



**OHIO PUBLIC EMPLOYEES
RETIREMENT SYSTEM**

**Annual Actuarial Valuation
of Active and Inactive Members**

December 31, 1995

TABLE OF CONTENTS

<i>Section</i>	<i>Pages</i>	<i>Item</i>
	2	Introduction
		Retirement System Totals
	3	Financing benefit promises
	4	Comments concerning financing of retirement allowances
	5	Comments concerning financing of health and medicare benefits
	6	Active members in valuation
	7-8	Financial Information
	9-10	Overall valuation results
	11	Expected Population Development
	12	Comparison of Asset Values and Rates of Return
I		State Division
II		Local Government Division
III		Law Enforcement Division
	1-4	Active members in valuation
	5	Assets
	6	Development of UAAL
	7	Contributions to support retirement allowances
	8	Contributions to support health and medicare benefits
	9-10	Comparative schedules
IV	1-5	Benefits and Conditions Evaluated
V	1-7	Actuarial Methods and Assumptions
VI		Financial Principles
	1-5	Principles and operational techniques
	6-7	Glossary
	8	Meaning of "Unfunded Actuarial Accrued Liabilities"



GABRIEL, ROEDER, SMITH & COMPANY
Consultants & Actuaries

1000 Town Center • Suite 1000 • Southfield, Michigan 48075 • 810-799-9000 • FAX 810-799-9020

August 8, 1996

The Retirement Board
Public Employees Retirement System of Ohio
Columbus, Ohio

Ladies and Gentlemen:



The results of the *December 31, 1995 annual actuarial valuations of members* covered by the Public Employees Retirement System of Ohio, based upon Chapter 145 of the Code as amended are presented in this report. Actuarial valuations of retired lives are covered in a separate report.

The individual member statistical data required for the valuations was furnished by your Executive Director and his Staff, together with pertinent data on financial operations. Their cooperation in furnishing these materials is acknowledged with appreciation.

The actuarial assumptions used in the valuations are summarized in Section V of this report. The assumptions are established by the Retirement Board after consulting with the actuary.

The valuation was completed using generally accepted actuarial principles and in conformance with Chapter 145 of the Revised Code of Ohio. To the best of our knowledge this report is complete and accurate and the actuarial methods and assumptions produced results which are reasonable.

Respectfully submitted,
GABRIEL, ROEDER, SMITH & COMPANY

 
Norman L. Jones, F.S.A. Brian B. Murphy, F.S.A.

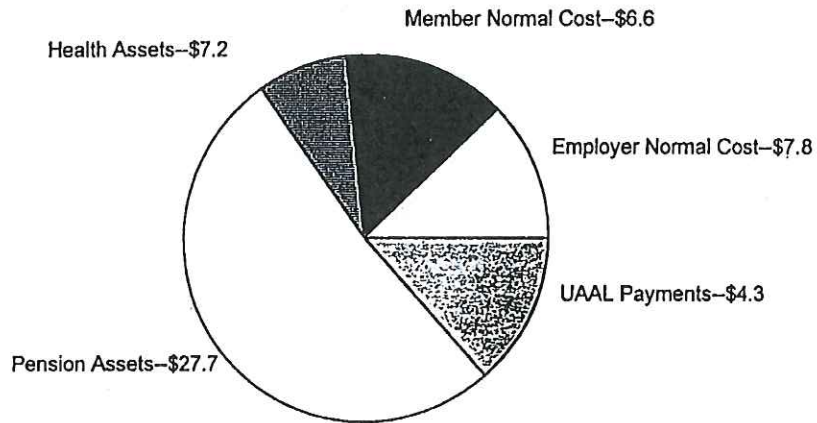
BBM:klw

Retirement System Totals

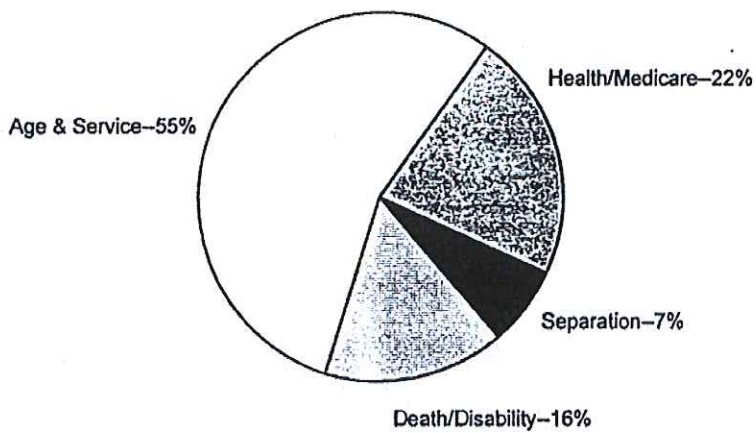


PERS OHIO

Financing \$53.6 Billion* of Benefit Promises For Present Active and Retired Members December 31, 1995



SOURCES OF FUNDS



USES OF FUNDS

* Present value of future benefits - all divisions combined. \$ amounts are in billions.

COMMENTS REGARDING THE FINANCING OF RETIREMENT ALLOWANCES

The December 31, 1995 actuarial valuations of members indicate the following about the portion of employer contribution rates allocated to financing retirement allowances:

- The employer rates are sufficient to fully fund the cost of benefit commitments being made to members for service currently being rendered.
- After satisfying current cost requirements, the remainder of the employer rates are sufficient to fund over a reasonable period of future years the unfunded portion of liabilities for service already rendered.

Key valuation results are summarized below.

Division	Active Members		Retirement Allowance	Amortization Years For Unfunded Pension	
	Number	Annual Payroll (\$ millions)	Portion of Employer Contribution Rate	Accrued Liabilities	
				Total	Change from Prior Year
State	114,596	\$3,204	9.02%	17	- 4
Local	223,431	4,555	8.44	21	- 7
Law Enforcement	6,605	214	10.81	12	- 1
Totals	344,632	\$7,973			

Experience. Experience was slightly favorable this year. Investment return recognized for the valuation was above the assumed level. Additional detail concerning 1995 experience will be presented in a separate Gain/Loss Analysis.

Conclusion. Based on the results of the December 31, 1995 regular annual actuarial valuation, it is our opinion that the Public Employees Retirement System of Ohio continues to be in sound financial condition in accordance with actuarial principles of level percent of payroll financing.

COMMENTS REGARDING THE FINANCING OF HEALTH & MEDICARE BENEFITS

The overall cost of health insurance for retired lives was in line with assumptions during 1995. Experience was more favorable than assumed for non-Medicare coverage and somewhat less favorable than assumed for those covered by Medicare. Key valuation results are summarized below:

Division	Health/Medicare Portion of Employer Contribution Rate	Amortization Years for Unfunded Health Accrued Liabilities	
	Total	Total	Change From Prior Year
State	4.29%	24	+ 1
Local	5.11	34	+ 3
Law Enforcement	5.89	19	- 5

In viewing experience in the health and medicare program, it is important to bear in mind a key underlying assumption:

- **It is assumed that per capita costs increase no faster than average salaries.**

The amortization periods could be very different if this assumption were not made.

Since the inception of the program, more rapid increases have been dealt with by:

- Reducing contributions allocated to the base retirement program (largely because of extraordinary economic gains), and
- Periodic adjustments in benefits.

A separate report examines the funding of the Retiree Health/Medicare Reimbursement program in depth.

**ACTIVE MEMBERS IN VALUATION
GROUP AVERAGES - COMPARATIVE STATEMENT**

Valuation Group	Dec. 31	No. of Active Members	Group Averages			
			Attained Age	Accrued Service Yrs.	Annual Payroll	
					Average	Increase
STATE	1975	83,220	40.6 yrs.	6.5 yrs.	\$ 9,441	6.4@%
	1980	92,872	39.4	7.3	13,934	8.1@
	1985	89,256	39.2	8.4	18,677	7.4@
	1990	98,939	40.7	8.1	25,281	6.2@
	1991*	107,025	40.4	8.1	25,163	-0.5
	1992	109,701	40.0	8.3	25,224	0.2
	1993	112,748	39.9	8.3	25,673	1.8
	1994	115,238	40.1	8.5	26,580	3.5
	1995	114,596	40.4	8.8	27,962	5.2
	LOCAL GOV'T	1975	149,557	40.8 yrs.	6.1 yrs.	\$ 8,771
1980		160,797	40.7	7.4	13,035	8.2@
1985		158,285	40.1	8.3	15,983	6.2@
1990		173,220	41.5	7.9	19,506	4.1@
1991*		211,835	40.3	6.7	17,884	-8.3
1992		218,295	40.4	6.9	18,109	1.3
1993		220,410	40.7	7.3	18,869	4.2
1994		221,987	41.0	7.4	19,666	4.2
1995		223,431	41.2	7.6	20,384	3.7
LAW ENFORCEMENT MEMBERS		1975	2,111	35.0 yrs.	4.9 yrs.	\$10,467
	1980	3,019	36.1	6.8	16,846	10.0@
	1985	4,207	36.5	8.4	20,103	5.5@
	1990	5,804	38.6	9.9	26,936	6.0@
	1991	6,088	38.8	9.9	27,761	3.1
	1992	5,852	39.2	10.7	28,937	4.2
	1993	6,032	39.5	11.0	30,268	4.6
	1994	6,252	39.5	11.1	31,425	3.8
	1995	6,605	39.3	11.1	32,441	3.2

@ 5 year annual compound rate.

* Reflects inclusion of part-time, seasonal, and temporary employees in compliance with OBRA 90.

**BOOK VALUE RECONCILIATION OF ASSETS
(ALL DIVISIONS COMBINED)**

	Calendar Year Ended December 31	
	1995	1994
Beginning Book Value	\$31,139,461,516	\$29,076,302,030
Contributions/Premiums		
Member Contributions	\$ 698,987,279	\$ 679,907,661
Employer Contributions	1,107,696,800	1,065,570,715
Retiree Health Premiums	<u>15,649,761</u>	<u>15,496,243</u>
Total	\$ 1,822,333,840	\$ 1,760,974,619
Benefit Payments		
Retirement Benefits	\$ 1,101,960,243	\$ 1,024,516,274
Retiree Health Care	326,248,182	305,083,572
Retiree Medicare Reimbursement	43,087,126	37,991,097
Refunds of Member Contributions	108,029,484	93,190,094
Other	<u>24,054,927</u>	<u>12,609,743</u>
Total Payments	\$ 1,603,379,962	\$ 1,473,390,780
Investment Income		
Ordinary Income	\$ 2,255,056,183	\$ 1,580,330,696
Realized Capital Value Changes	<u>1,118,791,910</u>	<u>195,244,951</u>
Total Investment Income	\$ 3,373,848,093	\$ 1,775,575,647
Ending Book Value	\$34,732,263,487	\$31,139,461,516
Ending Market Value	\$36,691,952,742	\$30,447,493,591
Ending Funding Value	\$34,877,055,515	\$31,770,701,065

**DEVELOPMENT OF FUNDING VALUE OF ASSETS
(BASED UPON 7.75% ASSUMED INVESTMENT RETURN)**

Valuation Date December 31:	1992	1993	1994	1995	1996	1997	1998
A. Funding Value Beginning of Year	\$23,097,285,802	\$25,969,305,636	\$29,251,753,463	\$31,770,701,065			
B. Market Value End of Year	26,929,802,685	29,875,443,573	30,447,493,591	36,691,952,742			
C. Market Value Beginning of Year	25,490,154,601	26,929,802,685	29,875,443,573	30,447,493,591			
D. Non Investment Net Cash Flow	249,257,007	274,029,574	287,583,839	240,193,882			
E. Investment Income							
E1. Market Total: B - C - D	1,190,391,077	2,671,611,314	284,466,179	6,004,265,269			
E2. Assumed Rate	7.75%	7.75%	7.75%	7.75%			
E3. Amount for Immediate Recognition	1,799,578,210	2,023,107,743	2,278,016,144	2,471,536,845			
E4. Amount for Phased-In Recognition	(609,187,133)	648,503,571	(1,993,549,965)	3,532,728,424			
F. Phased-In Recognition of Investment Income							
F1. Current Year: 0.25 * E4	\$ (152,296,783)	\$ 162,125,893	\$ (498,387,491)	\$ 883,182,106			
F2. First Prior Year	441,906,000	(152,296,783)	162,125,893	(498,387,491)	\$ 883,182,106		
F3. Second Prior Year	533,575,400	441,906,000	(152,296,783)	162,125,892	(498,387,491)	\$ 883,182,106	
F4. Third Prior Year		<u>533,575,400</u>	<u>441,906,000</u>	<u>(152,296,784)</u>	<u>162,125,892</u>	<u>(498,387,492)</u>	\$883,182,106
F5. Total Recognized Investment Gain	823,184,617	985,310,510	(46,652,381)	394,623,723	546,920,507	384,794,614	883,182,106
G. Funding Value End of Year: A+D+E3+F5	\$25,969,305,636	\$29,251,753,463	\$31,770,701,065	\$34,877,055,515			
H. Difference Between Market & Funding Values	\$ 960,497,049	\$ 623,690,110	\$(1,323,207,474)	\$ 1,814,897,227	\$1,267,976,720	\$883,182,106	\$ 0
I. Recognized Rate of Return	11.29%	11.52%	7.59%	8.99%			

The Funding Value of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased-in over a closed 4 year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, funding value will become equal to market value.

