



**WISCONSIN RETIREMENT SYSTEM**

**TWENTY-SIXTH ANNUAL ACTUARIAL VALUATION**

**DECEMBER 31, 2006**

# OUTLINE OF CONTENTS

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<b>Section</b>	<b>Pages</b>	<b>Items</b>
		Introduction
		<b>Section One: Actuarial Valuation Results</b>
I	1-5	Overview
	6-9	Benefit Provisions
	10-17	Non-Retired Participant Data
	18-20	Financial Data
	21-25	Valuation Results
		<b>Section Two: Financial Reporting</b>
II	1	Summary of Assumptions
	2-3	Statement of Net Assets
	4	Funding Progress & Accrued Liabilities
	5	Solvency and Contributions
		<b>Section Three: Actuarial Methods and Assumptions</b>
III	1	Actuarial Valuation Method
	2-3	Asset Valuation Method
	4-10	Summary of Assumptions
		<b>Section Four: The Valuation Process</b>
IV	1-3	Financial Principles and Operational Techniques
	4-5	The Actuarial Valuation Process
	6-7	Glossary

June 6, 2007

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, 2006 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 2008 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.

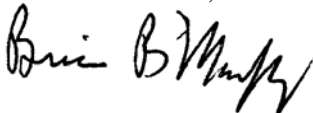
The actuarial assumptions used in the valuations are summarized in Section III of this report. The assumptions are internally consistent and are based on the results of the Triennial Experience Study covering 2003-2005 calendar year experience.

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 operating in accordance with actuarial principles of level percent-of-payroll financing.

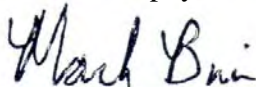
Respectfully submitted,



Norman L. Jones, F.S.A.



Brian B. Murphy, F.S.A.



Mark Buis, F.S.A.

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**SECTION ONE**

**ACTUARIAL VALUATION RESULTS**

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# OVERVIEW

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

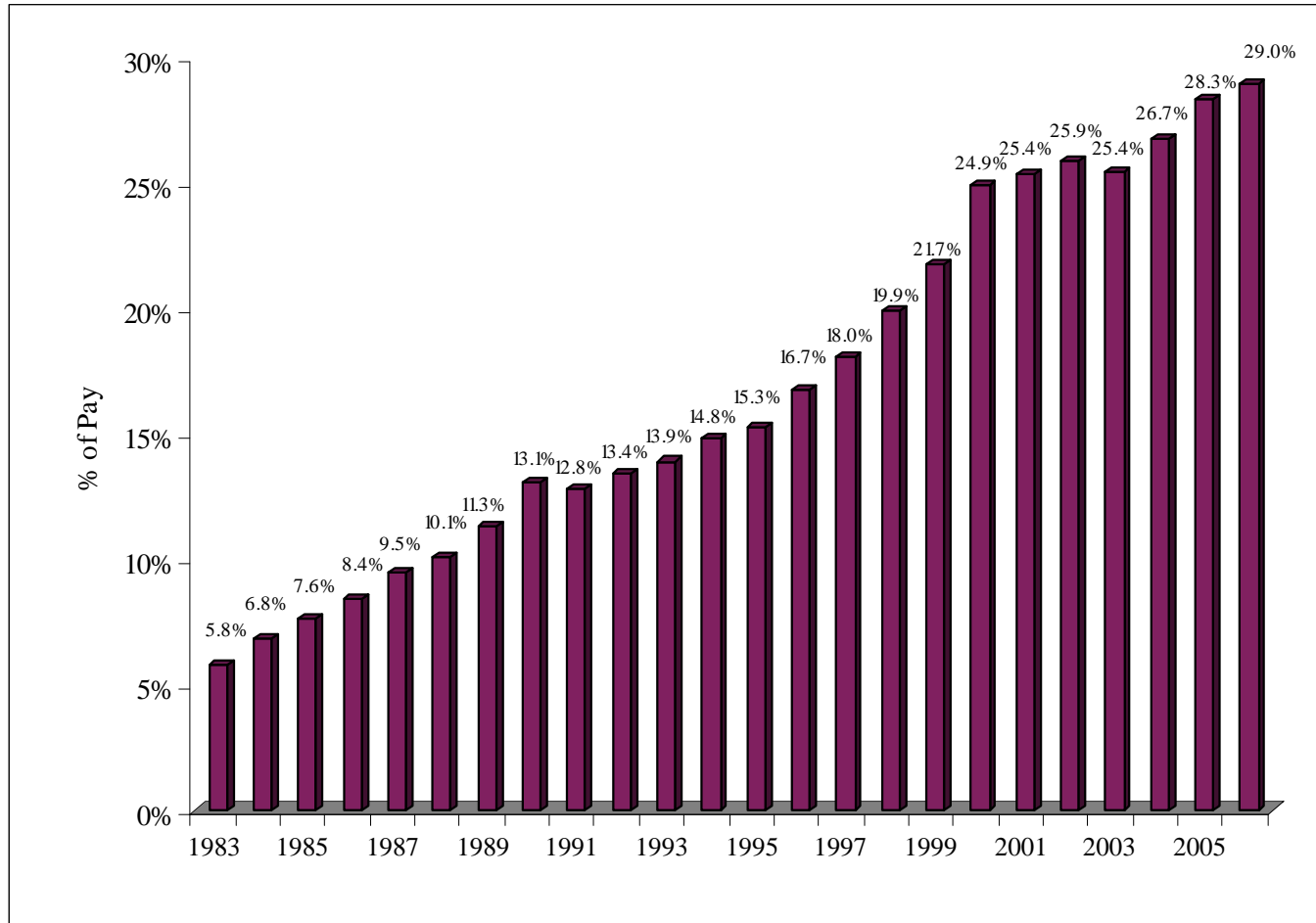
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	General Participants		Executives & Elected Officials		Protective Occupation			
					With Soc. Sec.		Without Soc. Sec.	
	2008	2007	2008	2007	2008	2007	2008	2007
Employer Normal Cost	4.6%	4.6%	8.5%	8.5%	8.2%	8.2%	10.8%	10.8%
Benefit Adjustment Contribution	1.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Participant Normal Cost	5.0%	5.0%	3.0%	3.0%	5.1%	5.1%	3.4%	3.4%
Total Normal Cost	10.6%	10.6%	11.5%	11.5%	13.3%	13.3%	14.2%	14.2%
Unfunded Actuarial Accrued Liability (UAAL)	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.4%	0.4%
<b>WRS Average Total</b>	<b>10.8%</b>	<b>10.8%</b>	<b>11.6%</b>	<b>11.6%</b>	<b>13.4%</b>	<b>13.4%</b>	<b>14.6%</b>	<b>14.6%</b>

Under Section 40.05 of the 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
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 %
2005	2007	5.0 %	1.0 %	4.8 %	10.8 %	3.0 %	0.0 %	8.6 %	11.6 %
2006	2008	5.0 %	1.0 %	4.8 %	10.8 %	3.0 %	0.0 %	8.6 %	11.6 %

# 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
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 %
2005	2007	5.1 %	0.0 %	8.3 %	13.4 %	3.4 %		11.2 %	14.6 %
2006	2008	5.1 %	0.0 %	8.3 %	13.4 %	3.4 %		11.2 %	14.6 %

# 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, 2006 RESULTS

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Based upon this valuation, normal cost contribution rates will remain level in 2008 for all valuation groups. Expected increases in the rates due to the most recent experience study were offset by favorable investment performance. Detail concerning experience gains and losses in individual risk areas will be presented at a later date in the annual Gain Loss Analysis.

