

WISCONSIN RETIREMENT SYSTEM

**GAIN/LOSS ANALYSIS OF EXPERIENCE AMONG ACTIVE MEMBERS
DURING CALENDAR YEAR 2010**

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August 25, 2011

The Employee Trust Funds Board
Wisconsin Retirement System
801 West Badger Road
Madison, Wisconsin 53713

Dear Board Members:

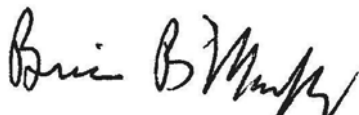
The results of the December 31, 2010 Gain/Loss Analysis Among Active Members of the Wisconsin Retirement System are presented in this report. The purpose of the analysis was to measure the economic and demographic experience for the 2010 calendar year that affected the 2012 contribution rate change (as described on page 6). This report should not be relied upon for any other purpose. This report may be distributed to parties other than the System only in its entirety and only with the permission of the Board.

The analysis was based upon information, furnished by your Secretary, concerning Retirement System benefits, financial transactions and membership data. Data was checked for internal and year to year consistency, but was not otherwise audited, by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the data provided.

Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.

To the best of our knowledge, this report is complete and accurate and the valuation was conducted in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with the applicable state statutes. The undersigned are independent of the plan sponsor and are members of the American Academy of Actuaries (MAAA) who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the actuarial assumptions used for the valuation produce results which are reasonable.

Respectfully submitted,



Brian B. Murphy, FSA, MAAA



Mark Buis, FSA, MAAA

BBM/MB:lr

ACTIVE MEMBER GAIN/LOSS ANALYSIS

Introduction

Purpose of Gain/Loss Analysis. Regular actuarial valuations provide information about the composite change in computed contribution rates and total liabilities -- whether or not the rates and related liabilities are increasing or decreasing, and by how much. However, valuations do not show the portion of the change attributable to each risk area within the Retirement System financial mechanism: the rate of recognized investment income on plan assets; the rates of withdrawal of active participants who leave covered employment; the rates of mortality; the rates of disability; the rates of salary increases; and the assumed ages at actual retirement. In an actuarial valuation, assumptions are made as to what these rates will be for the next year and for decades in the future.

The objective of a gain and loss analysis is to determine the portion of the change that is attributable to each risk area.

The fact that actual experience differs from assumed experience should be expected. The future cannot be predicted with complete precision. Further, year-to-year statistical fluctuations occur, even in very large groups. This year's report reflects just a single year's experience. Changes in the valuation assumed experience for a risk area should be made only when the differences between assumed and actual experience have been observed to be sizable and persistent. One year's gain and loss analysis may or may not be indicative of *long-term trends, which are the basis of actuarial assumptions*. However, a persistent series of gains and losses can indicate a need for an assumption change or a method change, even if on a demographic basis, the assumptions appear to model reality well. In the Wisconsin Retirement System, longer term trends are reviewed in connection with the regular 3-year investigation of experience (the most recent 3-year investigation covered the period January 1, 2006 to December 31, 2008). It is the results of the 3-year investigation that lead to recommendations for changes in the actuarial assumptions.

Overall Experience

Overall experience resulted in a net actuarial loss of \$217 million for the 2010 calendar year. Continued recognition of the large loss from 2008 investment experience was partially offset this year by a large gain attributable to lower salary increases than assumed. The net result was a small increase in the overall 2012 contribution rate of 0.2% of payroll.

POPULATION DEVELOPMENT DURING CALENDAR YEAR 2010

	General	Executive & Elected	Protective		Total	Expected
			With S.S.	Without S.S.		
Beginning Census	240,401	1,427	20,205	2,733	264,766	
(-) Normal Retirement	2,988	39	347	58	3,432	4,390
(-) Early Retirement	2,981	11	58	4	3,054	4,417
(-) Death	267	4	15	1	287	287
(-) Disability Retirement						
-Total Disabilities approved	147	0	16	5	168	299
-Less Pending at Beginning of Year	49	0	7	0	56	
-Net new from active status	98	0	9	5	112	
(-) Other Separations	9,906	66	398	23	10,393	10,722
(-) Transfers Out	781	19	89	5	894	
(+) Transfers In	725	43	94	32	894	
(+) New Entrants	15,854	87	636	85	16,662	
Ending Census	239,959	1,418	20,019	2,754	264,150	

This schedule reconciles the active member populations reported in connection with the 2009 and 2010 valuations on an actual and expected basis. Assumptions related to population development are a primary focus of the gain/loss analysis. They generally tend to be more stable than economic assumptions, and therefore, measurements have more meaning. Please note also that the table above represents changes in actual and expected counts of members. Beginning with the 2009 valuations, some of the actuarial assumptions (retirement, turnover, etc) are based on liability weighted rates. Therefore, comparing actual to expected member counts alone may not form the basis for our conclusions.

COMMENTS

Population Results (refer to schedules on Pages 4 and 9)

Normal Retirements varied by group and gender. Overall, there were fewer normal retirements than expected. In general, fewer normal retirements than assumed often creates a gain. However, looking at counts alone is not always an accurate predictor of whether a gain or loss occurs. If there are fewer retirements in shorter service, lower paid groups and more retirements than expected in longer service, higher paid groups, there will be a net loss to the System even if the actual total counts might be equal to or less than expected. In order to account for this, retirement rates are now developed partially on a liability weighted methodology. The net result for this past year was a small gain.

Early Retirements were less than expected in most groups, overall producing a small gain.

Deaths among active participants were very close to expected. The net result for the past year was a small loss. While a gain/loss of zero might be expected in such circumstances, a loss can occur depending on the distribution of people who die and what they might have done otherwise. For example, if a young person quits, a benefit of one times accumulated employee required contributions is paid. If the same person dies, a value of twice the contributions is paid.

Disabilities were less than expected and produced a gain. This means that the reserves needed for the disability benefit were slightly smaller than the reserves that had been held for retirement benefits.

Other Separations varied by group, gender, and service. Other separations among short (under 10 years) service were lower than expected. Separations among longer service participants were also less than expected. The net result was an actuarial loss.

In total, the population risk areas (retirement, death, disability, and other separations) produced a small actuarial loss in 2010.

COMMENTS

Economic Results (refer to schedules on Pages 9 and 12)

Investment Return activity produced a loss for all groups. However, the recognized investment loss of \$985 million was partially absorbed by a \$109 million loss in the combined value of variable excess benefits and money purchase benefits, resulting in a net liability loss of about \$876 million.

Pay Increases were less than expected in most groups, producing a gain.

Other Analysis (refer to schedule on Page 10)

The schedule on page 10 analyzes gains or losses due to sources other than the demographic and economic areas. The **Reserve difference** produced a loss of about \$41 million. This is primarily attributable to adjustments related to estimated annuities for which final computations have now been made. The **Re-established liability** represents the liability for new or rehired active members who were not active in the prior year. Typically, it is expected that a new hire will have very little liability. However, often new members appear with more than one year of service or with liability greater than contributions made on their behalf. Although this amount is difficult to determine accurately due to the timing of contribution amounts, we estimate the Re-established liability loss at about \$44 million.

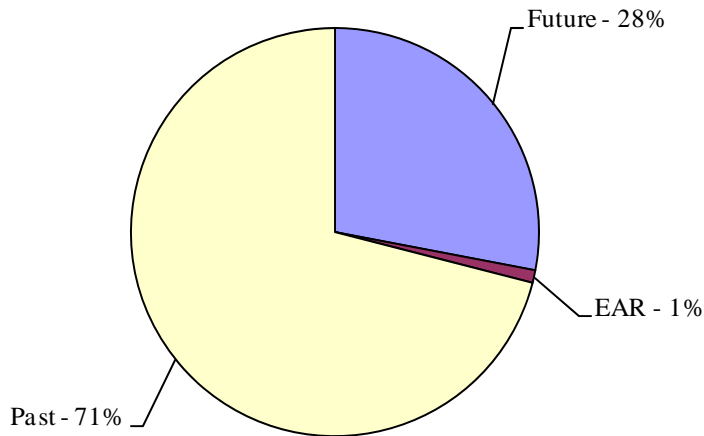
Contribution Rate Change

In total, the plan experienced a net loss of \$217 million. Losses were primarily attributable to unfavorable investment return. As a result, the total normal cost contribution rate increased for all valuation groups. The change in economic assumptions was approximately cost neutral for most groups, but increased contribution rates for the Executive and Elected group slightly. The net losses have resulted in a reduction in the Experience Amortization Reserve (EAR). The EAR is used to minimize short-term fluctuations in contribution rates. As the EAR reduces in size, the ability to stabilize contribution rates will also be reduced.

