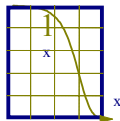

WISCONSIN RETIREMENT SYSTEM



21st Annual Actuarial Valuations of Retired Lives December 31, 2003

Gabriel, Roeder, Smith & Company



Actuaries and Consultants

TABLE OF CONTENTS

DECEMBER 31, 2003

<u>Page</u>	
1	<i>Introduction</i>
2-3	<i>Section A - Operation of the System</i>
	<i>Section B - Fixed Annuities</i>
4	Development of Assets and Liabilities
5	Recommendation
6	Discussion
7	Transfers to Annuity Reserve
8-9	Fixed Annuities Being Paid - Type and Option
10-11	Fixed Annuities Being Paid - Attained Ages
12	Projection of Future Fixed Annuity Payments
	<i>Section C - Variable Annuities</i>
13	Development of Assets and Liabilities
14	Recommendation
15	Discussion
16	Transfers to Annuity Reserve
17-18	Variable Annuities Being Paid - Type and Option
19	Variable Annuities Being Paid - Attained Ages
	<i>Section D - Comparative Statements</i>
20-22	Annuities by Valuation Year
23	Annuities by Type
24	Annuities by Year of Retirement
25	Actual vs. Expected Deaths
	<i>Section E - Appendix</i>
26	Single Life Retirement Values
27	Statutory Provisions

March 9, 2004

Employee Trust Funds Board
Madison, Wisconsin

Ladies and Gentlemen:

The results of the **21st annual actuarial valuation of fixed and variable annuities** being paid from the Wisconsin Retirement System are presented in this report. The valuation was based upon data, furnished by the WRS staff, concerning Fund assets and individual annuitants and beneficiaries.

The date of this valuation was **December 31, 2003**. Actuarial assumptions used in the valuation are summarized in the Appendix.

The results of the valuation may be briefly summarized as follows (\$ millions).

	Fixed	Variable
Number of Annuitants	121,582	29,496
Annual Amount	\$ 2,364.7	\$ 273.3
Fund Balance	25,071.9	3,635.9
Actuarial Reserve	24,724.0	2,892.2
Ratio	1.014	1.257

Based upon these results, there was no change in fixed annuities effective April, 2004 and variable annuities were increased by 25%.

The cooperation of the Secretary and his staff in gathering materials for this valuation is acknowledged with appreciation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY

Brian B. Murphy, FSA

Norman L. Jones, FSA

BBM/lr

SECTION A

Operation of the System

OPERATION OF THE RETIREMENT SYSTEM

Each year, as of December 31, an actuarial valuation of the liability for retired persons receiving benefits from the Wisconsin Retirement System is conducted. The purpose of the valuation is to determine the actuarial present value of future benefit payments on behalf of current retired lives. This present value is the “actuarial reserve”. Theoretically, if an amount of money equal to the actuarial present value were invested at a yield equal to the valuation interest rate, the initial amount plus the continuing investment income would provide exactly the right amount of money to pay the annuities of all current retired persons and their beneficiaries for the rest of their lives. The fund would decrease each year, and would become zero many decades in the future when the last annuitant dies.

The above is a “closed group” description of the operation of the annuity reserve fund. But the fund is really an “open group”. The size of the fund does not actually decrease because each year more benefits are added to the rolls than are removed, and fresh money is transferred into the annuity reserve fund to finance the benefits of the new annuitants. (The actuary calculates the reserve transfers for new annuitants each year as a by-product of the actuarial valuation.)

According to theory, the fund will eventually reach a state when the number of people entering (retiring) each year is approximately equal to the number of people exiting (dying) each year. When this mature state is reached, the amount of money in the fund will remain approximately level in constant dollars from year to year. Each year the reserve transfers of the new annuitants plus investment earnings on the whole fund (total money in) will be approximately equal to the benefit payments (total money out). The only source of growth in assets would be the result of the effects of inflation. The dollars in the fund would increase, but the “real” value of the fund would not change.

There are at least two factors that cause the actual operation to be different from the theoretical operation described above. The first is that annuitants may have longer or shorter lifetimes than expected. In recognition of this, the actuary monitors mortality experience of the retirement system and recommends a new mortality table when appropriate. This year, the mortality assumption was revised in connection with the 2000–2002 WRS Experience Study. The change resulted in an increase in computed liability due to the longer expected lifetimes. Reserves had been built up in prior years in anticipation of a change in the mortality table.

OPERATION OF THE RETIREMENT SYSTEM (CONCLUDED)

The second factor is that actual investment earnings are rarely equal to the assumed rate. When investment earnings differ from the assumed rate, the difference, positive or negative, is recorded in a supplemental reserve.

The Wisconsin Retirement System maintains separate reserves for fixed and variable annuities. Each year, the actuary determines the actuarial reserve for fixed and variable annuities separately. WRS' practice with respect to the use of supplemental reserves, is described below.

Fixed Annuity Division. If the supplemental reserve is positive and is at least 2% of fixed annuity liabilities, fixed annuity increases (dividends) may be granted. If the supplemental reserve is negative and is more than 0.5% of fixed annuity liabilities in absolute value, prior fixed annuity dividends are reduced by an aggregate amount equal to the shortfall. Increases or decreases become effective in April following the December 31 valuation.

Variable Annuity Division. If the supplemental reserve is at least 2% of variable annuity liabilities, substantially all of the reserve (dropping fractions of a percent) is used to increase or decrease variable annuities for the ensuing year. Increases or decreases become effective in April following the December 31 valuation.

SECTION B

Fixed Annuities

FIXED ANNUITY DIVISION
DEVELOPMENT OF ASSETS AND LIABILITIES

	\$ Millions		Ratio
	Assets	Liabilities	
Ending Balance December 31, 2002	\$23,142.5	\$23,202.9	0.997
Closing Adjustments	56.9	0.0	
Variable Terminations	125.3	125.3	
2003 Dividend: 0%	0.0	0.0	
Beginning Balance January 1, 2003	23,324.7	23,328.2	1.000
Increases			
Reserve Transfers	2,440.7	2,440.7	
Regular Interest	1,168.9	1,168.9	
Additional Earnings	481.2	0.0	
Addition to Contingency/Data Reserve	0.0	0.0	
Experience Study	0.0	210.9	
Other	0.0	46.8	
Total Increases	4,090.8	3,867.3	
Decreases			
Annuities & Lump Sums	2,341.6	2,341.6	
Credit Re-establishments	2.0	2.0	
Releases from Contingency/Data Reserve	0.0	127.9	
Experience Study	0.0	0.0	
Other	0.0	0.0	
Total Decreases	2,343.6	2,471.5	
Ending Balance December 31, 2003	\$25,071.9	\$24,724.0	1.014

The ending liability balance includes data and contingency reserves of \$147.7 million.

RESERVE TRANSFER RECOMMENDATION
DECEMBER 31, 2003

Amounts to be transferred from the Employer Reserve and the Employee Reserve to the Annuity Reserve to cover liabilities for new annuities are computed as the first step in the annual actuarial valuation. The actuarial present value at time of retirement of fixed annuities reported as new since the last actuarial valuation is \$2,249,708,080. Adjustments to prior transfers, relating to estimated annuities for which final computations have now been made, totaled \$190,989,934. Reserve transfers are distributed as follows:

Group	Regular Transfer	Adjustment to Prior Transfer	Total Transfer
General	\$2,046,615,096	\$167,295,070	\$2,213,910,166
Protective with Social Security	138,855,192	16,803,639	155,658,831
Protective without Social Security	36,620,708	5,346,093	41,966,801
Executive & Elected	27,617,084	1,545,132	29,162,216
Totals	\$2,249,708,080	\$190,989,934	\$2,440,698,014

Accordingly, we recommend that \$2,440,698,014 be transferred to the fixed annuity reserve. The results in this report assume that this transfer has been made.

