Wisconsin Retirement System
Twenty-Fourth Annual Actuarial Valuation

as of December 31, 2004

Presented to the Wisconsin Department
of Employee Trust Funds

WISCONSIN DEPARTMENT
OF EMPLOYEE TRUST FUNDS

Gabriel, Roeder, Smith & Company

GRS

Actuaries & Consultants

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REPORT OF ANNUAL ACTUARIAL VALUATIONS
WISCONSIN DEPARTMENT OF EMPLOYEE TRUST FUNDS

GABRIEL, ROEDER, SMITH & COMPANY
Consultants & Actuaries

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June 6, 2005

Employee Trust Funds Board
Wisconsin Department of Employee
Trust Funds
801 West Badger Road
Madison, Wisconsin 53713

Ladies and Gentlemen:

The results of the **December 31, 2004 annual actuarial valuations of non-retired members covered by the Wisconsin Retirement System** are presented in this report. The valuations establish contribution rates for the 2006 calendar year in conformance with Chapter 40 of the Wisconsin Statutes.

The valuations are based upon all current plan provisions related to General, Executive and Elected, and Protective Occupation employment with and without Social Security coverage. The provisions evaluated are summarized in Section One of this report.

The individual member statistical data required for the valuations was furnished by the Department of Employee Trust Funds, together with pertinent data on financial operations. The cooperation of DETF staff in furnishing these materials is acknowledged with appreciation.

The actuarial assumptions used in the valuations are summarized in Section III of this report. The assumptions are internally consistent and are based on the results of the Triennial Experience Study covering 2000-2002 calendar year experience.

The valuations were completed by qualified actuaries in accordance with accepted actuarial procedures as prescribed by the Actuarial Standards Board. The qualified actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge, this report is complete and accurate and the actuarial methods and assumptions produced results that are reasonable. **It is our opinion that the Wisconsin Retirement System is in excellent financial condition in accordance with actuarial principles of level percent-of-payroll financing.**

Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY

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

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SECTION ONE

Actuarial Valuation Results

Overview

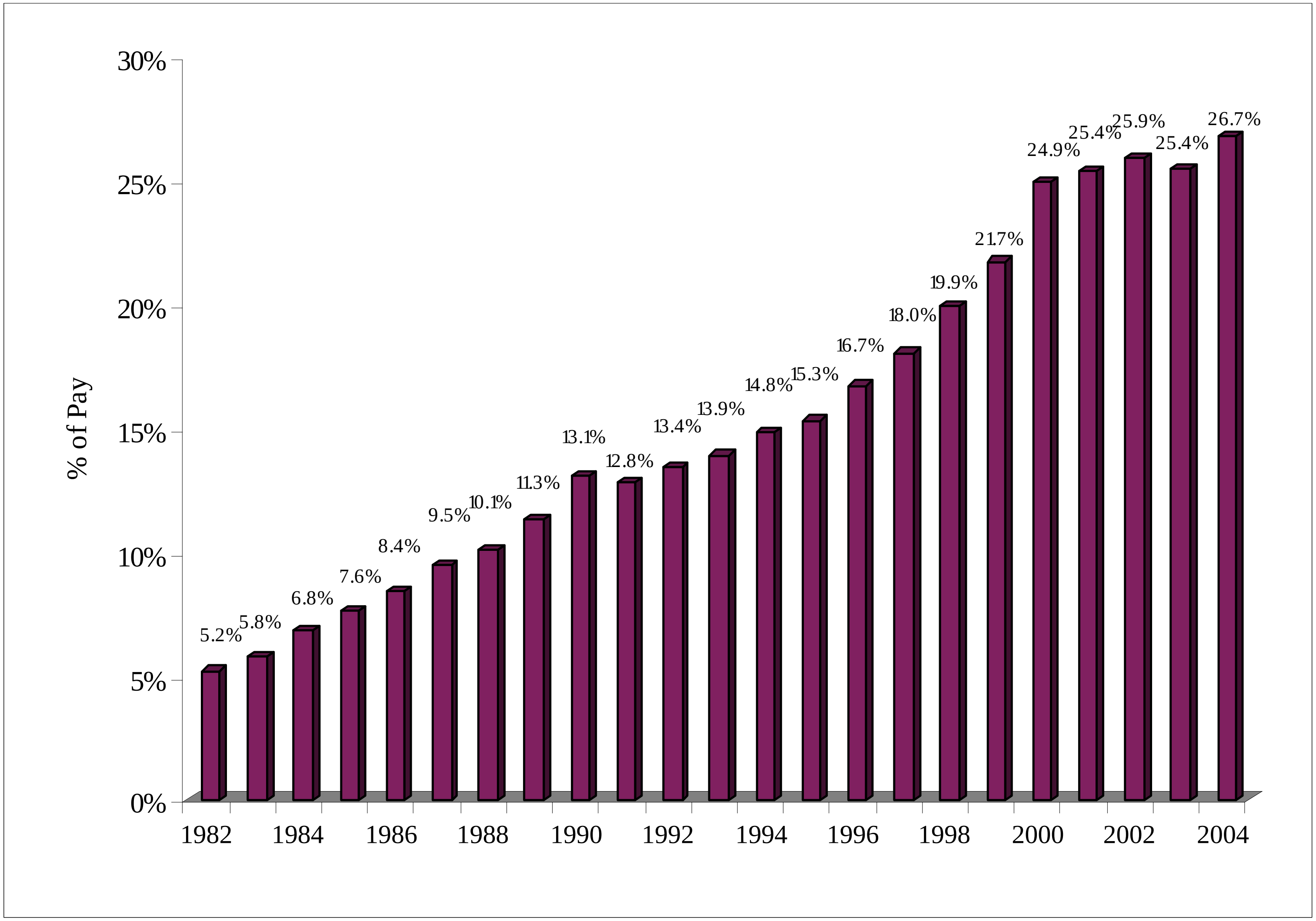
COMPARATIVE SUMMARY OF VALUATION RESULTS
CONTRIBUTION RATES FOR INDICATED YEARS
EXPRESSED AS A % OF PARTICIPANT PAYROLL

	General Participants		Executives & Elected Officials		Protective Occupation With Soc. Sec.		Protective Occupation Without Soc. Sec.	
	2006	**2005**	**2006**	**2005**	**2006**	**2005**	**2006**	**2005**
Employer Normal Cost	4.5%	4.4%	8.4%	8.3%	8.1%	8.0%	10.7%	10.7%
Benefit Adjustment Contribution	0.9%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Participant Normal Cost	5.0%	5.0%	2.9%	2.8%	5.0%	4.9%	3.3%	3.3%
Total Normal Cost	10.4%	10.2%	11.3%	11.1%	13.1%	12.9%	14.0%	14.0%
Unfunded Actuarial Accrued Liability (UAAL)	0.2%	0.3%	0.1%	0.1%	0.1%	0.1%	0.4%	0.6%
WRS Average Total	**10.6%**	**10.5%**	**11.4%**	**11.2%**	**13.2%**	**13.0%**	**14.4%**	**14.6%**

Under Section 40.05 of Wisconsin statutes, contribution rate changes are generally split evenly between the employer normal cost and the benefit adjustment contribution. If there is no benefit adjustment contribution and the rate change is a decrease, the participant normal cost is decreased. If there is no benefit adjustment contribution and the rate change is an increase *and* the participant normal cost is below the statutory rate, the participant normal cost is increased.

Rates shown for UAAL are weighted averages of rates that vary by employer units. In addition to the WRS rates shown above are contributions to support the Section 40.65 Duty Disability Program and the Accumulated Sick Leave Conversion Credit Program.

TOTAL ANNUITIES AS A % OF PAYROLL



Annuities are expected to continue to increase as a percent of payroll for several more decades. By pursuing the level percent-of-payroll objective, the future increase in the payout percent is expected to be paid from income generated by retirement system assets.

COMPARATIVE STATEMENT OF COMPUTED CONTRIBUTION RATES

Valuation 12/31	Rate Effective 1/1	General				Executive and Elected			
		Participant	Benefit Adj. Contr.	Employer*	Total	Participant	Benefit Adj. Contr.	Employer*	Total
1981	1983	5.0 %		6.5 %	11.5 %	5.5 %		11.9 %	17.4 %
1982	1984	5.0 %		6.5 %	11.5 %	5.5 %		11.9 %	17.4 %
1983	1985	5.0 %		6.5 % #	11.5 %	5.5 %		11.9 % #	17.4 %
1984@	1986	5.0 %	1.0 %	6.5 %	12.5 %	5.5 %		11.6 %	17.1 %
1985	1987	5.0 %	1.0 %	6.1 %	12.1 %	5.5 %		11.3 %	16.8 %
1986	1988	5.0 %	1.0 %	6.0 %	12.0 %	5.5 %		11.9 %	17.4 %
1987	1989	5.0 %	1.0 %	6.0 %	12.0 %	5.5 %		11.9 %	17.4 %
1988	1990	5.0 %	1.0 %	6.0 %	12.0 %	5.5 %		11.9 %	17.4 %
1989@	1991	5.0 %	1.1 %	6.1 %	12.2 %	5.5 %	0.1 %	12.0 %	17.6 %
1990	1992	5.0 %	1.2 %	6.2 %	12.4 %	5.5 %	0.1 %	12.0 %	17.6 %
1991	1993	5.0 %	1.2 %	6.2 %	12.4 %	5.5 %	0.1 %	12.0 %	17.6 %
1992	1994	5.0 %	1.2 %	6.1 %	12.3 %	5.5 %	0.1 %	12.0 %	17.6 %
1993	1995	5.0 %	1.2 %	6.1 %	12.3 %	5.5 %	0.1 %	12.0 %	17.6 %
1994	1996	5.0 %	1.5 %	6.4 %	12.9 %	4.6 %	0.0 %	11.1 %	15.7 %
1995	1997	5.0 %	1.4 %	6.3 %	12.7 %	4.7 %	0.0 %	11.2 %	15.9 %
1996	1998	5.0 %	1.2 %	6.1 %	12.3 %	4.7 %	0.0 %	11.2 %	15.9 %
1997	1999	5.0 %	0.8 %	5.8 %	11.6 %	4.3 %	0.0 %	10.8 %	15.1 %
1998	2000	5.0 %	0.5 %	5.5 %	11.0 %	4.1 %	0.0 %	10.6 %	14.7 %
1999	2001	5.0 %	0.2 %	5.1 %	10.3 %	3.9 %	0.0 %	10.4 %	14.3 %
2000	2002	5.0 %	0.2 %	5.1 %	10.3 %	3.1 %	0.0 %	9.6 %	12.7 %
2001 &	2003	5.0 %	0.4 %	5.2 %	10.6 %	2.6 %	0.0 %	9.1 %	11.7 %
2002	2004	5.0 %	0.6 %	5.2 %	10.8 %	2.6 %	0.0 %	8.9 %	11.5 %
2003	2005	5.0 %	0.8 %	4.7 %	10.5 %	2.8 %	0.0 %	8.4 %	11.2 %
2004	2006	5.0 %	0.9 %	4.7 %	10.6 %	2.9 %	0.0 %	8.5 %	11.4 %