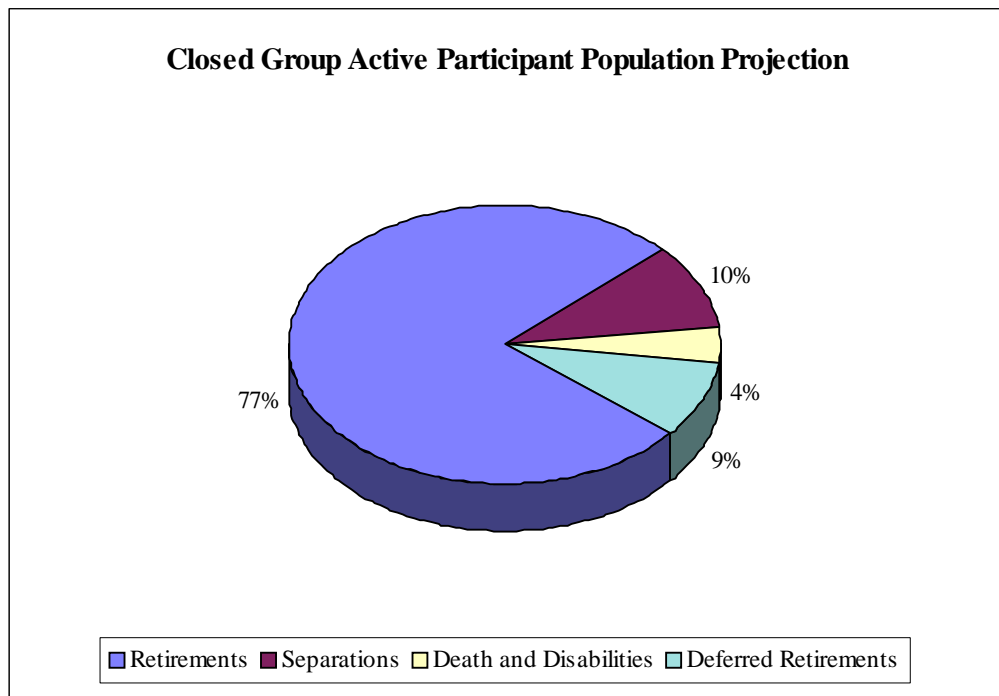
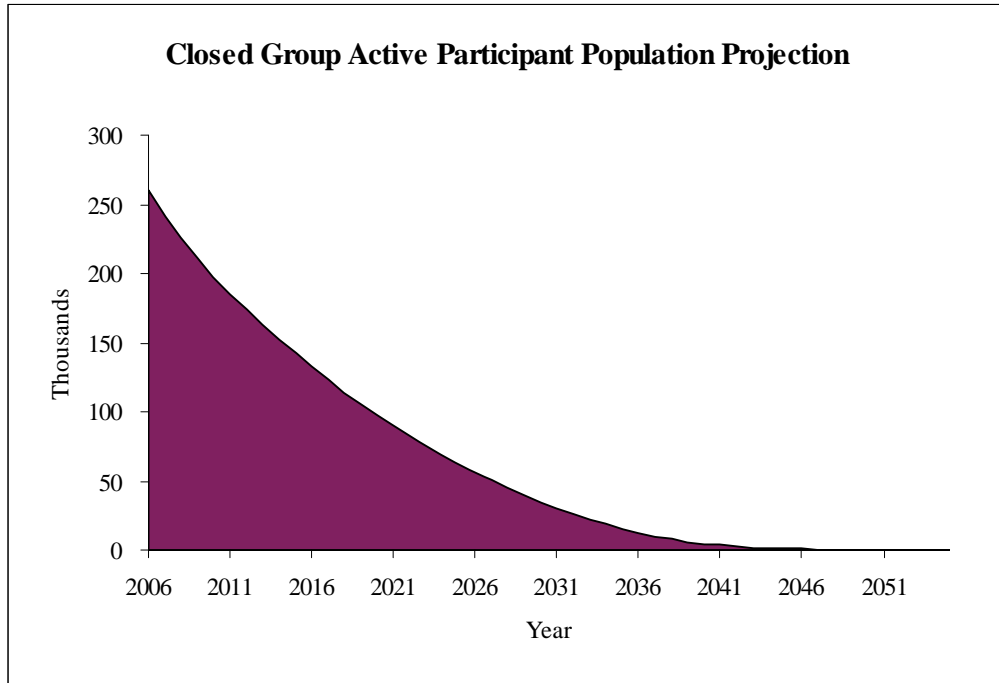
In total, during 2006, investment return was well above the assumed level of 7.8% on a market value basis (please see pages I-18 and III-3). However, under the asset valuation method, gains and losses are phased in over a five year period, resulting in a 9.8% return on an actuarial value of assets basis. The Market Value of Assets exceeds the Actuarial Value of Assets by approximately 10% as of the valuation date. This difference is within commonly accepted bounds, and is a favorable condition for the WRS.

The statutory allocation of the rate change among Participant Normal Cost, Employer Normal Cost, and Benefit Adjustment Contribution is shown on page I-24. 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 participant normal cost rate is presently lower for the Elected group and Protective Without Social Security group than it is for the other groups, resulting in reduced separation benefits for these participants. 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, 2006 regular annual actuarial valuation, it is our opinion that *the Wisconsin Retirement System continues to operate in accordance with actuarial principles of level percent-of-payroll financing.*

## EXPECTED DEVELOPMENT OF PRESENT POPULATION DECEMBER 31, 2006



The charts show the expected future development of the present population in simplified terms. The retirement system presently covers 260,302 active members. Eventually, 10% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. Nearly 86% 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**

**SUMMARY OF BENEFIT PROVISIONS EVALUATED  
DECEMBER 31, 2006 ACTUARIAL VALUATION**

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**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		Group
After 1999	Before 2000	
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.

For protective occupations, eligibility also can be met if a member has 15 years of service, is between the ages of 50 and 55 and unable to safely and efficiently perform one’s duties.

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

	<b>Pre-10/16/92 WRS Plan</b>	<b>Post-10/15/92 LTDI Plan</b>
<b>Participants covered</b>	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.
<b>Benefit to age 65*</b>	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.
<b>Benefit at age 65*</b>	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 contributions 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 core accounts (including the variable at core accounts) are credited with interest at the full (core) effective rate. For others, accounts are credited with interest as follows:

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

Participant variable accounts are credited with interest based on the earnings in the variable portfolio.

**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.

**Normal Form of Benefit.** The normal form of benefit is a straight life annuity with no death benefits. Optional forms of benefit which are actuarially reduced are listed below:

- A life annuity with 60 or 180 monthly payments guaranteed.
- A joint survivorship annuity with 75% continued to beneficiary.
- A joint survivorship annuity with 100% continued to beneficiary.
- A joint survivorship annuity reduced 25% upon either your death or your beneficiary's death.
- A joint survivorship annuity with 100% continued to beneficiary combined with 180 monthly payments guaranteed.



# **NON-RETIRED PARTICIPANT DATA**

**ACTIVE PARTICIPANTS INCLUDED IN VALUATIONS**  
**DECEMBER 31, 2006**

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**Active participants** included in the valuations totaled 260,302 with an annual payroll totaling \$11,170.3 million, as follows:

Valuation Group	Number	Annual Earnings (\$Millions)	Group Averages			
			Earnings	Age	Years of Service	Contribs.
General	236,877	\$ 9,933.5	\$41,935	45.8	11.8	\$51,736
Executive Group & Elected Officials	1,436	92.6	64,480	54.4	13.2	85,980
Protective Occupation with Social Security	19,297	976.9	50,622	39.7	11.7	52,030
Protective Occupation without Social Security	2,692	167.3	62,153	40.8	14.0	84,483
<b>Total Active Participants</b>	<b>260,302</b>	<b>\$11,170.3</b>	<b>\$42,913</b>	<b>45.4</b>	<b>11.8</b>	<b>\$52,286</b>
Prior Year	260,678	\$10,832.8	\$41,556	45.2	11.7	\$50,295

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

**INACTIVE PARTICIPANTS INCLUDED IN VALUATIONS  
DECEMBER 31, 2006**

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**Inactive participants** included in the valuations totaled 133,985 as follows:

Valuation Group	Number	Group Averages		
		Age	Service	Money Purchase Balance
General	129,338	45.6	3.0	\$12,782
Executive Group & Elected Officials	620	53.2	5.2	33,599
Protective Occupation with Social Security	3,855	39.2	3.8	16,165
Protective Occupation without Social Security	172	42.6	7.3	57,509
<b>Total Inactive Participants</b>	<b>133,985</b>	<b>45.4</b>	<b>3.0</b>	<b>\$13,033</b>
Prior Year	130,161	45.2	3.0	\$12,767

The valuations also included 3,604 QDRO cases whose average age was 50.0 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, 2006**  
**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	203							203	\$ 3,181,913
20-24	4,557	35						4,592	105,317,536
25-29	14,612	2,643	16					17,271	552,745,351
30-34	8,861	10,645	1,236	9				20,751	788,496,564
35-39	8,269	8,685	7,616	1,395	22			25,987	1,079,597,284
40-44	8,938	7,956	6,256	6,801	1,313	44		31,308	1,308,606,841
45-49	8,964	8,757	6,124	6,702	5,471	2,260	65	38,343	1,620,290,401
50-54	6,494	7,518	6,250	6,554	5,399	7,018	2,728	41,961	1,903,652,341
55	1,061	1,281	1,208	1,342	1,128	1,312	1,592	8,924	427,151,883
56	923	1,124	1,098	1,248	965	1,160	1,548	8,066	388,931,510
57	848	969	960	1,132	853	967	1,414	7,143	346,551,564
58	776	873	888	1,020	816	785	1,103	6,261	297,248,479
59	736	778	755	993	742	647	925	5,576	257,442,174
60	709	712	737	900	710	612	792	5,172	240,732,081
61	452	456	479	536	432	339	463	3,157	142,169,651
62	445	402	382	480	384	295	381	2,769	120,952,475
63	363	356	305	369	290	230	301	2,214	95,313,625
64	313	310	266	293	227	193	222	1,824	76,959,411
65	254	211	176	206	154	123	158	1,282	52,198,292
66	216	147	118	117	77	64	116	855	32,298,011
67	205	114	77	102	44	35	75	652	23,291,080
68	151	91	59	60	38	29	64	492	17,106,227
69	142	59	46	49	31	21	46	394	12,557,497
70	135	62	27	26	24	19	28	321	9,119,155
71	122	57	30	20	20	10	30	289	8,101,367
72	94	41	22	20	15	8	16	216	5,601,615
73	88	39	21	15	9	5	13	190	4,178,681
74	73	20	14	16	2	2	13	140	3,146,757
75 & Up	249	136	42	31	13	12	41	524	10,515,320
<b>Totals</b>	<b>69,253</b>	<b>54,477</b>	<b>35,208</b>	<b>30,436</b>	<b>19,179</b>	<b>16,190</b>	<b>12,134</b>	<b>236,877</b>	<b>\$9,933,455,086</b>

