

STATE OF WISCONSIN

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JOINT COMMITTEE ON FINANCE

August 26, 1999

TO: Members
Joint Committee on Finance

FROM: Senator Brian Burke, Senate Chair
Representative John Gard, Assembly Chair
Joint Committee on Finance

SUBJECT: Actuarial Report on Reopening Variable Trust Fund to WRS Participants

At the Finance Committee's s. 13.10 meeting in June of 1998, the Committee acted on a request from the Joint Survey Committee on Retirement Systems for supplemental funding for the cost of actuarial studies. A supplement of \$33,000 GPR was approved by the Finance Committee for the Joint Survey Committee on Retirement Systems' actuarial studies appropriation.

As a part of that action, the Finance Committee also directed that the Retirement Research Committee/Joint Survey Committee on Retirement Systems study the feasibility and cost implications of reopening the variable retirement investment trust to Wisconsin Retirement System (WRS) participants. The Finance Committee further provided that the Retirement Research Committee/Joint Survey Committee on Retirement Systems was authorized to use up to \$5,000 GPR of the supplemental funding provided to obtain an actuarial review of the impact of reopening the variable trust fund. Interest in such a change has arisen due to fact that, as a result of Chapter 221, Laws of 1979, the variable trust fund has been closed to WRS participants who were not already in the variable trust fund as of April 30, 1980, and recent investment experience of the variable trust fund has attracted increased interest in that annuity option.

The Joint Survey Committee on Retirement Systems arranged with Gabriel, Roeder, Smith and Company, the consulting actuary for the Wisconsin Retirement System, to conduct an actuarial study and review of the impact of reopening the variable trust fund to participation by any WRS participant. This agreement was executed on April 22, 1999, but completion of the

study was delayed due to Gabriel, Roeder and Smith's work on the annual valuation of the WRS and two other requested actuarial studies. However, the study has now been completed and was submitted to the Joint Survey Committee on Retirement Systems on August 4, 1999. That study has also been provided to Committee Co-chairs and a copy is attached for your information. No action on the study is required by this Committee. However, it is anticipated that the Joint Survey Committee on Retirement Systems may consider this report at a future meeting of that Committee.

BB/JG/js
Attachment

**State of Wisconsin****JOINT SURVEY COMMITTEE ON RETIREMENT SYSTEMS
RETIREMENT RESEARCH COMMITTEE**

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August 23, 1999

TO: Representative John Gard, Jt. Finance Committee Co-Chair
Senator Brian Burke, Jt. Finance Committee Co-Chair
Representative Dean Kaufert, Member, Jt. Finance Committee
Members of the Jt. Survey Committee on Retirement Systems
Members of the Retirement Research Committee
Senator Fred Risser, President of the Senate
Representative Scott Jensen, Speaker of the Assembly
Senator Chuck Chvala, Senate Majority Leader

FROM: Scott Dennison, Director of Retirement Research

RE: Variable Annuity Actuarial Study

On June 4, 1998, at its Section 13.10 budget appeals meeting, the Joint Finance Committee, acting at Rep. Kaufert's urging, required this office to have the Wisconsin Retirement System actuary to study the implications of reopening the variable annuity to active WRS members. The Joint Finance Committee appropriated \$5,000 for this study.

The study is finally available having suffered delays due to two other actuarial studies and the actuaries' regular valuation work. A copy is enclosed for your information.

SD:db

Enclosure

**WISCONSIN RETIREMENT SYSTEM
ACTUARIAL REVIEW OF THE
VARIABLE ANNUITY PROGRAM**

**PREPARED FOR THE
JOINT SURVEY COMMITTEE ON RETIREMENT SYSTEMS
AUGUST 1999**

GABRIEL, ROEDER, SMITH & COMPANY



GABRIEL, ROEDER, SMITH & COMPANY

Consultants & Actuaries

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August 4, 1999

Wisconsin Joint Survey Committee on
Retirement Systems
Madison, Wisconsin

Ladies and Gentlemen:

The results of an actuarial study to assess the potential financial effect on the Wisconsin Retirement System (WRS) of re-opening the Variable Annuity Program is presented in this report.

Valuations were based upon participant data and financial information used in the last regular annual actuarial valuation of the Wisconsin Retirement System as of December 31, 1998, and supplementary financial information furnished by the Department of Employee Trust Funds. Participant data is summarized on the following page.