\# *By statute, 1984 rates determined by the 12/31/82 regular valuation continued through 1985. The actuarially computed 1985 rate was 6.3% for the general group.*

* *Employer normal cost plus weighted average of unfunded actuarial accrued liability contribution rates.*

@ *Benefit change.*

& *Act 11 of 1999 was implemented in 2001.*

COMPARATIVE STATEMENT OF COMPUTED CONTRIBUTION RATES

Valuation 12/31	Rate Effective 1/1	Protective With Social Security				Protective Without Social Security			
		Participant	Benefit Adj. Contr.	Employer*	Total	Participant	Benefit Adj. Contr.	Employer*	Total
1981	1983	6.0 %		12.1 %	18.1 %	8.0 %		19.8 %	27.8 %
1982	1984	6.0 %		12.1 %	18.1 %	8.0 %		19.8 %	27.8 %
1983	1985	6.0 %		12.1 %#	18.1 %	8.0 %		19.8 %#	27.8 %
1984@	1986	6.0 %	1.0 %	12.3 %	19.3 %	8.0 %		19.1 %	27.1 %
1985	1987	6.0 %	1.0 %	12.4 %	19.4 %	8.0 %		18.5 %	26.5 %
1986	1988	6.0 %	1.0 %	12.0 %	19.0 %	8.0 %		18.0 %	26.0 %
1987	1989	6.0 %	1.0 %	11.3 %	18.3 %	8.0 %		16.9 %	24.9 %
1988	1990	6.0 %	0.9 %	11.2 %	18.1 %	8.0 %		16.9 %	24.9 %
1989@	1991	6.0 %	0.7 %	10.9 %	17.6 %	7.5 %		16.4 %	23.9 %
1990	1992	6.0 %	0.7 %	10.9 %	17.6 %	7.5 %		16.4 %	23.9 %
1991	1993	6.0 %	0.6 %	10.7 %	17.3 %	7.5 %		16.4 %	23.9 %
1992	1994	6.0 %	0.6 %	10.7 %	17.3 %	7.5 %		16.3 %	23.8 %
1993	1995	6.0 %	0.5 %	10.6 %	17.1 %	7.2 %		16.0 %	23.2 %
1994	1996	6.0 %	0.1 %	10.2 %	16.3 %	6.8 %		15.7 %	22.5 %
1995	1997	5.8 %	0.0 %	9.8 %	15.6 %	6.2 %		15.1 %	21.3 %
1996	1998	5.4 %	0.0 %	9.4 %	14.8 %	5.8 %		14.6 %	20.4 %
1997	1999	4.9 %	0.0 %	8.9 %	13.8 %	5.4 %		14.3 %	19.7 %
1998	2000	4.1 %	0.0 %	8.0 %	12.1 %	4.4 %		13.3 %	17.7 %
1999	2001	3.8 %	0.0 %	7.6 %	11.4 %	3.3 %		12.2 %	15.5 %
2000	2002	4.0 %	0.0 %	7.8 %	11.8 %	3.0 %		11.9 %	14.9 %
2001 &	2003	4.0 %	0.0 %	7.7 %	11.7 %	2.4 %		11.3 %	13.7 %
2002	2004	4.5 %	0.0 %	8.0 %	12.5 %	3.2 %		11.8 %	15.0 %
2003	2005	4.9 %	0.0 %	8.1 %	13.0 %	3.3 %		11.3 %	14.6 %
2004	2006	5.0 %	0.0 %	8.2 %	13.2 %	3.3 %		11.1 %	14.4 %

 # By statute, 1984 rates determined by the 12/31/82 regular valuation continued through 1985.
** Employer normal cost plus weighted average of unfunded actuarial accrued liability contribution rates.*
@ Benefit change.
& Act 11 of 1999 was implemented in 2001.

COMMENTS ON DECEMBER 31, 2004 RESULTS

Based upon this valuation normal cost contribution rates will increase slightly in 2006 for all valuation groups except Protective Without Social Security. This is in large part due to an unallocated increase from the prior year. Detail concerning experience gains and losses in individual risk areas will be presented at a later date in the annual Gain Loss Analysis.

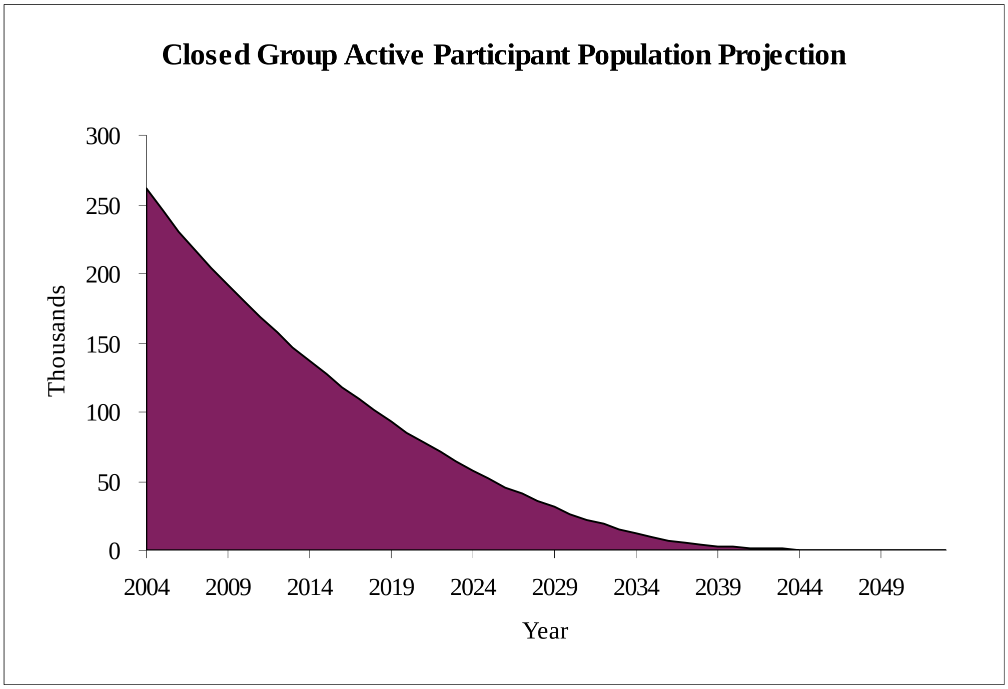
In total, during 2004, investment return was above the assumed level of 7.8% on a market value basis (please see pages I-17 and III-3). The asset valuation method, when combined with the TAA distribution mandated by Act 11 of 1999 and the phase-in of investment losses for the prior three years, resulted in a small net gain for the year. The Actuarial Value of Assets is less than the market value by less than 3% as of the valuation date, well within commonly accepted bounds.

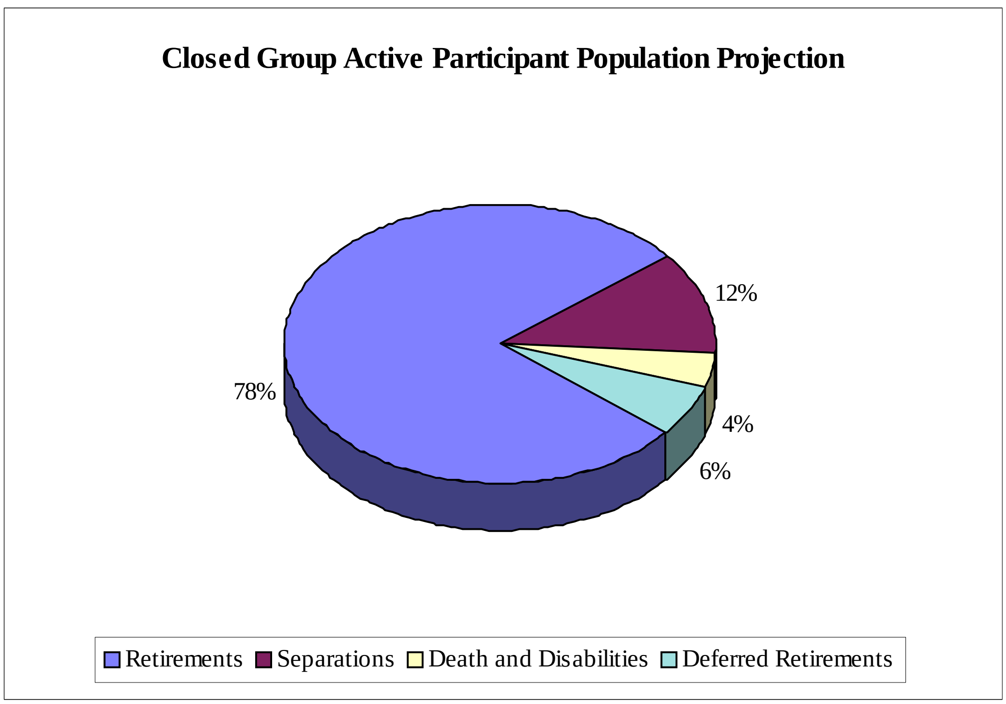
The statutory allocation of the rate change among Participant Normal Cost, Employer Normal Cost, and Benefit Adjustment Contribution is shown on page I-23. The original intent of the statutory allocation was most likely to permit participants to share equally with employers in good and bad investment results and in other actuarial results. The Participant Normal Cost contributions and the Benefit Adjustment Contributions are, in most cases, paid by the employers rather than by the participants. This means that good and bad experience is not really shared, since the employers are paying the whole contribution anyway. Rather, in some cases, good experience tends to reduce benefits payable to future retirees, and bad experience tends to increase such benefits. That counterintuitive effect occurs because certain benefits, such as money purchase minimum benefits, separation benefits, and some death benefits, depend on the nominal Participant Normal Cost rate: the higher the nominal participant normal cost rate, the higher the benefit, and conversely. The WRS is a complicated retirement system, and changes should not be undertaken lightly. However, we do recommend a careful review of this portion of the interaction between the statutory allocation of contribution rate changes and money purchase benefits, with a view toward correcting the unintended impact on benefits.

This valuation includes liabilities for future claims under the Long Term Disability Insurance (LTDI) program that became operational late in 1992. Inter-fund transfers between WRS and the LTDI program to support claims currently payable are addressed in a separate report to the Group Insurance and Employee Trust Funds Boards.

Conclusion. Based upon the results of the December 31, 2004 regular annual actuarial valuation, it is our opinion that ***the Wisconsin Retirement System continues to be in excellent financial condition in accordance with actuarial principles of level percent-of-payroll financing.***

EXPECTED DEVELOPMENT OF PRESENT POPULATION
DECEMBER 31, 2004





The charts show the expected future development of the present population in simplified terms. The retirement system presently covers 262,085 active members. Eventually, 12% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. Nearly 84% of the present population is expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. 4% of the present population is expected to become eligible for death-in-service or disability benefits. **Within 10 years, over half of the covered membership is expected to consist of new hires.**

Benefit Provisions

Normal Retirement Eligibility

The age a participant becomes eligible for an unreduced age and service annuity is:

General		Protective		Executive & Elected	
Age	**Service**	**Age**	**Service**	**Age**	**Service**
65	Any*	54	Any*	62	Any*
57	30	53	25	57	30

* *Participants first employed after 1989 and terminated before April 24, 1998 must have creditable service in 5 calendar years.*

Normal Retirement Annuity

The age and service annuity payable at Normal Retirement Age is based on Final Average Earnings (FAE) and Creditable Service (CS) as follows:

Multiplier for Service Rendered		
After 1999	**Before 2000**	**Group**
2.0%	2.165%	Executive group, elected officials and protective occupation participants covered by Social Security
2.5%	2.665%	Protective occupation participants not covered by Social Security
1.6%	1.765%	All other participants

FAE is generally the average of the 3 highest years of earnings (July 1 - June 30 for teachers, educational support staff, and judges; calendar year for others) preceding retirement. These years do not have to be consecutive. For legislators and state constitutional officers who are ineligible to receive pay increases during their term, FAE is the statutory rate of earnings at termination.