**EXECUTIVE GROUP AND ELECTED OFFICIALS  
AS OF DECEMBER 31, 2006  
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	2						6	\$ 177,596
30-34	27	8						35	1,782,173
35-39	32	20	16					68	3,740,734
40-44	53	19	25	15	7			119	7,181,703
45-49	56	29	28	32	24	12		181	11,420,022
50-54	71	33	34	41	32	41	14	266	18,608,323
55	13	10	6	11	15	14	7	76	5,543,618
56	21	7	11	6	10	11	5	71	4,689,391
57	18	8	6	11	10	8	7	68	4,767,177
58	8	9	6	7	12	8	12	62	5,013,393
59	19	8	12	7	6	9	12	73	5,188,466
60	18	10	2	4	12	6	9	61	4,282,457
61	9	6	6	7	8	10	4	50	3,661,635
62	11	3	9	5	7	4	8	47	3,632,733
63	8	4	7	8	4	4	4	39	2,478,497
64	15	5	4	4	6	1	4	39	2,597,922
65	4	1	5	3	3		2	18	1,523,567
66	7	3	3	4	1	2	6	26	1,552,115
67	6	1	3	1	1	1	2	15	662,943
68	12	2		2	4	2	2	24	1,106,279
69	3	1	3				4	11	592,967
70	5	1	1			1	2	10	544,434
71	3	2	1	1	1	1	1	10	406,445
72	9	1		1	1	1	1	14	332,108
73	4	1					1	6	169,868
74	4		1			1		6	173,773
75 & Up	19	8	4	1	1		2	35	763,225
<b>Totals</b>	<b>459</b>	<b>202</b>	<b>193</b>	<b>171</b>	<b>165</b>	<b>137</b>	<b>109</b>	<b>1,436</b>	<b>\$92,593,564</b>

**PROTECTIVE OCCUPATION PARTICIPANTS WITH SOCIAL SECURITY  
AS OF DECEMBER 31, 2006  
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	17							17	\$ 417,888
20-24	704	22						726	23,048,953
25-29	1,589	845	6					2,440	102,158,190
30-34	753	1,876	454	1				3,084	147,061,549
35-39	455	1,137	1,631	449	3			3,675	186,616,624
40-44	298	543	759	1,150	327	4		3,081	166,697,656
45-49	229	341	401	630	822	406	7	2,836	159,637,167
50	45	53	45	83	125	203	15	569	32,405,254
51	44	48	53	64	100	146	24	479	26,844,924
52	36	37	51	72	104	153	47	500	29,206,112
53	22	31	43	54	71	95	51	367	21,268,713
54	28	37	38	49	61	65	34	312	17,026,390
55	24	25	34	36	64	45	36	264	14,479,242
56	20	34	23	30	38	49	29	223	12,277,590
57	14	10	22	32	29	20	43	170	9,627,296
58	12	22	20	25	21	16	23	139	7,119,688
59	12	25	10	19	17	14	11	108	5,669,360
60	12	12	18	21	15	12	16	106	5,451,983
61	3	10	13	10	8	11	9	64	3,559,674
62	6	7	6	3	4	8	6	40	2,173,576
63	6	1	6	6	3	4	5	31	1,470,213
64	5	3	3	4	1		2	18	664,615
65	4	5	3	8	1	2		23	920,355
66	2	2	2		2		1	9	433,613
67	1	2	1	1				5	190,111
68		3				1	2	6	318,721
69	1							1	10,920
70 & Up	1	1	1			1		4	97,008
<b>Totals</b>	<b>4,343</b>	<b>5,132</b>	<b>3,643</b>	<b>2,747</b>	<b>1,816</b>	<b>1,255</b>	<b>361</b>	<b>19,297</b>	<b>\$976,853,385</b>

**PROTECTIVE OCCUPATION PARTICIPANTS WITHOUT SOCIAL SECURITY  
AS OF DECEMBER 31, 2006  
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	49							49	\$ 1,981,653
25-29	164	78						242	12,060,090
30-34	93	255	48					396	22,561,081
35-39	56	185	210	71				522	31,214,692
40-44	13	68	141	203	52			477	30,284,622
45-49	7	30	62	152	192	76		519	35,068,380
50	1		10	24	26	32	1	94	6,292,989
51		1		19	22	30	5	77	5,493,651
52			4	20	21	33	6	84	5,868,832
53	1	1	5	12	21	25	15	80	5,593,116
54			2	7	10	20	11	50	3,448,657
55	1		2	6	6	14	9	38	2,717,180
56		1	1	4	9	10	4	29	2,187,414
57	1			1	4	5	4	15	1,128,529
58					1	1	1	3	231,201
59	1				1	2	1	5	409,595
60		1	1		2		1	5	344,103
61									
62		1				1	2	4	230,285
63				1		1		2	147,163
64				1				1	52,521
<b>Totals</b>	<b>387</b>	<b>621</b>	<b>486</b>	<b>521</b>	<b>367</b>	<b>250</b>	<b>60</b>	<b>2,692</b>	<b>\$167,315,754</b>

**ACTIVE PARTICIPANTS  
AS OF DECEMBER 31, 2006  
BY YEARS OF SERVICE AND GENDER**

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Completed Years of Service	Males	Females	Totals	Valuation Payroll	
				Total	Average
0	6,388	13,526	19,914	\$ 435,885,515	\$21,888
1	5,175	10,549	15,724	430,381,228	27,371
2	4,572	9,183	13,755	425,974,264	30,969
3	3,932	8,351	12,283	397,860,034	32,391
4	4,151	8,615	12,766	447,903,926	35,086
5	5,061	8,812	13,873	520,500,671	37,519
6	4,930	8,513	13,443	526,707,457	39,181
7	4,350	7,577	11,927	486,871,920	40,821
8	4,202	7,004	11,206	470,532,044	41,989
9	3,821	6,162	9,983	427,913,558	42,864
10	3,231	5,449	8,680	384,694,422	44,320
11	3,138	5,128	8,266	376,720,568	45,575
12	3,058	4,947	8,005	373,964,749	46,716
13	2,756	4,440	7,196	344,895,308	47,929
14	2,681	4,702	7,383	361,177,205	48,920
15 & Up	37,702	48,196	85,898	4,758,234,919	55,394
<b>Totals</b>	<b>99,148</b>	<b>161,154</b>	<b>260,302</b>	<b>\$11,170,217,788</b>	<b>\$42,913</b>

Average

Age	45.4	45.3	45.4
Service	13.0	11.1	11.8



## COMPARATIVE STATEMENT OF ACTIVE PARTICIPANTS IN VALUATIONS

Valuation 12/31	General				Executive and Elected			
	No.	Earnings			No.	Earnings		
		\$ Millions	Average	% Incr.		\$ Millions	Average	% Incr.
1982	169,415	\$2,948	\$17,400		1,277	\$28	\$22,276	
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%
2005	237,501	9,661	40,678	2.3%	1,452	90	61,788	2.3%
2006	236,877	9,933	41,935	3.1%	1,436	93	64,480	4.4%

\* 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			
	No.	Earnings			No.	Earnings		
		\$ Millions	Average	% Incr.		\$ Millions	Average	% Incr.
1982	9,029	\$195	\$21,573		2,572	\$61	\$23,703	
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%
2005	19,036	920	48,330	2.3%	2,689	162	60,241	2.9%
2006	19,297	977	50,622	4.7%	2,692	167	62,153	3.2%

\* After change in method of calculating average pay.