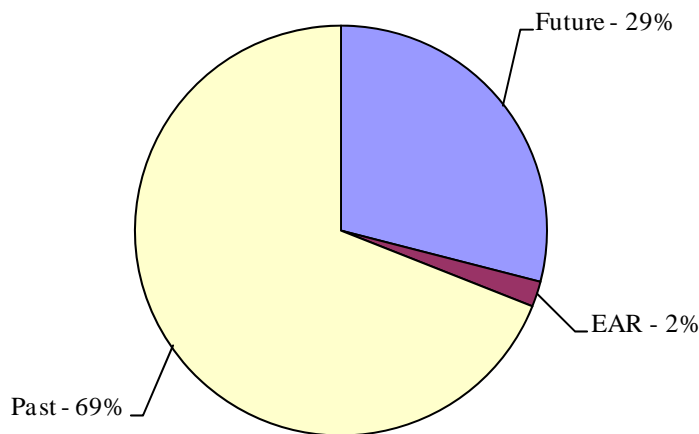
This Gain/Loss Analysis is the second in the normal three-year experience cycle. It will be part of the basis for the experience investigation covering the period January 1, 2009 to December 31, 2011.

FINANCING RETIREMENT SYSTEM BENEFIT LIABILITIES AT DECEMBER 31

2010 - \$54.0 Billion



2009 - \$53.7 Billion



The gain/loss analysis studies changes in entry age normal accrued liabilities which are reflected in the Experience Amortization Reserve (EAR) as shown on page G-4. Future liabilities are financed via normal cost contributions each year as they accrue. Past liabilities are financed by application of present assets and unfunded liability contributions. The liabilities assigned to the EAR are technically part of the future. However, as part of the valuation method, they are financed as though they were part of the past. The EAR amortization period is selected each year to minimize short term contribution rate fluctuations.

**GAIN/LOSS ANALYSIS
2010 EXPERIENCE
DIVISIONS COMBINED**



ACTUARIAL GAINS & LOSSES DURING CALENDAR YEAR 2010
(\$ MILLIONS)

Type of Activity	General	Executive & Elected	Protective		Total
			With S.S.	Without S.S.	
Decrement Risk Areas					
Normal Retirement	\$ 5.9	\$(0.7)	\$ 4.9	\$3.2	\$ 13.3
Early Retirement	3.7	0.2	1.4	0.2	5.5
Disability Retirement	19.8	0.1	1.5	0.6	22.0
Death with Benefit	(1.8)	0.0	0.4	0.1	(1.3)
Other Separations	(46.5)	(1.0)	(7.6)	(0.6)	(55.7)
Economic Risk Areas					
Salary Increases	629.8	6.7	106.8	30.0	773.3
Investment Return	(739.1)	(8.3)	(101.9)	(26.4)	(875.7)
Other Activity (See Page 10)	(82.3)	(1.8)	(11.0)	(3.7)	(98.8)
Total Gain(Loss)	\$ (210.5)	\$(4.8)	\$ (5.5)	\$ 3.4	(217.4)
-% of accrued liability	(0.6)%	(1.7)%	(0.1)%	0.4%	(0.6)%

**ANALYSIS OF OTHER ACTIVITY
(\$ MILLIONS)**

	General	Executive & Elected	Protective		Total
			With S.S.	Without S.S.	
Expected Reserve Transfers					
Normal Retirement	\$1,473	\$24	\$ 185	\$51	\$1,733
Early Retirement	866	4	32	4	906
Death	41	0	2	0	43
Disability Retirement	35	0	4	3	42
Deferred Retirement	291	2	22	8	323
Expected Total Reserve Transfers	2,706	30	245	66	3,047
Actual Reserve Transfer (From Retiree Report)	2,741	31	250	66	3,088
Reserve Difference	(35)	(1)	(5)	(0)	(41)
Expected Refunds	25	0	1	0	26
Actual Refunds	24	0	2	1	27
Refund Difference	1	0	(1)	(1)	(1)
Re-established Liability	(41)	1	(4)	(1)	(44)
Total Explained Difference	(74)	(0)	(9)	(2)	(86)
Unknown Difference	(8)	(2)	(2)	(2)	(13)
Total Other Activity	(82)	(2)	(11)	(4)	(99)
Other Activity as % of Liabilities	-0.24%	-0.72%	-0.29%	-0.42%	-0.25%

This schedule analyzes reserve transfers and contribution refunds and shows the portion of “other” activity that can be explained by those sources.

**COMPARATIVE SCHEDULE OF EXPERIENCE
5-YEAR HISTORY OF GAINS AND (LOSSES)
(\$ MILLIONS)**

Year	Normal & Early Retmt.	Disability Retmt.	Other Separations*	Salary Increases	Investment Return	Other	Total
GENERAL							
2006	\$ (8.5)	\$ 13.5	\$ (14.8)	\$ 124.8	\$ 277.3	\$ (192.0)	\$ 200.3
2007	(6.5)	14.1	(27.3)	78.6	830.8	(210.4)	679.3
2008	(7.4)	20.3	(28.5)	66.3	(832.7)	(144.0)	(926.0)
2009	20.2	18.7	(60.6)	360.5	(762.1)	(47.0)	(470.3)
2010	9.6	19.8	(48.3)	629.8	(739.1)	(82.3)	(210.5)
EXECUTIVE & ELECTED							
2006	\$ 0.4	\$ 0.1	\$ (0.6)	\$ 2.6	\$ 1.1	\$ (5.0)	\$ (1.4)
2007	(0.8)	0.1	0.3	(0.2)	10.2	(6.1)	3.5
2008	2.2	0.1	(1.5)	(1.3)	(2.8)	(4.1)	(7.4)
2009	(0.1)	0.1	(1.2)	7.9	(10.4)	(5.0)	(8.7)
2010	(0.5)	0.1	(1.0)	6.7	(8.3)	(1.8)	(4.8)
PROTECTIVE WITH SOCIAL SECURITY							
2006	\$ (1.6)	\$ 0.5	\$ (2.0)	\$ (21.3)	\$ 51.0	\$ (24.6)	\$ 2.0
2007	3.0	(0.7)	(3.8)	0.3	102.2	(21.2)	79.8
2008	4.2	2.2	(6.8)	4.6	(144.7)	(7.4)	(147.9)
2009	9.1	1.9	(9.1)	74.6	(110.9)	(4.2)	(38.6)
2010	6.3	1.5	(7.2)	106.8	(101.9)	(11.0)	(5.5)
PROTECTIVE WITHOUT SOCIAL SECURITY							
2006	\$ (0.2)	\$ 0.7	\$ (0.5)	\$ 3.6	\$ 14.6	\$ (4.9)	\$ 13.3
2007	1.1	-	(0.5)	0.8	34.8	(4.6)	31.6
2008	1.2	0.8	0.3	1.6	(46.9)	(3.0)	(46.0)
2009	3.4	0.8	(1.3)	5.7	(28.6)	(2.6)	(22.6)
2010	3.4	0.6	(0.5)	30.0	(26.4)	(3.7)	3.4

* Includes separation due to death.