Maximum formula annuity is 85% of FAE for protective occupation participants not covered by Social Security, 65% of FAE for protectives covered by Social Security, and 70% for all other participants. If greater than the formula amount, an annuity equal to the actuarial equivalent of two times the required accumulated contributions is paid in lieu of the formula amount.

Early Retirement. Any participant who has attained age 55 and any Protective occupation participant who has attained age 50 may apply for an early retirement annuity. The benefit is reduced 0.4% for each month that the annuity effective date precedes the Normal Retirement Age. For Non-Protective participants terminating after 6/30/90, the 0.4% is reduced for months after the attainment of age 57 and before the annuity effective date by .001111% for each month of creditable service.

Voluntary Termination Before Immediate Benefit Eligibility. Participant may either (i) receive a refund of accumulated contributions, or (ii) leave contributions on deposit and apply for a retirement annuity on or after the minimum retirement age based upon age and accrued service at time of termination.

Post-Retirement Adjustments. Annuities are increased annually if the investment income credited to retired life funds is in excess of the assumed rate (presently 5%), other plan experiences are within projected ranges, and the resulting adjustment would be at least 0.5%.

Disability Annuity. Eligibility: generally total and permanent incapacity to engage in gainful employment. Participant must have completed at least 6 months of creditable service in each of at least 5 out of the last 7 calendar years preceding application for disability. Service requirement is waived if disability is from service-related causes.

Disability Amounts. Amounts payable in case of disability depend upon the plan from which payment is made and are described below.

	Pre-10/16/92 WRS Plan	**Post-10/15/92 LTDI Plan**
Participants covered	Participants hired before 10/16/92 who do not elect LTDI coverage.	Participants entering after 10/15/92 and participants on 10/15/92 who elect LTDI coverage.
Benefit to age 65*	WRS formula benefit based on service projected to normal retirement age.	40% of FAE for participants covered by Social Security; 50% of FAE for non-covered participants who cannot qualify for Social Security disability benefits.
Benefit at age 65*	Continuation of pre-65 amount.	WRS benefit accrued to date of disability plus 7% of FAE money purchase benefit during disability period, both of which are adjusted in accordance with dividend rate.

* *Conversion age is later for participants becoming disabled after age 61.*

Death-in-Service. (a) Prior to age 50 for Protective participants, age 55 for others, the benefit is the equivalent of twice the accumulated employee required and all additional contributions and employer amounts contributed prior to 1974 for teachers, or 1966 for others.

(b) After age 50 for Protective participants, age 55 for others, the benefit is the amount that would have been paid if participant had retired and elected 100% survivor option. Benefit is payable to any natural living person.

Interest Credits. For years after 1999, and for people with some active service after 1999, participant accounts are credited with interest at the full (fixed) effective rate. For others, accounts are credited with interest as follows:

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

Contribution Rates. The financial objective of WRS is to establish and receive contributions that will remain level from year to year and decade to decade.

Statutory required participant contributions are as follows:

General	5.0%
Executives & Elected Officials	5.5
Protectives	
- With Social Security	6.0
- Without Social Security	8.0

Non-refundable benefit adjustment contributions are also required by statute and may be paid by the employer or by the employee depending upon the employer's compensation plan. The employers contribute the remaining amounts necessary to fund the retirement system on an actuarially sound basis. As differences between actual and assumed experience emerge, adjustments are made to contributions to maintain financial balance as follows:

- ♦ One-half of the increase or decrease is reflected in the employer normal cost rate.
- ♦ One-half of the increase or decrease is reflected in the participant-paid portion of the benefit adjustment contribution. If a decrease would reduce a benefit adjustment contribution to less than zero, participant normal contributions are reduced.

Non-Retired Participant Data

ACTIVE PARTICIPANTS INCLUDED IN VALUATIONS
DECEMBER 31, 2004

Active participants included in the valuations totaled 262,085 with an annual payroll totaling $10,645.1 million, as follows:

Valuation Group	Number	Annual Earnings ($Millions)	Group Averages			
			Earnings	Age	Years of Service	Contribs.
General	238,943	$9,501.4	$39,764	45.4	11.6	$49,160
Executive Group & Elected Officials	1,469	88.7	60,379	53.8	12.5	77,256
Protective Occupation with Social Security	18,964	896.4	47,266	39.2	11.3	49,128
Protective Occupation without Social Security	2,709	158.6	58,546	40.6	13.8	86,189
Total Active Participants	**262,085**	**$10,645.1**	**$40,617**	**44.9**	**11.6**	**$49,698**
Prior Year	262,538	$10,368.5	$39,494	44.6	11.4	$47,867

Group averages are not used in the valuation, but are shown here for their general interest.

INACTIVE PARTICIPANTS INCLUDED IN VALUATIONS DECEMBER 31, 2004

Inactive participants included in the valuations totaled 125,649 as follows:

		Group Averages		
Valuation Group	Number	Age	Service	Money Purchase Balance
General	121,472	45.1	3.0	$12,567
Executive Group & Elected Officials	579	52.7	5.5	36,534
Protective Occupation with Social Security	3,419	38.7	3.7	16,451
Protective Occupation without Social Security	179	42.0	7.9	62,283
Total Inactive Participants	**125,649**	**45.0**	**3.0**	**$12,854**
Prior Year	121,452	44.8	3.0	$12,831

The valuations also included 3,487 QDRO cases whose average age was 49.2 years. These accounts for divorced spouses of WRS participants have been established in accordance with Wisconsin Domestic Relations Law.

GENERAL PARTICIPANTS AS OF DECEMBER 31, 2004
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19	232							232	$ 3,453,625
20-24	5,201	31						5,232	111,972,670
25-29	15,103	2,249	12					17,364	527,447,203
30-34	10,229	9,924	1,344	22				21,519	772,846,281
35-39	9,651	7,993	7,665	1,389	17			26,715	1,030,274,570
40-44	10,870	7,580	6,905	6,170	1,579	92		33,196	1,284,382,515
45-49	9,772	8,198	6,744	6,383	5,580	2,812	84	39,573	1,596,865,202
50-54	7,248	6,827	6,941	6,384	5,581	7,920	3,264	44,165	1,955,795,446
55	1,084	1,005	1,183	1,180	1,005	1,397	1,628	8,482	399,082,840
56	1,019	953	1,109	1,130	916	1,045	1,505	7,677	358,503,797
57	904	853	992	1,106	856	867	1,377	6,955	317,191,076
58	872	819	925	1,042	823	788	1,043	6,312	289,235,795
59	585	557	601	642	513	418	633	3,949	175,190,223
60	579	495	538	614	466	409	522	3,623	156,888,614
61	526	395	487	516	404	337	420	3,085	130,666,603
62	453	388	416	475	354	280	366	2,732	113,572,304
63	341	294	308	320	227	177	238	1,905	76,029,477
64	311	233	206	202	160	118	167	1,397	53,051,729
65	235	180	183	167	121	92	149	1,127	41,723,998
66	182	119	115	98	74	51	102	741	27,145,747
67	172	87	80	63	50	39	66	557	18,811,641
68	164	72	48	49	37	20	40	430	12,625,950
69	169	64	54	36	32	21	42	418	12,913,989
70	129	62	36	28	17	17	21	310	8,107,558
71	119	41	39	21	12	10	22	264	6,358,983
72	85	30	21	18	9	3	17	183	4,556,784
73	79	37	16	14	8	5	16	175	3,632,394
74	62	36	11	13	4	8	11	145	3,789,591
75 & Up	256	96	46	31	10	7	34	480	9,242,962
Totals	**76,632**	**49,618**	**37,025**	**28,113**	**18,855**	**16,933**	**11,767**	**238,943**	**$9,501,359,567**

EXECUTIVE GROUP AND ELECTED OFFICIALS
AS OF DECEMBER 31, 2004
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24									
25-29	4	1						5	$ 196,172
30-34	20	7						27	1,511,530
35-39	37	19	13	1				70	3,539,176
40-44	67	21	28	19	6			141	7,610,682
45-49	70	41	30	36	30	15		222	13,416,104
50-54	72	42	31	42	40	48	16	291	18,870,234
55	18	9	5	13	12	10	6	73	4,998,532
56	16	4	8	13	9	9	9	68	5,307,064
57	20	8	11	9	8	9	10	75	4,935,687
58	20	5	4	9	11	11	5	65	5,141,206
59	12	6	10	7	10	7	7	59	4,359,383
60	13	9	7	9	4	7	4	53	3,570,361
61	12	11	9	7	6	7	3	55	3,497,053
62	19	5	6	7	3	4	3	47	2,547,056
63	5	3	4	3	4	3		22	1,611,861
64	11	3	3	4		4	5	30	1,935,050
65	5	4	4	3	2		4	22	896,000
66	10	3	3	2	3	4	2	27	1,257,406
67	2	2	2		1	1	3	11	575,069
68	7	2	1		1		2	13	550,120
69	4	3	3	1		1	1	13	501,860
70	9	2		1	2	1		15	356,566
71	7	1					1	9	177,862
72	3	1		1		1		6	247,504
73	5	1	1		1		1	9	269,818
74	4	2			1			7	89,015
75 & Up	19	6	4	2		1	2	34	728,813
Totals	**491**	**221**	**187**	**189**	**154**	**143**	**84**	**1,469**	**$88,697,184**

PROTECTIVE OCCUPATION PARTICIPANTS WITH SOCIAL SECURITY AS OF DECEMBER 31, 2004 BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19	12							12	$ 313,095
20-24	758	13						771	24,120,277
25-29	1,752	743						2,495	99,276,406
30-34	985	1,927	476	5				3,393	151,955,280
35-39	564	1,069	1,449	353	4			3,439	164,162,535
40-44	417	443	796	985	329	6		2,976	149,714,436
45-49	312	259	425	561	798	439	11	2,805	146,556,558
50	50	40	62	92	133	174	20	571	30,872,682
51	33	29	57	66	74	150	33	442	24,059,928
52	35	34	49	66	62	117	37	400	21,409,314
53	31	26	47	56	72	103	49	384	20,782,282
54	38	19	36	44	44	64	32	277	14,279,661
55	21	14	32	36	37	54	42	236	12,519,233
56	28	15	26	27	34	29	26	185	8,904,147
57	26	18	22	23	22	23	21	155	7,641,763
58	20	12	24	27	20	17	20	140	6,901,918
59	5	16	18	10	13	13	13	88	4,298,995
60	11	5	3	8	5	13	5	50	2,626,479
61	6	5	3	7	6	3	6	36	1,551,794
62	7	1	6	9	6		4	33	1,541,888
63	7	2	10	7	4		1	31	1,212,640
64	2	2	5	5	1	1	1	17	797,292
65	3	2	1	1	2		1	10	379,492
66		2				2	1	5	243,861
67	1		1		1			3	93,805
68						1		1	41,544
69	2		1					3	45,451
70 & Up	4	1	1					6	56,674
Totals	**5,130**	**4,697**	**3,550**	**2,388**	**1,667**	**1,209**	**323**	**18,964**	**$896,359,430**