DISCUSSION OF DIVIDEND DECEMBER 31, 2003

The Fixed Annuity Fund Balance, \$25,071.9 million, exceeded the actuarial present value of fixed annuities and reserves, \$24,724.0 million, by \$347.9 million or 1.4% of the actuarial present value (APV) of fixed annuity payments. The primary sources of the 1.4% are:

	<u>% of APV</u>
1. Published earnings rate	7.4%
2. Adjustment to relate earnings to average fixed annuity balance	<u>(0.3)%</u>
3. Earnings rate based on average balance	7.1%
4. Expected dividend before adjustments: 1.071/1.05-1	2.0%
5. Adjustment to relate average liability to ending liability	(0.1)%
6. Carryover from last year due to timing of dividend and accounting adjustments	0.0%
7. Adjustments to contingency reserve and data reserve	0.5%
8. Experience Study	(0.9)%
9. Experience and other effects	<u>(0.1)%</u>
10. Computed dividend rate: (4) + (5) + (6) + (7) + (8) + (9)	1.4%

In accordance with the Administrative Code, ETF 20.25 and Section 40.27(2) Wisconsin Statutes (see page 27), no amounts were allocated to a dividend effective April, 2004.

**TRANSFERS TO ANNUITY RESERVE
TO FINANCE FIXED ANNUITIES APPROVED IN 2003
TABULATED BY TYPE OF ANNUITY AND OPTION**

Code	Type of Benefit	Number	Annual Amount	Transfer
REGULAR RETIREMENT				
1	Straight Life	898	\$ 15,201,020	\$ 203,853,220
2	5-Year Certain & Life	908	15,915,499	217,750,586
4	15-Year Certain & Life	1,530	24,721,682	354,546,166
7	Joint and 75%	953	20,108,111	304,520,028
9	Joint and 75% on First Death	470	11,495,599	165,605,880
11	Joint and 100%	653	11,802,799	181,473,554
12	Joint and 100% & 15-Year Certain	1,874	34,535,260	550,369,781
13	Temporary to Age 62*	0	47,086,859	195,380,876
21	Certain Only*	1	637,162	4,694,745
40	Mandatory & 15-Year Certain	18	83,224	1,002,871
41	Mandatory & Certain for Life Expectancy	1	1,890	20,063
42	Voluntary & Certain for Life Expectancy	2	48,192	546,892
Total Regular		7,308	181,637,297	2,179,764,662
Average Age at Retirement		59.3 Years		
DISABILITY RETIREMENT				
1	Straight Life	0	0	0
2	5-Year Certain & Life	1	6,399	82,248
4	15-Year Certain & Life	1	26,455	368,578
7	Joint and 75%	0	0	0
9	Joint and 75% on First Death	0	0	0
11	Joint and 100%	0	0	0
12	Joint and 100% & 15-Year Certain	57	1,286,265	21,064,976
17	5-Years Certain & Life or Survivor	31	702,272	9,184,240
21	Certain Only*	0	0	0
24	Straight Life	20	405,490	5,246,678
25	15-Year Certain & Life	33	749,397	10,543,830
26	Joint & 75 %	12	245,104	3,703,565
27	Joint & 100%	18	408,574	6,504,233
28	Joint & 75% on First Death	4	75,653	974,216
Total Disability		177	3,905,609	57,672,564
Average Age at Retirement		52.7 Years		
DEATH-IN-SERVICE BENEFITS				
1	Straight Life	13	123,539	1,707,353
2	5-Year Certain & Life	11	76,605	1,169,907
4	15-Year Certain & Life	44	570,136	8,386,154
13	Temporary to Age 62*	0	157,524	1,007,440
21	Certain Only*	0	0	0
42	Voluntary & Certain for Life Expectancy	0	0	0
Total Death-in-Service		68	927,804	12,270,854
Average Age at Retirement		54.3 Years		
GRAND TOTAL		7,553	\$186,470,710	\$2,249,708,080

* Many annuities in this category were additional annuities. The number counts are included elsewhere.

FIXED ANNUITIES BEING PAID DECEMBER 31, 2003
TABULATED BY TYPE OF ANNUITY AND OPTION

Code	Type of Benefit	Number	Amount	Value
REGULAR RETIREMENT				
1	Straight Life	15,354	\$ 241,934,060	\$ 2,420,108,942
2	5-Year Certain & Life	17,787	270,618,126	2,543,423,666
3	10-Year Certain & Life	739	10,700,049	50,389,759
4	15-Year Certain & Life	27,116	430,541,286	4,197,192,362
5	Joint and 50%	225	3,610,761	19,079,633
6	Joint and 50% and 15-Year Certain	43	487,957	2,021,992
7	Joint and 75%	13,770	290,198,264	3,528,189,064
8	Joint and 75% Integrated	136	2,616,523	21,162,520
9	Joint and 75% on First Death	11,365	288,336,551	3,162,493,575
10	Joint and 75% & 10-Year Certain	45	561,789	2,296,114
11	Joint and 100%	9,136	165,515,884	2,015,732,436
12	Joint and 100% & 15-Year Certain	16,823	325,121,689	4,524,734,713
13	Temporary to Age 62*	3	178,735,314	498,304,108
14	5-Year Certain & Life Integrated	498	2,960,049	16,786,252
15	15-Year Certain & Life Integrated	311	6,222,202	36,576,907
20	Cash Refund Annuity	1	3,655	13,500
21	Certain Only*	7	3,711,506	19,178,428
22	Joint and \$600	0	0	0
25	15-Year Certain & Life & Survivor	2	19,015	222,534
40	Mandatory and Certain for 15 Years	66	345,850	3,724,025
41	Mandatory & Certain for Life Expectancy	18	269,432	2,237,654
42	Voluntary & Certain for Life Expectancy	128	1,870,730	14,969,855
99	Joint and 66-2/3% Original Amount	465	3,248,925	20,249,599
99	Joint and 66-2/3% Dividends	0	9,293,650	56,309,899
Total Regular		114,038	\$2,236,923,267	\$23,155,397,537

* Many annuities in this category were additional annuities. The number counts are included elsewhere.

(Concluded on next page)

FIXED ANNUITIES BEING PAID DECEMBER 31, 2003
TABULATED BY TYPE OF ANNUITY AND OPTION
(CONCLUDED)

Code	Type of Benefit	Number	Annual Amount	Present Value
DISABILITY RETIREMENT				
1	Straight Life	9	\$ 78,566	\$ 691,917
2	5-Year Certain & Life *	2	14,848	177,720
3	10-Year Certain & Life *	0	0	0
4	15-Year Certain & Life	2	50,074	671,857
7	Joint and 75% *	1	22,881	264,095
9	Joint and 100%	0	0	0
11	Joint and 100%	2	43,510	600,958
12	Joint and 100% & 15-Year Certain	1,350	24,641,942	352,021,384
17	5-Year Certain & Life or Survivor	800	15,624,832	127,200,521
18	Cash Refund Annuity	195	2,577,012	11,303,319
21	Certain Only	0	31,807	88,381
23	Joint and \$600	7	21,276	46,198
24	Straight Life	595	13,073,777	134,153,167
25	15-Year Certain & Life or Survivor	1,264	24,963,829	257,554,138
26	Straight Life & Joint & 75%	497	9,800,009	115,197,763
27	Straight Life & Joint & 100%	1,251	21,423,372	274,254,209
28	Joint & 75% on First Death	241	4,724,440	41,929,604
99	Joint & 66-2/3% Original Amount	56	215,692	1,300,636
99	Joint & 66-2/3% Dividends	0	683,304	4,094,493
Total Disability		6,272	117,991,171	1,321,550,360
DEATH-IN-SERVICE BENEFITS				
1	Straight Life	285	1,911,432	19,554,534
2	5-Year Certain & Life	128	1,417,387	15,271,147
4	15-Year Certain & Life	638	4,976,537	56,850,394
7	Joint and 75%	1	39,210	260,679
12	Joint and 100% & 15-Year Certain	4	19,643	256,356
13	Temporary to Age 62*	0	757,667	3,427,888
14	5-Year Certain & Life Integrated	184	190,862	1,054,362
15	15-Year Certain & Life Integrated	2	46,235	322,214
17	5-Year Certain & Life or Survivor	1	3,129	20,054
21	Certain Only*	3	36,024	131,654
22	Joint and \$600	0	0	0
23	Joint and \$600	0	0	0
42	Voluntary & Certain for Life Expec	23	254,589	1,526,039
99	Joint & 66-2/3% Original Amount	3	25,059	210,408
99	Joint & 66-2/3% Dividends	0	60,944	504,502
Total Death-in-Service		1,272	\$ 9,738,718	\$ 99,390,231
GRAND TOTAL		121,582	\$2,364,653,156	\$24,576,338,128

