	67	9	6,199
62	1	1,976	68	2	1,278
70	1	482	69	2	1,127
76	1	204	70	4	1,951
77	1	702	71	2	1,091
83	1	649	72	3	1,552
TOTAL	8	\$6,128	73	3	2,339
			74	5	3,482
			75	2	962
			76	4	3,783
			77	4	1,617
			78	2	255
			79	1	193
			80	3	1,731
			81	3	890
			82	2	670
			83	1	235
			84	3	1,223
			86	2	522
			87	2	1,096
			88	2	444
			91	2	534
			93	1	219
			95	2	660
			98	1	243
			TOTALS	108	\$59,269
			AVERAGE AGE	=	70.7 yrs.
			AVERAGE ANNUAL		
			PAYMENT	=	\$549.

Table 15. SURVIVORS INSURANCE BENEFICIARIES  
IN FORCE

<u>W I D O W S</u>					
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
26	2	\$ 3,600	60	43	\$ 142,267
28	1	2,073	61	28	97,854
30	2	5,250	62	52	171,718
31	2	3,058	63	61	199,156
32	1	3,529	64	43	138,535
33	7	15,900	65	43	129,416
34	2	3,004	66	41	143,933
35	2	4,050	67	50	177,287
36	1	1,286	68	50	159,523
37	5	10,864	69	48	122,018
38	5	8,455	70	52	150,633
39	5	9,975	71	46	123,688
40	2	3,825	72	48	139,543
41	4	8,100	73	44	140,842
42	5	10,650	74	38	91,788
43	7	15,615	75	35	80,179
44	7	14,753	76	22	47,358
45	6	14,208	77	26	61,848
46	7	13,676	78	32	87,035
47	7	15,004	79	26	51,628
48	8	15,983	80	31	69,902
49	6	12,336	81	27	53,647
59	10	25,511	82	30	56,937
51	16	48,972	83	23	41,774
52	11	31,917	84	21	40,751
53	19	66,005	85	14	26,499
54	24	93,861	86	10	15,829
55	23	79,363	87	11	22,272
56	27	87,627	88	5	10,443
57	34	106,986	89	7	13,203
58	30	100,379	90	3	6,568
59	47	145,218	91	2	4,800
			95	<u>1</u>	<u>1,638</u>
AVERAGE AGE = 64.0 yrs.			TOTALS	<u>1,348</u>	<u>\$3,801,545</u>

AVG. ANNUAL  
PAYMENT = \$2,820

Table 16. SURVIVORS INSURANCE BENEFICIARIES

<u>CHILDREN</u>			<u>WIDOWERS</u>		
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>	<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
Unknown	1	\$ 1,875	39	1	\$ 2,896
1	2	2,800	42	1	2,100
2	1	1,400	46	4	7,082
4	4	8,150	50	1	3,273
5	4	7,571	51	1	1,960
6	6	9,825	52	3	6,540
7	11	18,234	53	5	10,854
8	10	18,090	54	4	11,027
9	15	29,812	55	4	10,647
10	15	25,891	56	7	16,537
11	28	51,525	57	4	9,969
12	27	47,539	58	2	2,968
13	30	49,586	59	4	8,217
14	23	46,287	60	5	12,870
15	28	52,378	61	9	19,311
16	49	97,453	62	5	12,906
17	56	116,198	63	5	9,340
18	20	33,279	64	6	13,634
<b>TOTALS</b>	<b>330</b>	<b>\$617,893</b>	65	4	12,092
			66	6	12,475
			67	6	12,716
			68	6	12,844
			69	1	668
			70	1	2,222
			71	4	7,056
			72	2	3,365
			73	5	9,055
			74	4	7,757
			75	4	13,704
			76	2	4,032
			77	2	3,825
			78	2	3,144
			80	2	3,845
			87	1	1,446
			90	2	2,538
			<b>TOTALS</b>	<b>125</b>	<b>\$274,915</b>

<u>CHILDREN</u>		
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
Unknown	1	\$ 1,875
1	2	2,800
2	1	1,400
4	4	8,150
5	4	7,571
6	6	9,825
7	11	18,234
8	10	18,090
9	15	29,812
10	15	25,891
11	28	51,525
12	27	47,539
13	30	49,586
14	23	46,287
15	28	52,378
16	49	97,453
17	56	116,198
18	20	33,279
<b>TOTALS</b>	<b>330</b>	<b>\$617,893</b>

AVERAGE AGE = 13.3 yrs.  
 AVG. ANNUAL PAYMENT = \$1,872

<u>PARENTS</u>		
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
74	1	\$ 1,438
81	1	3,600
84	1	2,400
87	1	927
91	1	3,000
<b>TOTALS</b>	<b>5</b>	<b>\$ 11,365</b>

AVERAGE AGE = 83.4 yrs.  
 AVG. ANNUAL PAYMENT = \$2,273

Table 17. PROSPECTIVE SURVIVORS' INSURANCE ANNUITIES

<u>W I D O W S</u>		
<u>Age</u>	<u>Number</u>	<u>Annual Payments</u>
38	2	\$ 7,732
41	1	3,600
43	1	3,000
44	3	7,913
45	2	6,600
46	2	5,563
47	4	9,678
48	5	13,275
49	6	14,709
50	2	7,200
51	6	14,867
52	6	13,717
53	8	16,790
54	2	4,795
55	4	7,341
TOTALS	54	\$136,780

AVERAGE AGE = 49.4 yrs.