PROTECTIVE OCCUPATION PARTICIPANTS WITHOUT SOCIAL SECURITY AS OF DECEMBER 31, 2004 BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	43	1						44	$ 1,623,101
25-29	172	70						242	11,569,518
30-34	129	261	65	2				457	24,491,864
35-39	59	177	192	62				490	27,799,867
40-44	22	61	136	202	84	1		506	30,341,974
45-49	7	26	79	131	174	76		493	31,216,645
50			8	24	26	30	3	91	5,856,143
51	2	1	9	19	28	32	10	101	6,611,114
52	1		3	12	14	32	10	72	4,586,815
53		1	2	10	18	33	20	84	5,721,062
54	1	2	1	7	12	16	6	45	3,231,263
55	1			7	8	8	11	35	2,334,038
56				2	4	4	3	13	853,184
57			1	1	5	6	3	16	1,038,537
58	1	1		1	2	1	4	10	688,299
59							1	1	93,918
60		1				2	1	4	216,507
61				1	1			2	142,673
62				1		1		2	111,199
63									
64							1	1	72,498
Totals	**438**	**602**	**496**	**482**	**376**	**242**	**73**	**2,709**	**$158,600,219**

ACTIVE PARTICIPANTS
AS OF DECEMBER 31, 2004
BY YEARS OF SERVICE AND GENDER

Completed Years of Service	Males	Females	Totals	Valuation Payroll Total	Valuation Payroll Average
0	6,083	13,359	19,442	$ 398,114,050	$ 20,477
1	5,190	10,808	15,998	402,683,875	25,171
2	4,945	10,668	15,613	452,070,587	28,955
3	5,811	10,516	16,327	525,736,368	32,200
4	5,561	9,750	15,311	526,615,813	34,395
5	4,753	8,625	13,378	479,441,161	35,838
6	4,573	7,838	12,411	462,400,776	37,257
7	4,087	6,851	10,938	419,555,935	38,358
8	3,433	6,096	9,529	375,455,714	39,401
9	3,326	5,556	8,882	362,948,879	40,863
10	3,212	5,461	8,673	364,991,317	42,084
11	2,909	4,912	7,821	337,036,716	43,094
12	2,875	5,118	7,993	355,951,971	44,533
13	2,982	4,865	7,847	358,942,883	45,743
14	3,658	5,266	8,924	427,304,224	47,883
15 & Up	37,184	45,814	82,998	4,395,766,129	52,962
Totals	**100,582**	**161,503**	**262,085**	**$10,645,016,398**	**$40,617**

	Males	Females	Totals
Average			
Age	45.0	44.9	44.9
Service	12.8	10.8	11.6

COMPARATIVE STATEMENT OF ACTIVE PARTICIPANTS IN VALUATIONS

Valuation 12/31	General				Executive and Elected			
		Earnings				Earnings		
	No.	$ Millions	Average	% Incr.	No.	$ Millions	Average	% Incr.
1981	169,389	$2,746	$16,213		1,280	$27	$21,320	
1982	169,415	2,948	17,400	7.3%	1,277	28	22,276	4.5%
1983	171,928	3,200	18,612	7.0%	1,314	30	22,510	1.0%
1984	174,193	3,339	19,167	3.0%	1,329	32	24,418	8.5%
1985	176,220	3,522	19,987	4.3%	1,449	39	26,721	9.4%
1986	178,895	3,812	21,309	6.6%	1,444	41	28,371	6.2%
1987	180,041	4,109	22,821	7.1%	1,491	46	30,664	8.1%
1988	183,498	4,362	23,770	4.2%	1,491	48	31,916	4.1%
1989	187,925	4,579	24,365	2.5%	1,492	50	33,450	4.8%
1990	196,101	4,948	25,234	3.6%	1,502	63	35,193	5.2%
1991	202,048	5,357	26,517	5.1%	1,496	56	37,535	6.7%
1992	207,882	5,747	27,643	4.2%	1,463	58	39,598	5.5%
1993	210,627	6,084	28,886	4.5%	1,452	60	41,476	4.7%
1994	214,280	6,342	29,595	2.5%	1,450	63	43,528	4.9%
1995	216,434	6,597	30,479	3.0%	1,475	67	45,135	3.7%
1996	219,265	6,832	31,160	2.2%	1,459	67	45,967	1.8%
1997	222,888	7,128	31,980	2.6%	1,455	71	48,881	6.3%
1998	227,017	7,457	32,847	2.7%	1,450	73	50,664	3.6%
1999*	229,657	7,704	34,445	4.9%	1,468	77	53,263	5.1%
2000	234,076	8,335	35,610	3.4%	1,486	83	55,582	4.4%
2001	238,944	8,746	36,605	2.8%	1,486	85	57,060	2.7%
2002	240,990	9,007	37,377	2.1%	1,476	87	58,865	3.2%
2003	239,696	9,273	38,686	3.5%	1,468	86	58,336	(0.9)%
2004	238,943	9,501	39,764	2.8%	1,469	89	60,379	3.5%

** After change in method of calculating average pay.*

COMPARATIVE STATEMENT OF ACTIVE PARTICIPANTS IN VALUATIONS

Valuation 12/31	Protective With Social Security				Protective Without Social Security			
		Earnings				Earnings		
	No.	$ Millions	Average	% Incr.	No.	$ Millions	Average	% Incr.
1981	8,945	$178	$19,871		2,573	$56	$21,822	
1982	9,029	195	21,573	8.6%	2,572	61	23,703	8.6%
1983	9,084	208	22,866	5.7%	2,556	65	25,257	6.6%
1984	9,226	217	23,551	3.0%	2,535	67	26,414	4.6%
1985	9,607	236	24,596	4.4%	2,641	72	27,388	3.7%
1986	9,852	255	25,875	5.2%	2,612	76	29,072	6.2%
1987	10,220	274	26,845	3.7%	2,585	79	30,503	4.9%
1988	10,392	286	27,560	2.7%	2,607	83	31,671	3.8%
1989	10,551	300	28,414	3.1%	2,582	83	32,267	1.9%
1990	11,167	332	29,738	4.7%	2,603	88	33,806	4.8%
1991	11,666	357	30,606	2.9%	2,585	92	35,650	5.5%
1992	12,160	390	32,049	4.7%	2,622	100	38,007	6.6%
1993	12,388	408	32,928	2.7%	2,611	103	39,371	3.6%
1994	12,825	436	34,005	3.3%	2,612	106	40,633	3.2%
1995	13,434	467	34,747	2.2%	2,630	112	42,478	4.5%
1996	13,820	495	35,807	3.1%	2,625	116	44,063	3.7%
1997	14,232	536	37,625	5.1%	2,654	121	45,568	3.4%
1998	14,810	570	38,509	2.3%	2,658	127	47,733	4.8%
1999*	16,483	649	39,864	3.5%	2,691	131	48,947	2.5%
2000	16,970	717	42,263	6.0%	2,685	135	50,423	3.0%
2001	17,981	772	42,914	1.5%	2,715	142	52,339	3.8%
2002	18,325	804	43,871	2.2%	2,709	148	54,603	4.3%
2003	18,660	856	45,891	4.6%	2,714	154	56,673	3.8%
2004	18,964	896	47,266	3.0%	2,709	159	58,546	3.3%

** After change in method of calculating average pay.*

Financial Data

Development of Participant and Employer Reserves during the Year

	Participant Accumulation			Employer Accumulation			
	Fixed	**Variable**	**Total**	**Fixed**	**Variable**	**Total**	**Grand Total**
Ending Balance December 31, 2003	$13,288,265,828	$1,075,596,353	$14,363,862,181	$18,235,504,687	$1,042,488,172	$19,277,992,859	$33,641,855,041
Closing Adjustments	(7,230)	-	(7,230)	(28,248,515)	33,108,180	4,859,666	4,852,436
Beginning Balance January 1, 2004	13,288,258,599	1,075,596,353	14,363,854,952	18,207,256,173	1,075,596,353	19,282,852,525	33,646,707,477
Revenues:							
Employer Contributions	-	-	-	618,387,064	78,700,369	697,087,433	697,087,433
Participant Contributions	460,092,035	80,439,625	540,531,659	-	-	-	540,531,659
Total Revenues	460,092,035	80,439,625	540,531,659	618,387,064	78,700,369	697,087,433	1,237,619,092
Expenses:							
Separations	24,079,669	862,670	24,942,340	-	-	-	24,942,340
Retirement Single Sums	8,697,308	282,632	8,979,940	9,479,257	274,713	9,753,970	18,733,909
Death Benefits	13,284,493	1,362,089	14,646,583	10,665,243	958,280	11,623,523	26,270,106
Disability Insurance	-	-	-	-	-	-	-
	46,061,471	2,507,391	48,568,862	20,144,500	1,232,993	21,377,493	69,946,355
Transfers:							
Earnings Allocation	1,052,789,249	113,424,087	1,166,213,336	1,431,541,541	111,317,962	1,542,859,503	2,709,072,839
Annuities Awarded	(988,096,746)	(125,533,182)	(1,113,629,928)	(1,246,892,976)	(128,083,437)	(1,374,976,412)	(2,488,606,341)
Intra-Fund Transfers	2,166,117	533,710	2,699,827	3,318,001	873,589	4,191,591	6,891,418
Inter-Fund Transfers	21,458,285	(21,458,285)	-	(1,359,400)	(16,676,928)	(18,036,328)	(18,036,328)
	88,316,905	(33,033,671)	55,283,235	186,607,167	(32,568,813)	154,038,354	209,321,588
Ending December 31, 2004	**$13,790,606,068**	**$1,120,494,916**	**$14,911,100,984**	**$18,992,105,903**	**$1,120,494,916**	**$20,112,600,818**	**$35,023,701,802**
Internal Rate of Return	8.1%	10.9%	8.3%	8.0%	10.7%	8.2%	8.2%

RESERVES FOR NON-RETIRED PARTICIPANTS
BALANCES BY VALUATION GROUP

	Reserve for Year Ended			
	December 31, 2004			December 31, 2003
	Participant	Employer	Total	(Total in $ Millions)
General	$13,466,712,420	$17,589,701,185	$31,056,413,605	$29,864.4
Executives & Elected	115,382,479	165,512,057	280,894,536	272.7
Protective with Soc. Sec.	1,002,595,993	1,879,855,897	2,882,451,890	2,721.1
Protective w/o Soc. Sec.	326,410,091	501,291,443	827,701,534	783.6
Total	**$14,911,100,983**	**$20,136,360,582**	**$35,047,461,565**	**$33,641.8**

The above schedule shows the distribution of Participant and Employer reserves among the valuation groups according to WRS accounting records. This separation of assets is needed because the valuation groups are separately experience rated. The assets are pooled for investment purposes.

