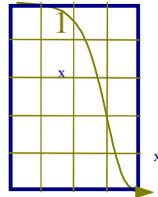


Wisconsin Retirement System



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

Operation of the System

Separate reserves are maintained for fixed and variable annuities. Each year, the actuary compares reserve balances with the present value of annuities being paid within each fund.

R-3

Fixed Annuity Division. If the supplemental reserve is positive and is at least 0.5% of fixed annuity liabilities, fixed annuity increases (dividends) may be granted. If the supplemental reserve is negative and is equal to or 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.

Operation of the System

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.

Smoothing Mechanisms

It is undesirable for a retiree to experience wide swings in monthly benefits from year to year, particularly if the swings are downward. This possibility is mitigated in the Fixed division by the asset smoothing process, as well as by the portfolio mix. The variable fund is marked to market each year and subject to wide swings. The “dropping fractions of a percent” in terms of the gain that is distributed is a form of smoothing. However, the magnitude of the gains and losses is such that this has very little practical effect as a smoothing mechanism.

Summary of Results

December 31, 2003

	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

R-1

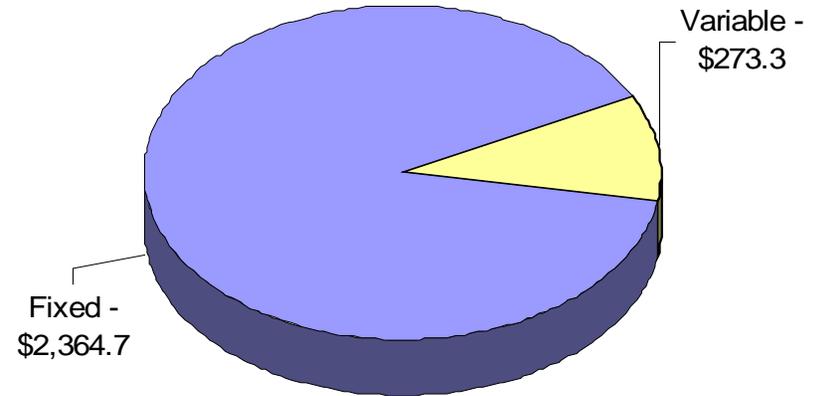
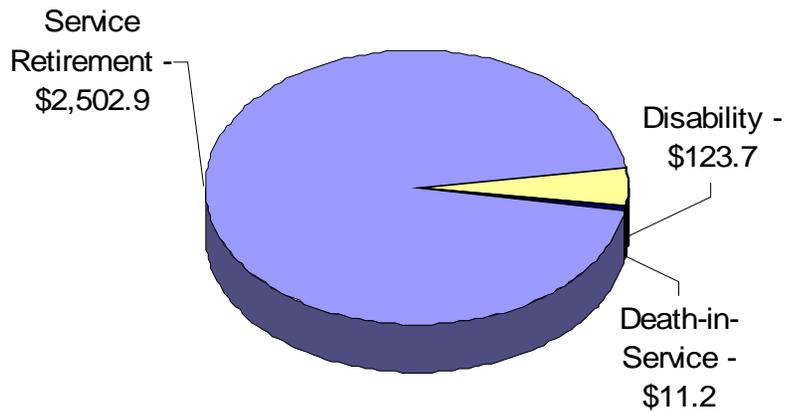
Act 153 Summary

2003 Wisconsin Act 153, Effective March 30, 2004. Provisions were:

- Lower the threshold for the payment of dividends from 2.0% to 0.5%. Dividends will now be granted if the assets exceed liabilities by 0.5% or more.
- Establish a threshold for taking back prior dividends of negative 0.5%. Prior dividends can be rolled back if assets fall short of liabilities by 0.5% or more.
- Effective on April 1 of 2004 and payable starting with the May 1st payment.