Actuarial methods and assumptions were, except where otherwise noted, the same as those adopted by the Employee Trust Funds Board in 1997 pursuant to the triennial experience study covering the 3 year period from January 1, 1994 to December 31, 1996. Actuarial valuations were conducted in accordance with standards of practice prescribed by the Actuarial Standards Board and Wisconsin statutes.

Respectfully submitted,
Gabriel, Roeder, Smith and Company

Norman L. Jones, F.S.A.

NLJ:ct

WISCONSIN RETIREMENT SYSTEM
ACTIVE PARTICIPANTS INCLUDED IN VALUATIONS
DECEMBER 31, 1998

Active participants included in the valuations totaled 245,935 with an annual payroll totaling \$8,227.5 million, as follows:

ACTIVE PARTICIPANTS

Valuation Group	Number	Annual Earnings (\$ millions)	Group Averages			
			Earnings	Age	Years of Service	Contribs.
General	227,017	\$7,456.8	\$32,847	44.2	11.3	\$38,319
Executive Group & Elected Officials	1,450	73.5	50,664	52.5	11.9	59,292
Protective Occupation with Social Security	14,810	570.3	38,509	38.2	11.1	44,503
Protective Occupation without Social Security	2,658	126.9	47,733	40.0	13.5	79,849
Total Active Participants	245,935	\$8,227.5	\$33,454	43.8	11.3	\$39,264

INTRODUCTION

Participants hired prior to 1982 had the option of re-directing up to one-half of their participant normal contributions to the Variable Annuity Investment Trust (VRIT). VRIT assets are substantially all invested in equities and participant variable accounts are credited with actual market rates of return. Conversely, the portion of participant contributions not so directed are credited to the Fixed Fund. Fixed Retirement Investment Trust (FRIT) assets are distributed among a broad range of assets categories, with about 60% being invested in equities. Fixed fund assets are credited with a smoothed market-related rate of return.

At retirement, the difference between fixed and variable participant accumulations (called the variable excess) is doubled by virtue of an employer match. A participant then begins receiving a Variable Annuity which is the actuarial equivalent of the fixed annuity that would otherwise have been payable plus (minus, if negative) the doubled variable excess account. Each year during retirement, after certain experience adjustments, variable annuities are increased or decreased based on the difference between (i) the market rate of return on variable assets, and (ii) 5% (conversely, fixed annuities, after certain experience adjustments, are increased or decreased based on the difference between (i) the smoothed market-related rate of return on fixed assets, and (ii) 5%).

At the end of each calendar year, active variable annuity participants have the option of ending their variable participation with respect to future contributions. Similarly, once a year variable annuitants have the option of converting their variable annuities to fixed annuities with respect to future payments.

When the variable program began, fixed fund assets were invested primarily in fixed income investment (bonds). By accepting the risk that variable returns would be lower than fixed fund returns during some market cycles and that variable annuity payments would fluctuate more than fixed annuities from year to year, variable participants had the expectation that their lifetime benefits would be higher. In aggregate, the program has worked in that manner (i.e., more volatility and higher average returns). The following section presents comparative information on the fixed and variable programs.

The Variable Annuity Program was closed to new entrants effective January 1, 1982.

WRS FIXED & VARIABLE FUND EXPERIENCE

WRS Fixed & Variable Fund Experience

The exhibits on the following pages provide an historical perspective of Fixed Fund vs. Variable Fund activity, as follows:

- | | |
|--------------------|---|
| Exhibit I | Fixed and Variable published earnings rates since 1970. |
| Exhibit II | Graphical comparison fixed and variable rates since 1970, demonstrating differences in magnitude and volatility. |
| Exhibit III | Illustration of how accounts would have accumulated under Fixed, Variable and 5% Capped interest crediting based on a 1/1/70 date of hire and WRS average earnings. |
| Exhibit IV | Same, except beginning date is 1/1/85. |
| Exhibit V | Comparative statement of fixed and variable annuity increases since 1983. Variable annuity increases have averaged 3% a year greater than fixed annuity increases. |
| Exhibit VI | Graphical comparison of fixed and variable annuity increases, demonstrating differences in magnitude and volatility. |