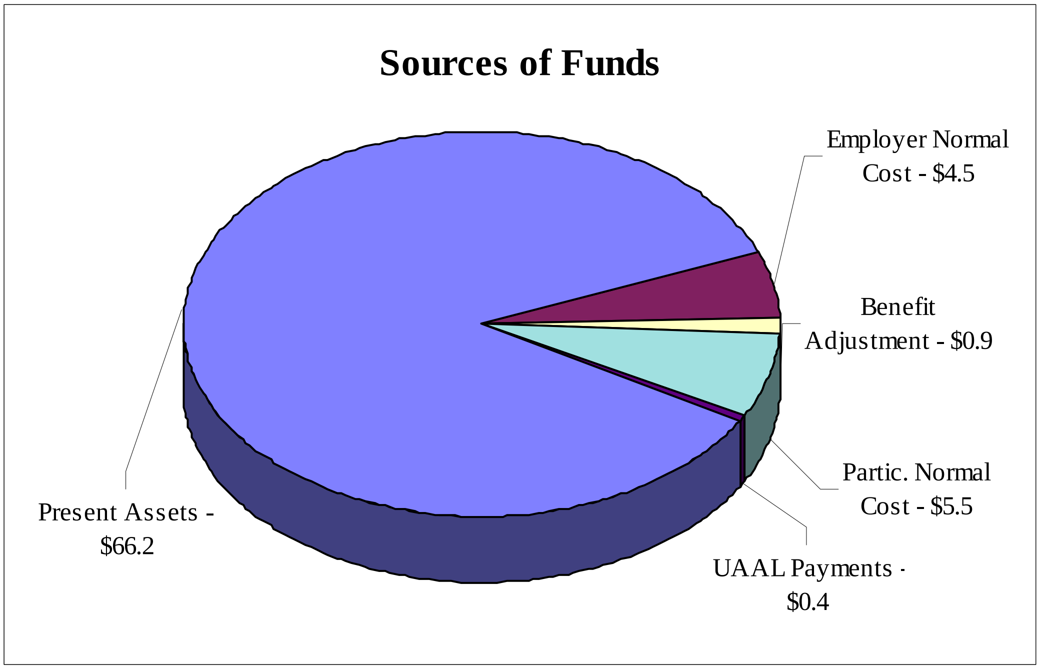
UNFUNDED ACTUARIAL ACCRUED LIABILITY
DECEMBER 31, 2004

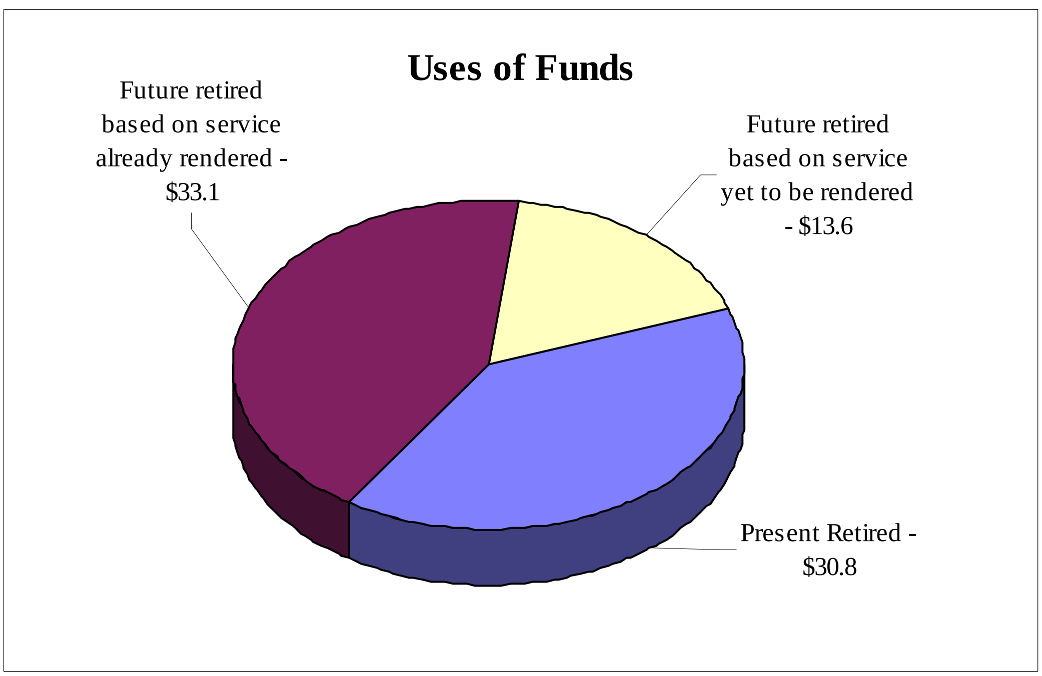
	General	Executives & Elected Officials	Protective Occupation With Soc. Sec	Protective Occupation Without Soc. Sec	Totals
Balance January 1, 2004	$466,185,937	$1,368,626	$16,807,643	$14,826,968	$499,189,174
Plus: New Employers	797,458	4,183	14,962	0	816,603
Less: Adjustments	5,872	(5,817)	10,788	0	10,843
Less: Payments	(129,950,724)	(412,420)	(5,090,604)	(4,905,016)	(140,358,764)
Plus: Interest	26,289,006	74,457	915,938	773,912	28,053,313
Balance December 31, 2004	**$363,327,549**	**$1,029,029**	**$12,658,727**	**$10,695,864**	**$387,711,169**

The UAAL is affected year to year by new employers entering the Wisconsin Retirement System, amortization payments, interest assessments, and statutory changes in benefits provided by the Retirement System. The UAAL is being amortized as a level percent of payroll. Since the payroll is assumed to increase with inflation, UAAL payments will also increase. During the first several years of such an amortization program, the payments are less than the interest assessment and the UAAL balance, expressed in terms of nominal dollars, increases from year to year. However, it increases at a lower rate than the payroll. After several years the payments exceed the interest assessment and the outstanding dollar balance will begin to decline.

Valuation Results

FINANCING $77.5 BILLION* OF BENEFIT PROMISES FOR PRESENT ACTIVE AND RETIRED PARTICIPANTS DECEMBER 31, 2004





* *Present value of future benefits; all divisions combined.*

DEVELOPMENT OF ACTUARIAL PRESENT VALUES
DECEMBER 31, 2004
($ MILLIONS)

Present Value of Future Benefits for	General	Executives & Elected Officials	Protectives		Total
			With Soc. Sec.	Without Soc. Sec.	
Active Participants					
Service Retirement	$33,624.4	$272.1	$3,765.8	$923.4	$38,585.7
Withdrawal	1,661.7	6.6	127.6	17.5	1,813.4
Death-in-Service	557.6	10.4	55.4	11.0	634.4
Disability	878.4	2.9	71.3	27.1	979.7
Variable Excess	215.4	2.7	8.0	1.7	227.8
Total Active	36,937.5	294.7	4,028.1	980.7	42,241.0
Inactive Participants	3,969.5	69.0	222.6	37.6	4,298.7
Active and Inactive	40,907.0	363.7	4,250.7	1,018.3	46,539.7
Additional Contributions					139.2
Present Retired					30,829.9
Actuarial Present Value of Future Benefits					**$77,508.8**

Computing the actuarial present value of future benefits is the first step in the actuarial valuation process. If the WRS had assets equal to that value, and if future experience were exactly in accordance with assumptions, then the present assets together with future investment income on those assets would be sufficient to pay promised benefits to all present participants, retirees and beneficiaries. *There is no need for the Retirement System to have* $77,508.8 *million immediately. What is needed, however, is a plan for obtaining the money in an orderly fashion. That is the purpose of the remainder of the actuarial valuation.*

EXPERIENCE AMORTIZATION RESERVE (EAR)

Actuarial gains or losses arising from the difference between actual and assumed experience are reflected in the determination of the normal cost. The computed normal cost is made up of two parts: (i) the pure entry-age normal cost (EANC) determined without regard to past gains or losses, and (ii) an experience amortization component. Section 40.04(1) of the Wisconsin Statutes provides authority to maintain accounts and reserves determined to be "useful in achieving the funds' purposes..." A fundamental WRS objective is stable contribution rates. Accordingly, the experience portion of the normal cost is separately calculated each year and the amortization period is varied upward or downward in order to minimize short-term rate fluctuations. A positive EAR indicates amortization of gains. A negative EAR indicates amortization of losses.

DEVELOPMENT OF EAR AS OF DECEMBER 31, 2004

	General	Executives & Elected Officials	Protective Occupation With Soc. Sec	Protective Occupation Without Soc. Sec.	Total
	$ Millions				
1. Present Value of Future Benefits for non-retired	$40,907.0	$363.7	$4,250.7	$1,018.3	$46,539.7
2. Present Value of Future Entry Age Normal Costs	11,506.1	96.9	1,678.7	325.7	13,607.4
3. Entry Age Accrued Liability: (1)-(2)	29,400.9	266.8	2,572.0	692.6	32,932.3
4. Non-Retired Assets-WRS	31,056.4	280.9	2,882.5	827.7	35,047.5
-LTDI	186.0	1.2	24.2	6.5	217.9
-Total	31,242.4	282.1	2,906.7	834.2	35,265.4
5. Entry Age Unfunded Accrued Liability:(3)-(4)	(1,841.5)	(15.3)	(334.7)	(141.6)	(2,333.1)
6. WRS Frozen Unfunded Accrued Liability	363.3	1.0	12.7	10.7	387.7
7. EAR:(6)-(5)	**$ 2,204.8**	**$ 16.3**	**$ 347.4**	**$ 152.3**	**$ 2,720.8**