**SUMMARY OF RESERVES AND TRANSFERS AFFECTING THE
EMPLOYER ACCUMULATION (EAF) FUND**

Division	EAF Balance Reported 12/31/95	Transfers (From) to EAF		EAF Balance 12/31/95	Accrued Transfers (AT)
		Medicare Reimbursement	Health Care		
State	\$ 7,384,492,129	\$(15,566,012)	\$(113,495,864)	\$ 7,255,430,253	\$ (144,461,377)
Local	10,557,183,724	(27,329,645)	(190,995,181)	10,338,858,898	(128,019,134)
Law	650,111,563	(191,469)	(6,107,376)	643,812,718	(9,655,921)
Total	\$18,591,787,416	\$(43,087,126)	\$(310,598,421)	\$18,238,101,869	\$(282,136,432)

Reserve transfers from the Employer Accumulation Fund to the A & PR Fund and/or Survivor Benefit Funds are recommended in the following instances.

1. Whenever the December 31 valuation of retired lives shows unfunded accrued liabilities in any of the retired life funds.
2. To adjust retired life reserves for the payment of health insurance premiums and medicare reimbursements for the previous 12-month period.
3. To cover the cost of ad-hoc post-retirement benefit increases.
4. To adjust retired life reserves for any changes in computed liabilities resulting from assumption changes.
5. To adjust for the effect of the transfer of certain groups from one division to another.

By making these annual adjustments in addition to the regular transfers when allowances are added to the rolls, the ratio of assets to liabilities for retired lives will not fall below 100% and year to year changes in that ratio will normally be isolated to decrement experience within the retired life group.

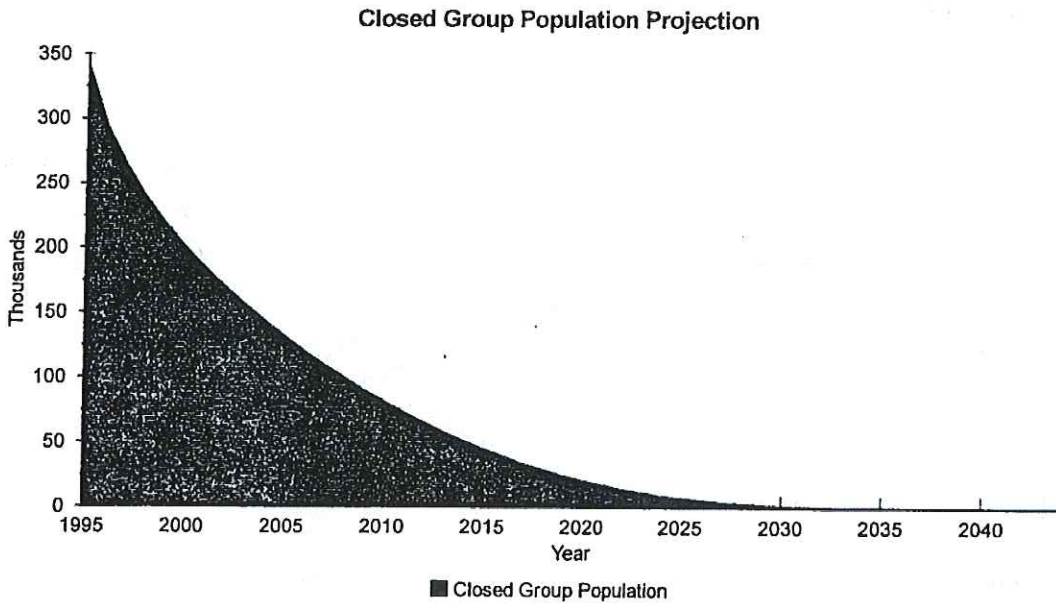
In 1992, PERS began making interim benefit payments for service retirements to shorten the delay between the retirement effective date and receipt of the first monthly check. However, reserve transfers are not made until benefit amounts are final. For purposes of this valuation, special "Accrued Transfers" were developed based upon supplemental information provided by PERS staff. The AT, when removed from the EAF is intended to put reserves in the same position they would have been if reserve transfers for interim cases had been coincident with benefit commencement.

RETIREMENT SYSTEM TOTALS
DECEMBER 31, 1995
(\$ MILLIONS)

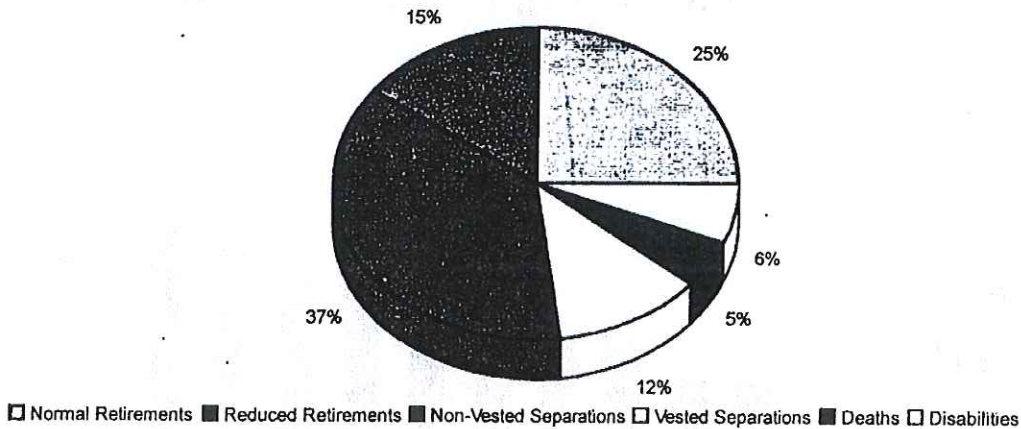
Division	Active Members		Retired Lives		Actuarial Accrued Liabilities*			Val'n Assets	Active Member Unfd Accrued Liabilities	Amort. Years
	Number	Annual Payroll	Number	Annual Allowances	Active & Inactive Members	Retired Lives	Total			
State	114,596	\$3,204	42,590	\$ 449	\$10,911	\$ 4,672	\$15,583	\$13,967	\$1,616	19
Local	223,431	4,555	74,443	637	15,899	6,550	22,449	19,854	2,595	24
Law Enforcement	6,605	214	1,247	20	867	255	1,122	1,056	66	16
Totals	344,632	\$7,973	118,280	\$1,106	\$27,677	\$11,477	\$39,154	\$34,877	\$4,277	23

* Including retired life contingency reserves and liabilities for retiree health care and medicare reimbursement.