AVERAGE ANNUAL PAYMENT = \$2,533

<u>W I D O W E R S</u>		
39	1	\$ 2,896
42	1	3,000
45	1	3,000
46	1	3,308
48	1	2,569
TOTALS	5	\$ 14,773

AVERAGE AGE = 44.0 yrs.

AVERAGE ANNUAL PAYMENT = \$2,955



Table 18. NUMBER AND AMOUNT OF REFUNDS  
Classified by Age

			<u>M A L E</u>		
<u>Age</u>	<u>Number</u>	<u>Refunds</u>	<u>Age</u>	<u>Number</u>	<u>Refunds</u>
Unknown	2	\$ 727	50	21	\$ 123,972
19	10	1,964	51	11	138,196
20	13	4,178	52	20	138,388
21	16	7,095	53	21	158,391
22	29	16,819	54	9	49,731
23	32	28,783	55	10	54,053
24	42	53,116	56	4	4,470
25	42	51,388	57	8	46,014
26	53	83,905	58	10	118,577
27	65	114,445	59	4	27,329
28	72	131,593	60	13	85,324
29	71	149,158	61	5	24,139
30	57	133,763	62	4	19,285
31	79	201,952	63	6	21,129
32	76	307,273	64	5	16,582
33	77	347,745	65	8	31,213
34	63	288,908	66	4	23,447
35	63	304,734	67	1	35
36	54	321,745	68	2	8,298
37	75	506,098	70	1	3
38	53	425,640	71	1	6
39	43	357,101			
40	35	233,302			
41	42	396,662			
42	41	306,710			
43	41	337,756			
44	25	324,239			
45	30	290,602			
46	31	383,871			
47	21	163,989			
48	25	259,486			
49	17	174,141			
			TOTALS	<u>1,563</u>	<u>\$7,797,470</u>

Table 19. NUMBER AND AMOUNT OF REFUNDS  
CLASSIFIED BY LENGTH OF SERVICE

M A L E

<u>Length of Service</u>	<u>Number</u>	<u>Amount</u>
Less than 1 year	297	\$ 82,311
1	320	378,026
2	238	622,394
3	168	721,393
4	136	750,973
5	81	569,842
6	61	486,380
7	40	406,015
8	28	380,173
9	51	811,698
10	44	728,535
11	27	464,864
12	33	609,196
13	20	344,526
14	7	173,274
15	6	137,154
16	2	50,040
17	2	35,943
19	1	28,187
31	1	16,546
TOTALS	<u>1,563</u>	<u>\$7,797,470</u>