# FINANCIAL DATA

## DEVELOPMENT OF PARTICIPANT AND EMPLOYER RESERVES DURING THE YEAR

	Participant Accumulation			Employer Accumulation			Grand Total
	Fixed	Variable	Total	Fixed	Variable	Total	
Ending Balance December 31, 2005	\$13,866,589,706	\$1,143,991,817	\$15,010,581,524	\$19,463,958,020	\$1,148,276,881	\$20,612,234,901	\$35,622,816,424
Closing Adjustments	68,955,689	(25,941,537)	43,014,152	(60,157,511)	(30,226,601)	(90,384,112)	(47,369,960)
Beginning Balance January 1, 2006	<u>13,935,545,395</u>	<u>1,118,050,280</u>	<u>15,053,595,675</u>	<u>19,403,800,509</u>	<u>1,118,050,280</u>	<u>20,521,850,789</u>	<u>35,575,446,464</u>
<b>Revenues:</b>							
Employer Contributions	-	-	-	620,256,594	82,429,799	702,686,393	702,686,393
Participant Contributions	487,172,038	83,825,862	570,997,900	-	-	-	570,997,900
Total Revenues	<u>487,172,038</u>	<u>83,825,862</u>	<u>570,997,900</u>	<u>620,256,594</u>	<u>82,429,799</u>	<u>702,686,393</u>	<u>1,273,684,293</u>
<b>Expenses:</b>							
Separations	24,305,995	730,074	25,036,069	-	-	-	25,036,069
Retirement Single Sums	11,396,451	313,530	11,709,981	12,608,856	236,440	12,845,296	24,555,277
Death Benefits	18,563,890	2,280,922	20,844,813	14,747,344	1,737,470	16,484,814	37,329,627
Disability Insurance	-	-	-	-	-	-	-
	<u>54,266,336</u>	<u>3,324,526</u>	<u>57,590,862</u>	<u>27,356,201</u>	<u>1,973,910</u>	<u>29,330,111</u>	<u>86,920,973</u>
<b>Transfers:</b>							
Earnings Allocation	1,250,979,713	173,946,882	1,424,926,596	1,859,828,208	170,965,767	2,030,793,975	3,455,720,570
Annuities Awarded	(1,114,465,040)	(131,883,627)	(1,246,348,667)	(1,565,808,962)	(123,928,996)	(1,689,737,958)	(2,936,086,625)
Intra-Fund Transfers	(468,409)	-	(468,409)	468,409	-	468,409	0
Inter-Fund Transfers	<u>28,905,580</u>	<u>(28,905,580)</u>	-	<u>28,905,580</u>	<u>(28,905,580)</u>	-	-
	<u>164,951,844</u>	<u>13,157,675</u>	<u>178,109,519</u>	<u>323,393,235</u>	<u>18,131,191</u>	<u>341,524,426</u>	<u>519,633,945</u>
<b>Ending December 31, 2006</b>	<b><u>\$14,533,402,942</u></b>	<b><u>\$1,211,709,291</u></b>	<b><u>\$15,745,112,233</u></b>	<b><u>\$20,320,094,137</u></b>	<b><u>\$1,216,637,360</u></b>	<b><u>\$21,536,731,498</u></b>	<b><u>\$37,281,843,730</u></b>
Internal Rate of Return	9.2%	16.1%	9.7%	9.8%	15.8%	10.1%	10.0%

**RESERVES FOR NON-RETIRED PARTICIPANTS  
BALANCES BY VALUATION GROUP**

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	Reserve for Year Ended			December 31, 2005 (Total in \$ Millions)
	December 31, 2006			
	Participant	Employer	Total *	
General	\$14,212,833,603	\$18,684,877,910	\$32,897,711,513	\$31,505.2
Executives & Elected	114,759,970	179,003,476	293,763,446	278.7
Protective with Soc. Sec.	1,088,721,526	2,128,232,967	3,216,954,493	3,000.2
Protective w/o Soc. Sec.	328,797,136	544,617,145	873,414,281	838.7
<b>Total</b>	<b>\$15,745,112,235</b>	<b>\$21,536,731,498</b>	<b>\$37,281,843,733</b>	<b>\$35,622.8</b>

\* Totals differ slightly from page I-18 due to rounding

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 (UAAL)**  
**DECEMBER 31, 2006**

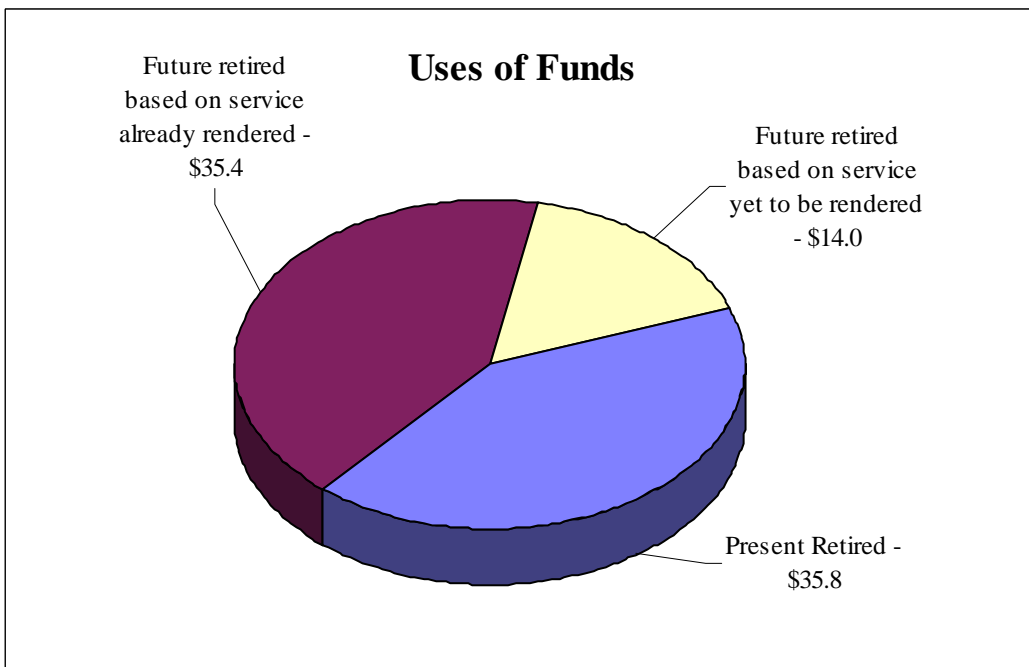
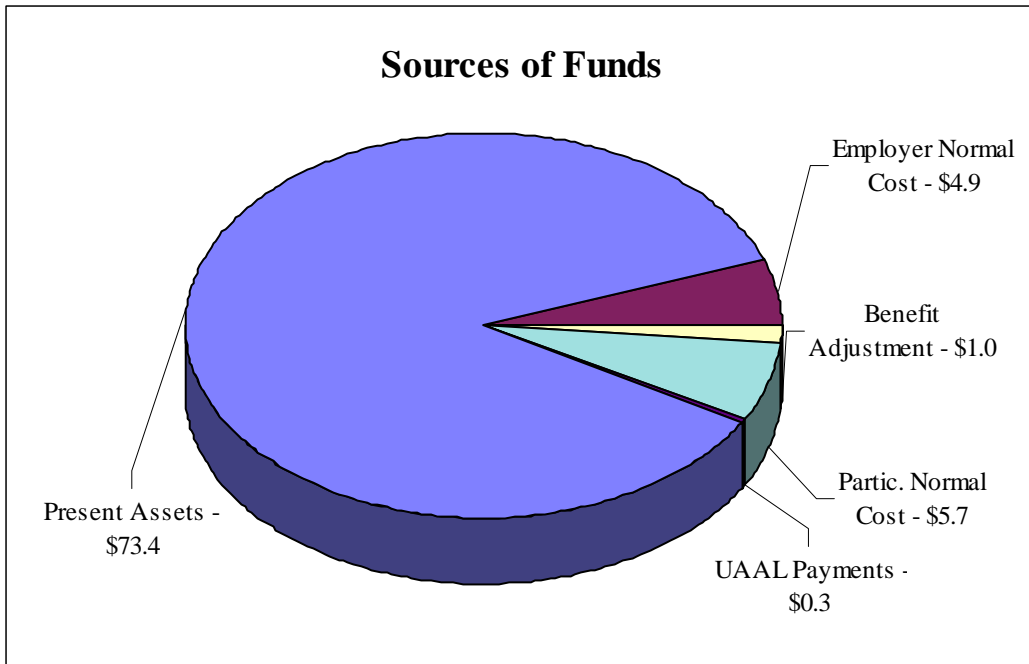
	General	Executives & Elected Officials	Protective Occupation		Totals
			With Soc. Sec	Without Soc. Sec	
Balance January 1, 2006	\$324,106,432	\$938,713	\$11,253,660	\$9,345,319	\$345,644,124
Plus: New Employers	29,859	0	0	0	29,859
Less: Adjustments	0	0	0	0	0
Less: Payments	(46,878,977)	(211,531)	(934,637)	(304,175)	(48,329,320)
Plus: Interest	21,626,070	56,720	804,884	705,209	23,192,883
<b>Balance December 31, 2006</b>	<b>\$298,883,384</b>	<b>\$783,902</b>	<b>\$11,123,907</b>	<b>\$9,746,353</b>	<b>\$320,537,546</b>

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 \$85.3 BILLION\* OF BENEFIT PROMISES  
FOR PRESENT ACTIVE AND RETIRED PARTICIPANTS  
DECEMBER 31, 2006**