EXHIBIT I

Comparison of Fixed vs. Variable Published Interest Rates 1970 - 1998

Year	Fixed Rate	Variable Rate
1998	13.1%	18.0%
1997	12.8	23.0
1996	12.5	20.0
1995	11.3	27.0
1994	7.7	0.0
1993	11.0	17.0
1992	10.2	11.0
1991	12.1	28.0
1990	8.6	(11.0)
1989	18.1	24.0
1988	10.2	22.0
1987	14.0	(1.0)
1986	12.7	13.0
1985	12.5	33.0
1984	11.4	6.0
1983	11.2	26.0
1982	10.4	24.0
1981	10.0	4.0
1980	8.9	26.1
1979	7.7	16.8
1978	7.3	9.3
1977	7.2	(2.3)
1976	6.8	25.0
1975	7.2	35.2
1974	7.2	(26.8)
1973	7.7	(17.2)
1972	6.7	13.7
1971	6.7	12.2
1970	5.6	4.7

Note: Prior to 1983, there were three separate Retirement Systems; the percentage shown is for the Wisconsin Retirement Fund, covering General employees, Police and Fire but not Teachers.

EXHIBIT II

Comparison of Fixed vs. Variable Published Interest Rates 1970 - 1998

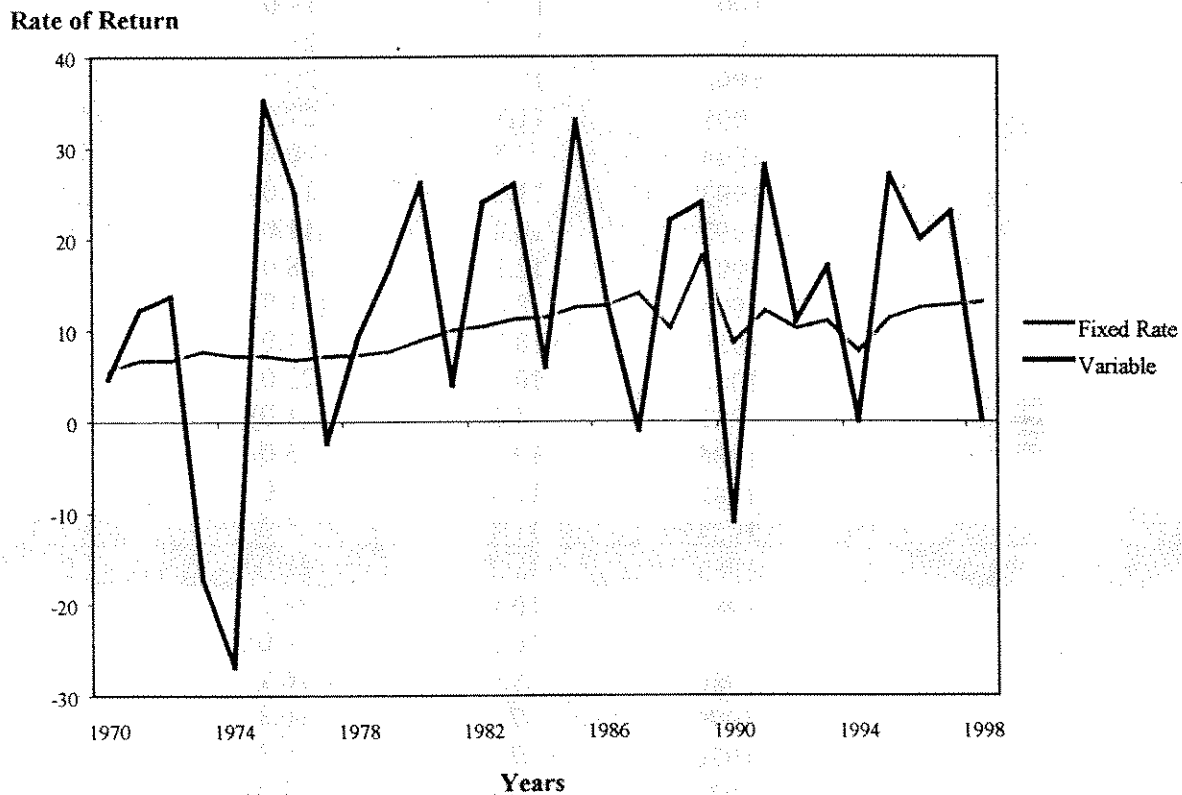


EXHIBIT III
Wisconsin Retirement System
Illustration of Participant Account Accruals Since 1970