DEVELOPMENT OF CONTRIBUTION RATES FOR CALENDAR YEAR 2006

	General	Executive & Elected Officials	Protective Occupation With Soc. Sec	Protective Occupation Without Soc. Sec.	Total
	$ Millions				
Total Reported Earnings	$ 9,501.4	$ 88.7	$ 896.4	$ 158.6	$ 10,645.1
Present Value of Future Earnings	95,509.1	763.4	10,276.7	1,586.5	108,135.7
Present Value of Future Benefits	40,907.1	363.8	4,250.7	1,018.3	46,539.9
Non-Retired Assets	31,242.5	282.1	2,906.7	834.2	35,265.5
Unfunded Liability	363.3	1.0	12.7	10.7	387.7
Present Value of Future Normal Costs					
Future Service Portion	11,506.2	97.0	1,678.7	325.7	13,607.6
Exp. Amort. Res. Portion	(2,204.9)	(16.3)	(347.4)	(152.3)	(2,720.9)
Total	9,301.3	80.7	1,331.3	173.4	10,886.7
Normal Cost Amortization Years					
Future Service Portion	12.7	10.5	15.0	12.6	12.9
Exp. Amort. Res. Portion	20.0	20.0	15.2	20.0	
Unfunded Liability Amortization Years	24.0	24.0	24.0	24.0	24.0
	% 's of Active Member Payroll				
Normal Cost					
Future Service Portion	12.0 %	12.7 %	16.3 %	20.5 %	12.6 %
Exp. Amort. Res. Portion	(1.6)%	(1.3)%	(3.2)%	(6.6)%	(1.8)%
Total	10.4 %	11.4 %	13.1 %	13.9 %	10.8 %
2005 Total Normal Cost Rates	10.2 %	11.1 %	12.9 %	14.0 %	10.5 %
Change from 2005 (current)	0.2 %	0.3 %	0.2 %	(0.1)%	0.3 %
Allocation of Change					
Employer Normal Cost	0.1 %	0.1 %	0.1 %	0.0 %	0.1 %
Benefit Adjustment	0.1 %	0.0 %	0.0 %	0.0 %	0.1 %
Participant Normal Cost	0.0 %	0.1 %	0.1 %	0.0 %	0.0 %
Total Allocated Change	0.2 %	0.2 %	0.2 %	0.0 %	0.2 %
Unallocated Change *	0.0 %	0.1 %	0.0 %	(0.1)%	0.1 %
2006 Normal Cost Rates					
Employer Normal Cost	**4.5 %**	**8.4 %**	**8.1 %**	**10.7 %**	**4.9 %**
Benefit Adjustment	**0.9 %**	**0.0 %**	**0.0 %**	**0.0 %**	**0.8 %**
Participant Normal Cost	**5.0 %**	**2.9 %**	**5.0 %**	**3.3 %**	**5.0 %**
Total Normal Cost	**10.4 %**	**11.3 %**	**13.1 %**	**14.0 %**	**10.7 %**
Average Unfunded Liability Amortization	0.2 %	0.1 %	0.1 %	0.4 %	0.2 %
Average Total Rate	**10.6 %**	**11.4 %**	**13.2 %**	**14.4 %**	**10.9 %**

* *Rate changes that do not round to an even 0.2% are not immediately allocated.*

SUMMARY STATEMENT OF PRESENT AND FUTURE RESOURCES
($ MILLIONS)

Present Resources and Expected Future Resources	December 31 2004	December 31 2003
A. Book Value of Present System Assets		
Annuity Reserves		
Fixed	$26,920.0	$25,071.9
Variable	3,909.9	3,635.9
Total Annuity Reserves	30,829.9	28,707.8
Non-Retired Participant Reserves		
Participant Contribution Balance	14,911.1	14,363.9
Additional Contributions	139.2	139.2
Employer Accumulation Balance	20,136.4	19,277.9
Adjustment for 62.13 Contributions	(25.2)	(27.2)
LTDI Reserve for Future Claims	218.0	223.7
Total Non-Retired Reserves	35,379.5	33,977.5
Total System Assets Used in Valuation	66,209.4	62,685.3
B. Actuarial Present Value of Future Participant Contributions	5,561.0	5,475.9
C. Actuarial Present Value of Future Benefit Adjustment Contributions	859.6	753.8
D. Actuarial Present Value of Future Employer Contributions for		
Unfunded Accrued Liabilities	387.7	499.2
Section 62.13	25.2	27.2
Normal Costs	4,466.1	4,363.7
Total	4,879.0	4,890.1
E. Total Present and Expected Future Resources	**$77,509.0**	**$73,805.1**

SUMMARY STATEMENT OF RETIREMENT SYSTEM OBLIGATIONS
($ MILLIONS)

Retirement System Obligations	December 31 2004	 2003
A. To Annuitants and Beneficiaries Receiving Benefits		
Fixed Annuities		
Reported at Year End	$26,232.2	$24,724.0
Dividend Adjustment and Reserve	687.8	347.9
Total Fixed Annuities	26,920.0	25,071.9
Variable Annuities		
Reported at Year End	3,654.5	2,892.2
Distribution and Reserve	255.4	743.7
Total Variable Annuities	3,909.9	3,635.9
Total for Benefits in Pay Status	30,829.9	28,707.8
B. To Active and Inactive Participants For Benefits Based on		
Participant Contributions Made		
In the Past	14,911.1	14,363.9
In the Future	5,561.0	5,475.9
Additional Contributions Made in the Past	139.2	139.2
Benefit Adjustment Contributions Made in the Future	859.6	753.8
Employer Contributions	25,208.2	24,364.5
Total for Benefits Not Yet in Pay Status	46,679.1	45,097.3
C. Total Actuarial Value of Expected Future Benefits	**$77,509.0**	**$73,805.1**

SECTION TWO

Financial Reporting

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Valaution Date	December 31, 2004
Actuarial Cost Method	Frozen Entry Age
Amortization Method	Level Percent -- Closed Period
Remaining Period	24 years (completion in 2029)
Asset Valuation Method	5-Year Smoothed Market (Closed)
Actuarial Assumptions	
Investment Rate of Return	7.8%
Projected Salary Increases*	4.1% to 8.6%
Payroll Growth Rate	4.1%
Population Growth Rate	0.0%
Cost-of-Living Adjustments#	2.67%

* *Includes merit and seniority increases that vary by service plus wage inflation of 4.1%/year.*

\# *Non-guaranteed. Actual increases are based on recognized investment return in excess of 5%.*

STATEMENT OF NET PLAN ASSETS

	2004	2003
Assets		
Cash and Cash Equivalents	$ 1,333,009	$ 1,750,746
Securities Lending Collateral	5,410,236	3,504,674
Prepaid Expenses	1,637	1,318
Total Short Term Assets	6,744,882	5,256,738
Receivables		
Contributions	94,023	77,940
Prior Service Contributions	472,224	1,600,494
Benefits Overpayment	1,719	1,614
Due from other Trust Funds	2,698	4,571
Miscellaneous	1,644	96
Interest and dividends	218,001	189,682
Investment Sales	278,514	281,276
Total receivables	1,068,823	2,155,673
Investments at Fair Value		
Fixed Income	17,579,762	14,633,240
Stocks	47,245,119	42,195,283
Limited Partnerships	2,394,913	2,702,123
Mortgages	515,709	612,367
Real Estate	369,807	428,284
Foreign Currence Fluctuations Rec.	0	1,586
Multi Asset Investments	379,678	328,148
Total investments	68,484,988	60,901,031
Capital Assets	8	61
Total Assets	**76,298,701**	**68,313,503**
Liabilities:		
Fixed Investment due Other Programs	2,373,609	2,106,692
Variable Investment Due other Programs	27,229	37,202
Securities lending collateral	5,410,236	3,504,674
Benefits Payable	200,382	185,413
Deferred Revenue	289	308
Due to Other Trust Funds	232	819
Miscellaneous Payables	85,412	68,925
Investment Payables	291,316	283,083
Total Liabilities	**8,388,705**	**6,187,116**
Net Assets in Trust for Pension Benefits	**$67,909,996**	**$62,126,387**

STATEMENT OF CHANGES IN ASSETS ($ THOUSANDS)

	Activity During Year	
	2004	**2003**
Additions:		
Contributions:		
Employer Contributions	$ 505,102	$ 473,187
Employe Contributions	605,184	564,754
Total Contributions	1,110,286	1,037,941
Investment Income:		
Net Appreciation (Depreciation)		
in Fair Value of Investments	6,868,008	11,514,737
Interest	574,559	595,466
Dividends	412,255	318,168
Securities Lending Income	72,403	40,594
Other	99,680	100,250
Less		
Current Income Distributed	272,143	341,859
SWIB Investment Expense	152,629	152,948
Investment Income Distributed to		
Securities Lending Rebates and Fees	62,307	30,979
Net Investment Income	7,539,826	12,043,429
Interest on Prior Service Receivable	28,053	36,119
Miscellaneous Income	3,082	3,563
Total Additions	8,681,247	13,121,052
Deductions:		
Benefits and Refunds:		
Retirement, Disability,		
and Beneficiary	2,857,871	2,690,603
Separation Benefits	24,967	28,847
Total Benefits and Refunds	2,882,838	2,719,450
Unusual Writeoff of receiveable	(45)	(51)
Administrative Expense	14,846	16,393
Total Deductions	2,897,639	2,735,792
Net Increase (Decrease)	5,783,608	10,385,260
Net Assets Held in Trust:		
Beginning of Year	$62,126,387	$51,741,126
End of Year	**$67,909,996**	**$62,126,387**

SCHEDULE OF FUNDING PROGRESS
$ MILLIONS

Valuation Date Dec 31	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Frozen Entry Age (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percent of Covered Payroll [(b) - (a)] / (c)
1992	$22,943.2	$24,984.7	$2,041.5	91.8 %	$6,448.6	31.7 %
1993	25,436.5	27,533.0	2,096.5	92.4 %	6,834.9	28.1 %
1994	26,954.3	29,012.1	2,057.8	92.9 %	7,135.6	28.8 %
1995	30,246.2	32,348.9	2,102.7	93.5 %	7,454.3	28.2 %
1996	33,962.6	36,097.0	2,134.4	94.1 %	7,721.6	27.6 %
1997	38,584.6	40,762.0	2,177.4	94.7 %	8,084.6	26.9 %
1998	43,390.5	45,617.1	2,226.6	95.1 %	8,481.1	26.3 %
1999	49,403.7	51,549.5	2,145.8	95.8 %	8,826.0	24.3 %
2000	51,824.6	53,993.6	2,169.0	96.0 %	9,322.5	23.3 %
2001	58,024.3	60,134.7	2,110.4	96.5 %	9,917.7	21.3 %
2002	57,861.9	59,618.8	1,756.9	97.1 %	10,126.6	17.4 %
2003*	62,685.3	63,211.7	526.4	99.2 %	10,502.4	5.0 %
2004	66,209.4	66,622.3	412.9	99.4 %	10,897.6	3.8 %

**Affected by prepayment of UAAL in connection with Pension Obligation Bond issued by the state and various local government employers.*

SOLVENCY TEST

Valuation Date Dec 31	Valuation Assets	Accrued Liability For				Percent Funded For			
		Annuitants and Beneficiaries	Member Contribs.	Active & Inactive Members	Total	Annuitants and Beneficiaries	Participant Contributions	Active & Inactive Members	Total
1992	$22,943.2	$ 8,991.0	$ 7,026.3	$ 8,967.4	$24,984.7	100.0%	100.0%	77.2%	91.8%
1993	25,436.5	10,016.1	7,800.2	9,716.7	27,533.0	100.0%	100.0%	78.4%	92.4%
1994	26,954.3	10,704.2	8,197.6	10,110.3	29,012.1	100.0%	100.0%	79.6%	92.9%
1995	30,246.2	12,205.9	9,022.5	11,120.5	32,348.9	100.0%	100.0%	81.1%	93.5%
1996	33,962.6	13,964.6	9,865.1	12,267.3	36,097.0	100.0%	100.0%	82.6%	94.1%
1997	38,584.6	15,985.1	11,072.5	13,705.3	40,762.9	100.0%	100.0%	84.1%	94.7%
1998	43,390.5	18,352.3	11,710.3	15,554.5	45,617.1	100.0%	100.0%	85.7%	95.1%
1999	49,403.7	21,290.7	12,769.6	17,489.2	51,549.5	100.0%	100.0%	87.7%	95.8%
2000	51,824.6	22,918.0	12,869.7	18,205.9	53,993.6	100.0%	100.0%	88.1%	96.0%
2001	58,024.3	25,881.5	14,275.3	19,977.9	60,134.7	100.0%	100.0%	89.4%	96.5%
2002	57,861.9	26,041.7	14,022.9	19,554.2	59,618.8	100.0%	100.0%	91.0%	97.1%
2003	62,685.3	28,707.8	14,503.1	20,000.8	63,211.7	100.0%	100.0%	97.4%	99.2%
2004	66,209.4	30,829.9	15,050.3	20,742.1	66,622.3	100.0%	100.0%	98.0%	99.4%

CONTRIBUTIONS REQUIRED AND CONTRIBUTIONS MADE

Year Ended December 31	Annual Required Contribution	Percent Contributed
1992	350.0	100.0%
1993	370.1	100.0%
1994	385.9	100.0%
1995	402.6	100.0%
1996	435.3	100.0%
1997	445.9	100.0%
1998	449.6	100.0%
1999	435.2	100.0%
2000	422.1	96.3%
2001	412.9	99.6%
2002	426.9	99.8%
2003	462.7	100.0%
2004	497.6	100.0%

Employers did not make the full actuarially required contribution for 2000 and 2001 in accordance with the provisions of Act 11 of 1999.