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



**DEVELOPMENT OF ACTUARIAL PRESENT VALUES**  
**DECEMBER 31, 2006**  
**(\$ MILLIONS)**

Present Value of Future Benefits for	General	Executives & Elected Officials	Protectives		Total
			With Soc. Sec.	Without Soc. Sec.	
Active Participants					
Service Retirement	\$35,365.3	\$280.2	\$4,033.7	\$ 978.4	\$40,657.6
Withdrawal	1,820.1	11.4	169.1	19.9	2,020.5
Death-in-Service	646.4	9.1	59.8	12.6	727.9
Disability	885.4	2.2	69.9	36.7	994.2
Variable Excess	358.0	5.4	17.3	3.2	383.9
Total Active	39,075.2	308.3	4,349.8	1,050.8	44,784.1
Inactive Participants	4,267.9	67.0	249.3	36.8	4,621.0
Active and Inactive	43,343.1	375.3	4,599.1	1,087.6	49,405.1
Additional Contributions Present Retired					157.3
					35,774.7
<b>Actuarial Present Value of Future Benefits</b>					<b>\$85,337.1</b>

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 \$85,337.1 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, 2006

	General	Executives & Elected Officials	Protective Occupation		Total
			With Soc. Sec	Without Soc. Sec.	
<b>\$ Millions</b>					
1. Present Value of Future Benefits for non-retired	\$43,343.1	\$375.3	\$4,599.1	\$1,087.6	\$49,405.1
2. Present Value of Future Entry Age Normal Costs	11,904.4	83.4	1,692.3	357.3	14,037.4
3. Entry Age Accrued Liability: (1)-(2)	31,438.7	291.9	2,906.8	730.3	35,367.7
4. Non-Retired Assets-WRS	32,897.7	293.8	3,217.0	873.4	37,281.9
-LTDI	166.9	1.4	26.4	6.7	201.4
-Total	33,064.6	295.2	3,243.4	880.1	37,483.3
5. Entry Age Unfunded Accrued Liability:(3)-(4)	(1,625.9)	(3.3)	(336.6)	(149.8)	(2,115.6)
6. WRS Frozen Unfunded Accrued Liability	298.9	0.8	11.1	9.7	320.5
<b>7. EAR:(6)-(5)</b>	<b>\$ 1,924.8</b>	<b>\$ 4.1</b>	<b>\$ 347.7</b>	<b>\$ 159.5</b>	<b>\$ 2,436.1</b>

## DEVELOPMENT OF CONTRIBUTION RATES FOR CALENDAR YEAR 2008

	General	Executive & Elected Officials	Protective Occupation		Total
			With Soc. Sec	Without Soc. Sec.	
<b>\$ Millions</b>					
Total Reported Earnings	\$ 9,933.5	\$ 92.6	\$ 976.9	\$ 167.3	\$ 11,170.3
Present Value of Future Earnings	98,421.5	692.8	10,646.9	1,720.1	111,481.3
Present Value of Future Benefits	43,343.1	375.3	4,599.1	1,087.6	49,405.1
Non-Retired Assets	33,064.6	295.2	3,243.4	880.1	37,483.3
Unfunded Liability	298.9	0.8	11.1	9.7	320.5
Present Value of Future Normal Costs					
Future Service Portion	11,904.4	83.4	1,692.3	357.3	14,037.4
Exp. Amort. Res. Portion	(1,924.8)	(4.1)	(347.7)	(159.5)	(2,436.1)
<b>Total</b>	<b>9,979.6</b>	<b>79.3</b>	<b>1,344.6</b>	<b>197.8</b>	<b>11,601.3</b>
Normal Cost Amortization Years					
Future Service Portion	12.5	8.9	14.1	13.1	12.6
Exp. Amort. Res. Portion	20.0	16.0	18.0	20.0	
Unfunded Liability Amortization Years	22.0	22.0	22.0	22.0	22.0
<b>% 's of Active Member Payroll</b>					
Normal Cost					
Future Service Portion	12.1 %	12.0 %	15.9 %	20.8 %	12.6 %
Exp. Amort. Res. Portion	(1.4)%	(0.4)%	(2.6)%	(6.6)%	(1.6)%
<b>Total</b>	<b>10.7 %</b>	<b>11.6 %</b>	<b>13.3 %</b>	<b>14.2 %</b>	<b>11.0 %</b>
2007 Total Normal Cost Rates	10.6 %	11.5 %	13.3 %	14.2 %	10.9 %
Change from 2007 (current)	0.1 %	0.1 %	0.0 %	0.0 %	0.1 %
Allocation of Change					
Employer Normal Cost	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Benefit Adjustment	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Participant Normal Cost	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
<b>Total Allocated Change</b>	<b>0.0 %</b>	<b>0.0 %</b>	<b>0.0 %</b>	<b>0.0 %</b>	<b>0.0 %</b>
Unallocated Change *	0.1 %	0.1 %	0.0 %	0.0 %	0.1 %
<b>2008 Normal Cost Rates</b>					
<b>Employer Normal Cost</b>	<b>4.6 %</b>	<b>8.5 %</b>	<b>8.2 %</b>	<b>10.8 %</b>	<b>5.0 %</b>
<b>Benefit Adjustment</b>	<b>1.0 %</b>	<b>0.0 %</b>	<b>0.0 %</b>	<b>0.0 %</b>	<b>0.9 %</b>
<b>Participant Normal Cost</b>	<b>5.0 %</b>	<b>3.0 %</b>	<b>5.1 %</b>	<b>3.4 %</b>	<b>5.0 %</b>
<b>Total Normal Cost</b>	<b>10.6 %</b>	<b>11.5 %</b>	<b>13.3 %</b>	<b>14.2 %</b>	<b>10.9 %</b>
Average Unfunded Liability Amortization	0.2 %	0.1 %	0.1 %	0.4 %	0.2 %
<b>Average Total Rate</b>	<b>10.8 %</b>	<b>11.6 %</b>	<b>13.4 %</b>	<b>14.6 %</b>	<b>11.1 %</b>

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

**SUMMARY STATEMENT OF PRESENT AND FUTURE RESOURCES**  
**(\$ MILLIONS)**

<b>Present Resources and Expected Future Resources</b>	<b>December 31</b>	
	<b>2006</b>	<b>2005</b>
A. Book Value of Present System Assets		
Annuity Reserves		
Fixed	\$31,180.5	\$28,575.3
Variable	4,594.2	4,092.7
Total Annuity Reserves	35,774.7	32,668.0
Non-Retired Participant Reserves		
Participant Contribution Balance	15,745.1	15,010.6
Additional Contributions	157.3	144.7
Employer Accumulation Balance	21,536.8	20,612.2
Adjustment for 62.13 Contributions	0.0	(26.8)
LTDI Reserve for Future Claims	201.4	206.4
Total Non-Retired Reserves	37,640.6	35,947.1
Total System Assets Used in Valuation	73,415.3	68,615.1
B. Actuarial Present Value of Future Participant Contributions	5,735.6	5,616.1
C. Actuarial Present Value of Future Benefit Adjustment Contributions	984.2	964.2
D. Actuarial Present Value of Future Employer Contributions for		
Unfunded Accrued Liabilities	320.5	345.6
Section 62.13	0.0	26.8
Normal Costs	4,881.5	4,568.2
Total	5,202.0	4,940.6
<b>E. Total Present and Expected Future Resources</b>	<b>\$85,337.1</b>	<b>\$80,136.0</b>

**SUMMARY STATEMENT OF RETIREMENT SYSTEM OBLIGATIONS**  
**(\$ MILLIONS)**

Retirement System Obligations	December 31	
	2006	2005
A. To Annuitants and Beneficiaries Receiving Benefits		
Fixed Annuities		
Reported at Year End	\$30,273.9	\$28,359.7
Dividend Adjustment and Reserve	906.6	215.6
Total Fixed Annuities	31,180.5	28,575.3
Variable Annuities		
Reported at Year End	4,145.2	3,970.7
Distribution and Reserve	449.0	122.0
Total Variable Annuities	4,594.2	4,092.7
Total for Benefits in Pay Status	35,774.7	32,668.0
B. To Active and Inactive Participants For Benefits Based on		
Participant Contributions Made		
In the Past	15,745.1	15,010.6
In the Future	5,735.6	5,616.1
Additional Contributions Made in the Past	157.3	144.7
Benefit Adjustment Contributions Made in the Future	984.2	964.2
Employer Contributions	26,940.2	25,732.4
Total for Benefits Not Yet in Pay Status	49,562.4	47,468.0
<b>C. Total Actuarial Value of Expected Future Benefits</b>	<b>\$85,337.1</b>	<b>\$80,136.0</b>

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**SECTION TWO**  
**FINANCIAL REPORTING**

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## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

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Valuation Date	December 31, 2006
Actuarial Cost Method	Frozen Entry Age
Amortization Method	Level Percent -- Closed Period
Remaining Period	22 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 9.6%
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