Year	Average Earnings	Fixed Account		Variable Account		Variable Excess	Illustrative 5% Capped Account#		
		Rate	5% Contr.	Bal. EOY	Rate		Contr.	Rate	Contr.
1970	\$ 9,479*	5.6%	\$ 473.97	\$ 473.97	4.7%	\$ 473.97	5.0%	\$ 473.97	\$ 473.97
1971	9,953*	6.7	497.67	1,003.40	12.2	497.67	5.0	497.67	995.34
1972	10,451*	6.7	522.55	1,593.17	13.7	522.55	5.0	522.55	1,567.66
1973	10,974*	7.7	548.68	2,264.53	(17.2)	548.68	5.0	548.68	2,194.72
1974	11,522*	7.2	576.11	3,003.69	(26.8)	576.11	5.0	576.11	2,880.57
1975	12,098*	7.2	604.92	3,824.87	35.2	604.92	5.0	604.92	3,629.52
1976	12,703*	6.8	635.17	4,720.13	25.0	635.17	5.0	635.17	4,446.16
1977	13,338*	7.2	666.92	5,726.90	(2.3)	666.92	5.0	666.92	5,335.39
1978	14,005*	7.3	700.27	6,845.24	9.3	700.27	5.0	700.27	6,302.43
1979	14,706*	7.7	735.28	8,107.60	16.8	735.28	5.0	735.28	7,352.83
1980	15,441*	8.9	772.05	9,601.23	26.1	772.05	5.0	772.05	8,492.52
1981	16,213	10.0	810.65	11,372.00	4.0	810.65	5.0	810.65	9,727.80
1982	17,400	10.4	870.00	13,424.69	24.0	870.00	5.0	870.00	11,084.19
1983	18,612	11.2	930.60	15,858.86	26.0	930.60	5.0	930.60	12,569.00
1984	19,167	11.4	958.35	18,625.12	6.0	958.35	5.0	958.35	14,155.80
1985	19,987	12.5	999.35	21,952.60	33.0	999.35	5.0	999.35	15,862.94
1986	21,309	12.7	1,065.45	25,806.04	13.0	1,065.45	5.0	1,065.45	17,721.54
1987	22,821	14.0	1,141.05	30,559.93	(1.0)	1,141.05	5.0	1,141.05	19,748.66
1988	23,770	10.2	1,188.50	34,865.54	22.0	1,188.50	5.0	1,188.50	21,924.60
1989	24,365	18.1	1,218.25	42,394.46	24.0	1,218.25	5.0	1,218.25	24,239.08
1990	25,234	8.6	1,261.70	47,302.08	(11.0)	1,261.70	5.0	1,261.70	26,712.73
1991	26,517	12.1	1,325.85	54,351.48	28.0	1,325.85	5.0	1,325.85	29,374.22
1992	27,643	10.2	1,382.15	61,277.48	11.0	1,382.15	5.0	1,382.15	32,225.08
1993	28,886	11.0	1,444.30	69,462.31	17.0	1,444.30	5.0	1,444.30	35,280.63
1994	29,595	7.7	1,479.75	76,290.65	0.0	1,479.75	5.0	1,479.75	38,524.41
1995	30,479	11.3	1,523.95	86,435.45	27.0	1,523.95	5.0	1,523.95	41,974.58
1996	31,160	12.5	1,558.00	98,797.88	20.0	1,558.00	5.0	1,558.00	45,631.31
1997	31,980	12.8	1,599.00	113,043.01	23.0	1,599.00	5.0	1,599.00	49,511.88
1998	32,847	13.1	1,642.35	129,493.99	18.0	1,642.35	5.0	1,642.35	53,629.82

* Estimated.
The 5% cap did not apply to pre-1982 hires. It is shown here to demonstrate the long-term difference between capped and uncapped accumulations.

EXHIBIT IV

Wisconsin Retirement System
Illustration of Participant Account Accruals Since 1985

