



# Wisconsin Retirement System

## 2007 Gain (Loss) Analysis

### September 2008

**GRS**

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A Gain (Loss) Analysis measures differences between actual and assumed experience in each Risk Area.



# WRS Assumption Risk Areas

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## Demographic

Normal retirement

Early retirement

Death-in-service

Disability

Other separations

## Economic

Salary increases

Investment return

There are other risk areas, but they are not germane to the Gain/Loss Analysis.



## Why Have A Gain (Loss) Analysis?

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- ◆ It is a year-by-year measure of the operation of assumptions
- ◆ To understand the nature of risk
- ◆ To determine when assumption changes are needed
- ◆ To gain an understanding of reasons for contribution rate changes



## Components of Total Gain (Loss)

	<b>Gain (Loss) in Millions</b>	
	<b>2006</b>	<b>2007</b>
Economic Risk	\$ 454	\$1,057
Decrement Risk	(13)	(21)
Other Activity	(227)	(242)
Total Gain (Loss)	\$ 214	\$ 794
Effect of Assumption changes	(377)	0
Net Gain/(Loss)	\$(163)	\$ 794

(see page 9)



## Investment Earnings in 2007 (Active Participants)

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	<u>\$ Millions</u>
A. Average balance on Participant and Employer Accumulation Reserves	\$36,342
B. Expected earnings: 7.8%	2,835
C. Earnings credited to Participant and Employer Accumulation Reserves	4,379
D. Gain (loss) from earnings: C - B	\$ 1,544

(see page 12)



## Investment Earnings in 2007 (Active Participants)

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- ◆ \$978 million is total asset gain for the year
- ◆ However, part of the total gain is allocated to Variable Excess accounts
- ◆ Some of the gain flows through to members via the operation of Money Purchase minimum benefits
- ◆ Must net these out to determine remaining core fund gain or loss
- ◆ Remaining portion affects contribution rates



## Investment Earnings in 2007 (Active Participants)

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	<u>\$ Millions</u>
Gross Gain for the Year	\$1,544
Less Estimated Gain Due to Money Purchase and Variable Excess Effects	<u>566</u>
Net Core Fund Asset Gain	\$978

(see page 12)





## Salary Related Gain (Loss)

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Pay increases varied among groups producing a gain in total.

	<b>Gain (Loss)</b>
	<b><u>\$ Millions</u></b>
General	\$78.6
Exec. & Elected	\$(0.2)
Prot. w/Soc. Sec.	\$0.3
Prot. w/o Soc. Sec.	\$0.8
	<b><u>\$79.5</u></b>

(see pages 9, 11)



# Population Development During 2007

	<u>Actual</u>	<u>Expected</u>
<b>Beginning Census</b>	260,302	
(-) Normal Retirement	3,162	3,561
(-) Early Retirement	3,579	3,805
(-) Death	324	281
(-) Disability Retirement		
- Total Approved	249	321
- Less Pending	53	
- Net New	196	
(-) Other Separations	11,592	10,606
(-) Transfers Out	1,183	
(+) Transfers In	1,183	
(+) New Entrants	19,554	
<b>Ending Census</b>	261,003	

(see page 4)



# Population Development During 2007

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**Normal Retirements:** Varied by group and gender, overall fewer normal retirements than expected.

**Early Retirements:** Less than assumed in most groups, overall producing a small loss.

**Death:** Higher than expected, producing small loss.

**Disabilities:** Less than expected, producing a gain in most groups.

**Other Separations:** Varied by group, gender and service. Other separations among short service participants were higher than expected, among longer service participants less than expected. The net result was a loss.