* Many annuities in this category were additional annuities. The number counts are included elsewhere.

FIXED ANNUITIES BEING PAID DECEMBER 31, 2003
TABULATED BY ATTAINED AGES

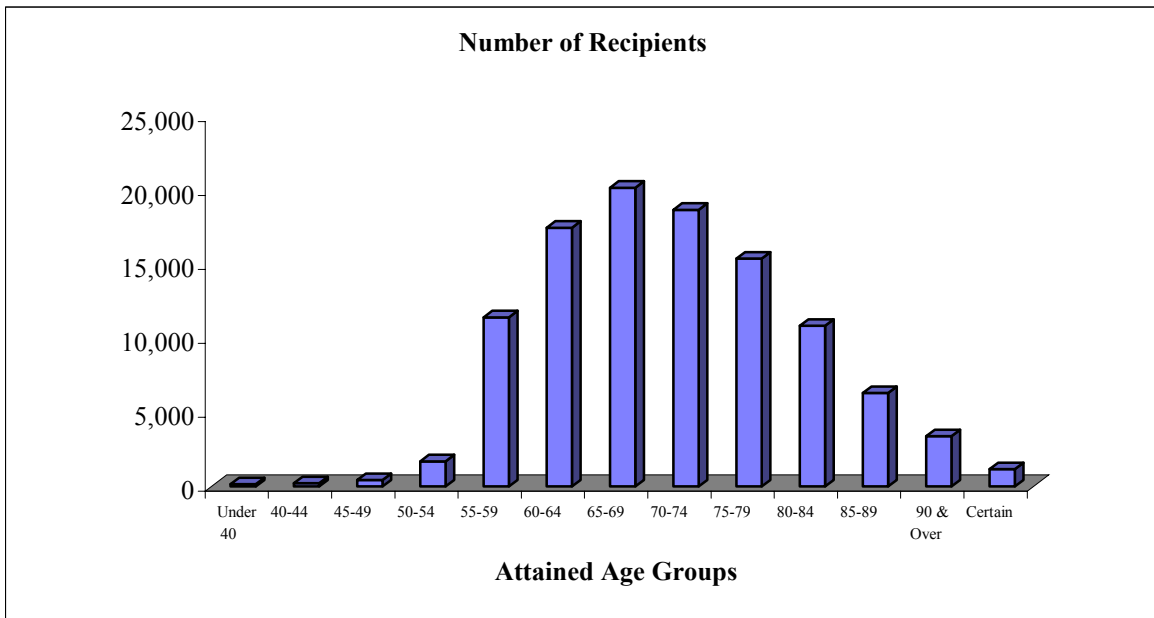
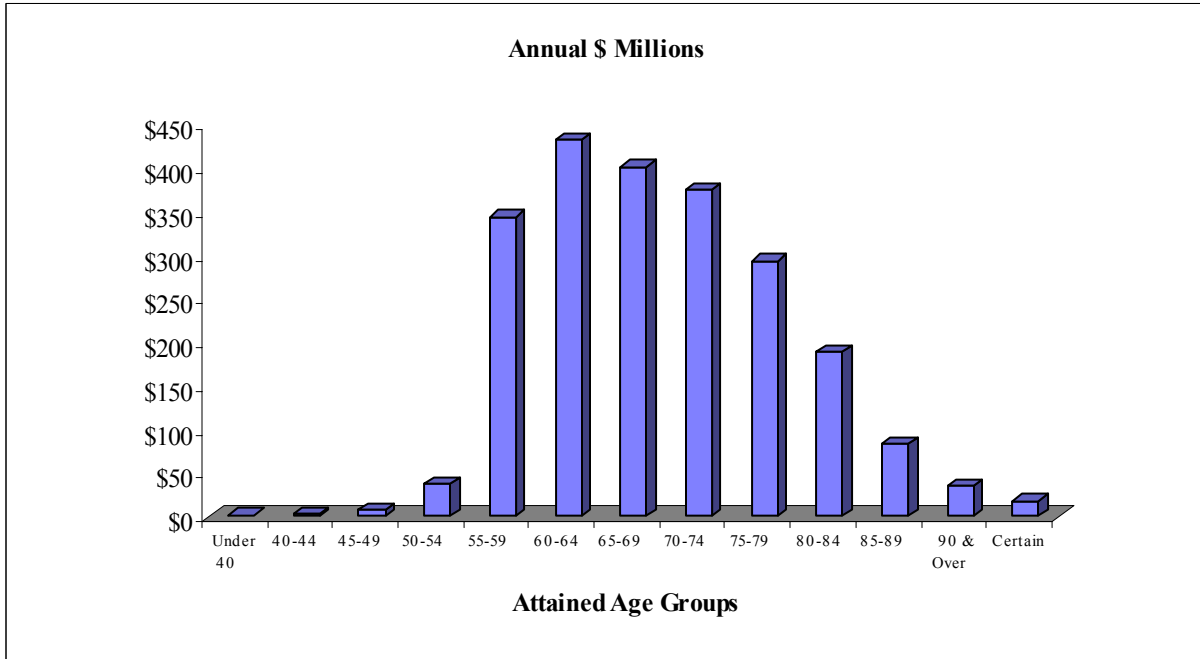
Attained Ages	Regular		Disability		Death-in-Service		Totals	
	No.	Annual Amount	No.	Annual Amount	No.	Annual Amount	No.	Annual Amount
Under 20	0	\$ 0	9	\$ 50,080	6	\$ 46,836	15	\$ 96,916
20-24	0	0	7	31,180	7	41,296	14	72,476
25-29	1	5,802	17	122,460	7	42,808	25	171,070
30-34	2	5,959	21	221,139	10	54,180	33	281,278
35-39	9	73,417	51	758,790	11	41,168	71	873,375
40-44	22	271,296	142	2,311,082	22	123,416	186	2,705,794
45-49	64	602,841	341	6,554,003	43	266,236	448	7,423,080
50-54	893	21,772,877	732	15,393,805	51	518,294	1,676	37,684,976
55-59	13,835	358,641,578	1,037	21,682,329	114	1,440,857	14,986	381,764,764
60-64	20,090	446,305,881	1,056	21,242,922	145	1,546,068	21,291	469,094,871
65-69	21,356	402,044,472	957	19,211,748	134	1,168,598	22,447	422,424,818
70-74	18,953	368,055,243	824	14,498,054	149	1,223,844	19,926	383,777,141
75-79	15,847	296,375,150	569	9,094,268	168	1,162,647	16,584	306,632,065
80-84	11,551	196,888,375	322	4,762,531	148	902,747	12,021	202,553,653
85-89	6,662	90,057,668	144	1,718,389	134	537,572	6,940	92,313,629
90-94	2,831	30,623,144	38	269,876	77	322,861	2,946	31,215,881
95& Up	858	7,137,822	5	36,710	21	113,098	884	7,287,630
Certain Only*	1,064	18,061,742	0	31,805	25	186,192	1,089	18,279,739
Totals	114,038	\$2,236,923,267	6,272	\$117,991,171	1,272	\$9,738,718	121,582	\$2,364,653,156