Year	Average Earnings		Illustrative Fixed Account#			Variable Account@			5% Capped Account		
	Rate	5% Contr.	Bal. EOY	Rate	Contr.	Bal. EOY	Variable Excess	Rate	Contr.	Bal. EOY	
1985	12.5%	\$ 999.35	\$ 999.35	33.0%	\$ 999.35	\$ 999.35	\$ -	5.0%	\$ 999.35	\$ 999.35	
1986	12.7	1,065.45	2,191.72	13.0	1,065.45	2,194.72	3.00	5.0	1,065.45	2,114.77	
1987	14.0	1,141.05	3,639.61	(1.0)	1,141.05	3,313.82	(325.79)	5.0	1,141.05	3,361.56	
1988	10.2	1,188.50	5,199.35	22.0	1,188.50	5,231.36	32.01	5.0	1,188.50	4,718.13	
1989	18.1	1,218.25	7,358.68	24.0	1,218.25	7,705.13	346.45	5.0	1,218.25	6,172.29	
1990	8.6	1,261.70	9,253.23	(11.0)	1,261.70	8,119.27	(1,133.96)	5.0	1,261.70	7,742.60	
1991	12.1	1,325.85	11,698.72	28.0	1,325.85	11,718.52	19.80	5.0	1,325.85	9,455.59	
1992	10.2	1,382.15	14,274.14	11.0	1,382.15	14,389.70	115.57	5.0	1,382.15	11,310.51	
1993	11.0	1,444.30	17,288.59	17.0	1,444.30	18,280.25	991.66	5.0	1,444.30	13,320.34	
1994	7.7	1,479.75	20,099.56	0.0	1,479.75	19,760.00	(339.56)	5.0	1,479.75	15,466.11	
1995	11.3	1,523.95	23,894.76	27.0	1,523.95	26,619.15	2,724.39	5.0	1,523.95	17,763.36	
1996	12.5	1,558.00	28,439.61	20.0	1,558.00	33,500.98	5,061.37	5.0	1,558.00	20,209.53	
1997	12.8	1,599.00	33,678.88	23.0	1,599.00	42,805.21	9,126.33	5.0	1,599.00	22,819.01	
1998	13.1	1,642.35	39,733.16	18.0	1,642.35	52,152.49	12,419.33	5.0	1,642.35	25,602.31	

Full fixed interest crediting did not apply to post-1981 hires. It is shown here to demonstrate the long-term difference between capped and uncapped accumulations.
@ Variable participation was not available to post-1981 hires. It is shown here to demonstrate the difference between fixed and variable accumulations.