Annuities Being Paid by Type

\$ Millions

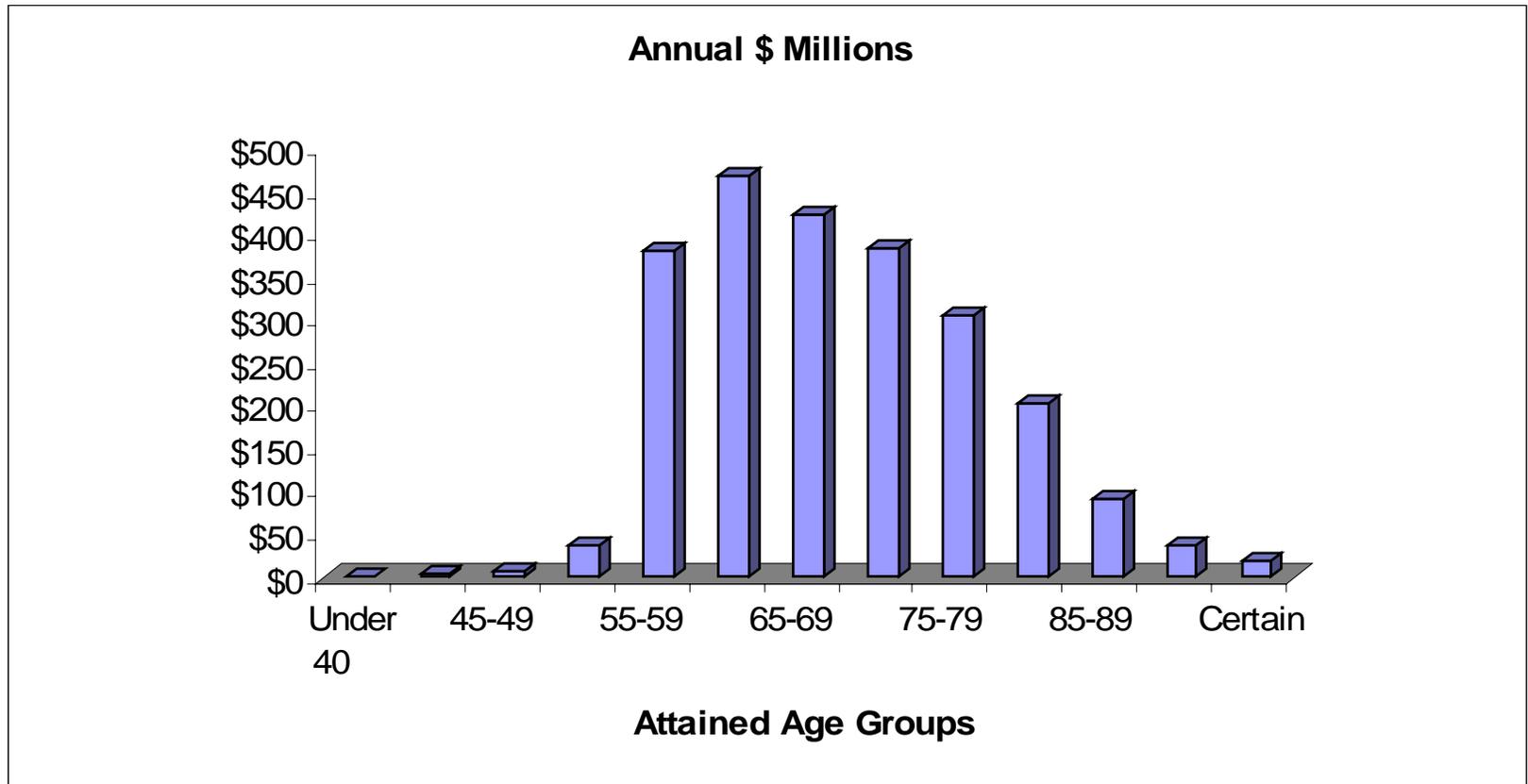


Primary Sources of Dividend

	<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%

Fixed Annuities Being Paid

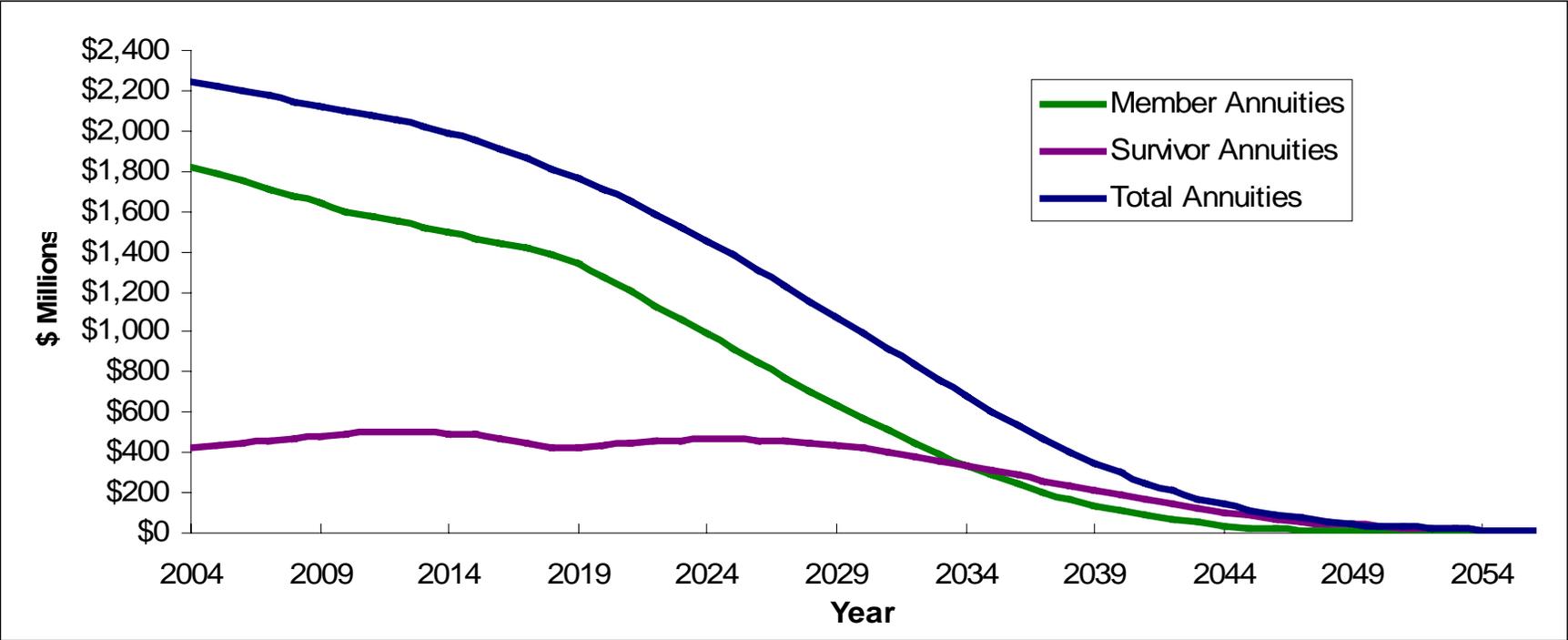
R-11



Average age - at retirement 60.0 years
- now (12/31/2003) 70.5 years

Projected Future Fixed Annuities*

R-12



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

* Including expected dividends

Primary Sources of 25.0% Variable Increase

	<u>% of APV</u>
1. Published earnings rate based on beginning of year balances	34.0%
2. Adjustment to relate earnings to average variable annuity fund balance	<u>(0.9)%</u>
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	<u>(0.7)%</u>
11. Variable annuity change: (4)+(5)+(6)+(7)+(8)+(9)+(10)	25.0%