Average

Age at retirement	60.4	52.3	50.3	60.0
Attained age	70.8	64.1	70.9	70.5

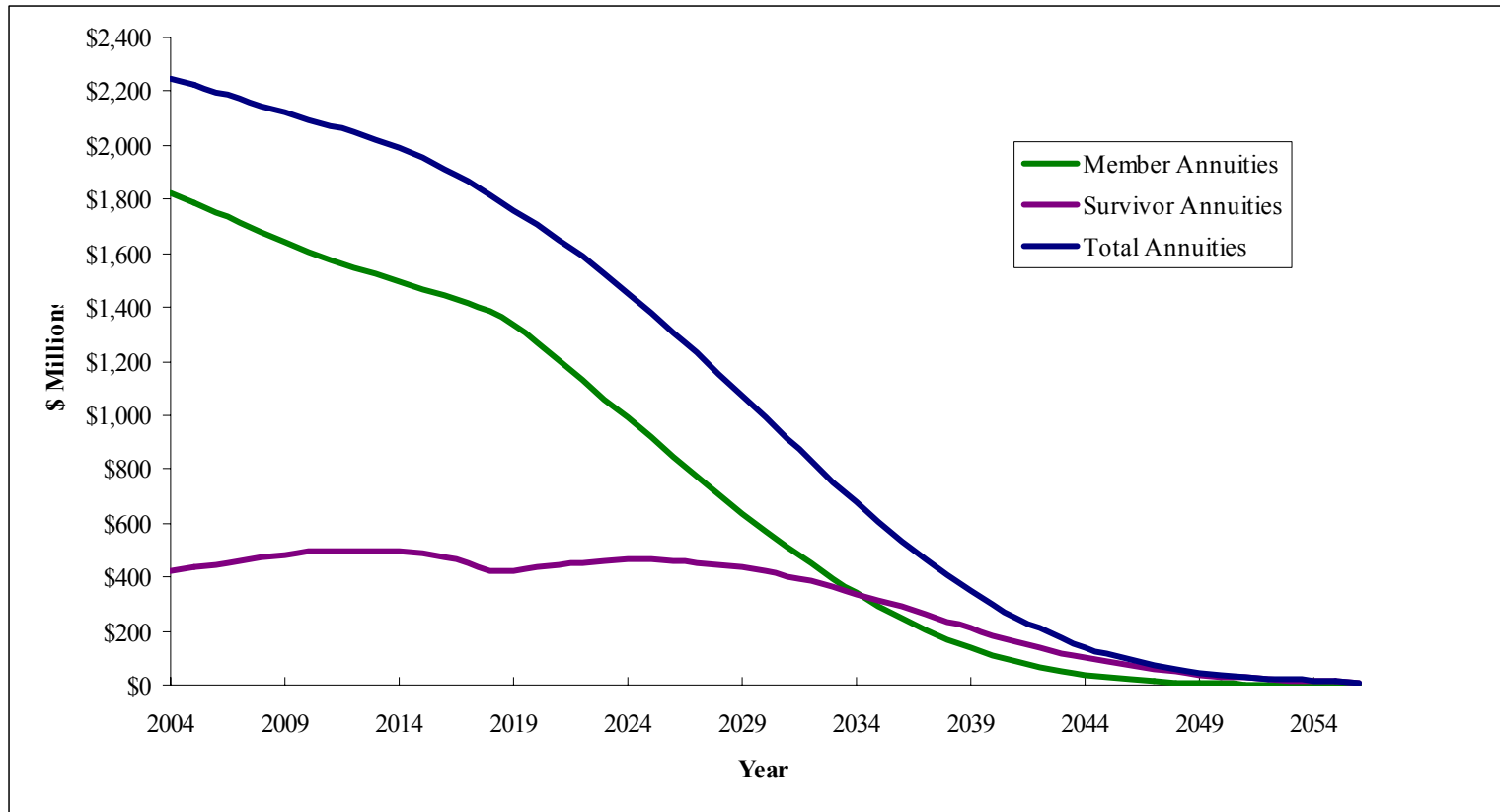
* Certain only category consists of continuations of 5, 10 and 15-year certain and life annuities to beneficiaries of deceased annuitants, and all option 21 annuities.

FIXED ANNUITIES BEING PAID BY ATTAINED AGE* DECEMBER 31, 2003



* Includes regular and disability retirees and survivor beneficiaries. The "certain" category includes annuities paid for a fixed period which is not dependent upon the age of the recipient.

**PROJECTED FUTURE FIXED ANNUITY PAYMENTS
ON BEHALF OF PRESENT RETIRED LIVES
INCLUDING FUTURE DIVIDENDS**



Total Future Payments	\$	54,888	million
From Present Assets		25,072	
From Investment Return		29,816	

SECTION C

Variable Annuities

VARIABLE ANNUITY DIVISION
DEVELOPMENT OF ASSETS AND LIABILITIES

	\$ Millions		Ratio
	Assets	Liabilities	
Ending Balance December 31, 2002	\$2,899.3	\$3,993.1	0.726
Closing Adjustments	(12.4)	0.0	
Variable Terminations	(125.3)	(125.3)	
2003 Adjustment:-27%	0.0	(1,056.9)	
Beginning Balance January 1, 2003	2,761.6	2,810.9	0.982
Increases			
Reserve Transfers	247.1	247.1	
Regular Interest	139.4	139.4	
Additional Earnings	783.3	0.0	
Addition to Contingency/Data Reserve	0.0	0.0	
Experience Study	0.0	22.3	
Other	0.0	0.0	
Total Increases	1,169.8	408.8	
Decreases			
Annuities & Lump Sums	295.0	295.0	
Credit Re-establishments	0.5	0.5	
Release from Contingency/Data Reserve	0.0	28.0	
Experience Study	0.0	0.0	
Other	0.0	4.0	
Total Decreases	295.5	327.5	
Ending Balance December 31, 2003	\$3,635.9	\$2,892.2	1.257

The ending liability balance includes contingency reserves of \$11.5 million.

RESERVE TRANSFER RECOMMENDATION
DECEMBER 31, 2003

Amounts to be transferred from the Employer Reserve and the Employee Reserve to the Annuity Reserve to cover liabilities for new annuities are computed as the first step in the annual actuarial valuation. The actuarial present value at time of retirement of variable annuities reported as new since the last actuarial valuation is \$210,990,088. Adjustments to prior transfers, relating to estimated annuities for which final computations have now been made, totaled \$36,122,337. Reserve transfers were distributed as follows:

Group	Regular Transfer	Adjustment to Prior Transfer	Total Transfer
General	\$197,386,650	\$34,473,927	\$231,860,577
Protective with Social Security	9,733,650	2,177,670	11,911,320
Protective Without Social Security	2,614,867	10,767	2,625,634
Executive & Elected	1,254,921	(540,027)	714,894
Totals	\$210,990,088	\$36,122,337	\$247,112,425

Accordingly, we recommend that \$247,112,425 be transferred to the variable annuity reserve. The results in this report assume that this transfer has been made.