	2005*	2004
<b>Assets</b>		
Cash and Cash Equivalents	\$ 1,018,141	\$ 1,332,978
Securities Lending Collateral	5,976,637	5,410,236
Prepaid Expenses	2,427	1,637
<b>Total Short Term Assets</b>	<b>6,997,205</b>	<b>6,744,851</b>
<b>Receivables</b>		
Contributions	105,174	94,023
Prior Service Contributions	382,006	472,224
Benefits Overpayment	1,689	1,719
Due from other Trust Funds	3,420	2,698
Miscellaneous	2,145	1,644
Interest and dividends	201,959	218,001
Investment Sales	146,518	278,514
<b>Total receivables</b>	<b>842,911</b>	<b>1,068,823</b>
<b>Investments at Fair Value</b>		
Fixed Income	17,614,513	17,579,762
Preferred Securities	297,458	0
Convertible Securities	37,027	0
Stocks	50,402,131	47,245,118
Limited Partnerships	2,836,669	2,366,702
Mortgages	355,825	515,709
Real Estate	350,483	369,807
Multi Asset Investments	735,937	379,678
<b>Total investments</b>	<b>72,630,043</b>	<b>68,456,776</b>
Capital Assets	23	8
<b>Total Assets</b>	<b>80,470,182</b>	<b>76,270,458</b>
<b>Liabilities:</b>		
Fixed Investment due Other Programs	2,576,769	2,372,352
Variable Investment Due other Programs	22,907	27,229
Securities lending collateral	5,976,637	5,410,236
Benefits Payable	216,456	200,382
Deferred Revenue	270	289
Due to Other Trust Funds	36,577	200
Miscellaneous Payables	80,781	85,412
Investment Payables	89,261	291,316
<b>Total Liabilities</b>	<b>8,999,658</b>	<b>8,387,416</b>
<b>Net Assets in Trust for Pension Benefits</b>	<b>\$71,470,524</b>	<b>\$67,883,042</b>

\* 2006 Summary not yet available.



## STATEMENT OF CHANGES IN ASSETS (\$ THOUSANDS)

	Activity During Year	
	2005*	2004
Additions:		
Contributions:		
Employer Contributions	\$ 538,097	\$ 505,102
Employee Contributions	640,229	605,184
Total Contributions	1,178,326	1,110,286
Investment Income:		
Net Appreciation (Depreciation) in Fair Value of Investments	4,656,309	6,839,797
Interest	577,442	574,559
Dividends	535,510	412,255
Securities Lending Income	203,335	72,403
Other	76,224	99,680
Less		
Current Income Distributed	201,645	270,887
SWIB Investment Expense	165,940	152,629
Investment Income Distributed to Securities Lending Rebates and Fees	188,686	62,307
Net Investment Income	5,492,549	7,512,871
Interest on Prior Service Receivable	25,006	28,053
Miscellaneous Income	2,338	3,082
Total Additions	6,698,219	8,654,292
Deductions:		
Benefits and Refunds:		
Retirement, Disability, and Beneficiary	3,067,662	2,857,871
Separation Benefits	25,221	24,967
Total Benefits and Refunds	3,092,883	2,882,838
Unusual Writeoff of receiveable	(7)	(45)
Administrative Expense	17,859	14,846
Total Deductions	3,110,735	2,897,639
Net Increase (Decrease)	3,587,484	5,756,653
Net Assets Held in Trust:		
Beginning of Year	\$67,883,042	\$62,126,387
End of Year	<b>\$71,470,524</b>	<b>\$67,883,042</b>

\* 2006 Summary not yet available.

**SCHEDULE OF FUNDING PROGRESS**  
**\$ MILLIONS**

<b>Valuation Date Dec 31</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) Frozen Entry Age (b)</b>	<b>Unfunded AAL (UAAL) (b) - (a)</b>	<b>Funded Ratio (a)/(b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percent of Covered Payroll [(b) - (a)] / (c)</b>
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 %
2005	68,615.1	68,987.5	372.5	99.5 %	10,973.4	3.4 %
2006	73,415.3	73,735.8	320.5	99.6 %	11,308.2	2.8 %

\* 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
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%
2005	68,615.1	32,668.0	15,155.3	21,164.2	68,987.5	100.0%	100.0%	98.2%	99.5%
2006	73,415.3	35,774.7	15,902.4	22,058.7	73,735.8	100.0%	100.0%	98.5%	99.6%

### Contributions Required and Contributions Made

Year Ended December 31	Annual Required Contribution	Percent Contributed
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%
2005	535.6	100.0%
2006	569.0	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.

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## **SECTION THREE**

### **ACTUARIAL METHODS AND ASSUMPTIONS**

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## ACTUARIAL VALUATION METHOD

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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. The policy regarding the EAR amortization period is described below:

- The standard period is set 20 years.
- The standard period is reconsidered as part of each triennial experience study (no changes were made with the most recent experience study).
- Temporary interim changes in the period are made only when there are large, but mostly offsetting market gains and losses known to be flowing through the MRA that would otherwise result in contribution rate volatility. Large changes would be defined as those which, over a 2-year period, were expected to result in contribution rate changes of at least 0.4% of payroll.
- The minimum and maximum EAR amortization periods are 10 years and 30 years respectively.
- The amortization policy will be applied in the same manner to market gains and losses flowing through the MRA.

## ASSET VALUATION METHOD

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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 Core 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 Core 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. 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 Core 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.

## CORE INVESTMENT TRUST: MARKET RECOGNITION ACCOUNT

	For the Year Ended December 31				
	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Beginning of year					
a. Funding Value	\$57,721,206,317	\$62,064,552,008	\$64,450,001,120	\$68,979,018,130	\$71,989,694,258
b. Market value	56,816,468,425	63,565,374,407	67,268,262,925	75,874,911,103	75,874,911,103
End of year					
c. Market value	63,565,374,407	67,268,262,925	75,874,911,103	75,874,911,103	75,874,911,103
d. Non-investment cash flow (contributions minus benefits)	(331,276,955)	(1,511,013,864)	(1,678,857,099)		
e. Investment income					
e1. Total Investment Income	7,080,182,937	5,213,902,382	10,285,505,277		
e2. Assumed rate	7.8%	7.8%	7.8%		
e3. Amount for immediate recognition	4,489,334,291	4,782,105,516	4,961,624,661	-	-
e4. Amount for phased-in recognition: e1-e3	2,590,848,645	431,796,867	5,323,880,617	-	-
f. Phased-in recognition of investment income					
f1. Current year: 2 x e4	518,169,729	86,359,373	1,064,776,123	-	-
f2. First prior year	1,341,370,902	518,169,729	86,359,373	1,064,776,123	-
f3. Second prior year	(1,764,426,680)	1,341,370,902	518,169,729	86,359,373	1,064,776,123
f4. Third prior year	(1,067,115,864)	(1,764,426,680)	1,341,370,902	518,169,729	86,359,373
f5. Fourth prior year	(824,740,722)	(1,067,115,864)	(1,764,426,680)	1,341,370,902	518,169,729
f6. Total MRA recognition	(1,796,742,634)	(885,642,539)	1,246,249,448	3,010,676,127	1,669,305,226
f7. Amount for TAA recognition	1,982,030,989	-	-	-	-
f8. Total recognized gain (loss)	185,288,354	(885,642,539)	1,246,249,448	3,010,676,127	1,669,305,226
g. Total Recognized Investment Income: e3 + f8	4,674,622,646	3,896,462,977	6,207,874,108	3,010,676,127	1,669,305,226
h. Funding value end of year: a + d + e3 + f8	62,064,552,008	64,450,001,120	68,979,018,130	71,989,694,258	73,658,999,483
i. Difference between market and funding values	1,500,822,399	2,818,261,804	6,895,892,973	3,885,216,846	2,215,911,620
j. Recognized Rate of Return	8.1%	6.4%	9.8%		
k. Market Rate of Return	11.7%	7.9%	14.2%		

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

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**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 4.3% to 4.8%, 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.

<b>% Merit and Longvity Increase Next Year</b>						
<b>Service</b>	<b>Gen.</b>	<b>University Teachers</b>	<b>Public School Teachers</b>	<b>Protective</b>		<b>Exec. &amp; Elec.</b>
				<b>With S.S.</b>	<b>w/o S.S.</b>	
1	3.5 %	3.5 %	5.5 %	5.0 %	4.8 %	1.2 %
2	3.5 %	3.5 %	5.5 %	5.0 %	4.8 %	1.2 %
3	3.2 %	3.4 %	5.1 %	4.4 %	4.1 %	1.2 %
4	2.9 %	3.3 %	4.7 %	3.7 %	3.5 %	1.2 %
5	2.6 %	3.2 %	4.4 %	3.1 %	2.8 %	1.1 %
10	1.6 %	2.9 %	2.8 %	1.6 %	1.4 %	1.0 %
15	1.3 %	2.4 %	1.6 %	1.0 %	0.7 %	0.9 %
20	1.1 %	1.9 %	0.9 %	0.9 %	0.6 %	0.8 %
25	0.9 %	1.3 %	0.5 %	0.7 %	0.5 %	0.6 %
30	0.7 %	1.2 %	0.3 %	0.7 %	0.4 %	0.4 %



## DECREMENT PROBABILITIES

The mortality table used to measure mortality for retired participants was the Wisconsin Projected Experience Table - 2005 for men and women, as adopted by the Board in connection with the 2003-2005 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 - 2005 with 5% Interest