Section Three

Actuarial Methods and Assumptions

ACTUARIAL VALUATION METHOD

The actuarial funding method prescribed in the statute for WRS is the **Frozen Initial Liability Method**. Under this method, the amount of remaining unfunded accrued actuarial liabilities at any valuation date is affected only by the monthly amortization payments, compound interest, the added liability created by new employer units, and any added liabilities caused by changes in benefit provisions.

Actuarial gains or losses arising from the difference between actual and assumed experience are reflected in the determination of the normal cost. In this manner, experience gains or losses in any year are amortized (spread) over the average future working lifetime of the active participant group - a period of approximately 13 years. Hence, the computed normal cost is made up of two parts:

- The pure entry-age normal cost (EANC) determined without regard to past gains or losses, and

- an experience amortization component.

Section 40.04(1) of the Wisconsin Statutes provides authority to maintain accounts and reserves determined to be "useful in achieving the funds' purposes - - -". A fundamental WRS objective is stable contribution rates. Accordingly, based on the authority granted under Section 40.04, the experience portion of the normal cost is separately calculated each year and the amortization period is varied upward or downward in order to minimize short-term rate fluctuations.

ASSET VALUATION METHOD

An essential step in the valuation process is comparing valuation assets with computed liabilities. Computed liabilities result from actuarial calculations involving the covered population, the benefits, and actuarial assumptions. Valuation assets are those assets that are recognized and available to fund the System's liabilities. WRS assets are invested in the Fixed Investment Trust, and in the Variable Investment Trust, both of which are managed by the State of Wisconsin Investment Board (SWIB). Assets in the Variable Investment Trust are marked to market each year. Assets in the Fixed Investment Trust (most of the assets) are valued (or recognized) using an "asset valuation method."

Asset valuation methods are distinguished by the timing of the recognition of investment return. Total investment return is the sum of ordinary income and capital value changes. Under a book value approach, ordinary income is recognized immediately and capital gains (or losses) are recognized only when securities are sold. Book value investment return is directly affected by the timing of sales activity and underlying experience may be distorted. Under a pure market value approach, ordinary investment income and all capital value changes are recognized immediately. Because of market volatility, use of pure market values in retirement funding can result in volatile contribution rates and unstable financial ratios, contrary to WRS objectives.

The asset valuation method used for WRS valuations is statutory, and is referred to as the "Market Recognition Account" or MRA. Act 11 of 1999 closed the former Transaction Amortization Account (TAA) and created the Market Recognition Account. The MRA recognizes assumed return fully each year. Differences between actual and assumed return are phased in over a closed 5-year period. Through 2004, the amount recognized will include an additional gain of $1.9 billion per year related to the close out of the TAA. The objective is to give recognition to long-term changes in asset values while the minimizing effect of short-term fluctuations in the capital markets. In accordance with its smoothing objective, the MRA will tend to exceed the market value when the markets are doing poorly, and will fall short of the market value when markets are doing well. Some retirement systems set limits on the amount by which the recognized value of assets can differ from the market value.

The development of the Market Recognition Account is shown on the following page. The Fixed Investment Trust includes assets for other programs, such as Sick Leave, that are not related to the funding of the Wisconsin Retirement System, and does not include assets related to the Variable Investment Trust. Consequently, the asset value developed on the next page will not balance to the total system assets shown on page I-24. ETF Staff maintains the breakdown of the separate asset accounts.

FIXED INVESTMENT TRUST: MARKET RECOGNITION ACCOUNT

	For the Year Ended December 31				
	2002	**2003**	**2004**	**2005**	**2006**
Beginning of year					
a. Funding Value	$52,808,943,798	$54,333,668,260	$57,721,206,317	$62,070,194,150	$61,103,834,379
b. Market value	52,012,351,144	46,389,194,485	56,816,468,425	63,593,585,115	63,593,585,115
End of year					
c. Market value	46,389,194,485	56,816,468,425	63,593,585,115	63,593,585,115	63,593,585,115
d. Non-investment cash flow (contributions minus benefits)	(986,287,275)	(498,177,761)	(331,276,955)		
e. Investment income					
e1. Total Investment Income	(4,636,869,385)	10,925,451,701	7,108,393,645		
e2. Assumed rate	8.0%	7.8%	7.8%		
e3. Amount for immediate recognition	4,185,264,013	4,218,597,192	4,489,334,291	-	-
e4. Amount for phased-in recognition: e1-e3	(8,822,133,398)	6,706,854,509	2,619,059,353	-	-
f. Phased-in recognition of investment income					
f1. Current year: .2 x e4	(1,764,426,680)	1,341,370,902	523,811,871	-	-
f2. First prior year	(1,067,115,864)	(1,764,426,680)	1,341,370,902	523,811,871	-
f3. Second prior year	(824,740,722)	(1,067,115,864)	(1,764,426,680)	1,341,370,902	523,811,871
f4. Third prior year	-	(824,740,722)	(1,067,115,864)	(1,764,426,680)	1,341,370,902
f5. Fourth prior year	-	-	(824,740,722)	(1,067,115,864)	(1,764,426,680)
f6. Total MRA recognition	(3,656,283,265)	(2,314,912,363)	(1,791,100,493)	(966,359,771)	100,756,093
f7. Amount for TAA recognition	1,982,030,989	1,982,030,989	1,982,030,989	-	-
f8. Total recognized gain (loss)	(1,674,252,276)	(332,881,375)	190,930,496	(966,359,771)	100,756,093
g. Total Recognized Investment Income: e3 + f8	2,511,011,736	3,885,715,817	4,680,264,787	(966,359,771)	100,756,093
h. Funding value end of year: a + d + e3 + f8	54,333,668,260	57,721,206,317	62,070,194,150	61,103,834,379	61,204,590,472
i. Difference between market and funding values	(7,944,473,776)	(904,737,892)	1,523,390,965	2,489,750,736	2,388,994,643
j. Recognized Rate of Return	4.8%	7.2%	8.1%		
k. Market Rate of Return	(9.3)%	21.1%	11.8%		

SUMMARY OF ASSUMPTIONS
USED FOR ANNUAL ACTUARIAL VALUATIONS
ASSUMPTIONS ADOPTED BY ETF BOARD AFTER
CONSULTING WITH ACTUARY

ECONOMIC ASSUMPTIONS

The investment return rate assumed in the valuations was 7.80% per year, compounded annually (net after administrative expenses).

The **Wage Inflation Rate** assumed in this valuation was 4.10% per year. The Wage Inflation Rate is defined to be the portion of total pay increases for an individual that are due to macro economic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes rated to individual merit and seniority effects;

No specific **Price Inflation** assumption is required to perform this valuation, since there are no benefits that are linked to price increases. However, a price inflation assumption on the order of 3.0% to 3.5% would be consistent with the other economic assumptions.

The assumed **real rate of return** over wage inflation is defined to be the portion of total investment return that is more than the assumed total wage growth rate. Considering other economic assumptions, the 7.8% investment return rate translates to an assumed real rate of return over wage inflation of 3.7%. The assumed real rate of return over price inflation would be higher – on the order of 4.5% to 5.5%, considering both an inflation assumption and an average expense provision. Dividends for present and future retirees are assumed to be 2.67% each year.

The Active Member Population is assumed to remain constant. For purposes of financing the unfunded liabilities, total payroll is assumed to grow at the wage inflation rate – 4.10% per year.

Pay increase assumptions for individual active members are shown for sample services below. Part of the assumption for each age is for merit and/or seniority increase, and the other 4.10% recognizes wage inflation, including price inflation, productivity increases, and other macro economic forces.

% Merit and Longvity Increase Next Year						
		University	Public School	Protective		Exec. &
Service	Gen.	Teachers	Teachers	With S.S.	w/o S.S.	Elec.
1	3.5 %	4.4 %	5.8 %	4.0 %	4.5 %	1.2 %
2	3.5 %	4.4 %	5.8 %	4.0 %	4.5 %	1.2 %
3	3.2 %	4.3 %	5.3 %	3.6 %	4.0 %	1.2 %
4	2.9 %	4.3 %	4.9 %	3.2 %	3.5 %	1.2 %
5	2.6 %	4.2 %	4.4 %	2.8 %	3.0 %	1.1 %
10	1.6 %	3.4 %	2.6 %	1.7 %	1.1 %	1.0 %
15	1.3 %	2.5 %	1.5 %	1.2 %	0.5 %	0.9 %
20	1.1 %	2.2 %	1.0 %	1.0 %	0.5 %	0.8 %
25	0.9 %	2.0 %	0.6 %	1.0 %	0.5 %	0.6 %
30	0.7 %	1.8 %	0.2 %	1.0 %	0.5 %	0.4 %

DECREMENT PROBABILITIES

The mortality table used to measure mortality for retired participants was the Wisconsin Projected Experience Table - 2002 for men and women, as adopted by the Board in connection with the 2000-2002 Experience Study. Sample retirement values from this table are shown below. This assumption is used to measure the probabilities of participants dying before retirement and the probabilities of each benefit payment being made after retirement.

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

ACTIVE PARTICIPANT MORTALITY RATES

Sample Attained Ages	Mortality Rates Males	Mortality Rates Females
20	0.000145	0.000085
25	0.000179	0.000113
30	0.000234	0.000153
35	0.000324	0.000212
40	0.000472	0.000305
45	0.000844	0.000454
50	0.001526	0.000699
55	0.002460	0.001057
60	0.003788	0.001782
65	0.006433	0.003126
70	0.011998	0.005513
75	0.020418	0.011278
80	0.035773	0.020671

This assumption is used to measure the probability of participants dying while in service.