DISCUSSION OF VARIABLE ANNUITY CHANGE DECEMBER 31, 2003

Variable Annuity Reserves, \$3,635.9 million, exceeded the actuarial present value of variable annuities, \$2,892.2 million, by \$743.7 million as of December 31, 2003 or 25% of the actuarial present value (APV) of variable annuity payments. In accordance with Section 40.28(2) of the Wisconsin statutes (see page 27), variable annuities will be increased by 25% effective April, 2004. The primary sources of the 25% are as follows:

	% of APV
1. Published earnings rate based on beginning of year balances	34.0%
2. Adjustment to relate earnings to average variable annuity fund balance	(0.9)%
3. Earnings rate based on average balance	33.1%
4. Expected change before adjustments: 1.331/1.05-1	26.8%
5. Adjustment to relate average liability to ending liability	0.3%
6. Carryover from last year due to timing of distribution, accounting adjustments, and truncation	(1.7)%
7. Adjustments to contingency reserve	1.0%
8. Experience Study	(0.8)%
9. Experience and Miscellaneous	0.1%
10. Statutory adjustment to truncate to whole percent	(0.7)%
11. Variable annuity change: (4)+(5)+(6)+(7)+(8)+(9)+(10)	25.0%

**TRANSFERS TO ANNUITY RESERVE
TO FINANCE VARIABLE ANNUITIES APPROVED IN 2003
TABULATED BY TYPE OF ANNUITY AND OPTION**

Code	Type of Benefit	Number	Annual Amount	Transfer
REGULAR RETIREMENT				
1	Straight Life	189	\$1,383,402	\$17,685,841
2	5-Year Certain & Life	197	1,248,154	17,176,707
4	15-Year Certain & Life	349	2,187,724	31,339,908
7	Joint and 75%	238	1,619,921	24,679,413
9	Joint and 75% on First Death	132	1,404,477	19,950,930
11	Joint and 100%	139	1,064,643	16,020,609
12	Joint and 100% & 15-Year Certain	499	3,815,924	61,058,850
13	Temporary to Age 62*	0	4,354,956	19,161,219
21	Certain Only*	0	86,435	696,614
40	Mandatory & Certain for Life Expec	4	41,979	493,081
41	Mandatory & Certain for Life Expec	0	0	0
42	Voluntary & Certain for Life Expec	0	0	0
Total Regular		1,747	17,207,615	208,263,172
Average Age at Retirement		58.3 Years		
DISABILITY RETIREMENT				
11	Joint and 100%	0	0	0
12	Joint and 100% & 15-Year Certain	20	26,583	411,205
17	5-Year Certain & Life or Survivor	8	27,992	386,775
21	Certain Only*	0	0	0
24	Straight Life	6	5,214	71,685
25	15-Year Certain & Life	12	36,006	464,511
26	Joint & 75 %	3	805	11,033
27	Joint & 100%	3	12,070	188,030
28	Joint & 75% on First Death	4	15,283	173,697
Total Disability		56	123,953	1,706,936
Average Age at Retirement		52.1 Years		
DEATH-IN-SERVICE BENEFITS				
1	Straight Life	3	755	10,570
2	5-Year Certain & Life	1	347	5,758
4	15-Year Certain & Life	14	63,598	935,062
13	Temporary to Age 62*	0	11,028	68,590
21	Certain Only*	0	0	0
42	Voluntary & Certain for Life Expec	0	0	0
Total Death-in-Service		18	75,728	1,019,980
Average Age at Retirement		51.8 Years		
GRAND TOTAL		1,821	\$17,407,296	\$210,990,088

* Many annuities in this category were additional annuities. The number counts are included elsewhere.

VARIABLE ANNUITIES BEING PAID DECEMBER 31, 2003
TABULATED BY TYPE OF ANNUITY AND OPTION

Code	Type of Benefit	Number	Annual Amount	Present Value
REGULAR RETIREMENT				
1	Straight Life	3,347	\$ 27,283,207	\$ 263,693,134
2	5-Year Certain & Life	3,756	26,030,904	240,526,880
3	10-Year Certain & Life	191	1,153,896	5,168,493
4	15-Year Certain & Life	5,878	44,075,463	439,959,053
5	Joint and 50%	129	830,202	4,340,867
6	Joint and 50% and 15-Year Certain	35	207,227	925,650
7	Joint and 75%	3,723	35,444,619	431,409,985
8	Joint and 75% Integrated	42	198,739	1,640,862
9	Joint and 75% on First Death	3,821	45,152,215	491,501,818
10	Joint and 75% & 10-Year Certain	27	181,430	744,014
11	Joint and 100%	2,353	20,813,207	245,194,807
12	Joint and 100% & 15-Year Certain	4,478	44,723,082	617,832,141
13	Temporary to Age 62*	2	17,897,088	51,102,213
14	5-Year Certain & Life Integrated	142	295,724	1,630,170
15	15-Year Certain & Life Integrated	77	319,277	1,830,418
21	Certain Only*	1	1,047,148	4,762,797
25	15-Year Certain & Life or Survivor	1	1,492	6,008
40	Mandatory & Certain for 15 years	10	82,813	908,464
41	Mandatory & Certain for Life Expec	3	16,025	144,094
42	Voluntary & Certain for Life Expec	16	252,446	1,870,455
Total Regular		28,032	\$266,006,204	\$2,805,192,323

* Many annuities in this category were additional annuities. The number counts are included elsewhere.

(concluded on next page)

VARIABLE ANNUITIES BEING PAID DECEMBER 31, 2003
TABULATED BY TYPE OF ANNUITY AND OPTION
(CONCLUDED)

Code	Type of Benefit	Number	Annual Amount	Present Value
DISABILITY RETIREMENT				
1	Straight Life	3	\$ 11,012	\$ 91,834
2	5-Year Certain & Life*	0	0	0
4	15-Year Certain & Life	0	0	0
7	Joint and 75%*	0	45	567
11	Joint and 100%	1	17,727	198,776
12	Joint and 100% & 15-Year Certain	231	1,375,069	18,668,275
17	5-Year Certain & Life or Survivor	162	666,961	5,026,003
18	Cash Refund Annuity	45	97,887	305,574
21	Certain Only*	0	15,318	14,923
24	Straight Life	97	444,684	3,827,046
25	15-Year Certain & Life or Survivor	180	942,856	9,007,867
26	Straight Life & Joint & 75%	109	651,836	7,184,131
27	Straight Life & Joint & 100%	240	1,188,495	14,444,630
28	Joint & 75% on First Death	63	339,925	2,888,400
Total Disability		1,131	\$ 5,751,815	\$ 61,658,026
DEATH-IN-SERVICE BENEFITS				
1	Straight Life	53	\$ 258,819	\$ 2,319,602
2	5-Year Certain & Life	37	216,311	2,191,392
4	15-Year Certain & Life	197	892,117	8,792,431
13	Temporary to Age 62*	0	86,777	307,240
14	5-Year Certain & Life Integrated	43	33,703	180,904
21	Certain Only*	1	3,269	261
42	Voluntary & Certain for Life Expec	2	6,707	38,537
Total Death-in-Service		333	\$ 1,497,703	\$ 13,830,367
GRAND TOTAL		29,496	\$273,255,722	\$2,880,680,716

* Many annuities in this category were additional annuities. The number counts are included elsewhere.