Expected Development of Present Population December 31, 1995

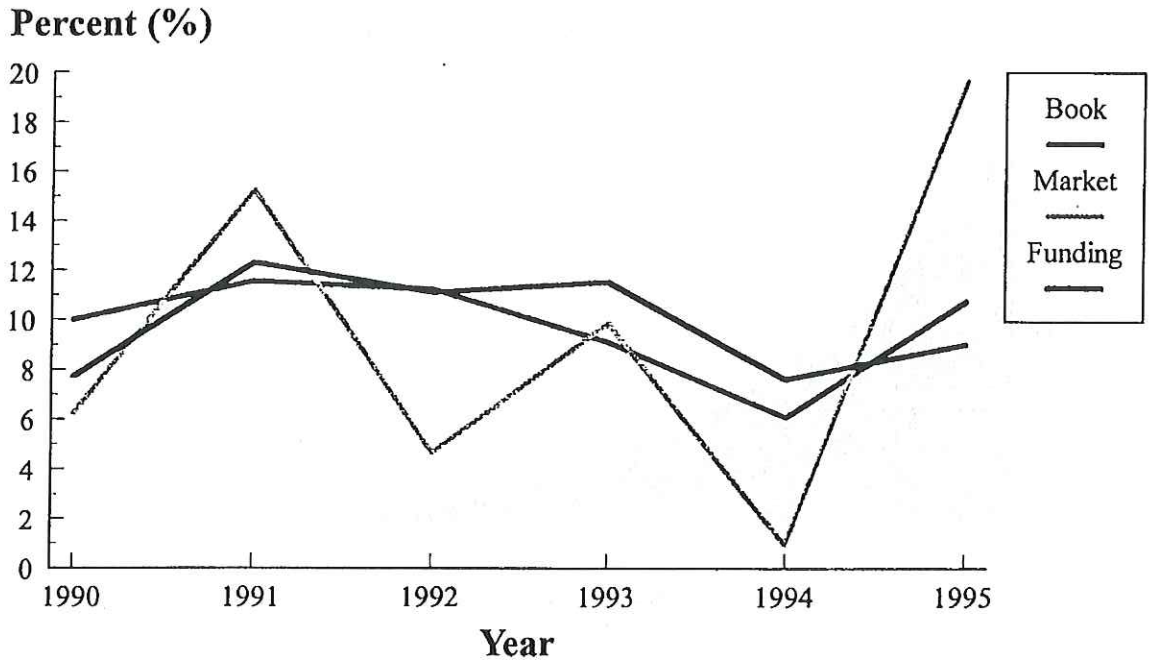


**Expected Terminations from Active Employment
For Current Active Members**

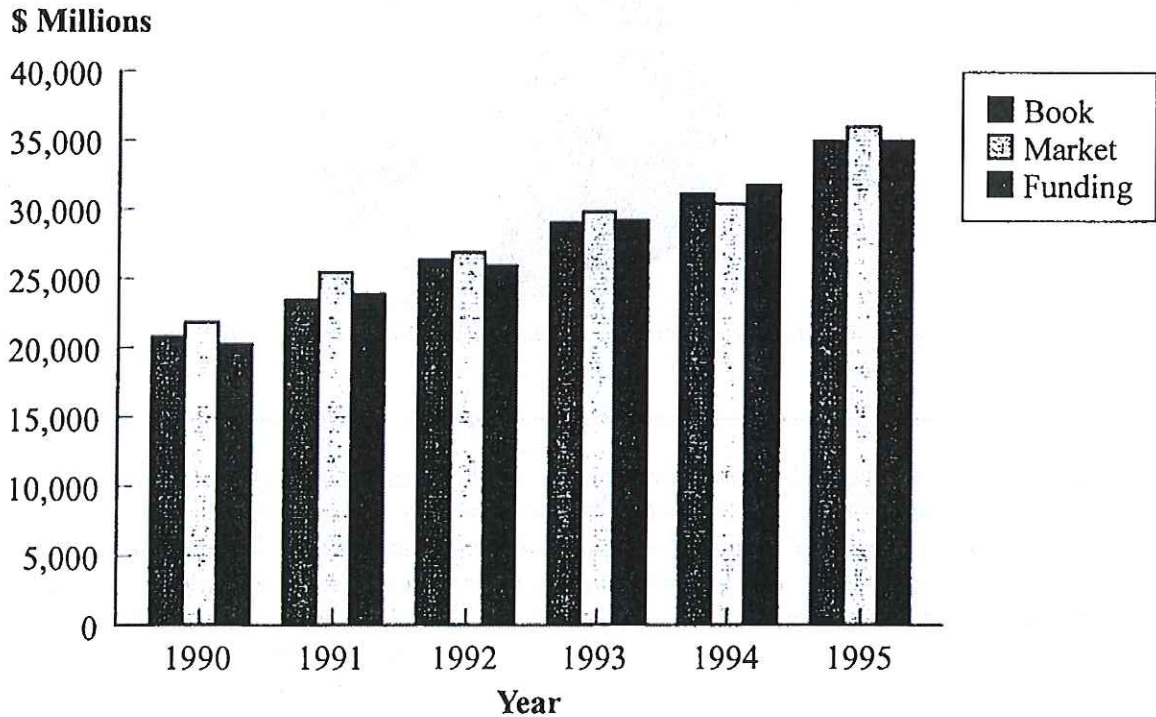


The charts show the expected future development of the present population in simplified terms. The retirement system presently covers 344,632 active members. Eventually, 37% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. Just over half of the present population is expected to receive monthly retirement benefits either by retiring directly from active service, or by separating from service without withdrawing contributions. Eleven percent (11%) of the present population is expected to become eligible for death-in-service or disability benefits. Within 7 years, over half of the covered membership is expected to consist of new hires.

Comparison of Rates of Return



Comparison of Asset Values



STATE DIVISION



STATE DIVISION

State Division active members included in the valuation totaled 114,596, involving an annual payroll totaling \$3,204,306,509.

Active Members in Valuation December 31, 1995

Groups	Number	Annual Payroll	Average Pay
Men	52,388	\$1,579,801,363	\$30,156
Women	62,208	1,624,505,146	26,114
Totals	114,596	\$3,204,306,509	\$27,962

Also included in the State Division valuation were 9,818 inactive members eligible for deferred retirement allowances or contribution refunds.

STATE DIVISION
MEN ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	645							645	\$ 2,789,367
20-24	3,793	12						3,805	32,713,238
25-29	4,829	834	12					5,675	121,606,022
30-34	3,599	2,688	923	50				7,260	203,841,666
35-39	2,679	2,254	2,176	1,204	43			8,356	261,322,652
40-44	2,068	1,787	1,733	1,804	790	44		8,226	276,595,049
45-49	1,691	1,425	1,386	1,295	1,392	670	29	7,888	294,892,134
50-54	919	761	760	602	616	649	204	4,511	172,439,115
55-59	603	539	559	463	366	340	228	3,098	113,721,289
60	83	94	104	74	39	49	39	482	17,170,447
61	88	75	84	67	49	36	37	436	15,162,282
62	73	65	96	51	51	29	26	391	14,082,208
63	66	60	68	40	26	28	36	324	11,062,831
64	47	51	58	24	31	19	21	251	9,224,498
65	55	48	43	32	24	19	20	241	7,684,131
66	45	37	25	16	15	11	16	165	5,594,003
67	30	14	18	17	13	15	11	118	4,157,931
68	30	19	14	14	14	10	8	109	3,772,486
69	30	9	13	11	8	6	13	90	3,300,412
70 & Over	139	28	32	26	32	22	38	317	8,669,602
Totals	21,512	10,800	8,104	5,790	3,509	1,947	726	52,388	\$1,579,801,363

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 40.2 years.
- Service: 9.0 years.
- Annual Pay: \$30,156.

STATE DIVISION
WOMEN ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	771							771	\$ 3,315,053
20-24	4,363	32						4,395	37,601,446
25-29	5,206	1,157	56					6,419	135,122,228
30-34	3,805	3,082	1,077	121				8,085	205,770,073
35-39	3,387	2,748	2,125	1,511	54			9,825	270,635,953
40-44	2,878	2,455	1,771	2,014	858	55		10,031	295,420,239
45-49	2,209	2,296	1,628	1,474	1,078	617	17	9,319	282,789,996
50-54	1,123	1,343	1,143	1,066	673	482	91	5,921	178,782,828
55-59	633	872	794	926	551	341	86	4,203	124,076,725
60	65	117	127	144	103	45	21	622	18,451,886
61	56	83	120	115	69	49	20	512	15,228,575
62	50	69	83	108	72	41	11	434	12,090,921
63	34	61	56	75	68	36	14	344	9,935,862
64	46	58	60	61	47	27	6	305	8,314,108
65	28	57	52	52	40	29	11	269	7,738,193
66	32	33	24	34	23	23	6	175	4,511,112
67	10	16	31	36	16	13	9	131	3,583,191
68	14	8	25	25	23	10	4	109	3,038,467
69	4	9	11	29	9	10	4	76	2,062,929
70 & Over	54	24	34	48	35	34	33	262	6,035,361
Totals	24,768	14,520	9,217	7,839	3,719	1,812	333	62,208	\$1,624,505,146

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 40.5 years.
- Service: 8.7 years.
- Annual Pay: \$26,114.

STATE DIVISION
TOTAL ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	1,416							1,416	\$ 6,104,420
20-24	8,156	44						8,200	70,314,684
25-29	10,035	1,991	68					12,094	256,728,250
30-34	7,404	5,770	2,000	171				15,345	409,611,739
35-39	6,066	5,002	4,301	2,715	97			18,181	531,958,605
40-44	4,946	4,242	3,504	3,818	1,648	99		18,257	572,015,288
45-49	3,900	3,721	3,014	2,769	2,470	1,287	46	17,207	577,682,130
50-54	2,042	2,104	1,903	1,668	1,289	1,131	295	10,432	351,221,943
55-59	1,236	1,411	1,353	1,389	917	681	314	7,301	237,798,014
60	148	211	231	218	142	94	60	1,104	35,622,333
61	144	158	204	182	118	85	57	948	30,390,857
62	123	134	179	159	123	70	37	825	26,173,129
63	100	121	124	115	94	64	50	668	20,998,693
64	93	109	118	85	78	46	27	556	17,538,606
65	83	105	95	84	64	48	31	510	15,422,324
66	77	70	49	50	38	34	22	340	10,105,115
67	40	30	49	53	29	28	20	249	7,741,122
68	44	27	39	39	37	20	12	218	6,810,953
69	34	18	24	40	17	16	17	166	5,363,341
70 & Over	193	52	66	74	67	56	71	579	14,704,963
Totals	46,280	25,320	17,321	13,629	7,228	3,759	1,059	114,596	\$3,204,306,509

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 40.4 years.
- Service: 8.8 years.
- Annual Pay: \$27,962.

STATE DIVISION
EMPLOYEES SAVINGS FUND AND EMPLOYER ACCUMULATION FUND

The State Division's balances, at December 31, 1995, in the Employees Savings Fund and Employer Accumulation Fund were reported to the actuary as follows:

Reserve Fund	Fund Balances
Employees Savings Fund	\$2,126,586,996
Employer Accumulation Fund*	
Pension	4,199,825,933
Health	2,578,686,168
Survivor Benefit	<u>476,918,152</u>
Total	7,255,430,253
Accrued Transfers	(144,461,377)
Market Value Adjustment	57,985,535
Actuarial Value of Assets	\$9,295,541,407

In financing the State Division liabilities, the actuarial value of assets was applied to the actuarial accrued liabilities for members.

* *After transfers (please see page 9).*

STATE DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
DECEMBER 31, 1995

Actuarial Present Value, December 31, of	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1) - (2)
Age and service allowances based on service rendered before and likely to be rendered after valuation date	\$ 8,816,235,326	\$2,735,305,476	\$ 6,080,929,850
Disability allowances likely to be paid present active members who become permanently disabled	1,379,627,615	601,506,259	778,121,356
Employer provided portion of survivor benefits likely to be paid to spouses and children of present active members who die before retiring	829,767,971	357,703,937	472,064,034
Separation benefits (refunds of contributions, deferred allowances and employee provided portion of survivor benefits) likely to be paid present active and inactive members	1,676,171,441	1,196,223,432	479,948,009
Health Insurance and Medicare Premiums likely to be paid on behalf of active members, inactive members, and retirants and beneficiaries	<u>4,229,734,793</u>	<u>1,129,396,698</u>	<u>3,100,338,095</u>
TOTAL	\$16,931,537,146	\$6,020,135,802	\$10,911,401,344
Actuarial Value of Assets			<u>9,295,541,407</u>
UNFUNDED ACTUARIAL ACCRUED LIABILITY			<u>\$ 1,615,859,937</u>

**STATE DIVISION
EMPLOYER CONTRIBUTIONS TO SUPPORT
RETIREMENT ALLOWANCES**

**EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL
DECEMBER 31, 1995**

Contributions for	Contributions Expressed as Percents of Payroll
Normal Cost	
Age and Service Allowances	8.54%
Disability Allowances	1.93
Survivor's Benefits	1.10
Separation Benefits	3.60
Total Normal Cost	15.17
(Member Current Contributions)	(8.50)
Employer Normal Cost	6.67
Unfunded Actuarial Accrued Liabilities (21 year amortization*)	
Member Benefits	2.36
Survivor Benefits	(0.01)
COMPUTED EMPLOYER CONTRIBUTIONS	9.02 %

* The period sufficient to produce an Employer Contribution Rate of 9.02% of payroll for retirement allowances and survivor benefits.

**STATE DIVISION
EMPLOYER CONTRIBUTIONS TO SUPPORT
HEALTH & MEDICARE BENEFITS**

**EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL
DECEMBER 31, 1995**

Contributions for	Contributions Expressed as Percents of Payroll
Normal Cost	3.45%
Unfunded Actuarial Accrued Liabilities (24 year amortization*)	0.84
COMPUTED EMPLOYER CONTRIBUTIONS	4.29%

* *The period sufficient to produce an Employer Contribution Rate of 4.29% of payroll for health and medicare benefits.*

**STATE DIVISION
COMPARATIVE STATEMENT**

December 31	Active Members in Valuation		Total Employer Contributions as % of Payroll				
	No.	Total (Millions)	Annual Average Payroll	Normal		Total	
				Increase	Cost		Unfunded Accrued
1975*	83,220	\$ 786	\$ 9,441	(0.9)%	9.24%	4.47%	13.71%
1976	84,640	929	10,975	16.2	9.43	4.28	13.71
1977	91,817	1,000	10,893	(0.7)	9.19	4.52	13.71
1978*	94,176	1,139	12,097	11.1	9.06	4.65	13.71
1979	92,110	1,223	13,278	9.8	8.71	5.00	13.71
1980*	92,872	1,294	13,934	4.9	7.86	5.85	13.71
1981+	91,257	1,243	13,626	4.3	7.06	6.65	13.71
1982	89,187	1,419	15,906	16.7	7.11	6.60	13.71
1983#	87,996	1,464	16,637	4.6	7.74	5.97	13.71
1984	87,648	1,574	17,962	8.0	7.82	5.89	13.71
1985@	89,256	1,667	18,677	4.0	8.68	5.03	13.71
1986	91,532	1,800	19,664	5.3	9.27	4.44	13.71
1987#	93,579	1,994	21,304	8.3	9.61	4.10	13.71
1988@	94,772	2,195	23,162	8.7	9.32	4.39	13.71
1989	95,687	2,290	23,928	3.3	9.83	3.88	13.71
1990	98,939	2,501	25,281	5.7	10.29	3.42	13.71
1991&	107,025	2,693	25,163	(0.5)	9.81	3.50	13.31
1992	109,701	2,767	25,224	0.2	9.78	3.53	13.31
1993	112,748	2,894	25,673	1.8	9.79	3.52	13.31
1994	115,238	3,063	26,580	3.5	10.20	3.11	13.31
1995	114,596	3,204	27,962	5.2	10.12	3.19	13.31

* Includes benefit increases and revised actuarial assumptions.