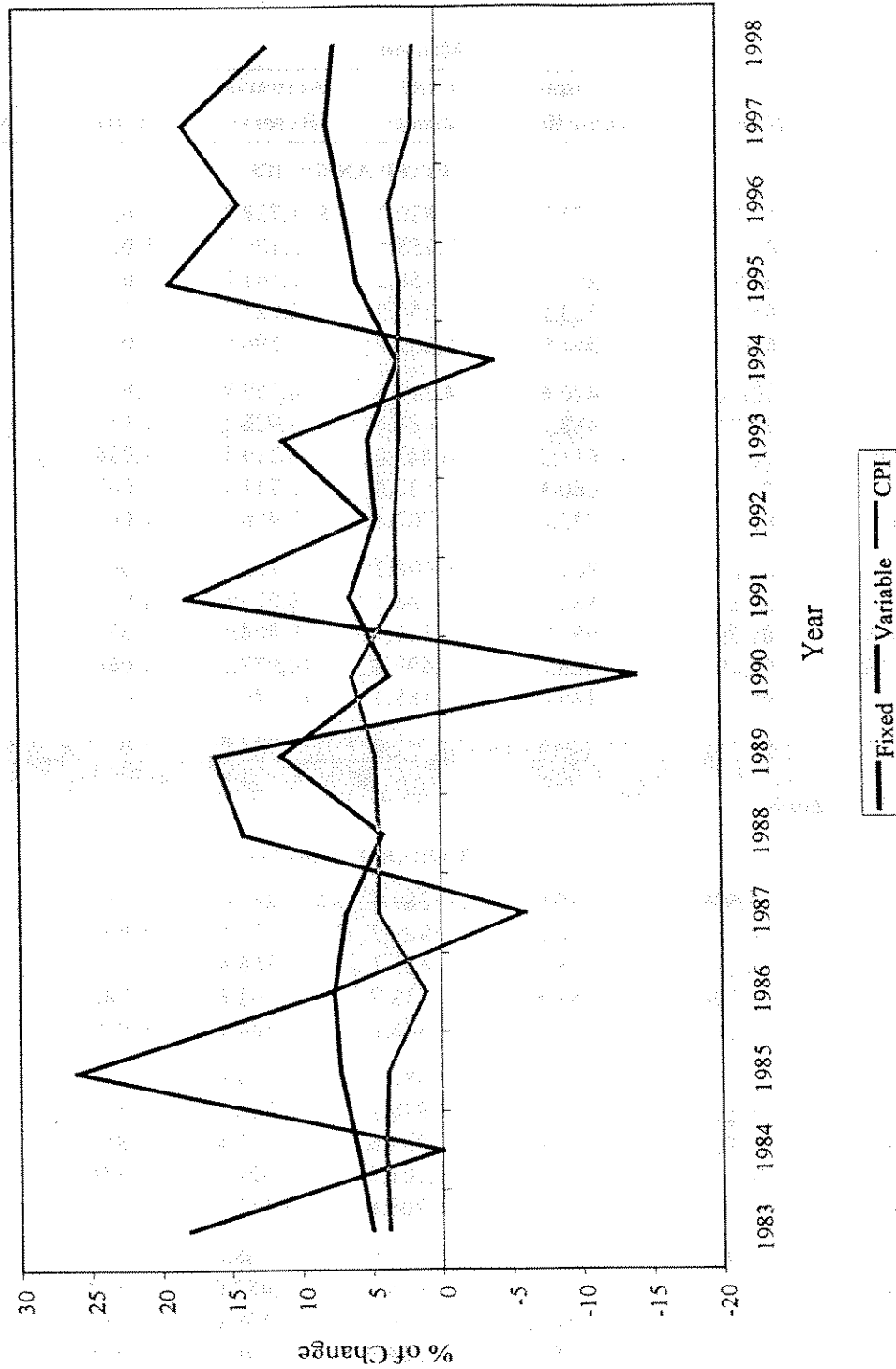
EXHIBIT V

Comparative Statement

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
16 Year Average						6.0%	3.3%
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
16 Year Average						9.2%	3.3%

EXHIBIT VI

History of % Changes in Annuities and CPI



CONSIDERATIONS OF RE-OPENING THE VARIABLE PROGRAM

Pros and Cons of Re-Opening The Variable Annuity Program

Arguments in Favor of Re-Opening

1. **Choices:** Participant choices would be expanded.
2. **Hybrid Features:** The Variable Annuity Program enhances WRS hybrid features which may answer some of the concerns of those who have proposed defined contribution plan options.
3. **Tiers of Participants:** The present distinction between those participants who have the variable annuity option and those who do not would be eliminated.
4. **Potential For Higher Benefits:** Historically, equity fund returns have exceeded balanced fund returns by over 2% a year over long periods. New participants would be given the opportunity of sharing in favorable market returns, thereby increasing their expected future retirement income. The Monte Carlo illustration of sample account accumulations on the following page illustrates this point. As expected, there are periods when fixed accumulations exceed variable accumulations, but there is an expectation that cumulative long-term variable returns will exceed fixed returns. Other Monte Carlo projections (which are available upon request) would produce different year-to-year outcomes, but long term results would be similar.
5. **Administration:** Record keeping and reporting mechanisms to efficiently administer the program are already in place.
6. **Cost:** If the 5% cap on participant interest credits is removed, the variable annuity program could be implemented with no effect on near-term contribution requirements.
7. **Risk Transfer:** There is an investment risk transfer between employers and participants inherent in the variable annuity program. In down markets, an expanded variable annuity participation would serve to dampen the upward pressure on contribution rates that would otherwise occur. (See additional discussion of this point under Arguments Against on page 13.)

Wisconsin Retirement System
Monte Carlo Illustration of Participant Account Accruals
Fixed vs. Variable Interest Crediting

	Fixed	Variable
Mean Rate of Return (ROR)	8.0%	10.0%
Standard deviation	8.0	8.0
Annual pay increases	4.6	4.6
Participant contribution rate	5.0	5.0