GAIN (LOSS) FROM INVESTMENT INCOME DURING CALENDAR YEAR 2010
(\$ MILLIONS)

	General	Executive & Elected	Protective		Total
			With SS	Without SS	
(1) Beginning of Year Active Participant Assets					
(a) Participant Accumulation Reserve (PAR)	\$14,353.5	\$88.6	\$1,244.5	\$321.1	\$16,007.7
(b) PAR Closing Adjustment	0.0	0.0	0.0	0.0	0.0
(c) Employer Accumulation Reserve (EAR)	19,654.1	194.6	2,407.2	620.3	22,876.2
(d) EAR Closing Adjustment	0.0	0.0	0.0	0.0	0.0
(e) Total	34,007.6	283.2	3,651.7	941.4	38,883.9
(2) End of Year Active Participant Assets					
(a) Participant Accumulation Reserve	14,448.3	82.2	1,261.4	315.7	16,107.6
(b) Employer Accumulation Reserve	19,816.1	195.2	2,479.0	633.7	23,124.0
(c) Total	34,264.4	277.4	3,740.4	949.4	39,231.6
(3) Investment Earnings Credited					
(a) Participant Accumulation Reserve	741.9	4.0	65.0	16.6	827.5
(b) Employer Accumulation Reserve	997.7	9.4	119.0	30.7	1,156.8
(c) Total	1,739.6	13.4	184.0	47.3	1,984.3
(4) Average Balance: $.5 \times \{(1e)+(2c)-(3c)\}$	33,266.2	273.6	3,604.1	921.8	38,065.7
(5) Expected Earnings: $.078 \times (4)$	2,594.8	21.3	281.1	71.9	2,969.1
(6) Gain (Loss) for year from investment experience: $(3c)-(5)$	(855.2)	(7.9)	(97.1)	(24.6)	(984.8)
(7) Portion applied to Change in Variable Excess Reserve and Money Purchase Minimum Benefit	(116.1)	0.4	4.8	1.8	(109.0)
(8) Remaining Gain (Loss): (6)-(7)	\$ (739.1)	\$ (8.3)	\$ (101.9)	\$(26.4)	\$ (875.8)

SECTION A

WITHDRAWAL EXPERIENCE

**GENERAL MALES
WITHDRAWAL EXPERIENCE**

Male Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	357	1,736	0.2056	0.2100	365
2	439	3,175	0.1383	0.1300	413
3	247	2,847	0.0868	0.0900	256
4	154	2,326	0.0662	0.0700	163
5	112	1,736	0.0645	0.0580	101
6	80	1,412	0.0567	0.0470	66
7	66	1,166	0.0566	0.0430	50
8	50	1,236	0.0405	0.0400	49
9	39	1,363	0.0286	0.0350	48
10	57	1,609	0.0354	0.0300	48
Totals	1,601	18,606	0.0860	0.0838	1,559

Male Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	7	0.0000	0.0300	-
30-34	8	361	0.0222	0.0300	11
35-39	17	1,336	0.0127	0.0210	28
40-44	42	2,730	0.0154	0.0170	46
45-49	52	4,423	0.0118	0.0135	60
50-54	95	6,274	0.0151	0.0120	75
Over 54	121	-	N/A		121
Totals	335	15,131	0.0221	0.0225	341

**GENERAL FEMALES
WITHDRAWAL EXPERIENCE**

Female Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	869	4,900	0.1773	0.2000	980
2	1,145	8,124	0.1409	0.1400	1,137
3	630	6,489	0.0971	0.1000	649
4	443	5,508	0.0804	0.0820	452
5	310	4,095	0.0757	0.0720	295
6	242	3,290	0.0736	0.0620	204
7	218	3,180	0.0686	0.0530	169
8	160	3,063	0.0522	0.0470	144
9	157	2,997	0.0524	0.0440	132
10	136	2,956	0.0460	0.0400	118
Totals	4,310	44,602	0.0966	0.0960	4,280

Female Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	13	0.0000	0.0400	1
30-34	14	562	0.0249	0.0350	20
35-39	44	1,890	0.0233	0.0300	57
40-44	69	3,631	0.0190	0.0240	87
45-49	113	6,166	0.0183	0.0190	117
50-54	176	9,598	0.0183	0.0170	163
Over 54	163	-	N/A		163
Totals	579	21,860	0.0265	0.0278	608

**PUBLIC SCHOOLS MALES
WITHDRAWAL EXPERIENCE**

Male Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	67	536	0.1250	0.1650	88
2	100	968	0.1033	0.1100	106
3	67	923	0.0726	0.0710	66
4	49	880	0.0557	0.0520	46
5	23	800	0.0288	0.0420	34
6	31	805	0.0385	0.0340	27
7	27	745	0.0362	0.0290	22
8	19	746	0.0255	0.0250	19
9	10	807	0.0124	0.0225	18
10	18	891	0.0202	0.0200	18
Totals	411	8,101	0.0507	0.0548	444

Male Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0200	-
30-34	1	234	0.0043	0.0150	4
35-39	13	1,840	0.0071	0.0120	22
40-44	17	2,472	0.0069	0.0110	27
45-49	33	2,444	0.0135	0.0090	22
50-54	23	2,583	0.0089	0.0080	21
Over 54	30	-	N/A		30
Totals	117	9,573	0.0122	0.0132	126

**PUBLIC SCHOOLS FEMALES
WITHDRAWAL EXPERIENCE**

Female Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	191	1,551	0.1231	0.1300	202
2	282	2,840	0.0993	0.0950	270
3	190	2,900	0.0655	0.0720	209
4	138	2,735	0.0505	0.0610	167
5	121	2,551	0.0474	0.0500	128
6	99	2,308	0.0429	0.0430	99
7	71	2,244	0.0316	0.0370	83
8	74	2,233	0.0331	0.0320	71
9	56	2,320	0.0241	0.0270	63
10	47	2,375	0.0198	0.0250	59
Totals	1,269	24,057	0.0527	0.0562	1,351

Female Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	1	0.0000	0.0200	-
30-34	7	739	0.0095	0.0190	14
35-39	45	4,225	0.0107	0.0150	63
40-44	42	5,946	0.0071	0.0120	71
45-49	56	5,784	0.0097	0.0100	58
50-54	72	6,552	0.0110	0.0090	59
Over 54	77	-	N/A		77
Totals	299	23,247	0.0129	0.0147	342

**UNIVERSITY MALES
WITHDRAWAL EXPERIENCE**

Male Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	54	354	0.1525	0.1800	64
2	98	603	0.1625	0.1600	96
3	66	634	0.1041	0.1250	79
4	47	525	0.0895	0.1050	55
5	31	419	0.0740	0.0880	37
6	22	355	0.0620	0.0760	27
7	28	373	0.0751	0.0620	23
8	25	320	0.0781	0.0530	17
9	22	323	0.0681	0.0410	13
10	10	342	0.0292	0.0360	12
Totals	403	4,248	0.0949	0.0996	423

Male Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0350	-
30-34	-	31	0.0000	0.0350	1
35-39	4	182	0.0220	0.0350	6
40-44	3	434	0.0069	0.0300	13
45-49	11	689	0.0160	0.0240	17
50-54	10	941	0.0106	0.0150	14
Over 54	11	-	N/A		11
Totals	39	2,277	0.0171	0.0272	62

**UNIVERSITY FEMALES
WITHDRAWAL EXPERIENCE**

Female Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	72	385	0.1870	0.2000	77
2	108	744	0.1452	0.1600	119
3	89	804	0.1107	0.1400	113
4	61	639	0.0955	0.1200	77
5	41	545	0.0752	0.0975	53
6	35	448	0.0781	0.0915	41
7	29	419	0.0692	0.0775	32
8	18	365	0.0493	0.0675	25
9	12	370	0.0324	0.0600	22
10	17	366	0.0464	0.0525	19
Totals	482	5,085	0.0948	0.1137	578

Female Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	1	0.0000	0.0525	-
30-34	1	34	0.0294	0.0525	2
35-39	4	212	0.0189	0.0525	11
40-44	12	454	0.0264	0.0375	17
45-49	21	688	0.0305	0.0250	17
50-54	13	909	0.0143	0.0150	14
Over 54	10	-	N/A		10
Totals	61	2,298	0.0265	0.0309	71