Benefits changed.

+ Revised actuarial assumptions and method of reporting payroll.

@ Revised actuarial assumptions.

& Reflects inclusion of part-time, seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

STATE DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT
(\$ IN MILLIONS EXCEPT AVERAGES)

Dec. 31	Active Payroll		Active Member Accrued Liabilities				UNFUNDED /PAYROLL
	Total	Average	Computed Total	Valuation Assets	Unfunded	Amort. Years	
1975* [@]	\$ 786	\$ 9,441	\$ 1,424	\$ 549	\$ 875	35	1.11
1976 [@]	929	10,975	1,700	619	1,081	40	1.16
1977	1,000	10,893	1,872	711	1,161	37	1.16
1978* [@]	1,139	12,097	2,221	812	1,409	39	1.24
1979	1,223	13,278	2,530	829	1,701	41	1.39
1980 [@]	1,294	13,934	2,914	967	1,947	37	1.50
1981+	1,243	13,626	2,922	1,097	1,825	30	1.47
1982	1,419	15,906	3,399	1,378	2,021	29	1.42
1983*	1,464	16,637	3,829	1,606	2,223	36	1.52
1984	1,574	17,962	4,242	1,809	2,433	38	1.55
1985 [@]	1,667	18,677	4,512	2,332	2,180	37	1.31
1986	1,800	19,664	5,058	3,076	1,982	35	1.10
1987*	1,994	21,304	5,655	3,487	2,168	38	1.09
1988 [@]	2,195	23,162	6,206	3,814	2,392	37	1.09
1989	2,290	23,928	6,493	4,355	2,138	35	0.93
1990 [@]	2,501	25,281	7,314	4,896	1,990	34	0.80
1991 ^{&}	2,693	25,163	7,839	5,788	2,051	30	0.76
1992	2,767	25,224	8,489	6,523	1,966	27	0.71
1993	2,894	25,673	9,435	7,581	1,854	23	0.64
1994	3,063	26,580	10,048	8,407	1,641	21	0.54
1995	3,204	27,962	10,912	9,296	1,616	19 [#]	0.50

* Includes benefit changes.

[@] Revised actuarial assumptions.

+ Revised actuarial assumptions and method of reporting payroll.

[#] Weighted average of 17 years for retirement allowances and 24 years for health and medicare benefits.

[&] Reflects inclusion of part-time seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll ("UNFUNDED / PAYROLL" above) is significant. Unfunded actuarial accrued liabilities represent plan debt, while active member payroll represents the plan's capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength. And vice-versa.

LOCAL GOVERNMENT DIVISION

(Excluding Law Enforcement Members)



**LOCAL GOVERNMENT DIVISION
(EXCLUDING LAW ENFORCEMENT MEMBERS)**

Local Government Division active members included in the valuation totaled 223,431 involving an annual payroll totaling \$4,554,511,930.

Active Members in Valuation December 31, 1995

Groups	Number	Annual Payroll	Average Pay
Men	107,962	\$2,374,868,697	\$21,997
Women	115,469	2,179,643,233	18,876
Totals	223,431	\$4,554,511,930	\$20,384

Also included in the Local Government Division were 18,086 inactive members eligible for deferred retirement allowances or contribution refunds.

LOCAL GOVERNMENT DIVISION
MEN ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	4,262							\$4,262	\$ 16,606,211
20-24	7,031	44						7,075	59,517,959
25-29	8,126	1,524	30					9,680	161,662,807
30-34	6,512	3,803	1,366	107				11,788	256,482,419
35-39	6,115	3,975	2,834	1,849	130			14,903	367,424,172
40-44	5,399	3,565	2,582	2,923	1,856	59		16,384	440,518,393
45-49	4,664	2,887	2,235	2,157	2,512	1,045	45	15,545	440,673,749
50-54	2,866	1,832	1,389	1,159	1,147	925	265	9,583	257,208,512
55-59	2,242	1,410	1,122	901	795	617	368	7,455	182,968,272
60	410	246	189	170	142	107	68	1,332	32,571,391
61	379	218	204	158	126	105	59	1,249	28,216,522
62	354	211	168	102	95	70	58	1,058	23,395,348
63	340	200	139	82	97	49	38	945	20,133,477
64	294	162	131	78	69	45	49	828	16,671,192
65	386	133	113	66	73	47	40	858	15,667,960
66	309	122	88	61	42	38	34	694	11,428,205
67	300	104	86	49	47	26	14	626	8,688,865
68	309	101	58	33	27	17	23	568	6,751,134
69	294	76	52	34	26	19	14	515	5,586,230
70 & Over	1,651	313	230	154	99	79	88	2,614	22,695,879
Totals	52,243	20,926	13,016	10,083	7,283	3,248	1,163	107,962	\$2,374,868,697

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 41.8 years.
- Service: 8.0 years.
- Annual Pay: \$21,997.

LOCAL GOVERNMENT DIVISION
WOMEN ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	5,031							5,031	\$ 17,778,473
20-24	7,420	122						7,542	67,060,896
25-29	9,124	2,236	79					11,439	194,165,191
30-34	7,160	4,243	1,543	149				13,095	256,018,592
35-39	7,763	4,234	2,634	1,924	141			16,696	341,527,116
40-44	7,250	4,202	2,418	2,336	1,228	72		17,506	377,267,669
45-49	5,908	4,086	2,406	2,002	1,391	665	22	16,480	363,878,169
50-54	3,405	2,555	1,983	1,648	794	547	158	11,090	239,923,438
55-59	2,188	1,737	1,448	1,454	895	454	161	8,337	173,962,286
60	297	260	232	229	157	95	22	1,292	26,417,010
61	298	233	179	233	155	86	27	1,211	24,591,031
62	222	180	160	169	132	74	23	960	18,951,918
63	181	164	112	132	95	48	13	745	14,379,824
64	153	135	113	107	82	56	20	666	13,127,153
65	166	116	107	114	80	34	14	631	11,273,628
66	142	83	63	86	62	40	13	489	8,663,329
67	132	81	58	56	51	25	15	418	6,718,196
68	120	49	49	45	36	29	19	347	5,567,764
69	117	36	34	33	33	20	13	286	4,079,432
70 & Over	624	131	89	134	105	62	63	1,208	14,292,118
Totals	57,701	24,883	13,707	10,851	5,437	2,307	583	115,469	\$2,179,643,233

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 40.7 years.
- Service: 7.3 years.
- Annual Pay: \$18,876.

LOCAL GOVERNMENT DIVISION
TOTAL ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	9,293							9,293	\$ 34,384,684
20-24	14,451	166	0	0	0	0	0	14,617	126,578,855
25-29	17,250	3,760	109	0	0	0	0	21,119	355,827,998
30-34	13,672	8,046	2,909	256	0	0	0	24,883	512,501,011
35-39	13,878	8,209	5,468	3,773	271	0	0	31,599	708,951,288
40-44	12,649	7,767	5,000	5,259	3,084	131	0	33,890	817,786,062
45-49	10,572	6,973	4,641	4,159	3,903	1,710	67	32,025	804,551,918
50-54	6,271	4,387	3,372	2,807	1,941	1,472	423	20,673	497,131,950
55-59	4,430	3,147	2,570	2,355	1,690	1,071	529	15,792	356,930,558
60	707	506	421	399	299	202	90	2,624	58,988,401
61	677	451	383	391	281	191	86	2,460	52,807,553
62	576	391	328	271	227	144	81	2,018	42,347,266
63	521	364	251	214	192	97	51	1,690	34,513,301
64	447	297	244	185	151	101	69	1,494	29,798,345
65	552	249	220	180	153	81	54	1,489	26,941,588
66	451	205	151	147	104	78	47	1,183	20,091,534
67	432	185	144	105	98	51	29	1,044	15,407,061
68	429	150	107	78	63	46	42	915	12,318,898
69	411	112	86	67	59	39	27	801	9,665,662
70 & Over	2,275	444	319	288	204	141	151	3,822	36,987,997
Totals	109,944	45,809	26,723	20,934	12,720	5,555	1,746	223,431	\$4,554,511,930

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 41.2 years.
- Service: 7.6 years.
- Annual Pay: \$20,384.

**LOCAL GOVERNMENT DIVISION
(EXCLUDING LAW ENFORCEMENT MEMBERS)
EMPLOYEES SAVINGS FUND AND EMPLOYER ACCUMULATION FUND**

The Local Government Division's balances, at December 31, 1995, in the Employees Savings Fund and Employer Accumulation Fund were reported to the actuary as follows:

Reserve Fund	Fund Balances
Employees Savings Fund	\$ 3,010,482,392
Employer Accumulation Fund*	
Pension	5,259,314,211
Health	4,429,656,867
Survivor Benefit	<u>649,887,820</u>
Total	10,338,858,898
Accrued Transfers	(128,019,134)
Market Value Adjustment	82,424,731
Actuarial Value of Assets	\$13,303,746,887

In financing the Local Government Division Liabilities, the actuarial value of assets was applied to the accrued liabilities for members.

** After transfers (please see page 9).*

**LOCAL GOVERNMENT DIVISION
(EXCLUDING LAW ENFORCEMENT MEMBERS)
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
DECEMBER 31, 1995**

	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1) - (2)
Age and service allowances based on service rendered before and likely to be rendered after valuation date	\$11,087,724,590	\$3,068,420,160	\$ 8,019,304,430
Disability allowances likely to be paid present active members who become permanently disabled	2,068,643,510	885,047,105	1,183,596,405
Employer provided portion of survivor benefits likely to be paid to spouses and children of present active members who die before retiring	1,043,229,092	419,795,583	623,433,509
Separation benefits (refunds of contributions, deferred allowances and employee provided portion of survivor benefits) likely to be paid present active and inactive members	2,524,071,015	1,720,621,162	803,449,853
Health Insurance and Medicare Premiums likely to be paid on behalf of active members, inactive members, and retirants and beneficiaries	<u>7,111,820,734</u>	<u>1,842,613,349</u>	<u>5,269,207,385</u>
TOTAL	\$23,835,488,941	\$7,936,497,359	\$15,898,991,582
Actuarial Value of Assets			<u>13,303,746,887</u>
UNFUNDED ACTUARIAL ACCRUED LIABILITY			<u>\$ 2,595,244,695</u>

**LOCAL GOVERNMENT DIVISION
EMPLOYER CONTRIBUTIONS TO SUPPORT
RETIREMENT ALLOWANCES
EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL
DECEMBER 31, 1995**

Contributions for	Contributions Expressed as Percents of Payroll
Normal Cost	
Age and Service Allowances	7.50%
Disability Allowances	2.17
Survivor's Benefits	1.00
Separation Benefits	4.00
Total Normal Cost	14.67
(Member Current Contributions)	<u>8.50</u>
Employer Normal Cost	6.17
Unfunded Actuarial Accrued Liabilities (21 year amortization*)	
Member Benefits	2.30
Survivor Benefits	(0.03)
COMPUTED EMPLOYER CONTRIBUTIONS	8.44 %