Comparative Statement - Fixed

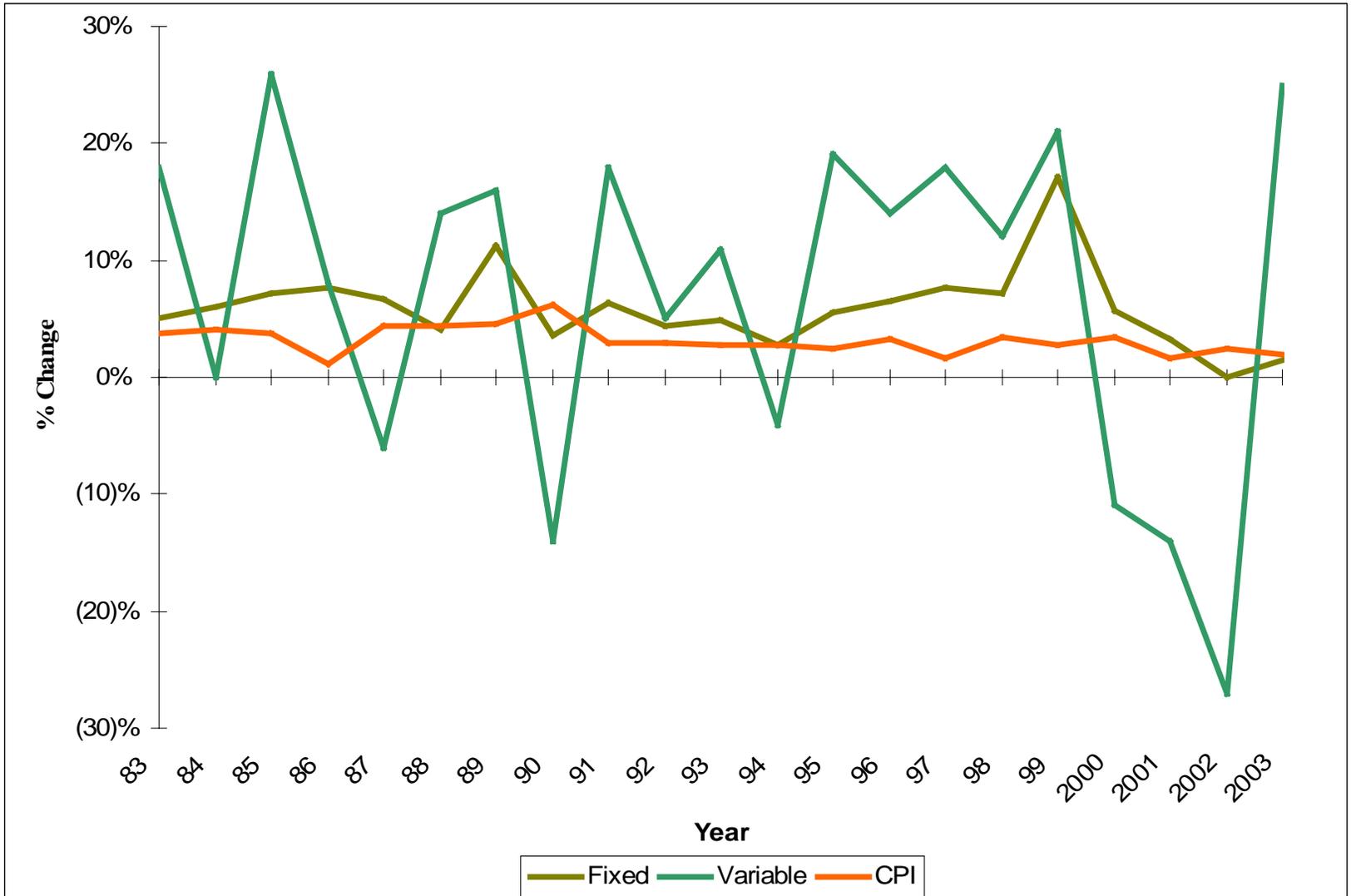
Year	Number	\$ Millions			Ratio	Change in	
		Annual Annuities	Fund Balance	Actuarial Reserve		Annuities	CPI
FIXED ANNUITIES							
1983	57,770	\$ 177.7	\$ 1,830.3	\$ 1,738.3	1.053	5.0 %	3.8 %
1984	60,302	214.3	2,255.5	2,120.3	1.064	6.0 %	4.0 %
1985	62,953	257.6	2,758.2	2,561.0	1.077	7.2 %	3.8 %
1986	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 Act 11 transfer.

Comparative Statement - Variable

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



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