**PROTECTIVE WITH SOCIAL SECURITY
WITHDRAWAL EXPERIENCE**

Male and Female Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	43	357	0.1204	0.1300	46
2	72	947	0.0760	0.0700	66
3	37	1,041	0.0355	0.0460	48
4	33	985	0.0335	0.0415	41
5	24	776	0.0309	0.0325	25
6	20	701	0.0285	0.0300	21
7	21	754	0.0279	0.0275	21
8	11	732	0.0150	0.0250	18
9	14	900	0.0156	0.0225	20
10	10	1,033	0.0097	0.0190	20
Totals	285	8,226	0.0346	0.0396	326

Male and Female Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	17	0.0000	0.0190	-
30-34	6	692	0.0087	0.0190	13
35-39	21	2,103	0.0100	0.0150	32
40-44	23	2,806	0.0082	0.0120	34
45-49	35	2,445	0.0143	0.0110	27
50-54	17	485	0.0351	0.0100	5
Over 54	11	-	N/A		11
Totals	113	8,548	0.0132	0.0143	122

**PROTECTIVE WITHOUT SOCIAL SECURITY
WITHDRAWAL EXPERIENCE**

Male and Female Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	3	31	0.0968	0.0520	2
2	2	85	0.0235	0.0340	3
3	-	97	0.0000	0.0210	2
4	-	83	0.0000	0.0150	1
5	2	113	0.0177	0.0140	2
6	1	68	0.0147	0.0130	1
7	1	81	0.0123	0.0120	1
8	-	87	0.0000	0.0100	1
9	1	68	0.0147	0.0090	1
10	-	129	0.0000	0.0085	1
Totals	10	842	0.0119	0.0178	15

Male and Female Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0085	-
30-34	1	80	0.0125	0.0080	1
35-39	1	306	0.0033	0.0075	2
40-44	2	411	0.0049	0.0070	3
45-49	4	469	0.0085	0.0065	3
50-54	5	70	0.0714	0.0060	-
Totals	13	1,336	0.0097	0.0067	9

**EXECUTIVE AND ELECTED MALES
WITHDRAWAL EXPERIENCE**

Male and Female Service-Based Withdrawals

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	6	56	0.1071	0.2000	11
2	24	90	0.2667	0.1450	13
3	13	64	0.2031	0.1250	8
4	6	64	0.0938	0.1050	7
5	2	22	0.0909	0.1000	2
6	1	27	0.0370	0.0950	3
7	2	19	0.1053	0.0900	2
8	3	28	0.1071	0.0750	2
9	1	13	0.0769	0.0700	1
10	1	26	0.0385	0.0650	2
Totals	59	409	0.1443	0.1247	51

Male and Female Age-Based Withdrawals

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0650	-
30-34	-	1	0.0000	0.0650	-
35-39	1	15	0.0667	0.0600	1
40-44	-	43	0.0000	0.0450	2
45-49	1	83	0.0120	0.0400	3
50-54	3	153	0.0196	0.0375	6
Over 54	2	-	N/A		2
Totals	7	295	0.0237	0.0475	14

SECTION B

DISABILITY EXPERIENCE

**GENERAL
DISABILITY EXPERIENCE
DURING CALENDAR YEAR 2010**

Male Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	13	0.0000	0.0001	-
25-29	-	505	0.0000	0.0001	-
30-34	-	1,775	0.0000	0.0001	-
35-39	-	2,683	0.0000	0.0002	1
40-44	-	4,152	0.0000	0.0006	3
45-49	4	5,888	0.0007	0.0008	5
50-54	9	7,682	0.0012	0.0023	18
55-59	13	6,679	0.0019	0.0041	28
60-64	8	3,378	0.0024	0.0082	28
65-69	-	544	0.0000	0.0031	2
70-74	-	198	0.0000	0.0028	1
75 and over	-	-	N/A	0.0028	-
Totals	34	33,497	0.0010	0.0026	86

Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	43	0.0000	0.0001	-
25-29	-	1,035	0.0000	0.0001	-
30-34	-	3,110	0.0000	0.0003	1
35-39	-	4,244	0.0000	0.0004	2
40-44	1	6,413	0.0002	0.0007	4
45-49	5	10,296	0.0005	0.0009	10
50-54	9	13,996	0.0006	0.0016	23
55-59	11	11,889	0.0009	0.0031	36
60-64	7	6,828	0.0010	0.0038	26
65-69	-	1,176	0.0000	0.0031	4
70-74	-	285	0.0000	0.0026	1
75 and over	-	-	N/A	0.0026	-
Totals	33	59,315	0.0006	0.0018	107

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**PUBLIC SCHOOLS
DISABILITY EXPERIENCE
DURING CALENDAR YEAR 2010**

Male Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	1	0.0000	0.0001	-
25-29	-	342	0.0000	0.0001	-
30-34	-	2,125	0.0000	0.0001	-
35-39	-	2,789	0.0000	0.0001	-
40-44	-	3,035	0.0000	0.0003	1
45-49	-	2,812	0.0000	0.0005	2
50-54	2	2,855	0.0007	0.0020	6
55-59	4	2,212	0.0018	0.0026	6
60-64	2	874	0.0023	0.0046	4
65-69	1	99	0.0101	0.0065	1
70-74	-	19	0.0000	0.0067	-
75 and over	-	-	N/A	0.0067	-
Totals	9	17,163	0.0005	0.0012	20

Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	1	0.0000	0.0001	-
25-29	-	1,269	0.0000	0.0001	-
30-34	-	5,847	0.0000	0.0001	1
35-39	-	6,529	0.0000	0.0001	1
40-44	-	7,490	0.0000	0.0003	2
45-49	3	7,186	0.0004	0.0012	8
50-54	3	7,700	0.0004	0.0016	12
55-59	10	6,553	0.0015	0.0024	16
60-64	1	2,844	0.0004	0.0034	10
65-69	1	233	0.0043	0.0019	-
70-74	-	47	0.0000	0.0016	-
75 and over	-	-	N/A	0.0016	-
Totals	18	45,699	0.0004	0.0011	50

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**UNIVERSITY
DISABILITY EXPERIENCE
DURING CALENDAR YEAR 2010**

Male Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	-	N/A	0.0001	-
25-29	-	37	0.0000	0.0001	-
30-34	-	274	0.0000	0.0001	-
35-39	-	604	0.0000	0.0001	-
40-44	-	971	0.0000	0.0001	-
45-49	-	1,041	0.0000	0.0003	-
50-54	1	1,232	0.0008	0.0006	1
55-59	-	1,231	0.0000	0.0019	2
60-64	-	760	0.0000	0.0018	1
65-69	-	104	0.0000	0.0022	-
70-74	-	26	0.0000	0.0020	-
75 and over	-	-	N/A	0.0020	-
Totals	1	6,280	0.0002	0.0006	4

Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	-	N/A	0.0001	-
25-29	-	87	0.0000	0.0001	-
30-34	-	413	0.0000	0.0001	-
35-39	-	708	0.0000	0.0005	-
40-44	-	944	0.0000	0.0006	1
45-49	-	1,127	0.0000	0.0005	1
50-54	1	1,232	0.0008	0.0011	1
55-59	2	1,187	0.0017	0.0015	2
60-64	-	629	0.0000	0.0023	1
65-69	-	100	0.0000	0.0016	-
70-74	-	23	0.0000	0.0013	-
75 and over	-	-	N/A	0.0013	-
Totals	3	6,450	0.0005	0.0009	6

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**PROTECTIVE WITH SOCIAL SECURITY
DISABILITY EXPERIENCE
DURING CALENDAR YEAR 2010**

Male and Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0002	-
20-24	-	18	0.0000	0.0002	-
25-29	-	841	0.0000	0.0002	-
30-34	-	2,335	0.0000	0.0002	-
35-39	-	3,018	0.0000	0.0003	1
40-44	-	3,335	0.0000	0.0004	1
45-49	3	2,798	0.0011	0.0007	2
50-54	5	1,887	0.0026	0.0011	2
55-59	1	426	0.0023	0.0238	10
60-64	-	171	0.0000	0.0255	4
65-69	-	30	0.0000	0.0017	-
70-74	-	-	N/A	0.0017	-
75 and over	-	-	N/A	0.0017	-
Totals	9	14,859	0.0006	0.0013	20