* *The period sufficient to produce an Employer Contribution Rate of 8.44% of payroll for retirement allowances and survivor benefits.*

**LOCAL GOVERNMENT DIVISION
 EMPLOYER CONTRIBUTIONS TO SUPPORT
 HEALTH AND MEDICARE BENEFITS
 EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL
 DECEMBER 31, 1995**

Contributions for	Contributions Expressed as Percents of Payroll
Normal Cost	4.36%
Unfunded Actuarial Accrued Liabilities (34 year amortization*)	0.75
COMPUTED EMPLOYER CONTRIBUTIONS	5.11%

* *The period sufficient to produce an Employer Contribution Rate of 5.11% of payroll for health and medicare benefits.*

**LOCAL GOVERNMENT DIVISION
(EXCLUDING LAW ENFORCEMENT MEMBERS)
COMPARATIVE STATEMENT[@]**

December 31	No.	Active Members in Valuation		Total Employer Contributions as % of Payroll			
		Total (Millions)	Annual Payroll Average	Increase	Normal		Total
					Cost	Unfunded Accrued	
1975*#	149,557	\$1,312	\$ 8,771	1.5%	9.27%	4.68%	13.95%
1976	153,785	1,394	9,068	3.4	10.12	3.83	13.95
1977	177,034	1,662	9,388	3.5	9.94	4.01	13.95
1978*#	177,825	1,878	10,563	12.5	9.92	4.03	13.95
1979	166,536	1,951	11,714	10.9	9.38	4.57	13.95
1980*#	160,797	2,096	13,035	11.3	8.37	5.58	13.95
1981+	157,753	2,007	12,722	7.5	7.75	6.20	13.95
1982	155,920	2,171	13,923	9.4	7.91	6.04	13.95
1983#	156,330	2,278	14,571	4.7	8.43	5.52	13.95
1984	156,765	2,392	15,261	4.7	8.51	5.44	13.95
1985*	158,285	2,530	15,983	4.7	8.47	5.48	13.95
1986	158,775	2,649	16,685	4.4	9.23	4.72	13.95
1987#	161,066	2,771	17,204	3.1	9.63	4.32	13.95
1988*	165,613	3,003	18,134	5.4	9.56	4.39	13.95
1989	169,409	3,164	18,675	3.0	10.10	3.85	13.95
1990*	173,220	3,379	19,506	4.4	10.71	3.24	13.95
1991&	211,835	3,789	17,884	(8.3)	10.15	3.40	13.55
1992	218,295	3,953	18,109	1.3	10.09	3.46	13.55
1993	220,410	4,159	18,869	4.2	10.11	3.44	13.55
1994	221,987	4,366	19,666	4.2	10.60	2.95	13.55
1995	223,431	4,555	20,384	3.7	10.53	3.02	13.55

[@] Includes Law Enforcement Members before 1975.

* Revised actuarial assumptions.

Includes benefit changes.

+ Revised actuarial assumptions and method of reporting payroll.

& Reflects inclusion of part-time, seasonal and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

LOCAL GOVERNMENT DIVISION
(EXCLUDING LAW ENFORCEMENT MEMBERS)
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT
(\$ IN MILLIONS EXCEPT AVERAGES)

Dec. 31	Active Payroll		Active Member Accrued Liabilities			Amort. Years	UNFUNDED /PAYROLL
	Total	Average	Computed Total	Valuation Assets	Unfunded		
1975	\$1,332	\$ 8,771	\$ 2,334	\$ 811	\$1,523	35	1.14
1976@	1,394	9,068	2,405	907	1,498	42	1.07
1977	1,662	9,388	2,848	986	1,862	42	1.12
1978*@	1,878	10,563	3,372	1,156	2,216	44	1.18
1979	1,951	11,714	3,947	1,215	2,732	48	1.40
1980@	2,096	13,035	4,670	1,425	3,245	41	1.55
1981+	2,007	12,722	4,728	1,655	3,073	35	1.53
1982	2,171	13,923	5,286	2,105	3,181	34	1.47
1983*	2,278	14,571	5,985	2,445	3,540	42	1.55
1984	2,392	15,261	6,562	2,743	3,819	44	1.60
1985@	2,530	15,983	7,127	3,534	3,593	37	1.42
1986	2,649	16,685	7,715	4,584	3,131	35	1.18
1987*	2,771	17,204	8,238	5,067	3,171	38	1.14
1988@	3,003	18,134	8,964	5,526	3,438	39	1.14
1989	3,164	18,675	9,343	6,302	3,041	37	0.96
1990@	3,379	19,506	10,388	6,960	2,902	41	0.86
1991&	3,789	17,884	11,462	8,219	3,243	37	0.86
1992	3,953	18,109	12,475	9,463	3,012	31	0.76
1993	4,159	18,869	14,009	10,997	3,012	28	0.72
1994	4,366	19,666	14,773	12,032	2,741	28	0.63
1995	4,555	20,384	15,899	13,304	2,595	24#	0.57

* Includes benefit changes.

@ Revised actuarial assumptions.

+ Revised actuarial assumptions and method of reporting payroll.

Weighted average of 21 years for retirement allowances and 34 years for health and medicare benefits.

& Reflects inclusion of part-time, seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll ("UNFUNDED / PAYROLL" above) is significant. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan's capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength. And vice-versa.

LAW ENFORCEMENT DIVISION



LAW ENFORCEMENT DIVISION

Law Enforcement active members included in the valuation totaled 6,605, involving an annual payroll totaling \$214,273,011.

Active Members in Valuation December 31, 1995

Groups	Number	Annual Payroll	Average Payroll
Men	5,891	\$193,687,882	\$32,879
Women	714	20,585,129	28,831
Totals	6,605	\$214,273,011	\$32,441

Also included with the Law Enforcement members were 152 inactive members eligible for deferred retirement allowances or contribution refunds.

LAW ENFORCEMENT DIVISION
MEN ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	1							1	\$ 14,332
20-24	214	4						218	4,260,156
25-29	627	232	1					860	22,547,497
30-34	283	481	192	5				961	30,092,531
35-39	148	256	389	204	6			1,003	34,230,562
40-44	90	158	269	402	139	2		1,060	38,038,269
45-49	86	105	154	211	296	66	3	921	33,672,792
50-54	34	49	82	79	117	80	15	456	16,624,044
55-59	19	20	59	55	61	40	15	269	9,568,754
60	2	2	5	5	9	4	4	31	979,543
61	1	2	3	6	4	3	3	22	743,457
62	3	1	1	2	5	3	2	17	580,694
63	5	1	2	4	1	2	4	19	617,728
64	2	1	3	3	2	1	1	13	363,988
65	1			1	2	2	1	7	249,565
66			1	3	2	2	3	11	432,386
67					2	1		3	88,622
68				2	1	2		5	182,227
69	1						2	3	98,618
70 & Over	2	1	2	2	2	1	1	11	302,117
Totals	1,519	1,313	1,163	984	649	209	54	5,891	\$193,687,882

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 39.4 years.
- Service: 11.3 years.
- Annual Pay: \$32,879.

LAW ENFORCEMENT DIVISION
WOMEN ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20									\$
20-24	32	1						33	608,488
25-29	77	32	2					111	2,657,438
30-34	34	71	20	1				126	3,794,032
35-39	43	41	35	22	1			142	4,298,704
40-44	13	37	35	40	6			131	4,192,573
45-49	11	16	22	26	9	1		85	2,535,787
50-54	4	8	11	17	3	2		45	1,341,234
55-59	4	2	6	10	4	1		27	770,756
60			1				1	2	69,112
61				1				1	33,538
62				3				3	76,896
63				1	2		1	4	122,815
64		1		1				2	44,399
65									
66									
67			1					1	22,740
68									
69									
70 & Over				1				1	16,617
Totals	218	209	133	123	25	4	2	714	\$20,585,129

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 38.2 years.
- Service: 9.1 years.
- Annual Pay: \$28,831.

LAW ENFORCEMENT DIVISION
TOTAL ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1995
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	1							1	\$ 14,332
20-24	246	5	.					251	4,868,644
25-29	704	264	3					971	25,204,935
30-34	317	552	212	6				1,087	33,886,563
35-39	191	297	424	226	7			1,145	38,529,266
40-44	103	195	304	442	145	2		1,191	42,230,842
45-49	97	121	176	237	305	67	3	1,006	36,208,579
50-54	38	57	93	96	120	82	15	501	17,965,278
55-59	23	22	65	65	65	41	15	296	10,339,510
60	2	2	6	5	9	4	5	33	1,048,655
61	1	2	3	7	4	3	3	23	776,995
62	3	1	1	5	5	3	2	20	657,590
63	5	1	2	5	3	2	5	23	740,543
64	2	2	3	4	2	1	1	15	408,387
65	1			1	2	2	1	7	249,565
66	0		1	3	2	2	3	11	432,386
67	0		1		2	1		4	111,362
68	0			2	1	2		5	182,227
69	1						2	3	98,618
70 & Over	2	1	2	3	2	1	1	12	318,734
Totals	1,737	1,522	1,296	1,107	674	213	56	6,605	\$214,273,011

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

- Age: 39.3 years.
- Service: 11.1 years.
- Annual Pay: \$32,441.

LAW ENFORCEMENT DIVISION
EMPLOYEES SAVINGS FUND AND EMPLOYER ACCUMULATION FUND

The Law Enforcement fund balances, at December 31, 1995, in the Employees Savings Fund and Employer Accumulation Fund were reported to the actuary as follows:

Reserve Fund	Fund Balances
Employees Savings Fund	\$162,366,703
Employer Accumulation Fund*	
Pension	411,170,578
Health	187,775,550
Survivor Benefit	<u>44,866,590</u>
Total	643,812,718
Accrued Transfers	(9,655,921)
Market Value Adjustment	4,381,762
Actuarial Value of Assets	\$800,905,262

In financing the Law Enforcement Member's liabilities, the actuarial value of assets was applied to the accrued liabilities for members.

