# Core Fund Annuity Adjustment Projections

### Joint Information Meeting March 8, 2012

Board	Mtg Date	Item #
JI	3.10.11	3D

### Assumptions

- Based on 2011 actual Core Trust Fund investment returns.
- Includes 2007 2010 investment gains and losses carried forward in the Market Recognition Account (MRA).
- Annuities will be increased if annuity reserve surplus provides at least a 0.5% increase.
- Annuities will be reduced if annuity reserve shortfall would require at least a -0.5% adjustment.

### Assumptions (cont.)

- 0.4% per year is reserved for mortality improvement and other actuarial adjustments and is not available for annuity adjustments.
- Negative adjustments can only reduce increases granted in prior years. A core annuity cannot be reduced below the original value.
- Less than half of all annuities will be subject to a negative adjustment in 2013.

## Market Recognition Account

- Investment gains / losses are "smoothed" through the Market Recognition Account (MRA):
  - The MRA is intended to give recognition to long-term changes in asset values while minimizing the impact of short-term fluctuations in the capital markets;
  - Investment gains equal to the assumed rate (7.2%) are recognized;
  - The difference between actual gains or losses and the assumed rate is spread equally over 5 years.

## There is a \$5.3 billion investment loss to be recognized in future years, \$4.6 billion of it in 2012

	Year to Be Recognized (millions \$)								
Year Earned	2011	2012	2013	2014	2015				
2012		?	?	?	?				
2011	(935)	(935)	(935)	(935)	(935)				
2010	399	399	399	399					
2009	1,288	1,288	1,288						
2008	(5,370)	(5,370)							
2007	212								
Totals	(4,406)	(4,618)	752	(536)	(935)				

The deferred investment losses will be allocated approximately 51% to the annuity reserve, 29% to the employer reserve and 20% to the member reserve.

## How Annuity Adjustments Have Affected Annuitants

## **Current Value of Annuities**

If You Retired in	A \$1,000 Core Annuity is Receiving	The Annual Rate of Increase is	A \$1,000 Variable Annuity is Receiving	The Annual Rate of Increase is	The Annual Change in CPI is
2007	\$946* / \$1,000	(1.1%)* / 0%	\$730	(6.1%)	2.3%
2002	\$1,022	0.2%	\$808	(2.1%)	2.5%
1997	\$1,509	2.8%	\$989	(0.1%)	2.4%
1992	\$1,913	3.3%	\$1,501	2.1%	2.5%
1987	\$2,604	3.9%	\$1,894	2.6%	2.9%

\* Annuity value as if all negative adjustments had been applied. Actual core annuities cannot be reduced below their initial value.

### Change in Value of 1987 Annuity

(2,395 annuitants)



### Change in Value of 1992 Annuity

(3,257 annuitants)



### Change in Value of 1997 Annuity

(5,156 annuitants)



### Change in Value of 2002 Annuity

(7,145 annuitants)



### Change in Value of 2007 Annuity

(8,549 annuitants)



## The Declining Population of Annuitants Affected by Negative Annuity Adjustments

#### Annual Annuities by Year of Inception Before (2.1%) adjustment As of December 31, 2008



#### Annual Annuities by Year of Inception After (2.1%) adjustment As of December 31, 2008



#### Annual Annuities by Year of Inception After (1.3%) adjustment As of December 31, 2009



#### Annual Annuities by Year of Inception After (1.2%) adjustment As of December 31, 2010



#### Annual Annuities by Year of Inception After (7.0%) adjustment As of December 31, 2011



#### Annual Annuities by Year of Inception Before adjustment As of December 31, 2012



Initial Annuity Accumulated Increases

## **Annuity Adjustment Projections**

## **Annuity Adjustment Projections**

- Projections...not predictions
- Only an actuarial valuation can accurately calculate the annuity adjustments
- Useful for anticipating the magnitude, not exact amount, of future adjustments

## A 7.2% investment return in 2012 will result in a maximum annuity adjustment between -12% and -16%

	2011	2012	2013	2014	2015	2016
SWIB Net Investment Return	1.4%	7.2%	7.2%	7.2%	7.2%	7.2%
Effective Rate	1.5%	0.9% to 1.3%	8.4% to 8.8%	6.6% to 7.0%	6.1% to 6.5%	7.3% to 7.7%
Average Annuity Adjustment	-4.0%	-4.2% to -4.6%	2.2% to 2.6%	0.7% to 1.1%	0.0% to 0.7%	1.3% to 1.7%
Maximum Annuity Adjustment	-7.0%	-12% to -16%	2.2% to 2.6%	0.7% to 1.1%	0.0% to 0.7%	1.3% to 1.7%

## A 0% investment return in 2012 will result in a maximum annuity adjustment between -17% and -21%

	2011	2012	2013	2014	2015	2016
SWIB Net Investment Return	1.4%	0%	7.2%	7.2%	7.2%	7.2%
Effective Rate	1.5%	-0.2% to -0.6%	6.9% to 7.3%	5.0% to 5.4%	4.5% to 4.9%	5.7% to 6.1%
Average Annuity Adjustment	-4.0%	-5.5% to -5.9%	0.8% to 1.2%	0% to -0.7%	-1.0% to -1.4%	0%
Maximum Annuity Adjustment	-7.0%	-17% to -21%	0.8% to 1.2%	0% to -0.7%	-1.0% to -1.4%	0%

### An investment return between 27% and 31% in 2012 is needed to avoid a negative annuity adjustment

	2011	2012	2013	2014	2015	2016
SWIB Net Investment Return	1.4%	27% to 31%	7.2%	7.2%	7.2%	7.2%
Effective Rate	1.5%	5.2% to 5.6%	12.9% to 13.3%	11.0% to 11.4%	10.3% to 10.7%	11.2% to 11.6%
Average Annuity Adjustment	-4.0%	0%	5.8% to 6.2%	4.7% to 5.1%	4.1% to 4.5%	4.9% to 5.3%
Maximum Annuity Adjustment	-7.0%	0%	5.8% to 6.2%	4.7% to 5.1%	4.1% to 4.5%	4.9% to 5.3%

### An investment return between 33% and 37% in 2012 is needed to pay a positive annuity adjustment

	2011	2012	2013	2014	2015	2016
SWIB Net Investment Return	1.4%	33% to 37%	7.2%	7.2%	7.2%	7.2%
Effective Rate	1.5%	6.3% to 6.7%	13.9% to 14.3%	11.9% to 13.3%	11.2% to 11.6%	11.9% to 12.3%
Average Annuity Adjustment	-4.0%	0.5%	7.3% to 7.7%	5.5% to 5.9%	4.9% to 5.3%	5.6% to 6.0%
Maximum Annuity Adjustment	-7.0%	0.5%	7.3% to 7.7%	5.5% to 5.9%	4.9% to 5.3%	5.6% to 6.0%

## **Questions?**