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**PROTECTIVE WITHOUT SOCIAL SECURITY
DISABILITY EXPERIENCE
DURING CALENDAR YEAR 2010**

Male and Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0005	-
20-24	-	-	N/A	0.0005	-
25-29	-	79	0.0000	0.0005	-
30-34	-	278	0.0000	0.0005	-
35-39	-	437	0.0000	0.0006	-
40-44	-	482	0.0000	0.0010	-
45-49	-	486	0.0000	0.0020	1
50-54	5	326	0.0153	0.0140	5
55-59	-	16	0.0000	0.0020	-
60-64	-	5	0.0000	0.0020	-
65-69	-	1	0.0000	0.0020	-
70-74	-	-	N/A	0.0020	-
75 and over	-	-	N/A	0.0020	-
Totals	5	2,110	0.0024	0.0028	6

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**EXECUTIVE AND ELECTED
DISABILITY EXPERIENCE
DURING CALENDAR YEAR 2010**

Male and Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0000	-
20-24	-	-	N/A	0.0000	-
25-29	-	-	N/A	0.0000	-
30-34	-	11	0.0000	0.0000	-
35-39	-	44	0.0000	0.0001	-
40-44	-	65	0.0000	0.0001	-
45-49	-	112	0.0000	0.0002	-
50-54	-	187	0.0000	0.0004	-
55-59	-	213	0.0000	0.0016	-
60-64	-	132	0.0000	0.0014	-
65-69	-	44	0.0000	0.0012	-
70-74	-	15	0.0000	0.0012	-
75 and over	-	-	N/A	0.0012	-
Totals	-	823	N/A	N/A	-

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SECTION C
PAY INCREASES

**GENERAL
PAY INCREASE ASSUMPTION**

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	38,067	5.30 %	7.50 %
6-10	27,782	1.89 %	6.00 %
11-15	21,645	1.35 %	5.40 %
16-20	15,051	1.06 %	5.20 %
21-25	11,611	0.85 %	5.00 %
26-30	7,176	0.65 %	4.80 %
31-35	5,102	0.46 %	4.60 %
36-40	1,451	0.39 %	4.40 %
Over 40	214	0.90 %	4.40 %
Total	128,099		

**PUBLIC SCHOOLS
PAY INCREASE ASSUMPTION**

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	15,699	9.43 %	10.00 %
6-10	16,474	5.70 %	8.00 %
11-15	15,638	4.38 %	6.80 %
16-20	11,790	2.94 %	5.20 %
21-25	8,621	2.04 %	4.70 %
26-30	4,786	1.85 %	4.30 %
31-35	3,351	1.57 %	4.30 %
36-40	964	1.29 %	4.20 %
Over 40	123	0.62 %	4.20 %
Total	77,446		

**UNIVERSITY
PAY INCREASE ASSUMPTION**

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	5,070	11.37 %	7.50 %
6-10	4,061	2.77 %	7.00 %
11-15	3,106	2.48 %	6.50 %
16-20	1,967	1.49 %	6.00 %
21-25	1,647	0.75 %	5.50 %
26-30	1,076	0.88 %	5.20 %
31-35	578	0.61 %	5.00 %
36-40	240	1.07 %	4.70 %
Over 40	89	(0.74)%	4.60 %
Total	17,834		

**PROTECTIVE WITH SOCIAL SECURITY
PAY INCREASE ASSUMPTION**

Male and Female Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	3,861	8.08 %	9.00 %
6-10	4,304	1.73 %	5.80 %
11-15	4,247	1.25 %	5.20 %
16-20	3,134	1.04 %	5.00 %
21-25	2,094	1.11 %	4.90 %
26-30	1,126	1.04 %	4.70 %
31-35	448	1.22 %	4.60 %
36-40	68	1.08 %	4.50 %
Over 40	7	2.41 %	4.40 %
Total	19,289		

**PROTECTIVE WITHOUT SOCIAL SECURITY
PAY INCREASE ASSUMPTION**

Male and Female Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	400	9.35 %	9.00 %
6-10	432	1.35 %	5.55 %
11-15	600	0.22 %	4.75 %
16-20	447	(0.23)%	4.65 %
21-25	413	0.05 %	4.55 %
26-30	264	0.75 %	4.45 %
31-35	79	(0.28)%	4.35 %
36-40	2	0.07 %	4.25 %
Over 40	-	N/A	4.15 %
Total	2,637		

**EXECUTIVE AND ELECTED
PAY INCREASE ASSUMPTION**

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	354	7.81 %	5.20 %
6-10	208	2.38 %	5.10 %
11-15	175	1.83 %	5.00 %
16-20	165	1.16 %	4.90 %
21-25	142	1.61 %	4.70 %
26-30	116	1.57 %	4.50 %
31-35	87	0.06 %	4.40 %
36-40	32	2.04 %	4.00 %
Over 40	9	0.38 %	4.00 %
Total	1,288		

SECTION D

NORMAL AND EARLY RETIREMENT EXPERIENCE

**GENERAL MALES
NORMAL RETIREMENT EXPERIENCE**

Male Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	62	367	0.1689	0.2400	88
58	58	385	0.1506	0.2400	92
59	63	366	0.1721	0.2400	88
60	49	321	0.1526	0.2400	77
61	58	293	0.1980	0.2000	59
62	50	230	0.2174	0.3300	76
63	56	200	0.2800	0.3300	66
64	24	119	0.2017	0.2400	29
65	60	416	0.1442	0.2600	108
66	64	362	0.1768	0.2800	101
67	47	251	0.1873	0.1500	38
68	27	218	0.1239	0.1500	33
69	14	157	0.0892	0.1500	24
70	17	139	0.1223	0.1500	21
71	9	97	0.0928	0.1500	15
72	12	105	0.1143	0.1500	16
73	3	72	0.0417	0.1500	11
74	9	85	0.1059	0.1500	13
Totals	682	4,183	0.1630	0.2283	955
75 & Over	24	290			290
Totals	706	4,473			1,245

**GENERAL MALES
EARLY RETIREMENT EXPERIENCE**

Male Age-Based Early Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	89	1,669	0.0533	0.0800	134
56	82	1,677	0.0489	0.0800	134
57	29	1,119	0.0259	0.0450	50
58	36	1,171	0.0307	0.0500	59
59	44	1,043	0.0422	0.0550	57
60	54	867	0.0623	0.0800	69
61	41	746	0.0550	0.0800	60
62	84	717	0.1172	0.1700	122
63	94	586	0.1604	0.1700	100
64	62	462	0.1342	0.1700	79
Totals	615	10,057	0.0612	0.0859	864

**GENERAL FEMALES
NORMAL RETIREMENT EXPERIENCE**

Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	48	369	0.1301	0.1900	70
58	60	391	0.1535	0.1900	74
59	55	348	0.1580	0.1900	66
60	56	302	0.1854	0.1900	57
61	49	259	0.1892	0.1900	49
62	49	203	0.2414	0.2900	59
63	45	163	0.2761	0.2900	47
64	27	116	0.2328	0.2500	29
65	163	810	0.2012	0.2500	203
66	148	612	0.2418	0.2800	171
67	75	453	0.1656	0.1500	68
68	43	346	0.1243	0.1500	52
69	35	214	0.1636	0.1500	32
70	34	201	0.1692	0.1500	30
71	17	132	0.1288	0.1500	20
72	14	122	0.1148	0.1500	18
73	10	106	0.0943	0.1500	16
74	7	96	0.0729	0.1500	14
Totals	935	5,243	0.1783	0.2050	1,075
75 & Over	26	313			313
Totals	961	5,556			1,388