VARIABLE ANNUITIES BEING PAID DECEMBER 31, 2003
TABULATED BY ATTAINED AGES

Attained Ages	Regular		Disability		Death-in-Service		Totals	
	No.	Annual Amount	No.	Annual Amount	No.	Annual Amount	No.	Annual Amount
25-29	0	\$ 0	2	\$ 2,840	2	\$ 1,538	4	\$ 4,378
30-34	0	0	7	42,161	4	6,172	11	48,333
35-39	4	37,742	6	1,734	2	1,374	12	40,850
40-44	5	36,018	27	33,104	4	1,994	36	71,116
45-49	16	73,749	29	63,781	11	26,414	56	163,944
50-54	207	1,946,789	96	303,926	8	39,146	311	2,289,861
55-59	3,861	43,653,826	186	1,129,210	25	143,550	4,072	44,926,586
60-64	4,696	52,657,575	189	1,228,107	41	279,718	4,926	54,165,400
65-69	4,744	47,941,449	174	1,022,495	30	187,042	4,948	49,150,986
70-74	4,592	43,258,167	179	949,106	31	151,350	4,802	44,358,623
75-79	4,059	35,498,427	122	527,541	51	159,054	4,232	36,185,022
80-84	2,939	21,727,763	73	302,857	42	203,036	3,054	22,233,656
85-89	1,758	11,442,520	33	119,167	39	132,343	1,830	11,694,030
90-94	731	4,234,107	5	4,813	24	68,079	760	4,306,999
95& Up	205	1,121,688	0	0	7	64,111	212	1,185,799
Certain Only*	215	2,376,384	3	20,973	12	32,782	230	2,430,139
Totals	28,032	\$266,006,204	1,131	\$5,751,815	333	\$1,497,703	29,496	\$273,255,722

Average

Age at retirement	60.1	53.0	51.8	59.8
Attained age	70.8	66.3	72.2	70.7

* Certain only category consists of continuations of 5, 10 and 15-year certain and life annuities to beneficiaries of deceased annuitants, and all option 21 annuities.

SECTION D

Comparative Statements

COMPARATIVE STATEMENT 1983 THROUGH 2003

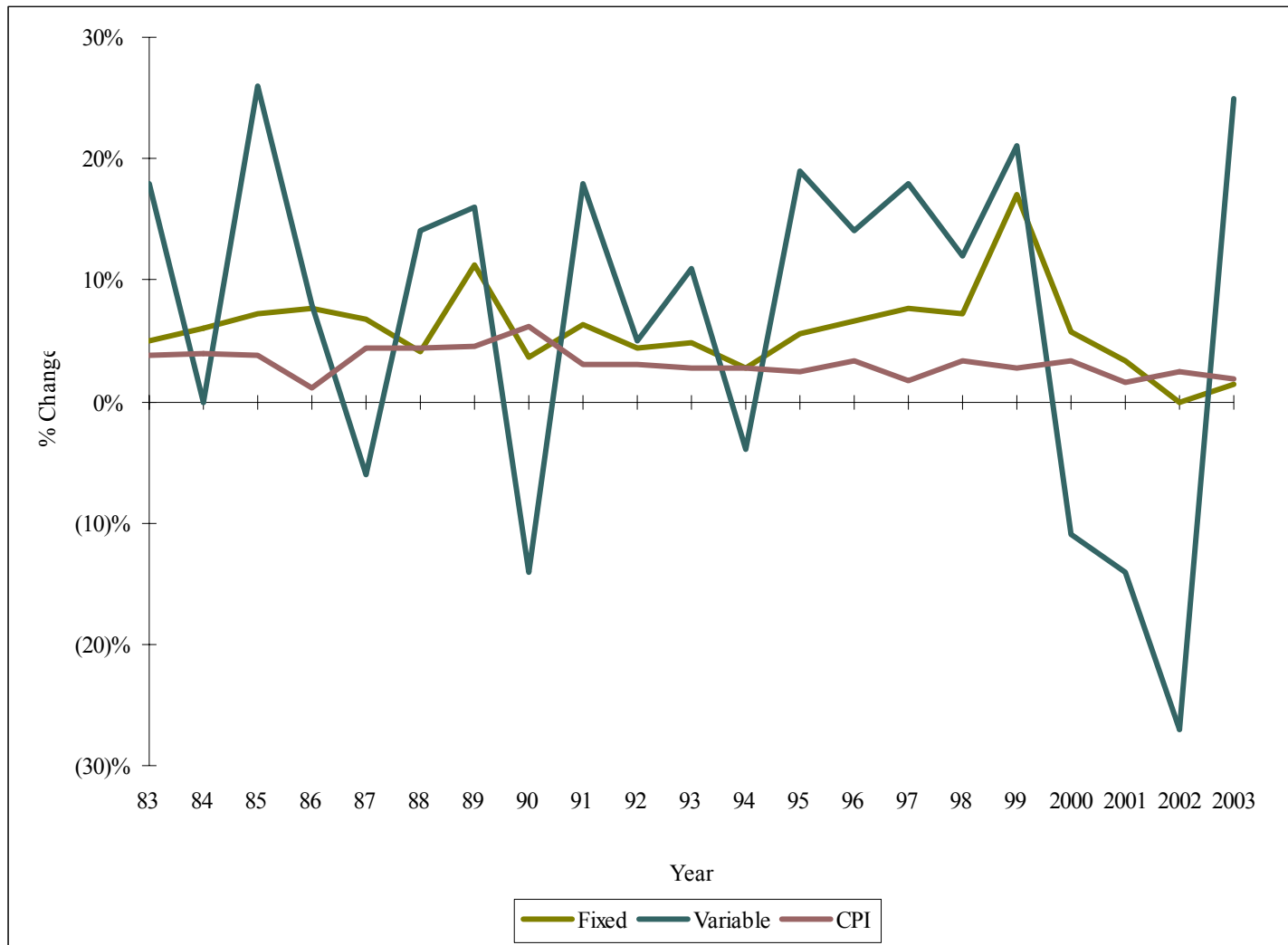
Year	Number	\$ Millions			Ratio	Change in	
		Annual Annuities	Fund Balance	Actuarial Reserve		Annuities	CPI
FIXED ANNUITIES							
1983	57,770	\$ 177.7	\$ 1,830.3	\$ 1,738.3	1.053	5.0 %	3.8 %
1984	60,302	214.3	2,255.5	2,120.3	1.064	6.0 %	4.0 %
1985	62,953	257.6	2,758.2	2,561.0	1.077	7.2 %	3.8 %
1986	65,425	303.5	3,256.9	3,021.2	1.078	7.6 %	1.1 %
1987	67,688	366.9	3,833.7	3,594.6	1.067	6.7 %	4.4 %
1988	70,017	420.6	4,319.6	4,150.9	1.041	4.1 %	4.4 %
1989	73,232	488.7	5,487.4	4,928.1	1.113	11.3 %	4.6 %
1990	77,666	611.3	6,443.8	6,219.1	1.036	3.6 %	6.2 %
1991	79,465	660.4	7,137.8	6,711.3	1.063	6.3 %	3.0 %
1992	81,508	732.3	7,782.4	7,456.6	1.044	4.4 %	3.0 %
1993	83,836	801.7	8,608.2	8,205.3	1.049	4.9 %	2.7 %
1994	86,214	882.2	9,286.2	9,029.6	1.028	2.8 %	2.7 %
1995	88,998	955.8	10,351.7	9,804.1	1.056	5.6 %	2.6 %
1996	92,198	1,065.8	11,699.8	10,977.1	1.066	6.6 %	3.3 %
1997	95,128	1,188.4	13,185.1	12,240.4	1.077	7.7 %	1.7 %
1998	99,112	1,349.5	14,951.8	13,943.0	1.072	7.2 %	1.6 %
1999	102,817	1,513.8	16,857.8	15,687.2	1.075	17.1 %*	2.7 %
2000	107,425	1,867.0	20,517.8	19,405.3	1.057	5.7 %	3.4 %
2001	112,142	2,048.6	21,979.7	21,283.6	1.033	3.3 %	1.6 %
2002	116,289	2,226.6	23,142.4	23,202.9	0.997	0.0 %	2.4 %
2003	121,582	2,364.7	25,071.9	24,724.0	1.014	1.4 %	1.9 %
21-Year Average						5.9 %	3.1 %
10-Year Average						5.6 %	2.4 %

* Including 10.6% Act 11 transfer.