Age	Salary	Contr.	Fixed		Variable		Variable Excess*
			ROR	Balance EOY	ROR	Balance EOY	
35	\$20,000	\$1,000	14.22%	\$ 1,000	17.12%	\$ 1,000	\$ -
36	20,920	1,046	15.55	2,202	18.24	2,228	27
37	21,882	1,094	7.78	3,467	(17.35)	2,936	(531)
38	22,889	1,144	9.33	4,935	16.16	4,555	(380)
39	23,942	1,197	6.89	6,472	5.44	6,000	(472)
40	25,043	1,252	0.43	7,752	1.53	7,344	(408)
41	26,195	1,310	5.50	9,488	7.44	9,200	(288)
42	27,400	1,370	4.84	11,317	12.40	11,710	393
43	28,660	1,433	9.21	13,793	22.96	15,832	2,040
44	29,979	1,499	12.64	17,035	16.56	19,953	2,918
45	31,358	1,568	16.87	21,477	26.72	26,852	5,376
46	32,800	1,640	12.35	25,769	(1.83)	28,001	2,232
47	34,309	1,715	12.33	30,662	20.08	35,339	4,677
48	35,887	1,794	11.71	36,047	13.28	41,826	5,780
49	37,538	1,877	9.79	41,452	14.72	49,860	8,408
50	39,265	1,963	10.39	47,723	4.16	53,898	6,175
51	41,071	2,054	6.51	52,883	2.64	57,374	4,491
52	42,960	2,148	5.56	57,971	8.72	64,525	6,554
53	44,937	2,247	2.97	61,940	3.52	69,043	7,103
54	47,004	2,350	5.97	67,988	16.88	83,048	15,060
55	49,166	2,458	5.57	74,233	1.21	86,511	12,278
56	51,427	2,571	4.92	80,457	6.00	94,273	13,816
57	53,793	2,690	7.74	89,374	14.88	110,991	21,617
58	56,268	2,813	8.09	99,417	17.60	133,338	33,921
59	58,856	2,943	11.73	114,022	16.80	158,682	44,660
60	61,563	3,078	13.67	132,687	15.60	186,514	53,828
61	64,395	3,220	9.68	148,750	(0.15)	189,454	40,704
62	67,357	3,368	9.83	166,741	16.72	224,499	57,759
63	70,456	3,523	6.44	181,001	1.93	232,355	51,353
64	73,697	3,685	2.46	189,139	(1.67)	232,159	43,020
65	77,087	3,854	5.86	204,077	14.96	270,745	66,668
			Mean	8.61%#		10.11%	

* Variable excess is the Variable Balance EOY minus Fixed Balance EOY.

Fixed fund returns benefit from an initial balance in the Transaction Amortization Account.

Arguments Against Re-Opening

1. **Administration:** If the program is re-opened without lifting the 5% cap on interest credits for post-1981 hires, it is expected that a very high portion of post-1981 entrants would elect to participate. This initial surge of elections, potentially exceeding 100,000, would be difficult to cope with efficiently.
2. **Risk Transfer:** As indicated previously, there is an investment risk transfer between employers and participants inherent in the variable annuity program. As a result, in favorable economic environments employers would be forgoing potential future rate reductions. In that regard, consider the following:

Rule of Thumb: Each 1% investment gain (loss) translates approximately into a 0.1% reduction (increase) in contribution rates.*

To illustrate, in a year when Fixed Fund earnings are 12%, rates may, in isolation, be expected to drop by .4%. Measurement of the extent of the risk transfer is beyond the scope of this study. However, heavy participation in the Variable Annuity Program could, as a rough estimate, reduce that effect by somewhere between a quarter to a half.

3. **Current Fixed Fund Structure:** Fixed trust fund assets are now invested approximately 60% in equities. Uncapping fixed fund interest credits may substantially eliminate participant interest in the variable program, especially in light of the substantial benefit of the lower volatility of fixed fund returns.
4. **Timing:** It is likely that the turbulent investment markets of the 1970's entered into the decision to close the Variable Annuity Program. Since then we have witnessed the longest bull market in our history. Re-opening at this time entails the risk of repeating "buy high – sell low" activity that is inconsistent with long-term retirement planning objectives.

* Under the complex WRS funding mechanism, the timing of the recognition of gains is generally not immediate.

CONCLUDING COMMENTS

- We recommend that consideration be given to re-opening the Variable Annuity Program only if the 5% cap on participant contributions for post-1981 entrants is removed. If it were re-opened under the 5% cap, and participants were given the option of re-directing one-half of their contributions, it is expected that the financial effect would be close to one-half of the full cost of removing the cap (see following page).
- If the cap is removed, re-opening the program would have minimal expected financial effect on WRS. In the long-term, a high level of participation would result in an additional transfer of investment risk (and potential rewards) from employers to participants.
- The decision of whether or not to re-open the program (again assuming removal of the 5% cap) should be based on what constitutes good benefit design. Central to that debate should be the consideration of whether or not the current fixed fund program has enough attributes of the original variable annuity program to make re-opening unnecessary.