**GENERAL FEMALES
EARLY RETIREMENT EXPERIENCE**

Female Age-Based Early Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	99	2,840	0.0349	0.0600	170
56	92	2,804	0.0328	0.0600	168
57	51	2,232	0.0228	0.0450	100
58	72	2,059	0.0350	0.0550	113
59	86	1,954	0.0440	0.0550	107
60	101	1,713	0.0590	0.0800	137
61	85	1,546	0.0550	0.0800	124
62	180	1,513	0.1190	0.1600	242
63	153	1,186	0.1290	0.1600	190
64	100	870	0.1149	0.1600	139
Totals	1,019	18,717	0.0544	0.0796	1,490

**PUBLIC SCHOOL MALES
NORMAL RETIREMENT EXPERIENCE**

Male Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	72	275	0.2618	0.4000	110
58	61	222	0.2748	0.3500	78
59	45	207	0.2174	0.2800	58
60	43	177	0.2429	0.2800	50
61	32	126	0.2540	0.2800	35
62	33	103	0.3204	0.3800	39
63	17	72	0.2361	0.3500	25
64	10	45	0.2222	0.2500	11
65	16	99	0.1616	0.2500	25
66	18	77	0.2338	0.2500	19
67	13	49	0.2653	0.2000	10
68	5	39	0.1282	0.2000	8
69	5	29	0.1724	0.2000	6
70	-	15	0.0000	0.2500	4
71	1	11	0.0909	0.2500	3
72	3	20	0.1500	0.2500	5
73	1	8	0.1250	0.2500	2
74	-	6	0.0000	0.2500	2
Totals	375	1,580	0.2373	0.3101	490
75 & Over	5	24			24
Totals	380	1,604			514

**PUBLIC SCHOOL MALES
EARLY RETIREMENT EXPERIENCE**

Male Age-Based Early Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	50	666	0.0751	0.1500	100
56	65	646	0.1006	0.1500	97
57	22	297	0.0741	0.1500	45
58	21	307	0.0684	0.1400	43
59	31	296	0.1047	0.1100	33
60	24	232	0.1034	0.1500	35
61	26	220	0.1182	0.1400	31
62	25	166	0.1506	0.2300	38
63	21	147	0.1429	0.2300	34
64	16	109	0.1468	0.1600	17
Totals	301	3,086	0.0975	0.1533	473

**PUBLIC SCHOOL FEMALES
NORMAL RETIREMENT EXPERIENCE**

Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	107	486	0.2202	0.3000	146
58	92	451	0.2040	0.3000	135
59	101	399	0.2531	0.3000	120
60	65	291	0.2234	0.3000	87
61	58	230	0.2522	0.3000	69
62	52	155	0.3355	0.3800	59
63	30	124	0.2419	0.3200	40
64	9	59	0.1525	0.2600	15
65	58	231	0.2511	0.3100	72
66	49	187	0.2620	0.2700	50
67	33	100	0.3300	0.2600	26
68	11	64	0.1719	0.2400	15
69	4	42	0.0952	0.2200	9
70	4	34	0.1176	0.1800	6
71	5	37	0.1351	0.1800	7
72	-	20	0.0000	0.1800	4
73	4	20	0.2000	0.1800	4
74	2	11	0.1818	0.1800	2
Totals	684	2,941	0.2326	0.2945	866
75 & Over	4	48			48
Totals	688	2,989			914

**PUBLIC SCHOOL FEMALES
EARLY RETIREMENT EXPERIENCE**

Female Age-Based Early Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	94	1,627	0.0578	0.1250	203
56	119	1,691	0.0704	0.1250	211
57	76	1,163	0.0653	0.1150	134
58	70	1,049	0.0667	0.1250	131
59	90	1,023	0.0880	0.1250	128
60	115	864	0.1331	0.1500	130
61	80	703	0.1138	0.1600	112
62	111	558	0.1989	0.2300	128
63	86	460	0.1870	0.2100	97
64	51	259	0.1969	0.1900	49
Totals	892	9,397	0.0949	0.1408	1,323

**UNIVERSITY MALES
NORMAL RETIREMENT EXPERIENCE**

Male Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	5	30	0.1667	0.1500	5
58	3	37	0.0811	0.1500	6
59	5	44	0.1136	0.1500	7
60	5	58	0.0862	0.1500	9
61	8	43	0.1860	0.1500	6
62	8	49	0.1633	0.1700	8
63	6	65	0.0923	0.1700	11
64	4	54	0.0741	0.1700	9
65	17	145	0.1172	0.2000	29
66	25	125	0.2000	0.2200	27
67	15	98	0.1531	0.1800	18
68	15	73	0.2055	0.1800	13
69	7	45	0.1556	0.1800	8
70	5	44	0.1136	0.2000	9
71	6	30	0.2000	0.2000	6
72	2	21	0.0952	0.1800	4
73	-	18	0.0000	0.1800	3
74	-	15	0.0000	0.1800	3
Totals	136	994	0.1368	0.1821	181
75 & Over	4	42			42
Totals	140	1,036			223

**UNIVERSITY MALES
EARLY RETIREMENT EXPERIENCE**

Male Age-Based Early Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	9	269	0.0335	0.0500	13
56	7	278	0.0252	0.0450	13
57	5	238	0.0210	0.0250	6
58	5	219	0.0228	0.0350	8
59	11	227	0.0485	0.0400	9
60	7	194	0.0361	0.0550	11
61	6	155	0.0387	0.0750	12
62	8	143	0.0559	0.1000	14
63	8	142	0.0563	0.0950	13
64	8	126	0.0635	0.0850	11
Totals	74	1,991	0.0372	0.0552	110

**UNIVERSITY FEMALES
NORMAL RETIREMENT EXPERIENCE**

Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	3	24	0.1250	0.1700	4
58	10	51	0.1961	0.1400	7
59	5	39	0.1282	0.1400	5
60	5	40	0.1250	0.1400	6
61	4	30	0.1333	0.2200	7
62	5	29	0.1724	0.2000	6
63	2	17	0.1176	0.2000	3
64	3	27	0.1111	0.2000	5
65	25	115	0.2174	0.2200	25
66	14	56	0.2500	0.2000	11
67	9	39	0.2308	0.1800	7
68	7	36	0.1944	0.1800	6
69	3	22	0.1364	0.1800	4
70	6	21	0.2857	0.1800	4
71	5	18	0.2778	0.1800	3
72	1	7	0.1429	0.1800	1
73	1	2	0.5000	0.1800	-
74	1	5	0.2000	0.1800	1
Totals	109	578	0.1886	0.1817	105
75 & Over	4	15			15
Totals	113	593			120

**UNIVERSITY FEMALES
EARLY RETIREMENT EXPERIENCE**

Female Age-Based Early Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	9	252	0.0357	0.0600	15
56	9	290	0.0310	0.0600	17
57	6	234	0.0256	0.0600	14
58	4	200	0.0200	0.0600	12
59	10	211	0.0474	0.0600	13
60	6	157	0.0382	0.0700	11
61	8	147	0.0544	0.0750	11
62	6	136	0.0441	0.1400	19
63	9	105	0.0857	0.1400	15
64	13	84	0.1548	0.1600	13
Totals	80	1,816	0.0441	0.0771	140

**PROTECTIVE WITH SOCIAL SECURITY
NORMAL RETIREMENT EXPERIENCE**

Male and Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
50	18	341	0.0528	0.0750	26
51	18	305	0.0590	0.0800	24
52	23	297	0.0774	0.0850	25
53	63	345	0.1826	0.2800	97
54	54	414	0.1304	0.2000	83
55	43	344	0.1250	0.1700	58
56	36	285	0.1263	0.1700	48
57	26	223	0.1166	0.1700	38
58	14	205	0.0683	0.1700	35
59	24	179	0.1341	0.1700	30
60	28	146	0.1918	0.1700	25
61	12	101	0.1188	0.2000	20
62	14	72	0.1944	0.2000	14
63	18	67	0.2687	0.3000	20
64	6	48	0.1250	0.1800	9
65	4	26	0.1538	0.3000	8
66	1	12	0.0833	0.3000	4
67	1	6	0.1667	0.2300	1
68	1	2	0.5000	0.2300	-
69	-	5	0.0000	0.2000	1
70	1	3	0.3333	1.0000	3
71	-	4	0.0000	1.0000	4
72	-	-	N/A	1.0000	-
73	-	-	N/A	1.0000	-
74	-	-	N/A	1.0000	-
Totals	405	3,430	0.1181	0.1671	573
75 & Over	-	1			1
Totals	405	3,431			574