Sample Attained Ages	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Males	Females	Males	Females
40	\$205.69	\$213.54	40.9	45.3
45	196.14	205.53	36.2	40.5
50	184.61	195.62	31.5	35.7
55	171.16	183.60	27.0	30.9
60	155.69	169.88	22.7	26.4
65	137.31	153.66	18.5	22.0
70	116.87	134.71	14.5	17.8
75	95.20	113.77	11.0	13.9
80	74.62	91.62	8.1	10.4
85	55.95	69.69	5.7	7.4

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	\$188.17	\$200.45	33.0	38.1
45	175.49	189.75	28.5	33.4
50	160.60	176.73	24.1	28.7
55	144.08	161.35	20.0	24.2
60	126.15	144.83	16.2	20.1
65	105.47	126.05	12.5	16.1
70	83.80	104.95	9.3	12.4
75	62.40	83.07	6.5	9.1
80	44.25	61.62	4.3	6.3
85	29.47	42.01	2.8	4.1

## ACTIVE PARTICIPANT MORTALITY RATES

---

Sample Attained Ages	Mortality Rates	
	Males	Females
20	0.000259	0.000077
25	0.000337	0.000085
30	0.000409	0.000115
35	0.000434	0.000203
40	0.000547	0.000285
45	0.000805	0.000446
50	0.001316	0.000614
55	0.002317	0.001281
60	0.003375	0.002174
65	0.005178	0.003325
70	0.009079	0.005327
75	0.016700	0.009751
80	0.030153	0.016934

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. & Elected
	Male	Female	Male	Female	Male	Female	With S.S.	W/O S.S.	
50							8%	3%	
51							8%	3%	
52							8%	7%	
53							30%	25%	
54							20%	30%	
55							20%	30%	
56							18%	30%	
57	25%	20%	40%	30%	20%	15%	18%	35%	15%
58	25%	20%	35%	30%	15%	15%	18%	30%	15%
59	25%	20%	30%	30%	15%	15%	18%	20%	15%
60	25%	20%	30%	30%	15%	15%	18%	20%	15%
61	20%	20%	30%	35%	17%	25%	18%	20%	15%
62	35%	30%	40%	40%	17%	25%	20%	20%	10%
63	35%	30%	40%	35%	17%	20%	30%	20%	10%
64	25%	25%	25%	25%	17%	20%	20%	20%	10%
65	25%	25%	25%	30%	20%	20%	30%	40%	10%
66	25%	25%	25%	25%	20%	20%	25%	40%	20%
67	10%	15%	15%	25%	20%	20%	25%	40%	20%
68	10%	10%	15%	20%	20%	20%	25%	40%	20%
69	10%	10%	20%	20%	20%	20%	25%	40%	20%
70	10%	10%	20%	20%	20%	20%	100%	100%	10%
71	10%	10%	20%	20%	20%	20%	100%	100%	10%
72	10%	10%	20%	20%	20%	20%	100%	100%	10%
73	10%	10%	20%	20%	20%	20%	100%	100%	10%
74	10%	10%	20%	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							Exec. & Elected
	General		Public School		University			
	Male	Female	Male	Female	Male	Female		
55	8%	5%	15%	11%	5%	6%	6%	
56	8%	5%	15%	11%	5%	6%	6%	
57	4%	4%	15%	11%	3%	5%	4%	
58	5%	5%	15%	12%	4%	6%	4%	
59	5%	5%	10%	12%	4%	8%	4%	
60	8%	8%	15%	15%	5%	10%	6%	
61	7%	8%	15%	15%	8%	8%	6%	
62	18%	15%	25%	25%	10%	15%		
63	18%	15%	25%	20%	9%	15%		
64	15%	15%	15%	15%	8%	15%		

**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 50% 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**

Age &	Service	% of Active Participants Terminating								
		Protective		Public Schools		University		Exec. & Elected	General	
		With Soc. Sec.	Without Soc. Sec.							
		Males	Females	Males	Females	Males	Females			
	0	12.0%	5.0%	14.0%	11.0%	20.0%	20.0%	16.0%	21.0%	20.0%
	1	6.5%	3.0%	11.0%	9.0%	16.0%	17.0%	14.0%	13.0%	14.0%
	2	4.5%	2.0%	7.0%	7.0%	13.0%	14.0%	12.0%	9.5%	10.0%
	3	4.1%	1.5%	5.2%	6.0%	11.0%	12.0%	10.0%	7.5%	8.0%
	4	3.2%	1.4%	4.0%	5.0%	9.0%	10.0%	9.5%	5.5%	7.0%
25	5 & Over	2.0%	0.9%	2.0%	2.5%	3.5%	5.5%	7.0%	3.0%	4.0%
30		2.0%	0.8%	1.8%	2.2%	3.5%	5.5%	7.0%	3.0%	3.7%
35		1.8%	0.8%	1.4%	1.8%	3.5%	5.5%	7.0%	2.6%	3.2%
40		1.4%	0.8%	1.2%	1.4%	3.4%	4.7%	5.8%	2.0%	2.7%
45		1.2%	0.7%	1.1%	1.2%	2.8%	3.4%	4.7%	1.6%	2.2%
50		1.0%	0.7%	0.9%	1.0%	1.9%	2.1%	4.2%	1.3%	1.9%
55		1.0%	0.7%	0.9%	1.0%	1.5%	1.6%	4.0%	1.3%	1.8%
60	1.0%	0.7%	0.9%	1.0%	1.5%	1.6%	4.0%	1.3%	1.8%	

**Disability Rates**

Age	% of Active Participants Becoming Disabled									
	Protective		Public Schools		University		Exec. & Elected		General	
	With SS	W/O SS	Males	Females	Males	Females	Males	Females	Males	Females
20	0.02%	0.05%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
25	0.02%	0.05%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
30	0.02%	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%	0.08%	0.02%	0.02%	0.01%	0.06%	0.01%	0.01%	0.05%	0.07%
45	0.07%	0.16%	0.05%	0.08%	0.03%	0.05%	0.02%	0.02%	0.10%	0.10%
50	0.11%	0.92%	0.14%	0.16%	0.05%	0.10%	0.04%	0.04%	0.23%	0.15%
55	1.73%	0.68%	0.26%	0.23%	0.15%	0.15%	0.15%	0.15%	0.43%	0.28%
60	2.92%	0.20%	0.43%	0.34%	0.20%	0.23%	0.19%	0.19%	0.77%	0.39%

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

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<b>Expenses:</b>	Assumed investment return is net of administrative and investment expenses.
<b>Marriage Assumption:</b>	Everyone is assumed married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
<b>Pay Increase Timing:</b>	Beginning of (calendar) year for most people. Middle of calendar year for teachers.
<b>Pay Annualization:</b>	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.
<b>Final Average Salary:</b>	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.
<b>Decrement Timing:</b>	Decrements of all types are assumed to occur mid-year.
<b>Decrement Operation:</b>	All decrements operate during the first 5 years of service.
<b>Decrement Relativity:</b>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<b>Eligibility Testing:</b>	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.
<b>Benefit Service:</b>	Exact fractional service on the decrement date is used to determine the amount of benefit payable.
<b>Non-Benefit Service:</b>	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.
<b>Service Credit Accruals:</b>	It is assumed that members accrue one year of service credit per year.

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS (CONCLUDED)

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<b>Incidence of Contributions:</b>	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.
<b>Normal Form of Benefit:</b>	The assumed normal form of benefit is a straight life benefit, except where otherwise noted.
<b>Disability Valuation:</b>	<p>The Post-10/15/92 Disability benefit consists of one benefit payable to age 65 (10% of FAE) plus another benefit payable on and after age 65 (WRS benefit accrued to date of disability plus 7% of FAE during disability). For valuation purposes, the 7% of FAE portion of the post 65 benefit was added to the 40% of FAE benefit prior to age 65.</p> <p>Additionally, there are certain cases in which the disability benefit at the member's normal retirement age is larger than the member's benefit under the normal retirement benefit formula. To account for this, an adjustment is made to the member's normal retirement benefit present value calculation which is equal to 15% of the difference between the present values of the LTDI benefit and the normal retirement benefit.</p>
<b>Variable Excess Benefits</b>	These benefits are valued by increasing the otherwise calculated liabilities by an amount equal to twice the value of the variable excess. (The variable excess is the difference between the variable account and the variable at core account, summed over all participants.)
<b>Loads:</b>	Final Average Salary was loaded 1% to account for additional contingencies in actual benefit amount calculated at the time of retirement.
<b>Amortization Payoff Reserve:</b>	Additional reserves in the amount of \$285,608,044 (discounted from the year 2029 to the current valuation date) were added to general group liabilities to account for the possibility that some non-state employers may never be able to pay off their unfunded actuarial accrued liability.

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## SECTION FOUR

### THE VALUATION PROCESS

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## FINANCIAL PRINCIPLES & OPERATIONAL TECHNIQUES OF THE WISCONSIN RETIREMENT SYSTEM

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**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 ...  
Ivestment 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.