* *After transfers (please see page 9).*

LAW ENFORCEMENT DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
DECEMBER 31, 1995

Actuarial Present Value, December 31, of	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1) - (2)
Age and service allowances based on service rendered before and likely to be rendered after valuation date	\$ 716,925,396	\$256,872,997	\$460,052,399
Disability allowances likely to be paid present active members who become permanently disabled	163,780,476	66,640,338	97,140,138
Employer provided portion of survivor benefits likely to be paid to spouses and children of present active members who die before retiring	80,225,718	35,864,519	44,361,199
Separation benefits (refunds of contributions, deferred allowances and employee provided portion of survivor benefits) likely to be paid present active and inactive members	116,160,576	79,330,917	36,829,659
Health Insurance and Medicare Premiums likely to be paid on behalf of active members, inactive members, and retirants and beneficiaries	<u>340,229,582</u>	<u>112,086,626</u>	<u>228,142,956</u>
TOTAL	\$1,417,321,748	\$550,795,397	\$866,526,351
Actuarial Value of Assets			<u>800,905,262</u>
UNFUNDED ACTUARIAL ACCRUED LIABILITIES			<u>\$ 65,621,089</u>

**LAW ENFORCEMENT DIVISION
 EMPLOYER CONTRIBUTIONS TO SUPPORT
 RETIREMENT ALLOWANCES
 EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL
 DECEMBER 31, 1995**

Contributions for	Contributions Expressed as Percents of Payroll
Normal Cost	
Age and Service Allowances	10.86 %
Disability Allowances	2.95
Survivor's Benefits	1.55
Separation Benefits	<u>3.33</u>
Total Normal Cost	18.69
(Member Current Contributions)	<u>(9.00)</u>
Employer Normal Cost	9.69
Unfunded Actuarial Accrued Liabilities (12 year amortization*)	
Member Benefits	1.14
Survivor Benefits	(0.02)
COMPUTED EMPLOYER CONTRIBUTIONS	10.81 %

* *The period sufficient to produce an Employer Contribution Rate of 10.81% of payroll for retirement allowances and survivor benefits.*

**LAW ENFORCEMENT DIVISION
 EMPLOYER CONTRIBUTIONS TO SUPPORT
 HEALTH AND MEDICARE BENEFITS
 EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL
 DECEMBER 31, 1995**

Contributions for	Contributions Expressed as Percents of Payroll
Normal Cost	4.73%
Unfunded Actuarial Accrued Liabilities (19 year amortization*)	1.16
COMPUTED EMPLOYER CONTRIBUTIONS	5.89%

* *The period sufficient to produce an Employer Contribution Rate of 5.89% of payroll for health and medicare benefits.*

**LAW ENFORCEMENT DIVISION
COMPARATIVE STATEMENT**

December 31	No.	Active Members in Valuation		Annual Payroll Average	Increase %	Total Employer Contributions as % of Payroll		
		Total	(Thousands)			Normal Cost	Unfunded Accrued	Total
1975	2,111	\$ 22,134		\$10,467	-	13.49%	4.61%	18.10%
1976	2,214	22,213		10,033	(4.1)	13.37	4.73	18.10
1977	2,537	32,204		12,694	26.5	14.20	3.90	18.10
1978* [@]	2,699	38,129		14,127	11.3	14.51	3.59	18.10
1979	2,867	43,249		15,085	6.8	14.28	3.82	18.10
1980* [@]	3,019	50,858		16,846	11.7	13.23	4.87	18.10
1981* ^{+@}	3,613	57,147		15,817	2.6	12.08	6.02	18.10
1982	3,748	64,625		17,243	9.0	12.04	6.06	18.10
1983	3,981	72,273		18,155	5.3	12.65	5.45	18.10
1984	4,070	77,979		19,159	5.5	12.72	5.38	18.10
1985 [@]	4,207	84,574		20,103	4.9	12.78	5.32	18.10
1986	4,332	94,202		21,746	8.2	13.58	4.52	18.10
1987*	4,336	99,487		22,945	5.5	14.09	4.01	18.10
1988 [@] #	4,483	109,469		24,419	6.4	14.01	1.99	16.00
1989	5,587	142,788		25,557	4.7	14.05	1.95	16.00
1990	5,804	156,339		26,936	5.4	14.31	1.69	16.00
1991 [@]	6,088	169,008		27,761	3.1	14.38	2.32	16.70
1992	5,852	169,337		28,937	4.2	14.58	2.12	16.70
1993	6,032	182,576		30,268	4.6	14.35	2.35	16.70
1994	6,252	196,467		31,425	3.8	14.66	2.04	16.70
1995	6,605	214,273		32,441	3.2	14.42	2.28	16.70

* Includes benefit changes.

+ Revised method of reporting payroll.

@ Revised actuarial assumptions.

Employee and employer contribution rates reduced.

LAW ENFORCEMENT DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT
(\$ IN MILLIONS EXCEPT AVERAGES)

Dec. 31	Active Payroll		Active Member Accrued Liabilities				UNFUNDED /PAYROLL
	Total	Average	Computed	Valuation		Amort. Years	
			Total	Assets	Unfunded		
1975	\$ 22	\$10,467	\$ 22	\$ -	\$22		0.99
1976	22	10,033	33	6	27	36	1.20
1977	32	12,694	44	12	32	36	0.99
1978* [@]	38	14,127	60	21	39	43	1.03
1979	43	15,085	73	30	43	38	1.00
1980 [@]	51	16,846	95	41	54	29	1.06
1981* ^{+@}	57	15,817	110	59	51	18	0.89
1982	65	17,243	126	74	52	16	0.80
1983*	72	18,155	153	96	57	18	0.79
1984	78	19,159	182	117	65	19	0.83
1985 [@]	85	20,103	208	152	56	15	0.66
1986	94	21,746	245	203	42	11	0.45
1987*	99	22,945	277	233	44	13	0.44
1988 [@]	109	24,419	323	290	33	19	0.30
1989	143	25,557	448	383	65	33	0.45
1990	156	26,936	510	431	54	28	0.35
1991 [@]	169	27,761	589	508	81	28	0.50
1992	169	28,937	634	580	54	18	0.32
1993	183	30,268	725	663	62	17	0.34
1994	196	31,425	787	727	60	18	0.31
1995	214	32,441	867	801	66	16 [#]	0.31

* Includes benefit changes.

+ Revised method of reporting payroll.

@ Revised actuarial assumptions.

Weighted average of 12 years for retirement allowances and 19 years for health and medicare benefits.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll ("UNFUNDED / PAYROLL" above) is significant. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan's capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength. And vice-versa.

BENEFITS AND CONDITIONS EVALUATED



BENEFITS AND CONDITIONS EVALUATED

Age and service retirement - State and Local Government Members. A member who (i) has attained age 60 years and has 5 or more years of service credit, or (ii) has attained age 55 years and has 25 or more years of service credit, or (iii) has 30 or more years of service credit, may retire with an age and service retirement allowance.

Final average salary ("FAS") means the average of the annual earnings for the 3 highest calendar years of compensation.

Age and service allowance - State and Local Government Members. A retiring member's age and service allowance is equal to Ohio service credit times the greater of \$86, or 2.1% of FAS (2.5% for years of service over 30 years). The allowance is then adjusted by factors based on attained age or years of service as determined in the following schedule:

Attained Age	OR	Years of Service Credit	Percentage of Base Amount
58		25	75%
59		26	80
60		27	85
61		28	88
		28	90
62			91
63			94
		29	95
64			97
65		30 or more	100

Maximum allowance is 100% of FAS. Minimum allowance is based upon twice the member's savings funding balance at retirement together with interest credits.

Age and service allowance - Law Enforcement Members. A law enforcement member who has attained age 52 and has 25 or more years of credited service may retire with an age and service allowance equal to 2.5% of FAS times the first 20 years of service credit, plus 2.1% of FAS times service credit in excess of 20 years but less than 25 years, and 1.5% of FAS times service credit in excess of 25 years. Maximum allowance is 90% of FAS. Minimum allowance is based upon twice the member's savings fund balance at retirement together with interest credits.

A member may retire as early as age 48 with reduced benefits.

Health Care Coverage. Health care coverage is available to persons being paid a monthly allowance from PERS. Members retiring after June 13, 1986 must have 10 or more years of service credit to be eligible for this benefit.

Medicare premiums. Medicare part B premiums are paid for those eligible, upon proof of coverage. ~~Members retiring after June 13, 1986 must have 10 or more years of service credit to be eligible for~~ this benefit.

Disability retirement. The disability program has been revised in order to comply with the Older Workers Benefit Protection Act. Employees becoming members after July 29, 1992 are covered by the post July 29, 1992 program. Other members can remain covered by the pre July 29, 1992 program or elect to be covered by the post July 29, 1992 program.

Features of the pre July 29, 1992 disability program are:

- a) Upon becoming permanently disabled after completion of at least 5 years of service but before attaining age 60, a member is eligible for a disability allowance.
- b) The amount of the allowance is 2.1% of FAS times the service the member would have had if employment had continued to age 60.
- c) Maximum allowance is 75% of FAS, minimum allowance is 30% of FAS.

Features of the post July 29, 1992 disability program are:

- a) A member may apply at any age after completion of 5 years of service.
- b) A disability benefit equal to the greater of 45% of FAS or the accrued benefit based on actual service with no early retirement reduction (maximum 60% of FAS) is paid until a determined age.
- c) After the disability benefit ends, a service retirement benefit equal to the greater of the benefit based on actual service plus service credit granted for the period of disability benefits (maximum 45% of FAS) or the accrued benefit based on actual service is payable for life.

Death while eligible to retire. If a member dies in service after becoming eligible to retire with an age and service allowance and leaves a surviving spouse or other sole dependent beneficiary, the survivor receives the same amount that would have been paid had the member retired the last day of the month of death and elected the 100% joint and survivor form of payment.

Survivor (death-in-service) allowances. Upon the death of a member with at least 1-1/2 years of Ohio service credit and with at least 1/4 year of Ohio contributing service credit within the 2-1/2 years prior to the date of death, the following allowances are payable:

(a) Spouse: A monthly allowance, commencing at age 62, or age 50 if the deceased member had 10 or more years of Ohio service credit, or regardless of age if caring for a dependent child or if mentally or physically incompetent. Allowance equals 25% of the deceased member's FAS. Minimum monthly allowance is \$96, or \$106 if deceased member had 10 or more years of Ohio service credit. Allowance terminates upon remarriage.

(b) Spouse's child-care allowance: An allowance of 40% of FAS is payable to the spouse of a deceased member while caring for 1 dependent child, with a minimum monthly allowance of \$186. Allowance is 50% of FAS if 2 dependent children, or 55% of FAS if 3 dependent children, or 60% of FAS if 4 or more dependent children. Minimum monthly allowance is \$236 for 2 or more children. A dependent child is defined to be an unmarried child under the age of 18, or 22 if attending an approved school.

(c) Children's allowances: A monthly allowance payable to each child of the deceased member who is unmarried and under the age of 18, or 22 if attending an approved school. Allowances equal 25% of the deceased member's FAS for 1 child, an equal share of 40% of FAS if there are 2 children, an equal share of 50% of FAS if there are 3 children, an equal share of 55% of FAS if there are 4 children, or an equal share of 60% of FAS if there are 5 or more children. Minimum monthly allowance is \$96 for 1 child, \$186 for 2 children, and \$236 for 3 or more children.

(d) Dependent parent's allowance: A monthly allowance is payable to a dependent parent aged 65 or more (earlier if mentally or physically incompetent) who received at least one-half support from the member during the 12-month period immediately preceding the member's death. Allowance equals 25% of FAS for 1 parent with a minimum monthly allowance of \$96, and 40% of FAS shared equally for 2 parents with minimum monthly allowances totaling \$186.

Post-retirement increases. Each July after June 30, 1971 or the annual anniversary established 12 months after the initial date of retirement, each allowance is recomputed to be equal to the initial allowance increased by 3.0% for each completed year of retirement. The maximum recomputed allowance equals the initial allowance adjusted for increases in the Consumer Price Index. The minimum recomputed allowance equals the initial allowance.

Post-retirement death benefit. Upon the death of an age and service or disability retirant, a death benefit in the following amount is payable:

Service Credit At Retirement	Amount of Death Benefit
5 to 9 years	\$ 500
10 to 14 years	1,000
15 to 19 years	1,500
20 to 24 years	2,000
25 or more years	2,500

Deferred benefits. A member with at least 5 years of service credit who leaves service before being eligible for an immediate allowance and who does not withdraw accumulated contributions will be entitled to a deferred allowance at age 60. The amount of the allowance will be based on credited service and final average salary at time of leaving service.

Optional Benefit Forms. Retiring members may elect to have benefits paid in straight life form, in a form that guarantees a minimum number of monthly payments, or in a form that provides a continuation of all or a portion of the monthly benefit to a beneficiary after the death of the retiree. If a retiring member elects benefits in other than straight life form, the monthly amount is adjusted. The adjustment is based upon valuation interest and mortality assumptions (with a blend of male and female mortality rates to produce unisex election factors consistent with the gender distribution of members electing optional forms of payment).

Member contributions. State and Local Government members contribute 8.5% of pay. Law enforcement members contribute 9.0% of pay. The maximum statutory rate is 10%.

Refund of members accumulated contributions. In the event a member leaves service before any monthly benefits are payable, accumulated contributions are refunded.