Table 20. NUMBER AND AMOUNT OF REFUNDS  
CLASSIFIED BY AGE

F E M A L E

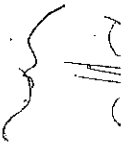
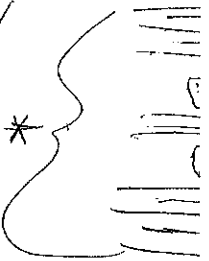
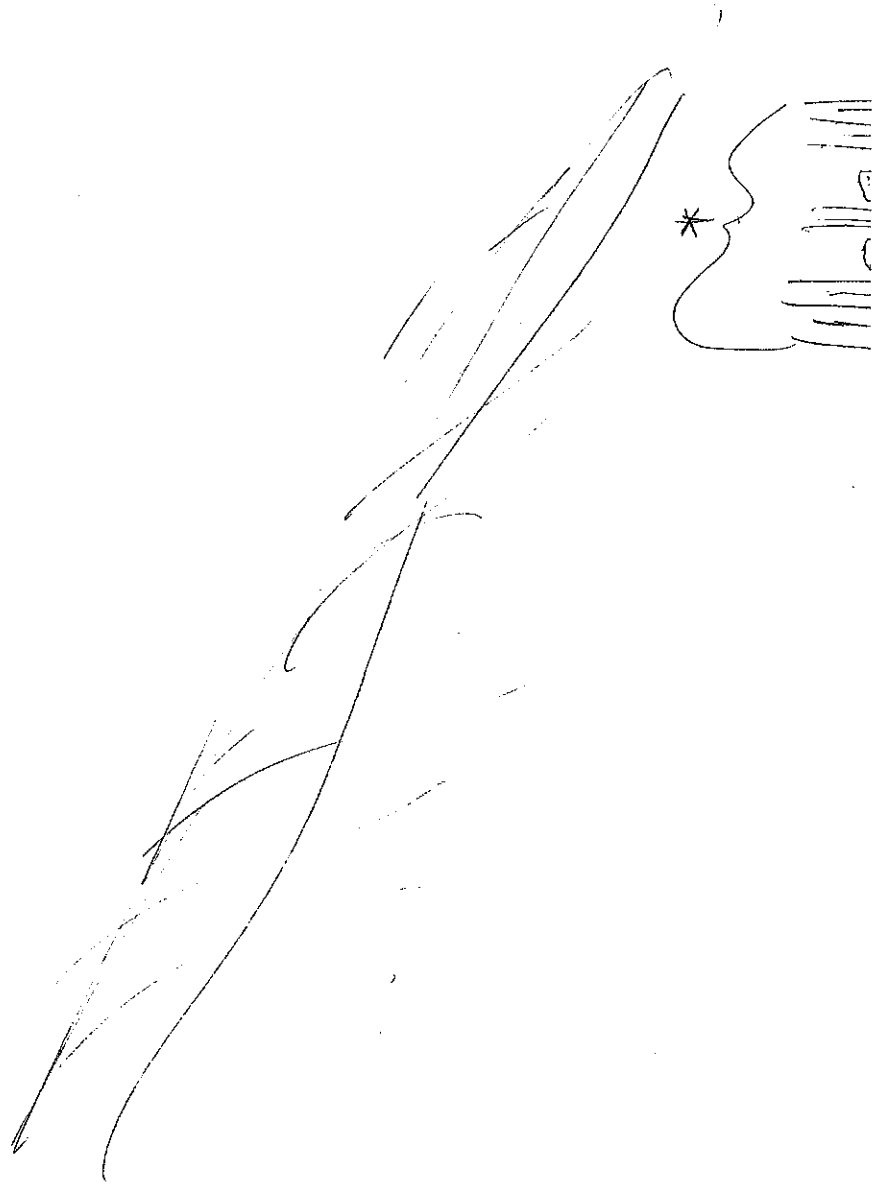
<u>Age</u>	<u>Number</u>	<u>Refund</u>	<u>Age</u>	<u>Number</u>	<u>Refund</u>
Unknown	4	\$ 1,522	50	27	\$ 58,071
18	1	133	51	24	118,308
19	14	3,264	52	21	77,493
20	30	14,888	53	18	65,543
21	62	43,171	54	18	26,101
22	66	55,552	55	21	39,508
23	105	85,562	56	16	48,332
24	92	102,930	57	7	22,845
25	110	131,129	58	18	34,961
26	127	174,259	59	7	26,576
27	128	210,514	60	5	10,370
28	118	214,078	61	8	27,195
29	133	268,491	62	3	2,545
30	103	198,291	63	4	14,713
31	114	281,937	65	3	282
32	97	248,386	66	3	5,277
33	91	280,742	69	2	4,530
34	69	223,988	70	1	6
35	67	214,282	72	2	167
36	63	200,159			
37	59	185,287	TOTALS	2,289	\$5,209,351
38	76	276,368			
39	42	143,192			
40	32	124,724			
41	40	153,066			
42	37	97,893			
43	28	108,593			
44	30	76,429			
45	26	79,387			
46	24	68,635			
47	38	139,442			
48	23	76,978			
49	32	143,256			

Table 21. NUMBER AND AMOUNT OF REFUNDS  
CLASSIFIED BY LENGTH OF SERVICE

F E M A L E

<u>Length of Service</u>	<u>Number</u>	<u>Amount</u>
Less than 1 year	515	\$ 102,126
1	560	480,068
2	397	647,363
3	253	656,627
4	163	594,569
5	114	523,624
6	58	318,389
7	52	315,508
8	39	279,897
9	36	321,593
10	41	339,586
11	22	205,124
12	17	182,847
13	11	126,221
14	3	26,712
15	2	21,683
16	1	10,532
17	2	23,512
21	2	26,769
25	1	6,601
TOTALS	<u>2,289</u>	<u>\$5,209,351</u>

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FY	EARNINGS	N.C.Z	N.C. AMOUNT	UNFUNDED LIAB	INT R	MD PNT FACT	N.C.+40 YR AMOR.	FY OF AMORT
76	514,000,000	0.11500	59,110,000	658,772,105	0.05	0.97778967	96,649,327	77
77	532,800,000	0.11880	64,484,440	730,570,416	0.05	0.97778967	106,115,307	78
78	593,200,000	0.11930	70,768,760	792,374,137	0.05	0.97778967	115,921,237	79
79	644,200,000	0.12660	81,555,720	849,722,361	0.05	0.97778967	129,976,115	80
80	710,100,000	0.12660	89,898,660	879,136,019	0.05	0.97778967	139,995,157	81