**PROTECTIVE WITHOUT SOCIAL SECURITY
NORMAL RETIREMENT EXPERIENCE**

Male and Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
50	-	82	0.0000	0.0350	3
51	1	69	0.0145	0.0350	2
52	3	67	0.0448	0.0600	4
53	6	73	0.0822	0.2300	17
54	17	70	0.2429	0.2800	20
55	7	56	0.1250	0.2800	16
56	11	45	0.2444	0.2800	13
57	5	35	0.1429	0.3700	13
58	7	24	0.2917	0.3200	8
59	2	13	0.1538	0.3500	5
60	3	11	0.2727	0.2200	2
61	-	-	N/A	0.1500	-
62	-	2	0.0000	0.2000	-
63	-	6	0.0000	0.2000	1
64	-	1	0.0000	0.2000	-
65	-	1	0.0000	0.4000	-
66	-	-	N/A	0.4000	-
67	-	-	N/A	0.4000	-
68	-	-	N/A	0.4000	-
69	-	-	N/A	0.4000	-
70	-	-	N/A	1.0000	-
71	-	-	N/A	1.0000	-
72	-	-	N/A	1.0000	-
73	-	-	N/A	1.0000	-
74	-	-	N/A	1.0000	-
Totals	62	555	0.1117	0.1874	104
75 & Over	-	-	N/A		-
Totals	62	555			104

**EXECUTIVE AND ELECTED
NORMAL RETIREMENT EXPERIENCE**

Male and Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	1	12	0.0833	0.1700	2
58	2	13	0.1538	0.1700	2
59	1	15	0.0667	0.1700	3
60	1	10	0.1000	0.1100	1
61	3	8	0.3750	0.1100	1
62	8	47	0.1702	0.1100	5
63	4	43	0.0930	0.1100	5
64	1	35	0.0286	0.0800	3
65	4	27	0.1481	0.0800	2
66	3	23	0.1304	0.2000	5
67	3	22	0.1364	0.1700	4
68	-	12	0.0000	0.1700	2
69	-	12	0.0000	0.1700	2
70	1	7	0.1429	0.1500	1
71	1	8	0.1250	0.1500	1
72	3	7	0.4286	0.1500	1
73	-	4	0.0000	0.1000	-
74	-	3	0.0000	0.1000	-
Totals	36	308	0.1169	0.1299	40
75 & Over	1	22			22
Totals	37	330			62

**EXECUTIVE AND ELECTED
EARLY RETIREMENT EXPERIENCE**

Male and Female Age-Based Early Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	-	40	0.0000	0.0550	2
56	1	54	0.0185	0.0550	3
57	-	26	0.0000	0.0550	1
58	3	45	0.0667	0.0550	2
59	2	48	0.0417	0.0550	3
60	-	41	0.0000	0.0550	2
61	3	38	0.0789	0.0550	2
62	-	10	0.0000	0.0550	1
63	1	11	0.0909	0.0550	1
64	-	8	0.0000	0.0550	-
Over 64	1	72	0.0139		
Totals	11	393			17

SECTION E

MORTALITY EXPERIENCE

DEATH-IN-SERVICE

Male

Age	Deaths	Exposure	Crude Rates	Current Rates	Expected Deaths
Under 20	-	41	0.0000	0.0002	-
20-24	2	1,588	0.0013	0.0003	-
25-29	3	6,733	0.0004	0.0003	2
30-34	2	9,664	0.0002	0.0004	4
35-39	8	11,409	0.0007	0.0004	5
40-44	9	13,423	0.0007	0.0006	8
45-49	10	14,420	0.0007	0.0009	13
50-54	19	15,900	0.0012	0.0015	24
55-59	38	14,760	0.0026	0.0025	36
60-64	28	8,459	0.0033	0.0033	28
65-69	11	2,333	0.0047	0.0059	14
70-74	4	717	0.0056	0.0100	7
75 and over	3	-	N/A	0.0193	-
Totals	137	99,447	0.0014	0.0014	141

Female

Age	Deaths	Exposure	Crude Rates	Current Rates	Expected Deaths
Under 20	-	43	0.0000	0.0001	-
20-24	-	2,614	0.0000	0.0001	-
25-29	4	12,148	0.0003	0.0001	1
30-34	3	15,731	0.0002	0.0002	2
35-39	7	16,818	0.0004	0.0002	4
40-44	7	21,210	0.0003	0.0003	7
45-49	14	24,778	0.0006	0.0005	13
50-54	36	27,733	0.0013	0.0008	22
55-59	37	25,240	0.0015	0.0017	43
60-64	22	13,996	0.0016	0.0025	35
65-69	13	3,369	0.0039	0.0038	13
70-74	5	841	0.0059	0.0068	6
75 and over	2	-	N/A	0.0122	-
Totals	150	164,521	0.0009	0.0009	146

SECTION F

**ACTIVE PARTICIPANTS IN 12/31/2010
VALUATIONS**

ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2010
GENERAL PARTICIPANTS
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	133							133	\$ 2,209,544
20-24	4,298	24						4,322	101,831,753
25-29	14,605	2,167	28					16,800	589,803,344
30-34	10,254	10,588	1,980	15				22,837	969,472,754
35-39	7,846	6,764	8,772	1,090	19			24,491	1,161,363,916
40-44	8,477	6,321	7,490	6,898	1,399	16		30,601	1,485,242,468
45-49	8,338	6,849	6,834	5,859	6,089	1,310	61	35,340	1,688,981,921
50-54	6,835	6,816	7,256	5,637	6,254	5,129	2,535	40,462	1,976,439,793
55	1,035	1,094	1,280	1,092	1,142	1,011	1,299	7,953	403,423,516
56	1,013	1,106	1,261	1,140	1,104	915	1,376	7,915	403,807,713
57	960	961	1,155	1,089	1,112	900	1,294	7,471	384,267,805
58	831	906	1,105	1,040	1,039	742	1,240	6,903	353,123,199
59	805	797	1,068	995	992	737	1,156	6,550	335,322,218
60	749	691	889	870	887	638	1,052	5,776	288,861,202
61	595	676	738	750	727	536	886	4,908	249,826,184
62	534	534	660	661	661	477	673	4,200	210,766,666
63	487	417	528	480	535	357	499	3,303	161,291,631
64	440	388	439	423	474	304	449	2,917	143,979,242
65	282	231	262	223	241	165	239	1,643	77,543,816
66	261	182	194	171	189	111	172	1,280	57,864,159
67	209	139	125	104	97	62	131	867	37,012,799
68	201	112	107	95	85	55	93	748	31,316,633
69	166	87	69	50	49	34	60	515	20,448,939
70	129	52	66	48	27	19	50	391	14,096,857
71	126	47	44	25	29	13	38	322	10,730,968
72	96	36	33	19	21	10	30	245	8,331,850
73	88	46	22	17	17	8	23	221	6,820,061
74	74	29	21	15	10	8	14	171	5,091,582
75 & Up	319	151	59	43	28	15	59	674	16,080,256
Totals	70,186	48,211	42,485	28,849	23,227	13,572	13,429	239,959	\$11,195,352,789

ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2010
PROTECTIVE PARTICIPANTS WITH SOCIAL SECURITY
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	2							2	\$ 46,962
20-24	546	10						556	19,806,331
25-29	1,746	644	18					2,408	109,619,382
30-34	771	1,458	737	9				2,975	153,514,311
35-39	395	751	1,672	453	9			3,280	184,678,220
40-44	286	486	1,028	1,446	407	3		3,656	215,837,622
45-49	178	323	461	678	1,031	286	7	2,964	183,206,975
50	25	60	64	99	125	165	19	557	35,444,033
51	22	46	54	86	109	149	38	504	32,637,191
52	22	60	46	87	96	133	54	498	31,845,647
53	24	43	38	67	97	118	83	470	30,195,787
54	26	43	39	54	65	87	81	395	24,682,186
55	25	34	40	56	54	66	54	329	19,654,068
56	14	36	32	40	57	68	71	318	19,794,235
57	6	26	22	37	40	35	43	209	12,780,000
58	11	24	32	38	37	26	37	205	11,916,199
59	10	23	21	25	40	18	29	166	9,678,549
60	6	28	20	22	26	16	38	156	9,298,194
61	8	11	12	15	22	16	16	100	5,807,790
62	8	14	9	18	15	8	13	85	4,541,683
63	4	6	10	7	8	9	8	52	2,980,728
64	4	11	6	10	8	9	6	54	2,914,025
65	1	3	6	6	5	1	6	28	1,533,344
66	1	4	5	2	2	3	2	19	1,126,070
67	1	1	1		2		1	6	307,544
68	2		1	1	1		1	6	306,633
69	3	1	1	1		1		7	203,296
70 & Up	6	2	2	4				14	389,942
Totals	4,153	4,148	4,377	3,261	2,256	1,217	607	20,019	\$1,124,746,947

ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2010
PROTECTIVE PARTICIPANTS WITHOUT SOCIAL SECURITY
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	60							60	\$ 2,684,133
25-29	173	60	1					234	12,780,765
30-34	134	180	84					398	24,165,084
35-39	45	108	257	50	1			461	30,729,478
40-44	19	65	181	172	65			502	34,948,389
45-49	11	14	73	135	188	68	1	490	35,838,080
50	1	2	5	16	23	43	6	96	7,348,446
51	1		11	15	34	39	4	104	8,061,162
52	1	2	4	12	24	31	16	90	6,943,476
53		1	3	7	27	29	15	82	6,321,802
54			3	9	18	19	13	62	4,839,961
55			1	2	14	15	8	40	3,166,868
56			1	6	18	11	11	47	3,840,321
57	1	1	1	7	10	7	6	33	2,595,944
58				1	7	4	6	18	1,385,268
59				1	4	6	5	16	1,269,943
60			1	1	4	1	2	9	866,786
61							2	2	188,898
62							1	1	107,519
63		1				2	1	4	366,982
64			2			2		4	324,924
66				1				1	38,219
Totals	446	434	628	435	437	277	97	2,754	\$188,812,448

ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2010
ELECTIVE AND ELECTED OFFICIALS
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	2							2	\$ 97,787
25-29	3							3	96,647
30-34	17	4	2					23	1,190,946
35-39	34	22	15	3				74	4,976,788
40-44	48	22	22	19	4			115	7,292,609
45-49	57	29	26	25	20	4		161	11,515,569
50-54	55	25	41	24	43	32	18	238	17,965,918
55	10	10	6	8	7	8	7	56	4,836,302
56	17	4	7	5	6	4	14	57	3,544,211
57	21	10	7	6	9	5	10	68	4,954,309
58	8	5	3	6	6	7	11	46	3,944,477
59	18	8	9	6	8	14	15	78	6,285,696
60	11	10	6	10	8	9	10	64	5,681,927
61	12	11	8	3	12	8	5	59	4,073,250
62	9	4	4	8	7	6	11	49	4,480,350
63	17	7	5	8	3	5	7	52	3,644,580
64	12	9	6	4	3	11	10	55	4,232,681
65	7	5	4	4	5	5	5	35	2,449,942
66	10	2	4	3	3	2	6	30	2,495,997
67	4	2	3	2	5	2	3	21	1,671,177
68	11	5	3	3	1	3	2	28	1,568,030
69	2	1	2	2				7	445,016
70	7	3	2	2	2	1	5	22	1,396,947
71	5	1	2	1	1	1	1	12	503,890
72	11	1	1		1			14	285,324
73	2			2			2	6	339,748
74	4	1		1		1		7	231,120
75 & Up	20	6	4	1		2	3	36	1,036,157
Totals	434	207	192	156	154	130	145	1,418	\$101,237,395

APPENDIX

ACTUARIAL METHODS

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 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 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 minimizing the 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. ETF Staff maintains the breakdown of the separate asset accounts.

DEVELOPMENT OF EAR AS OF DECEMBER 31, 2010

	General	Executive & Elected Officials	Protective Occupation		Total
			With Soc. Sec	Without Soc. Sec.	
\$ Millions					
1. Present Value of Future Benefits for Non-Retired	\$46,905.7	\$393.2	\$5,454.3	\$1,244.3	\$53,997.5
2. Present Value of Future Entry Age Normal Costs	12,974.0	88.5	1,836.1	379.6	15,278.2
3. Entry Age Accrued Liability: (1)-(2)	33,931.7	304.7	3,618.2	864.7	38,719.3
4. Non-Retired Assets-WRS	34,264.4	277.3	3,740.4	949.4	39,231.5
-LTDI	83.4	1.2	21.9	3.8	110.3
-Total	34,347.8	278.5	3,762.3	953.2	39,341.8
5. Entry Age Unfunded Accrued Liability:(3)-(4)	(416.1)	26.2	(144.1)	(88.5)	(622.5)
6. WRS Frozen Unfunded Accrued Liability	118.4	0.6	5.7	7.1	131.8
7. EAR:(6)-(5)	\$ 534.5	\$(25.6)	\$ 149.8	\$ 95.6	\$ 754.3

ACTUAL VS. EXPECTED CHANGES IN EXPERIENCE AMORTIZATION RESERVE (EAR) - CALENDAR YEAR 2010
(\$ MILLIONS)

	December 31, 2010				
	General	Executive & Elected	Protective		Total
			With S.S.	Without S.S.	
(1) Entry Age UAAL at start of year	\$ (787.9)	\$ 14.6	\$ (182.8)	\$ (98.1)	\$ (1,054.2)
(2) Normal cost from last valuation (Total)	1,434.7	13.2	191.5	42.0	1,681.4
(3) Actual contributions	1,323.3	12.6	161.2	28.9	1,526.0
(4) Interest	(57.1)	1.2	(13.1)	(7.1)	(76.1)
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	(733.6)	16.4	(165.6)	(92.1)	(974.9)
(6) Change in actuarial assumptions	107.0	5.0	16.0	7.0	135.0
(7) Other changes	0.0	0.0	0.0	0.0	0.0
(8) Expected UAAL after changes: (5) + (6) + (7)	(626.6)	21.4	(149.6)	(85.1)	(839.9)
(9) Actual Entry Age UAAL at end of year	(416.1)	26.2	(144.1)	(88.5)	(622.5)
(10) Gain (loss): (8) - (9)	\$ (210.5)	\$ (4.8)	\$ (5.5)	\$ 3.4	\$ (217.4)

The gain loss analysis is intended to explain the financial effect of differences between actual and assumed experience in basic risk areas: Investment Income, Pay increases, retirement rates, turnover rates, etc. In order for the gain loss analysis to proceed, the change in the Entry Age Unfunded Actuarial Accrued Liabilities from one year to the next is analyzed to remove the effect of expected changes. The table above develops this year's gain or loss (line 10) which is added to the Experience Amortization Reserve (EAR). When the EAR increases "unexpectedly," this is favorable experience and downward pressure is exerted on contribution rates. Similarly, an unexpected decrease in the EAR is unfavorable experience and upward pressure is exerted on contribution rates. In addition to the gain or (loss) described in line 10, non-recurring changes in lines 6 and 7 also may affect contribution rates.

By measuring gains and losses each year and, to the extent possible, determining the "responsible" assumptions, insight is gained into how well the actuarial assumptions estimate WRS liabilities. Such information aids in understanding financial effects of emerging trends and is particularly useful during preparation of the WRS experience study.

August 25, 2011

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

Re: 2010 Gain Loss Analysis

Dear Dave:

Enclosed are 75 bound copies of this report.

Sincerely,

A handwritten signature in black ink that reads "Mark Buis". The signature is written in a cursive, slightly slanted style.

Mark Buis

MB:lr
Enclosures