Employer contributions. Each employer contributes the remainder amounts necessary to finance PERS benefits. Employer contributions are expressed as percents of member covered payroll. The maximum statutory rate is 14%, except for law enforcement members.

ACTUARIAL METHODS AND ASSUMPTIONS



**SUMMARY OF
ACTUARIAL METHODS AND ASSUMPTIONS USED FOR PERS
ACTUARIAL VALUATIONS
ASSUMPTIONS ADOPTED BY RETIREMENT BOARD
AFTER CONSULTING WITH ACTUARY**

The entry age actuarial cost method of valuation was used in determining liabilities and normal cost.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized to produce payments (principal & interest) which are level percent of payroll contributions.

The actuarial assumptions used in the valuation are shown in this Section. Both the economic and decrement assumptions were established for the December 31, 1991 actuarial valuations.

ECONOMIC ASSUMPTIONS

The investment return rate used in making the valuations was 7.75% per year, compounded annually (net after administrative expenses). The real rate of return is the portion of total investment return which is more than the inflation rate. Considering other financial assumptions, the 7.75% investment return rate translates to an assumed real rate of return of 2.50%.

Pay increase assumptions for individual active members are shown for sample ages on pages V-4, V-5, & V-6. Part of the assumption for each age is for merit and/or seniority increase, and the other 5.25% recognizes inflation.

The active member payroll is assumed to increase 5.25% annually, which is the portion of the individual pay increase assumptions attributable to inflation.

The number of active members is assumed to continue at the present number.

NON-ECONOMIC ASSUMPTIONS

The mortality table, for post-retirement mortality, used in evaluating allowances to be paid were the 1971 Group Annuity Mortality Male and Female Tables, projected to 1984. Related values are shown on page V-3.

The probabilities of age and service retirement are shown on page V-3.

The probabilities of withdrawal from service, disability and death-in-service are shown for sample ages on pages V-4, V-5 & V-6. For disability retirement, impaired longevity was recognized by basing mortality rates on an adjusted age that is the actual age plus 5 years. For other withdrawal it was assumed that members terminating before age 35, members terminating with less than 5 years of service, and a percentage of all other members would withdraw their contributions and forfeit their entitlement to an employer financed benefit. The percentage is 100% at age 35 and is reduced for each year of age after 35, becoming 0% at age 55 (age 45 for law enforcement members).

Additional assumptions for Health Care Coverages are shown on page V-7.

Employer contributions were assumed to be *paid in equal installments* throughout the employer fiscal year.

Present assets (cash & investments) at funding value are shown on pages 7 and 8.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.)

Single Life Retirement Values

Sample Attained Ages	Present Value of \$1 Monthly for Life Increasing 3.0% Annually (1st Increase After 1 Year)		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	\$166.89	\$184.58	27.53	33.66
55	153.18	173.30	23.28	28.99
60	137.36	159.32	19.27	24.44
65	119.69	142.71	15.55	20.09
70	101.34	123.42	12.25	15.99
75	83.83	102.88	9.49	12.33
80	67.06	83.12	7.17	9.28
Ref.	68	69		

Probabilities of Age and Service Retirement

Percent of Eligible Active Members Retiring Within Next Year

	State		Local Government		Law Enforcement
	Men	Women	Men	Women	
50-54	17%	15%	20%	15%	20%
55-58	12	15	15	15	20
59	15	15	15	15	20
60	15	17	15	17	20
61	15	17	15	17	20
62	15	17	16	17	20
63	15	17	16	17	20
64	20	20	20	20	25
65	25	25	25	25	30
66	25	25	25	25	25
67	25	25	25	25	25
68	25	25	25	25	25
69	30	30	30	30	40
70	100	100	100	100	100
Ref	292	293	295	293	210

A member other than a Law Enforcement officer was assumed to be eligible for retirement after attaining age 50 with 30 years of service, or at age 55 with 25 years of service, or after attaining age 60 with 5 or more years of service.

A Law Enforcement member was assumed to be eligible for retirement after attaining age 52 with 25 years of service, or, after attaining age 60 with 5 or more years of service.

STATE
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT
& INDIVIDUAL PAY INCREASE ASSUMPTIONS

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year				Disability				Pay Increase Assumptions For An Individual Employee									
		Death		Withdrawal		Men		Women		Merit & Seniority	Base (Economy)	Increase Next Year							
		Men	Women	Men	Women	Men	Women	Men	Women										
	0		30.00%*		30.00%*		8.30		9.90		0.07%		0.06%		4.20%		5.25%		9.45%
	1		19.00		19.00		19.00		8.90		0.08		0.06		3.20		5.25		8.45
	2		16.00		16.00		16.00		7.30		0.16		0.11		2.60		5.25		7.85
	3		11.00		13.00		13.00		5.40		0.27		0.21		2.20		5.25		7.45
	4		9.00		11.00		11.00		4.40		0.46		0.37		1.80		5.25		7.05
25	5 & Over	0.11%	0.10%	0.11%	0.10%	0.11%	8.30	0.10%	9.90	0.07%	0.06%	0.07%	0.06%	4.20%	5.25%	9.45%			
30		0.12	0.11	0.12	0.11	0.12	7.20	0.11	8.90	0.08	0.06	0.08	0.06	3.20	5.25	8.45			
35		0.15	0.12	0.15	0.12	0.15	5.90	0.12	7.30	0.16	0.11	0.16	0.11	2.60	5.25	7.85			
40		0.25	0.15	0.25	0.15	0.25	4.40	0.15	5.40	0.27	0.21	0.27	0.21	2.20	5.25	7.45			
45		0.43	0.25	0.43	0.25	0.43	3.30	0.25	4.40	0.46	0.37	0.46	0.37	1.80	5.25	7.05			
50		0.71	0.43	0.71	0.43	0.71	2.50	0.43	3.40	0.75	0.69	0.75	0.69	1.40	5.25	6.65			
55		1.16	0.71	1.16	0.71	1.16	1.70	0.71	2.40	1.22	0.94	1.22	0.94	1.00	5.25	6.25			
60		1.80	1.16	1.80	1.16	1.80	0.60	1.16	0.80	2.15	1.50	2.15	1.50	0.70	5.25	5.95			
Ref		9	32	9	32	9	129	32	130	118	120	118	120	119					
							224		226										

* These rates were increased over the rates shown in the last experience study in order to adjust for the inclusion of certain part-time, seasonal, and temporary employees in 1991.

**LOCAL GOVERNMENT
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT
& INDIVIDUAL PAY INCREASE ASSUMPTIONS**

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year				Disability				Pay Increase Assumptions For An Individual Employee			
		Death		Withdrawal		Men		Women		Merit & Seniority	Base (Economy)	Increase	Next Year
		Men	Women	Men	Women	Men	Women						
	0			36.00%*	34.50%*								
	1			23.75*	25.00*								
	2			16.00	17.00								
	3			11.00	14.00								
	4			9.00	11.00								
25	5 & Over	0.11%	0.10%	8.70	10.90	0.07%	0.06%	4.60%	5.25%	9.85%			
30		0.12	0.11	7.20	10.00	0.11	0.06	3.20	5.25	8.45			
35		0.15	0.12	6.10	8.30	0.25	0.11	2.50	5.25	7.75			
40		0.25	0.15	5.00	6.40	0.39	0.21	2.10	5.25	7.35			
45		0.43	0.25	4.10	5.30	0.62	0.37	1.80	5.25	7.05			
50		0.71	0.43	3.20	4.20	1.10	0.69	1.30	5.25	6.55			
55		1.16	0.71	2.30	2.90	1.56	0.94	1.00	5.25	6.25			
60		1.80	1.16	0.80	1.00	2.57	1.50	0.70	5.25	5.95			
Ref		9	32	129	131	119	120	120					
				225	227								

* These rates were increased over the rates shown in the last experience study in order to adjust for the inclusion of certain part-time, seasonal, and temporary employees in 1991.

**LAW ENFORCEMENT
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT
& INDIVIDUAL PAY INCREASE ASSUMPTIONS**

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year				Pay Increase Assumptions For An Individual Employee			
		Death		Withdrawal		Disability Men & Women	Merit & Seniority (Economy)	Base (Economy)	Increase Next Year
		Men	Women	Men & Women	Men & Women				
	0			16.00%					
	1			13.00					
	2			11.00					
	3			9.00					
	4			7.00					
	5 & Over	0.11%	0.10%	5.70	0.12%	5.10%	5.25%	10.35%	
25		0.12	0.11	4.80	0.15	3.20	5.25	8.45	
30		0.15	0.12	4.10	0.27	2.30	5.25	7.55	
35		0.25	0.15	3.60	0.41	1.90	5.25	7.15	
40									
45		0.43	0.25	3.20	0.78	1.50	5.25	6.75	
50		0.71	0.43	2.40	1.24	1.10	5.25	6.35	
55		1.16	0.71	1.70	1.70	0.80	5.25	6.05	
60		1.80	1.16	0.60	3.05	0.70	5.25	5.95	
Ref		9	32	132	121	121			
				228					

ADDITIONAL ASSUMPTIONS FOR HEALTH CARE COVERAGES

Development of 1997 Health Care Rates: Based on 1995 data, the PERS portion of the total health care rates was developed as follows:

	Total Rates	Member Portion	PERS Portion
A. Benefit recipient without Medicare	\$362.78	\$ 8.25	\$354.53
B. Benefit recipient with Medicare	147.81	none	147.81
C. Spouse without Medicare	362.78	68.25	294.53
D. Spouse with Medicare	147.81	20.00	127.81
E. Child	139.79	20.00*	119.79

* This only applies to the first child. For each additional child covered, PERS pays the total rate.

Eligibility for Medicare Coverage: All benefit recipients were assumed to be eligible for Medicare on attainment of age 65.

Health Care Inflation: Health care inflation was assumed to equal wage inflation.

Part Time Service Credit: A part time employee in PERS must receive \$3,000 a year to earn a full year of contributing service. It was assumed that 5% of local government members who terminate in the future with over 10 years of employment will have less than 10 years of service credit and therefore will not qualify for health care coverage.

Coverage Choice: Future retirees were assumed to choose AETNA and Blue Cross in equal proportions. Present retirees were assumed to remain with their present choice.

Marriage and Continuing Coverage: It was assumed that 75% of retired men and 25% of retired women would be married. Coverage was assumed to continue for 60% of all the retired males and 20% of all the retired females.

FINANCING PRINCIPLES



FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES OF PERS

Promises Made, and To Be Paid For. As each year is completed, PERS in effect hands an "IOU" to each member then acquiring a year of service credit --- the "IOU" says: "The Public Employees Retirement System of Ohio owes you one year's worth of retirement benefits, payments in cash commencing when you qualify for retirement."

The related *key financial questions* are:

Which generation of taxpayers contributes the money to cover the IOU?

The present taxpayers, who receive the benefit of the member's present year of service? *Or the future taxpayers*, who happen to be in Ohio at the time the IOU becomes a cash demand, years and often decades later?

The law governing PERS financing intends that this year's taxpayers contribute the money to cover the IOUs being handed out this year. With this financial objective, *the employer contribution rate is expected to remain approximately level from generation to generation of taxpayers.*

There are systems which have a design for deferring contributions to future taxpayers. Lured by a lower contribution rate now, they put aside the consequence that the contribution rate must then relentlessly grow to a level much higher than would be required if a level contribution pattern were followed.

An inevitable by-product of the level-cost design is the accumulation of reserve assets, for decades, and the income produced when the assets are invested. *Investment income* becomes *the 3rd and largest contributor* for benefits to employees, and is interlocked with the contribution amounts required from employees and employers.

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

Normal Cost (the cost of members' service being rendered this year)

... plus ...