RATES OF RETIREMENT FOR THOSE ELIGIBLE TO RETIRE

Normal Retirement Pattern

Age	General		Public School		University		Protective*		Exec. &
	Male	Female	Male	Female	Male	Female	With S.S.	W/O S.S.	Elected
50							6%	2%	
51							7%	2%	
52							7%	9%	
53							38%	38%	
54							20%	36%	
55							20%	36%	
56							25%	36%	
57	28%	27%	25%	30%	25%	20%	20%	36%	8%
58	28%	27%	25%	30%	20%	20%	20%	40%	8%
59	28%	25%	25%	30%	20%	20%	20%	30%	12%
60	28%	25%	30%	30%	20%	20%	20%	30%	14%
61	30%	25%	35%	35%	20%	20%	20%	30%	35%
62	40%	30%	60%	40%	20%	25%	20%	15%	10%
63	40%	35%	50%	35%	20%	30%	30%	15%	10%
64	35%	35%	50%	25%	20%	30%	20%	15%	10%
65	35%	30%	70%	30%	20%	25%	30%	40%	10%
66	35%	30%	70%	25%	20%	25%	25%	40%	20%
67	15%	20%	50%	25%	20%	25%	25%	40%	20%
68	15%	15%	50%	20%	20%	20%	25%	40%	20%
69	15%	15%	50%	20%	20%	20%	25%	40%	20%
70	15%	15%	50%	20%	20%	20%	100%	100%	10%
71	15%	15%	50%	20%	20%	20%	100%	100%	10%
72	15%	15%	50%	20%	20%	20%	100%	100%	10%
73	15%	15%	50%	20%	20%	20%	100%	100%	10%
74	15%	15%	50%	20%	20%	20%	100%	100%	10%
75	100%	100%	100%	100%	100%	100%	100%	100%	100%

* *Includes early retirements.*

Early Retirement Pattern

Age	% Retiring Next Year						
	General		Public School		University		Exec. &
	Male	Female	Male	Female	Male	Female	Elected
55	8%	6%	15%	11%	5%	5.0%	5%
56	8%	6%	15%	11%	5%	5.0%	5%
57	4%	5%	15%	11%	4%	5.0%	4%
58	6%	5%	15%	12%	4%	5.0%	4%
59	6%	5%	10%	12%	5%	10.0%	4%
60	8%	8%	15%	15%	5%	10.0%	4%
61	8%	8%	15%	15%	5%	10.0%	4%
62	20%	18%	25%	25%	10%	10.0%	
63	20%	18%	25%	20%	10%	10.0%	
64	15%	14%	15%	15%	10%	10.0%	

The assumed rates of separation from employment prior to service retirement due to disability and other causes are shown below for sample ages. For other terminations it was assumed that a percentage depending on age of participants terminating after age 35 with 5 or more years service will leave their contributions on deposit and be paid a benefit at normal retirement age and that the remaining participants would take a separation benefit. The percentage taking a separation benefit is 100% at age 35, grading downward to 0% at retirement eligibility. All participants terminating prior to normal retirement age with less than 5 years of service were assumed to take a separation benefit.

ASSUMED TERMINATION RATES BY ATTAINED AGE AND YEARS OF SERVICE

		% of Active Participants Terminating								
		Protective								
		With Soc. Sec.	Without Soc. Sec.	Public Schools		University		Exec. & Elected	General	
Age &	Service			Males	Females	Males	Females		Males	Females
	0	11.0%	5.0%	11.0%	10.0%	18.0%	18.0%	9.0%	18.0%	18.0%
	1	6.0%	2.5%	7.0%	8.0%	13.0%	15.0%	8.5%	10.0%	11.0%
	2	3.5%	2.2%	5.0%	6.0%	10.0%	13.0%	8.0%	8.0%	9.0%
	3	3.2%	2.0%	4.5%	5.4%	9.0%	10.0%	7.0%	6.0%	7.0%
	4	3.2%	1.7%	3.5%	4.4%	7.0%	9.0%	5.0%	5.0%	6.0%
25	5 & Over	1.6%	1.0%	3.5%	4.0%	7.0%	9.0%	5.0%	5.0%	5.5%
30		1.5%	0.9%	2.7%	3.5%	6.7%	7.8%	4.7%	4.1%	4.9%
35		1.3%	0.8%	1.5%	2.3%	6.2%	6.1%	4.2%	2.8%	3.6%
40		1.2%	0.8%	1.2%	1.5%	4.8%	4.7%	3.4%	2.0%	2.7%
45		1.1%	0.7%	1.0%	1.2%	3.1%	3.4%	2.4%	1.6%	2.2%
50		0.8%	0.7%	0.9%	1.2%	1.9%	2.6%	2.0%	1.3%	2.0%
55		0.6%	0.7%	0.9%	1.2%	1.5%	2.4%	2.0%	1.3%	2.0%
60		0.6%	0.7%	0.9%	1.2%	1.5%	2.4%	2.0%	1.3%	2.0%

DISABILITY RATES

	% of Active Participants Becoming Disabled									
	Protective		Public Schools		University		Exec. & Elected		General	
Age	With SS	W/O SS	Males	Females	Males	Females	Males	Females	Males	Females
20	0.01%	0.04%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
25	0.01%	0.04%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
30	0.01%	0.05%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.04%
35	0.03%	0.06%	0.01%	0.01%	0.01%	0.04%	0.01%	0.01%	0.02%	0.05%
40	0.05%	0.11%	0.02%	0.02%	0.01%	0.06%	0.01%	0.01%	0.06%	0.07%
45	0.09%	0.19%	0.05%	0.08%	0.03%	0.05%	0.02%	0.02%	0.11%	0.10%
50	0.30%	0.59%	0.15%	0.16%	0.05%	0.10%	0.05%	0.05%	0.25%	0.16%
55	1.00%	0.65%	0.27%	0.23%	0.15%	0.15%	0.18%	0.18%	0.48%	0.29%
60	0.68%	0.50%	0.45%	0.34%	0.20%	0.23%	0.22%	0.22%	0.85%	0.41%

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Expenses:	Assumed investment return is net of administrative and investment expenses.
Marriage Assumption:	Everyone is assumed married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of (calendar) year for most people. Middle of calendar year for teachers.
Pay Annualization:.	Reported Pay for members with less than twelve contributing months was annualized by the ratio of 12 to the number of contributing months in the year.
Final Average Salary:	For present value of future benefit purposes, final average salary was calculated in accordance with pay increase assumptions, but was not permitted to fall below the final average salary reported in the data.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Decrement Operation:	Disability and mortality decrements do not operate during the first 5 years of service.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and total service (in all benefit groups) nearest whole year on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service on the decrement date is used to determine the amount of benefit payable.
Non-Benefit Service:	Liabilities for service in divisions other than the division in which the individual is currently active are calculated as indexed deferred vested benefits. Benefits are indexed in accordance with the salary adjustment factors (shown on page III-4) for the division where the member was formerly employed. People are assumed to retire at the earliest age that full benefits will become available. The liabilities are assigned to the division in which the service was rendered.
Service Credit Accruals:	It is assumed that members accrue one year of service credit per year.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
Normal Form of Benefit:	The assumed normal form of benefit is a straight life benefit, except where otherwise noted.

Section Four

The Valuation Process

FINANCIAL PRINCIPLES & OPERATIONAL TECHNIQUES OF THE WISCONSIN RETIREMENT SYSTEM

Benefit Promises Made Which Must be Paid For. A retirement program is an orderly means of handing out, keeping track of, and financing contingent retirement promises. As each participant of the Retirement System acquires a unit of service credit he is, in effect, handed an "IOU" which reads: "The Wisconsin Retirement System promises to pay you one unit of annuity benefits, payments in cash commencing when you retire."

The principal related financial question is: ***When shall the money required to cover the "IOU" be contributed?*** This year, when the benefit of the participant's unit of service is received? Or, some future year, when the "IOU" becomes a cash demand?

The law governing the Wisconsin Retirement System financing intends that the money to cover an "IOU" is contributed in the year the "IOU" is handed out. In this way contribution rates expressed as percents of participant payroll can be determined so as to remain approximately level from year to year and decade to decade as long as the basic experience and make-up of the group of participants does not change significantly. This means that for equivalent benefits each generation of Wisconsin taxpayers will contribute at approximately the same payroll rates.

Translated into actuarial terminology, the level percent-of-payroll contribution objective means that the contribution rate must total at least:

> **Normal Cost** (the current discounted value of benefits likely to be paid on account of participants' service rendered in the current year)
>
> ... plus ...
>
> **Interest on Unfunded Actuarial Accrued Liabilities** (unfunded actuarial accrued liabilities are the difference between (i) the present value of future benefits and (ii) the present value of future normal costs, and reduced by the assets on hand at the valuation date).

If contributions to the system are less than the preceding amount, the difference, **plus investment earnings not realized thereon**, will have to be contributed at some later time, or benefits will have to be reduced, to satisfy the fundamental equation under which all retirement programs must operate; that is:

B = C + I - E

Benefit payments to any group of participants and their beneficiaries cannot exceed

Contributions received on behalf of the group
... plus ...
Investment earnings on those contributions
... minus ...
Expenses incurred in operating the program.

There are retirement programs (Social Security is an example) designed to defer the bulk of contributions far into the future. The present contribution rate for such systems is artificially low, but is destined to increase relentlessly to a level which may be greatly in excess of the level percent-of-payroll rate.

A by-product of a level percent-of-payroll contribution objective is the accumulation of invested assets for varying periods of time. Investment income becomes the 3rd and largest contributor to the retirement system and the amount is directly related to the amount of contributions and investment performance.

Computing Contribution Rates To Finance Benefits. From a given schedule of benefits and from the data furnished, the actuary calculates the contribution rates **by means of an actuarial valuation** - the technique of assigning monetary values to the risks assumed in operating a retirement program.

The principal areas of risk assumption are:

- long-term ***rates of investment income*** likely to be generated by system assets
- ***rates of mortality*** among participants, retirants and beneficiaries
- ***rates of withdrawal*** of active participants
- ***rates of disability*** among participants
- ***patterns of salary increases*** to be experienced by participants
- the age and service ***distribution of actual retirements.***

In an actuarial valuation, the actuary projects the monetary effect of each risk assumption for each distinct experience group, for the next year and for each year over the next half-century or longer.

Once actual risk experience has occurred and been observed, it will not coincide exactly with assumed risk experience, regardless of the skill of the actuary, the completeness of the data, and the precision of the calculations. Each valuation provides a complete recalculation of assumed future risk experience and takes into account all past differences between assumed and actual risk experience. The result is a continual series of small adjustments to the computed contribution rate. From time to time it becomes necessary to adjust the package of risk measurements to reflect basic experience trends -- but not random year-to-year fluctuations.

GLOSSARY

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."

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

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 series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.

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.

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.

Normal Cost. The annual cost assumed, under the actuarial funding method, for 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 future 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."

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.

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June 6, 2005

Mr. David Stella
Wisconsin Department of Employee
Trust Funds
801 West Badger Road
Madison, Wisconsin 53713

Re: Report of Twenty-Fourth Annual Actuarial Valuation

Dear Dave:

Enclosed are 40 copies of the December 31, 2004 regular annual actuarial valuations with the remaining 35 to go out tomorrow.

Sincerely,

Norman L. Jones

NLJ/lr
Enclosures