**INTERESTED CREDITED TO PARTICIPANT ACCOUNTS
IN THE FIXED FUND**

Date of Participation	Rate Credited for Purpose of	
	Money Purchase Minimum	Refunds
Present		
Prior to 1982	Actual*	Actual*
January 1, 1982 & Later	5%	3%
Uncapped	Actual*	Actual*

* Based on smoothed rate of return.

**EFFECT OF COMPUTED CONTRIBUTION RATES
OF REMOVING INTEREST CAPS***

General	Executive & Elected	Protective Occupations	
		With Social Security	Without Social Security
0.49%	0.40%	0.17%	0.06%

* Based on prior supplemental actuarial valuation as of December 31, 1997.

UNITED STATES DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE

Section 401(a)(9) requires that the required minimum distribution (RMD) for a variable annuity contract be based on the account value as of the end of the preceding year. This RMD must be paid by the end of the year following the year for which it is due. If the RMD is not paid by the end of the year, the account owner will be subject to a 50% penalty on the amount not distributed.

VARIABLE ANNUITY
CURRENT STATUTORY PROVISIONS

The RMD for a variable annuity contract is calculated based on the account value as of the end of the preceding year. The RMD must be paid by the end of the year following the year for which it is due. If the RMD is not paid by the end of the year, the account owner will be subject to a 50% penalty on the amount not distributed.

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VARIABLE ANNUITY CURRENT PROVISION
WISCONSIN STATUTES SECTION 40.04(7)

(7) The reserves established under subs. (4), (5) and (6) shall be divided both individually and for the purposes of sub. (3) between a fixed annuity division and a variable annuity division. All required and additional contributions shall be credited to the fixed annuity division except:

(a) As otherwise elected by a participant prior to April 30, 1980. Any participant whose accounts on January 1, 1982, include credits segregated for a variable annuity shall have his or her required and additional contributions made on or after January 1, 1982, credited to the variable annuity division in a manner consistent with the participant's election prior to April 30, 1980, unless prior to January 1, 1982, the participant terminated such election under s. 40.85, 1979 stats. The department shall by rule provide that any participant who elected variable participation prior to April 30, 1980, may elect to cancel that variable participation as to future contributions. The department's rules shall permit a participant who elects or has elected to cancel variable participation as to future contributions, or an annuitant, to elect to transfer previous variable contribution accumulations to the fixed annuity division. A transfer of variable contribution accumulations under this paragraph shall result in the participant receiving the accrued gain or loss from the participant's variable participation. A participant may specify that election to cancel participation in the variable annuity division is conditional. If the participant so specifies the election is effective on the first date on which it may take effect on which the participant:

1. Is an annuitant and the amount of the annuity the participant or member will receive if the election is made effective is greater than or equal to the amount of the annuity the participant or member would have received if the participant or member had not elected variable participation; or
2. Is not an annuitant and the accumulated amount which is to be transferred to the fixed annuity division is equal to or greater than the amount which would have accumulated if the segregated contributions had been originally credited to the fixed annuity division.

b) An election under par. (a) is irrevocable and continuing except a participant or member may make a conditional election unconditional by filing written notice with the department.

c) Any participant whose required contributions are segregated in any portion to provide for a variable annuity may direct that any part or all of subsequent additional contributions credited to the participant's account be segregated to provide for a variable annuity and may at any time by filing a form prescribed by the department change the portion being segregated for any future additional contributions.

VARIABLE BENEFITS
WISCONSIN STATUTES SECTION 40.28

40.28 Variable benefits. (1) Any annuity provided to a participant whose accounts include credits segregated for a variable annuity shall consist of a fixed annuity and a variable annuity.

(a) The initial amount of the variable annuity shall be the amount which can be provided on the basis of the actuarial tables in effect on the effective date of the annuity by the following amounts, if otherwise available:

1. The amount of the additional contribution accumulations reserved for a variable annuity as of the date the annuity begins;
2. The amount equal to 200% of employe required contribution accumulations reserved for a variable annuity as of the date the annuity begins; and
3. The amount equal, as of the date the annuity begins, to the accumulated prior service credits reserved for the participant for a variable annuity within the employer accumulation account, together with the net gain or loss credited to the accumulations.

(b) The initial amount of the fixed annuity shall be the excess of the total annuity payable, as determined under s. 40.23, over the amount of the variable annuity.

(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.

(3) Except as otherwise specifically provided, benefits based on variable accumulations shall be determined on the same basis and paid in the same manner and at the same time as benefits based on accumulations not so segregated insofar as practicable considering the nature of variable annuities.