Interest on Unfunded Actuarial Accrued Liabilities (unfunded actuarial accrued liabilities are the difference between: liabilities for service already rendered; and the accrued assets of PERS).

Computing Contributions to Support Fund Benefits. From a given schedule of benefits and from employee and asset data, the actuary calculates the contribution rates to support the benefits by means of *an actuarial valuation and a funding method.*

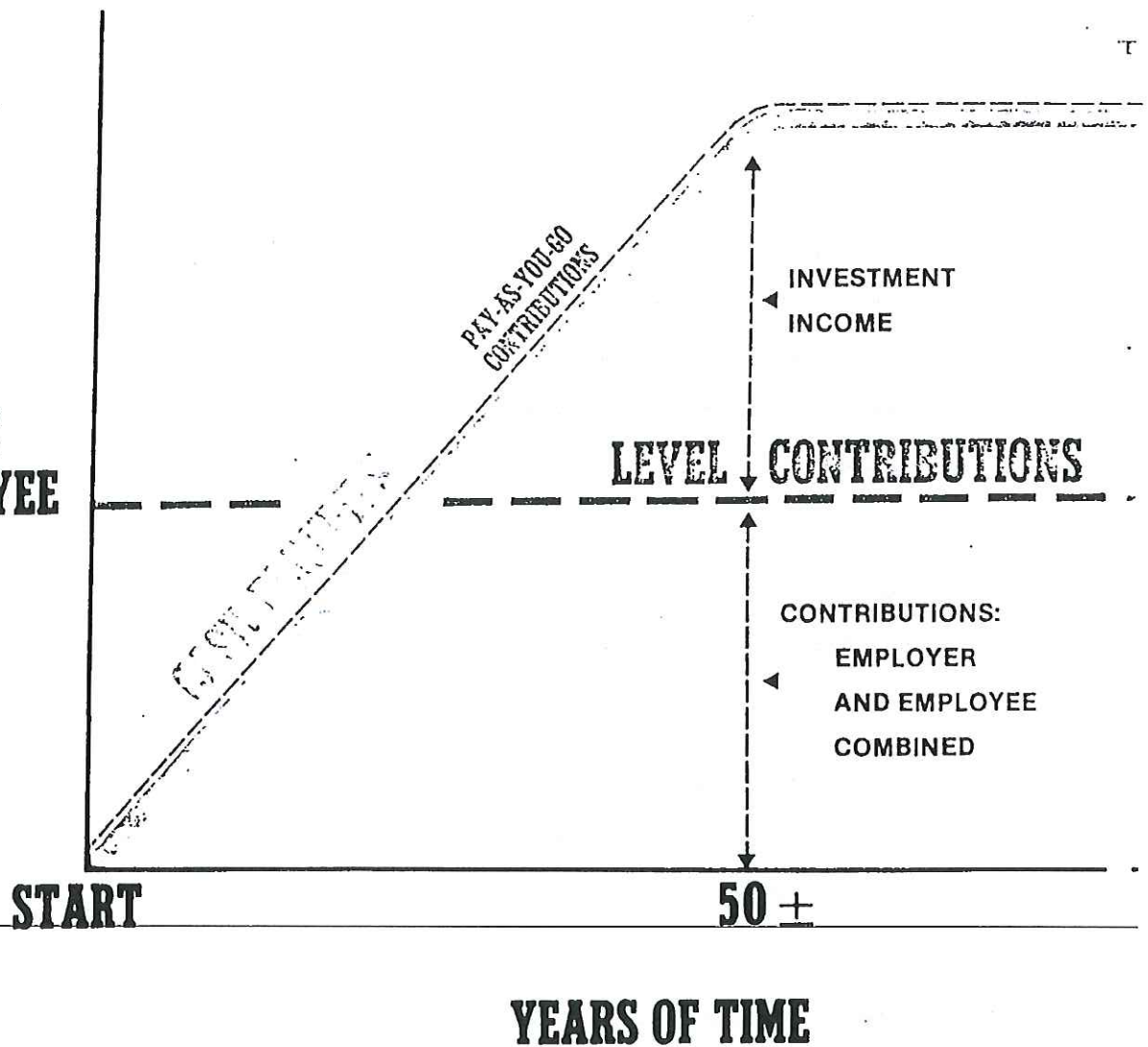
An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement.

In an actuarial valuation, assumptions must be made as to what the above rates will be for the next year and for decades in the future. The assumptions are established by the Retirement Board after receiving the advice of the actuary.

Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and has been observed, it will not coincide exactly with assumed experience, regardless of the skill of the actuary and the many calculations made. The future can not be predicted with 100% precision.

PERS copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is *continuing adjustments in financial position.*

**% OF
ACTIVE
EMPLOYEE
PAYS**



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

THE ACTUARIAL VALUATION PROCESS

The financing diagram on the opposite page shows the relationship between *the two fundamentally different philosophies of paying* for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program) which is thus an *increasing contribution method*; and, the *level contribution method* which attempts to equalize contributions between the generations.

The actuarial valuation is the mathematical process by which the level contribution rate is determined. The activity constituting the valuation may be summarized as follows:

A. *Census Data*, including:

Retired lives now receiving benefits

Former employees with vested benefits not yet payable

Active employees

B. + *Asset data* (cash & investments)

C. + *Benefit provisions* that establish eligibility and amounts of payments to members

D. + *Assumptions concerning future experience* in various risk areas

E. + *The funding method* for employer contributions (the long-term, planned pattern for employer contributions)

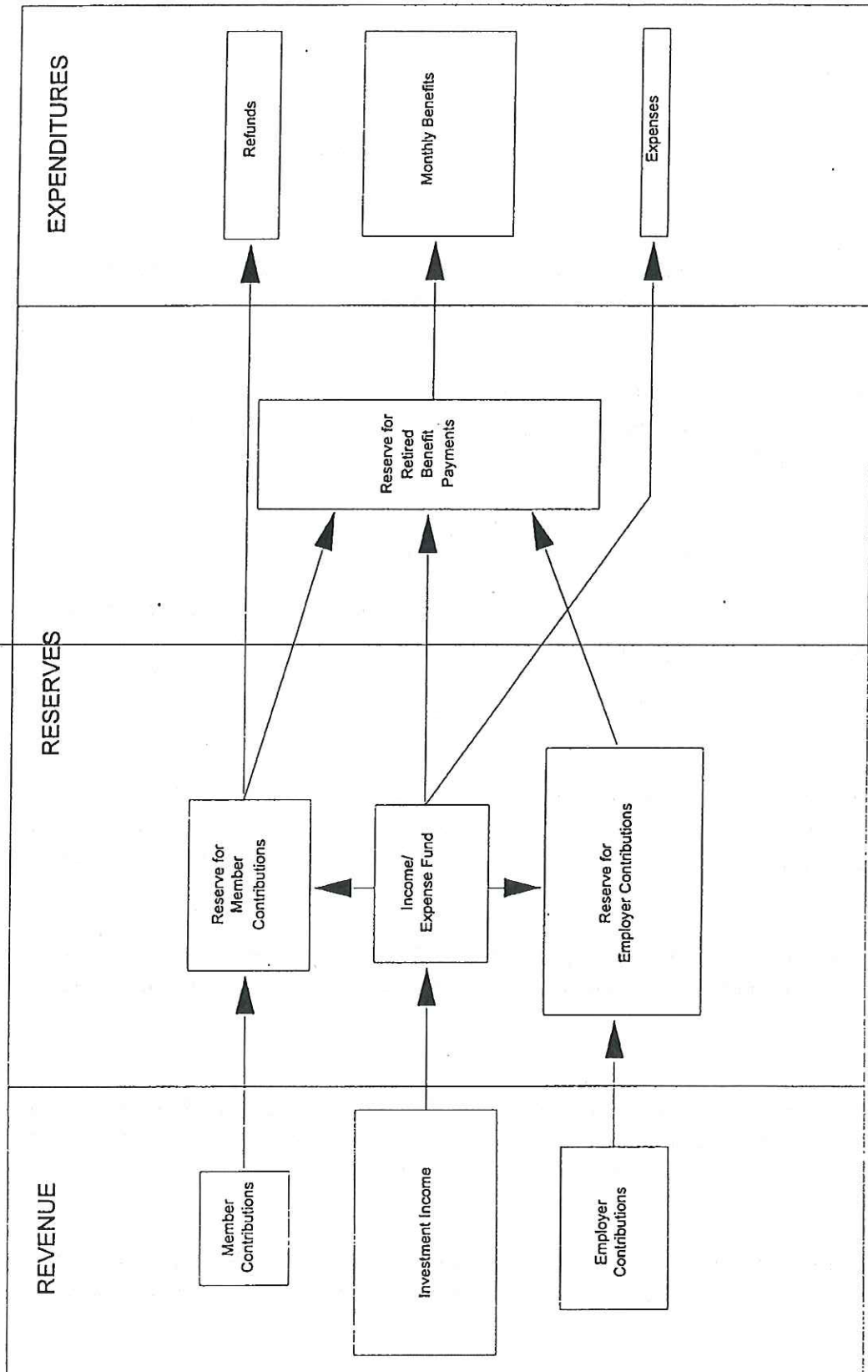
F. + *Mathematically combining the assumptions, the funding method, and the data*

G. = Determination of:

Plan Financial Position; and/or

New Employer Contribution Rate

Flow of Money Through the Retirement System



GLOSSARY

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Accumulated Benefit Obligation. The actuarial present value of vested and non-vested benefits based on service to date and past and current salary levels.

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuarial Present Value of Credited Projected Benefits or Pension Benefit Obligation. The present value of future benefits based on service to date and the effect projected salary increases.

Actuary. A person who is trained in the applications of probability and compound interest to problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries. The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation A.S.A. and ultimately to Fellowship with the designation F.S.A.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Funding Value of Assets. The value of current plan assets recognized for valuation purposes. Generally based on a phased-in recognition of all or a portion of market related investment return. Sometimes referred to as Actuarial Value of Assets.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

MEANING OF "UNFUNDED ACTUARIAL ACCRUED LIABILITIES"

"Actuarial accrued liabilities" are the present value of the portions of promised benefits that are not covered by future normal cost contributions --- a liability has been established ("accrued") because the service has been rendered but the resulting monthly cash benefit may not be payable until years in the future.

If "actuarial accrued liabilities" at any time exceed the plan's accrued assets (cash & investments), the difference is *"unfunded actuarial accrued liabilities."* This is the common condition. If the plan's assets equalled the plan's "actuarial accrued liabilities", the plan would be termed "fully funded." This is an unusual condition.

Each time a plan adds a new benefit which applies to service already rendered, an "actuarial accrued liability" is created, which is also an "unfunded actuarial accrued liability" because the plan can't print instant cash to cover the value of the new benefit promises. Payment for such unfunded actuarial accrued liabilities is spread over a period of years, commonly in the 15-40 year range.

Unfunded actuarial accrued liabilities can occur in another way: if actual plan experience is less favorable than assumed, the difference is added to unfunded actuarial accrued liabilities. For example, in plans where benefits are directly related to an employee's pay near time of retirement, unfunded actuarial accrued liabilities increased rapidly during the 1970's because unexpected rates of pay increase created additional actuarial accrued liabilities which could not be matched by reasonable investment results. Most of the unexpected pay increases were the direct result of inflation, which is a very destructive force on financial stability.

The existence of unfunded actuarial accrued liabilities is not bad but the changes from year to year in amount of unfunded actuarial accrued liabilities are important--- "bad" or "good" or somewhere in between.

Nor are unfunded actuarial accrued liabilities a bill payable immediately, but it is important that policy-makers prevent the amount from becoming unreasonably high and *it is vital for plans to have a sound method for making payments toward them* so that they are controlled.