## ACTUARIAL METHOD AND ASSUMPTIONS USED IN VALUATIONS

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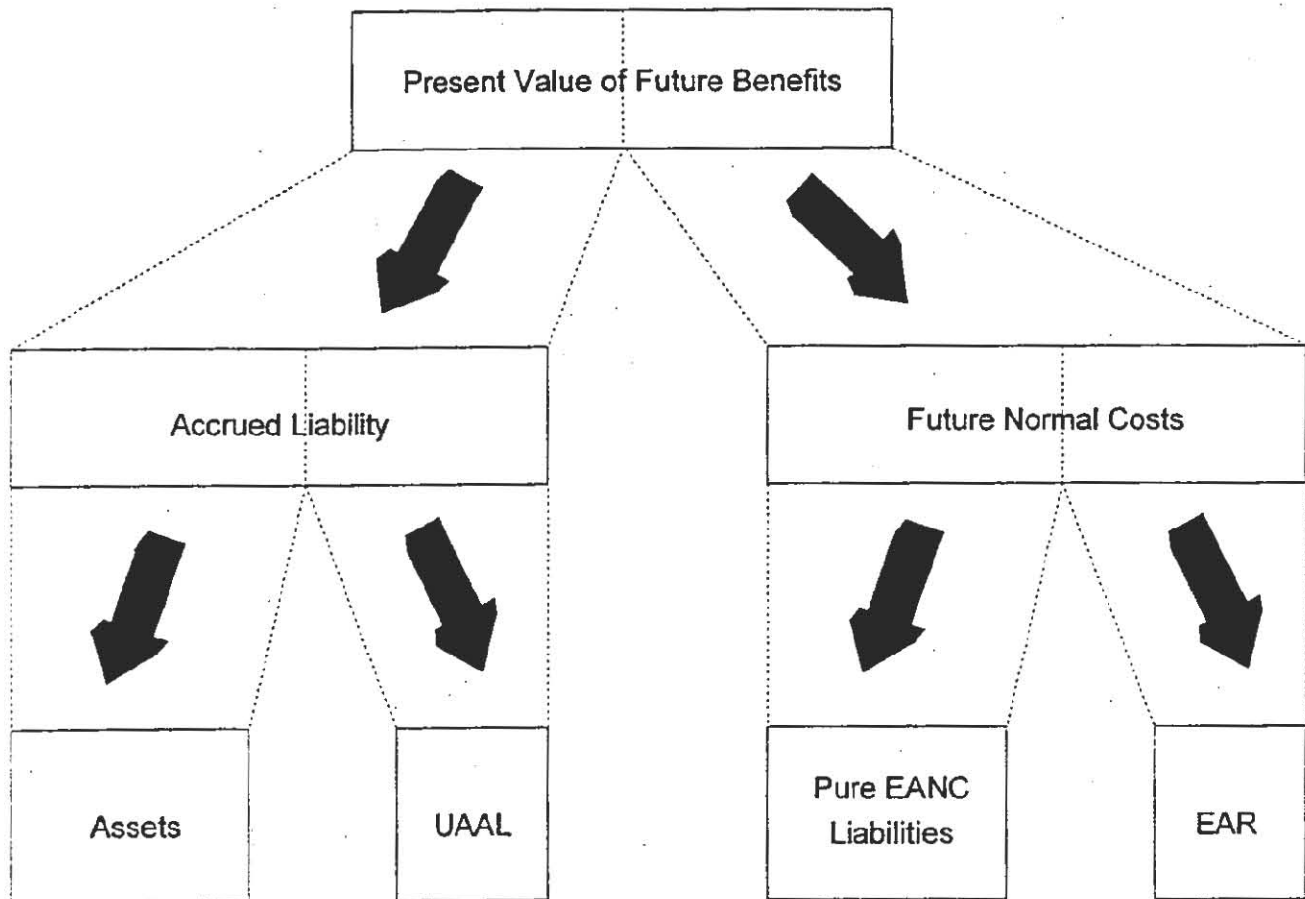
### The principal areas of risk assumption are:

- 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*.

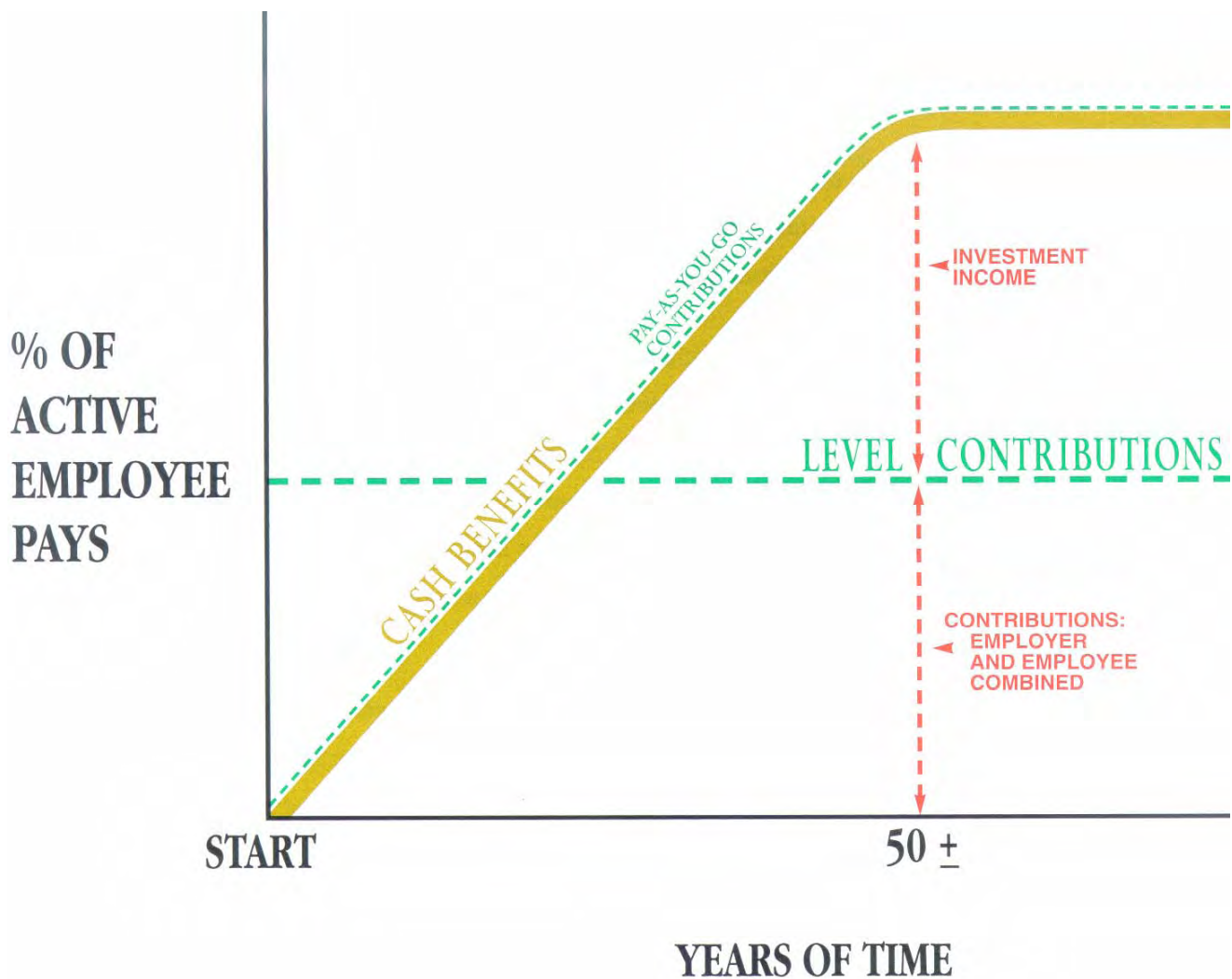
In an actuarial valuation, the actuary projects the monetary effect of each risk assumption for each distinct experience group, for the next year and for each year over the next half-century or longer.

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.

## The Actuarial Valuation Process



- UAAL: Unfunded actuarial accrued liabilities are amortized over a fixed period of years.
  
- Pure EANC: Entry age normal cost liabilities are financed over the working lifetimes of WRS participants.
  
- EAR: The Experience Amortization Reserve portion of future normal costs is financed over varying periods which are selected to optimize contribution rate stability.



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

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

Economic Risk Areas

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

Non-Economic Risk Areas

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

## GLOSSARY

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**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.

## **GLOSSARY (CONCLUDED)**

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**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.

June 6, 2007

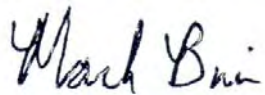
Mr. David Stella  
Wisconsin Department of Employee  
Trust Funds  
801 West Badger Road  
Madison, Wisconsin 53713

**Re: Report of Twenty-Sixth Annual Actuarial Valuation**

Dear Dave:

Enclosed are 75 copies of the December 31, 2006 regular annual actuarial valuations.

Sincerely,

A handwritten signature in black ink that reads "Mark Buis". The signature is written in a cursive style with a large initial "M".

Mark Buis

MB:lr  
Enclosures