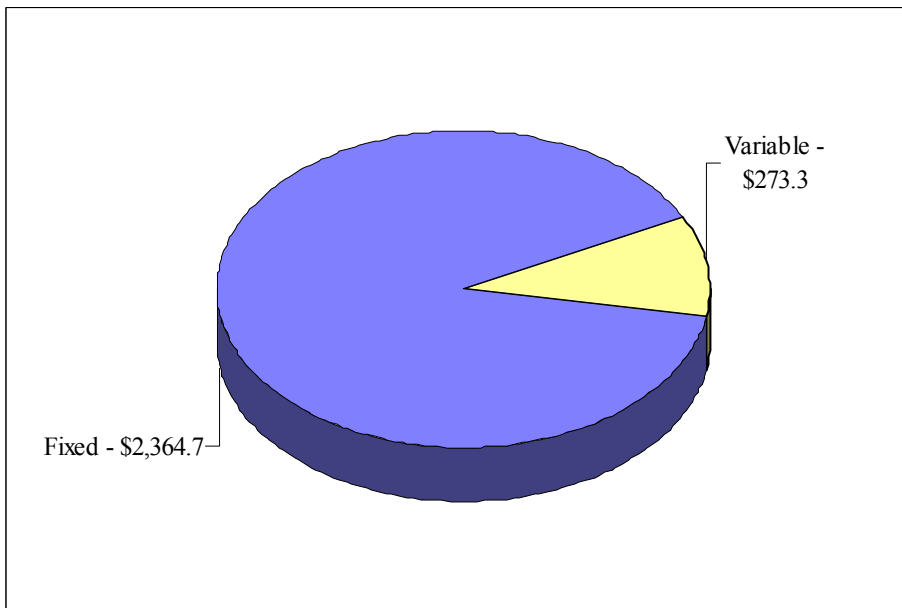
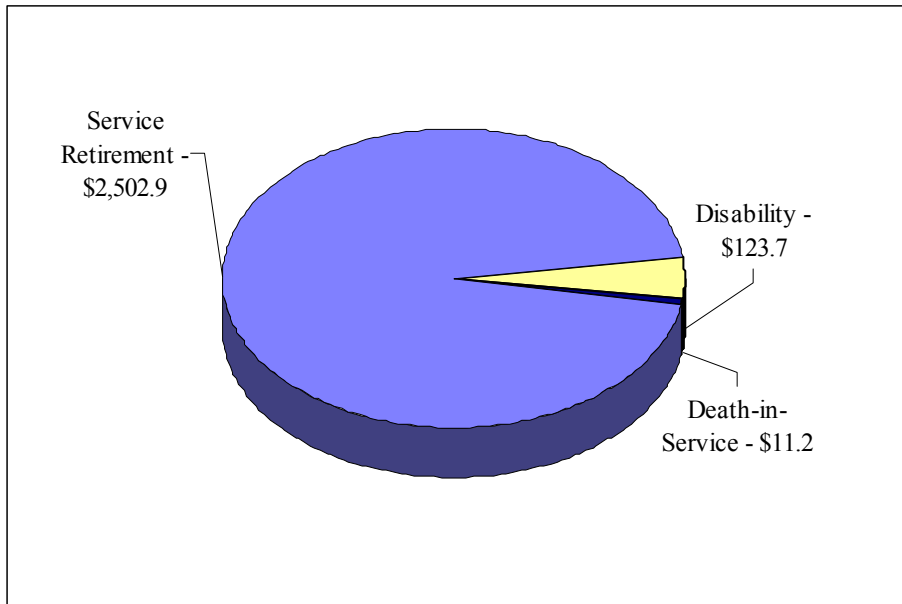
COMPARATIVE STATEMENT (CONTINUED)
1983 THROUGH 2003

Year	Number	\$ Millions			Ratio	Change in	
		Annual Annuities	Fund Balance	Actuarial Reserve		Annuities	CPI
VARIABLE ANNUITIES							
1983	13,598	\$ 25.9	\$ 289.4	\$ 245.0	1.181	18.0 %	3.8 %
1984	14,520	34.2	329.2	327.5	1.005	0.0 %	4.0 %
1985	15,529	38.0	463.1	366.6	1.263	26.0 %	3.8 %
1986	16,276	51.8	538.7	498.6	1.080	8.0 %	1.1 %
1987	17,084	60.4	548.8	584.2	0.939	(6.0)%	4.4 %
1988	17,779	61.4	682.6	594.0	1.149	14.0 %	4.4 %
1989	18,502	75.9	878.1	756.5	1.161	16.0 %	4.6 %
1990	19,922	101.0	868.6	1,013.4	0.857	(14.0)%	6.2 %
1991	20,538	91.5	1,101.3	929.7	1.184	18.0 %	3.0 %
1992	20,968	112.6	1,208.6	1,147.4	1.053	5.0 %	3.0 %
1993	21,623	123.7	1,407.9	1,268.6	1.110	11.0 %	2.7 %
1994	22,248	144.6	1,418.0	1,487.0	0.954	(4.0)%	2.7 %
1995	22,978	150.2	1,854.2	1,556.0	1.192	19.0 %	2.6 %
1996	23,725	189.8	2,264.9	1,976.7	1.146	14.0 %	3.3 %
1997	24,462	228.2	2,800.0	2,371.5	1.181	18.0 %	1.7 %
1998	25,424	289.5	3,400.5	3,035.5	1.120	12.0 %	1.6 %
1999	26,257	345.8	4,432.9	3,659.1	1.212	21.0 %	2.7 %
2000	27,321	445.3	4,211.4	4,749.3	0.887	(11.0)%	3.4 %
2001	28,314	424.4	3,901.8	4,547.4	0.858	(14.0)%	1.6 %
2002	28,662	374.0	2,899.3	3,999.1	0.726	(27.0)%	2.4 %
2003	29,496	273.3	3,635.9	2,892.2	1.257	25.0 %	1.9 %
21-Year Average						6.1 %	3.1 %
10-Year Average						3.8 %	2.4 %

HISTORY OF % CHANGES IN ANNUITIES AND CPI



ANNUITIES BEING PAID BY TYPE
DECEMBER 31, 2003
\$ MILLIONS



ANNUITIES BEING PAID DECEMBER 31, 2003
TABULATED BY YEAR OF RETIREMENT
(\$1,000S ANNUALLY)