# Comparative Schedule of Experience

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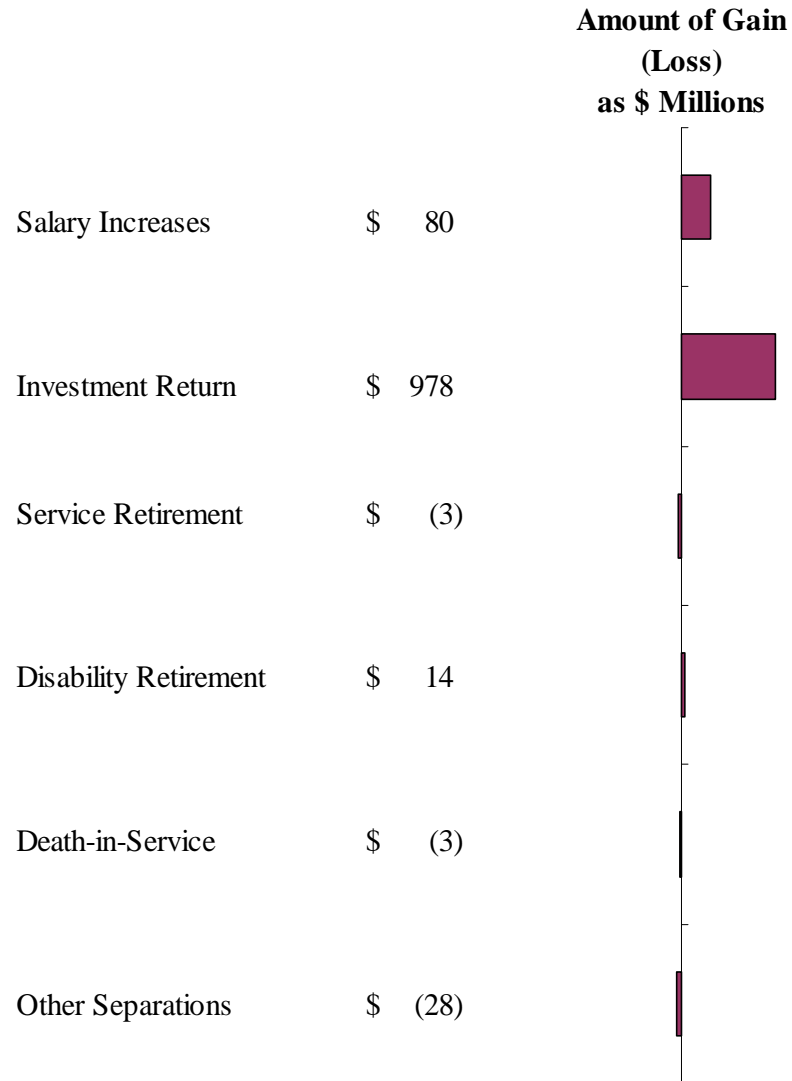
## Divisions Combined

	<u>2006</u>	<u>2007</u>
Normal Retirement	\$ (1.7)	\$ 4.9
Early Retirement	(8.2)	(8.1)
Disability Retirement	14.8	13.5
Death	(1.3)	(2.9)
Other Separations	<u>(16.6)</u>	<u>(28.4)</u>
Total	\$ (13.0)	\$ (21.0)

(see page 9)



# Gain/Loss Analysis-2007 Experience





## Explanation of Gain or Loss Due to “Other” Risk Areas

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- ◆ Primarily due to difference between actual and expected reserve transfers – difference between what we estimate a benefit to be versus what is actually calculated at time of retirement
- ◆ Re-established liability is unexpected liability from new or rehired employees with prior service
- ◆ Remaining unexplained loss is very small in relative terms (0.1% of accrued liabilities)



## How Does Gain (Loss) Affect the Total Contribution Rate?

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- ◆ Normal cost contribution for most groups decreased from the prior year
- ◆ Total net gain of \$794.3 million primarily due to favorable investment performance



# Funding Value of Assets (\$ millions)

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
<b>Market value BOY</b>	\$75,981	\$ -	\$ -	\$ -	\$ -
<b>Market value EOY</b>	80,351	-	-	-	-
<b>Funding Value Beginning of Year</b>	68,996				
<b>Net External Cash Flow</b>	(1,908)				
<b>Investment income</b>					
• Actual Investment Income	6,368	-	-	-	-
• Expected Investment Income	<u>5,307</u>	-	-	-	-
• Amount for phase-in	1,061	-	-	-	-
<b>Phased-in recognition</b>					
• Current year	212	-	-	-	-
• First prior year	1,065	212	-	-	-
• Second prior year	86	1,065	212	-	-
• Third prior year	518	86	1,065	212	-
• Fourth prior year	<u>1,341</u>	<u>518</u>	<u>86</u>	<u>1,065</u>	<u>212</u>
• Total MRA recognition	3,222	1,881	1,363	1,277	212
<b>Funding Value End of year</b>	75,617				
<b>Market Value ROR - Actual</b>	8.1%				





## Concluding Remarks

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- ◆ Recognition of prior asset gains are expected over next few years – possibly offset by poor investment return for 2008
- ◆ This Gain (Loss) Analysis is the second in a regular 3-year experience cycle
- ◆ This study together with the 2006 and 2008 study will form the basis for the next experience study
- ◆ The next experience study will be reported in December 2009 and implemented in the December 31, 2009 valuations



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