Year Ret'd	Fixed Annuities			Variable Annuities				Avg. Total Annuity	
	No.	Initial	Increases	Total	No.	Initial	Increases		Total
2003	7,482	\$ 183,142	\$ 0	\$ 183,142	1,800	\$ 17,152	\$ 0	\$ 17,152	\$26,770
2002	7,419	165,539	0	165,539	1,689	23,306	(6,268)	17,038	24,610
2001	7,578	159,863	2,894	162,757	1,828	34,724	(12,920)	21,804	24,355
2000	7,650	151,873	10,036	161,909	1,663	38,664	(17,060)	21,604	23,989
1999	6,585	109,014	26,260	135,274	1,422	26,848	(8,698)	18,150	23,299
1998	6,549	97,387	31,736	129,123	1,434	22,478	(5,459)	17,019	22,315
1997	5,611	78,073	33,289	111,362	1,236	16,002	(1,694)	14,308	22,397
1996	5,687	74,081	38,953	113,034	1,256	13,581	239	13,820	22,306
1995	5,255	64,912	39,967	104,879	1,187	10,393	2,191	12,584	22,352
1994	4,771	56,039	37,977	94,016	1,150	10,002	1,642	11,644	22,146
1993	4,562	49,345	36,907	86,252	1,107	7,894	2,297	10,191	21,141
1992	4,016	41,504	34,157	75,661	974	6,577	2,343	8,920	21,061
1991	3,809	36,489	33,741	70,230	938	5,223	3,132	8,355	20,631
1990	6,124	62,956	63,774	126,730	1,633	10,462	3,944	14,406	23,046
1989	4,860	48,961	57,031	105,992	1,205	6,621	3,953	10,574	23,985
1988	3,846	31,379	41,574	72,953	982	4,408	3,616	8,024	21,055
1987	3,550	26,581	39,560	66,141	949	4,026	2,865	6,891	20,573
1986	3,379	24,452	41,361	65,813	888	3,563	3,019	6,582	21,425
1985	3,240	23,780	44,905	68,685	838	2,494	3,309	5,803	22,990
1984	2,732	18,986	39,088	58,074	786	2,318	3,091	5,409	23,237
1983	2,566	13,328	29,652	42,980	722	1,785	3,119	4,904	18,661
1982	2,088	9,143	22,729	31,872	573	1,108	2,387	3,495	16,938
1981	1,961	7,232	19,286	26,518	509	857	1,826	2,683	14,891
1980	1,588	5,306	14,815	20,121	456	661	1,855	2,516	14,255
1979	1,291	4,146	12,340	16,486	352	409	1,311	1,720	14,103
1978	1,219	3,534	10,761	14,295	366	382	1,320	1,702	13,123
1977	1,193	3,182	9,973	13,155	365	388	1,278	1,666	12,423
1976	1,006	2,563	8,148	10,711	287	248	851	1,099	11,741
1975	801	1,921	6,167	8,088	217	163	682	845	11,152
1974	699	1,715	5,566	7,281	184	158	589	747	11,485
1973	541	1,164	3,810	4,974	159	139	465	604	10,310
1972	423	709	2,401	3,110	94	87	254	341	8,160
1971	270	369	1,270	1,639	64	48	148	196	6,797
1970	222	341	1,121	1,462	43	29	114	143	7,232
1969	177	243	820	1,063	50	30	89	119	6,676
1968	140	160	555	715	28	22	63	85	5,705
1967	116	118	410	528	17	7	26	33	4,842
1966	96	86	306	392	18	9	30	39	4,476
1965	85	86	312	398	5	2	7	9	4,796
1964	76	43	166	209	11	3	14	17	2,975
Prior	319	242	848	1,090	11	2	12	14	3,417
Total	121,582	\$1,559,987	\$804,666	\$2,364,653	29,496	\$273,273	\$ (18)	\$273,255	\$21,697

**COMPARISON OF ACTUAL TO EXPECTED DEATHS AMONG RETIRED LIVES
(NORMAL RETIREMENT ONLY)
DURING 2003**

Age	Male Deaths			Female Deaths			Total Deaths		
	Actual	Expected	Exposure	Actual	Expected	Exposure	Actual	Expected	Exposure
25-29	1		1			1	1		2
30-34						2			2
35-39			1			9			10
40-44			5			16			21
45-49			14			61			75
50-54	5	3	806			329	5	3	1,135
55-59	27	38	7,094	21	16	6,154	48	54	13,248
60-64	63	86	10,067	44	42	9,512	107	128	19,579
65-69	133	154	10,036	65	81	10,735	198	235	20,771
70-74	170	253	9,099	131	144	9,839	301	397	18,938
75-79	289	333	7,141	207	245	8,730	496	578	15,871
80-84	335	373	4,672	313	352	7,099	648	725	11,771
85-89	294	283	2,254	396	390	4,629	690	673	6,883
90-94	165	143	778	334	325	2,287	499	468	3,065
95-99	40	37	140	150	163	685	190	200	825
100&Up	1	4	12	51	47	129	52	51	141
Totals	1,523	1,707	52,120	1,712	1,805	60,217	3,235	3,512	112,337

Average
Ages

79.7 78.6 69.3 84.2 83.9 72.0 84.5 81.3 70.7

SECTION E

Appendix

**ACTUARIAL ASSUMPTIONS USED IN
RETIRED LIFE ACTUARIAL VALUATION**

The interest rate used in the valuation was 5.0% a year, compounded yearly, as provided in Section 40.02 of the Wisconsin Statutes. The mortality table used in the valuation was the Wisconsin Projected Experience Mortality Table-2002, as adopted by the Board in connection with the 2000-2002 Experience Study. In addition, retired life liabilities in the valuations contain a reserve for mortality improvement. The reserve level used in this valuation was 0.4%.

SINGLE LIFE RETIREMENT VALUES

Wisconsin Projected Experience Table - 2002 with 5% Interest

Sample Attained Ages	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Males	Females	Males	Females
40	\$204.60	\$213.51	40.3	45.1
45	194.52	205.50	35.5	40.3
50	182.57	195.63	30.8	35.4
55	168.60	183.57	26.3	30.7
60	152.23	168.96	21.9	26.1
65	133.38	151.77	17.8	21.6
70	113.07	131.92	14.0	17.3
75	92.87	110.50	10.7	13.4
80	73.24	89.29	7.9	10.1
85	56.59	69.03	5.8	7.3

The values shown above are for non-disabled participants. For disabled participants, the following table was used.

Sample Attained Ages	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Males	Females	Males	Females
40	\$183.98	\$195.34	31.3	35.6
45	169.92	183.77	26.7	30.9
50	154.02	169.96	22.4	26.4
55	136.46	153.62	18.3	22.0
60	116.83	134.58	14.5	17.7
65	95.34	113.44	11.0	13.8
70	73.99	90.47	8.0	10.2
75	55.14	68.00	5.6	7.2
80	38.40	48.81	3.7	4.9
85	26.03	33.04	2.4	3.1

POST-RETIREMENT ADJUSTMENTS

FIXED ANNUITIES - 40.27(2)

“FIXED ANNUITY RESERVE SURPLUS DISTRIBUTIONS. Surpluses in the fixed annuity reserve established under s. 40.04(6) and (7) shall be distributed by the board if the distribution will result in at least a 2% increase in the amount of annuities in force, on recommendation of the actuary, as follows:

(a) The distributions shall be expressed as percentage increases in the amount of the monthly annuity in force, including prior distributions of surpluses but not including any amount paid from funds other than the fixed annuity reserve fund, preceding the effective date of the distribution. For purposes of this subsection, annuities in force include any disability annuity suspended because the earnings limitation had been exceeded by that annuitant in that year.

(b) Prorated percentages based on the annuity effective date may be applied to annuities with effective dates during the calendar year preceding the effective date of the distribution, as provided by rule, but no other distinction may be made among the various types of annuities payable from the fixed annuity reserve.

(c) The distributions shall not be offset against any other benefit being received but shall be paid in full, nor shall any other benefit being received be reduced by the distributions. The annuity reserve surplus distributions authorized under this subsection may be revoked by the board in part or in total as to future payments upon recommendation of the actuary if a deficit occurs in the fixed annuity reserves.”

VARIABLE ANNUITIES - 40.28(2)

“Whenever the balance in the variable annuity reserve, as of December 31 of any year, exceeds or is less than the then present value of all variable annuities in force, determined in accordance with the rate of interest and approved actuarial tables then in effect, by at least 2% of the present value of all variable annuities in force, the amount of each variable annuity payment shall be proportionately increased or decreased, disregarding fractional percentages, and effective on a date determined by rule, so as to reduce the variance between the balance of the variable annuity reserve and the present value of variable annuities to less than one percent.”

March 9, 2004

Ms. Julie Reneau
Wisconsin Department of Employee Trust Funds
P.O. Box 7931
Madison, Wisconsin 53707

Re: Retired Life Actuarial Valuation

Dear Julie:

Enclosed are 75 copies of the report of the December 31, 2003 Retired Life Actuarial Valuation.

Sincerely,

Norman L. Jones

NLJ/lr
Enclosures