# Core Fund Annuity Adjustments and Effective Rate Projections

Joint Meeting of the Employee Trust Funds,
Teachers Retirement and Wisconsin Retirement Boards

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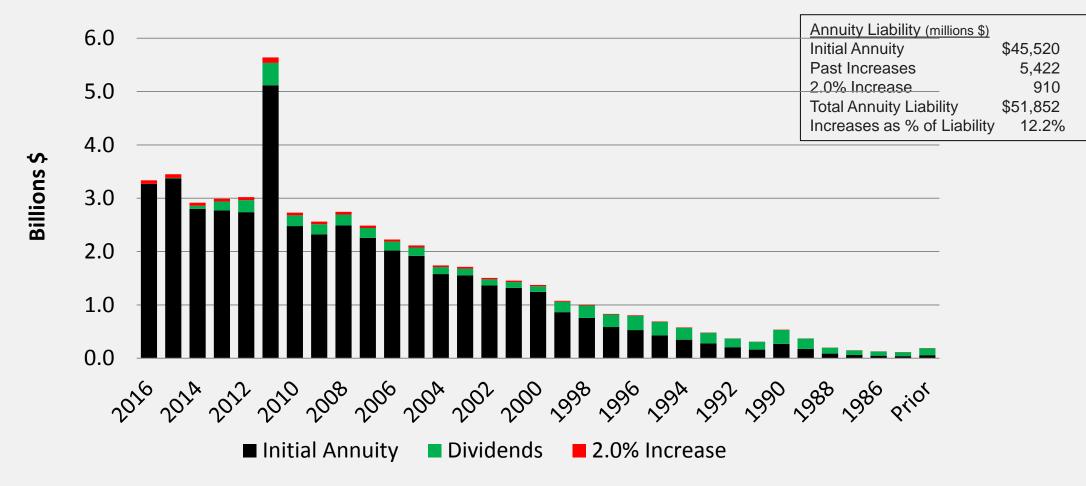
### **Current Value of Annuities\***

| If You<br>Retired in | A \$1,000 Core<br>Annuity is<br>Receiving | The Annual<br>Rate of<br>Increase is | A \$1,000 Variable<br>Annuity is<br>Receiving | The Annual<br>Rate of Increase<br>is | The Annual<br>Change in CPI is |
|----------------------|---|--------------------------------------|---|--------------------------------------|--------------------------------|
| 2012                 | \$1,104                                   | 2.0%                                 | \$1,373                                       | 6.5%                                 | 1.4%                           |
| 2007                 | \$1,104                                   | 1.0%                                 | \$1,003                                       | 0%                                   | 1.8%                           |
| 2002                 | \$1,104                                   | 0.7%                                 | \$1,110                                       | 0.7%                                 | 2.1%                           |
| 1997                 | \$1,507                                   | 2.1%                                 | \$1,358                                       | 1.5%                                 | 2.1%                           |
| 1992                 | \$1,909                                   | 2.6%                                 | \$2,061                                       | 2.9%                                 | 2.3%                           |

<sup>\*</sup>Including annuity adjustments to be made effective April 1, 2017



#### **Annuity Liability by Year of Inception**





### Assumptions

- Based on 2016 actual Core Trust Fund investment returns.
- Includes 2013 2016 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.)**

- 0.5% 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.
- In calculating annuity adjustments, a 5.0% assumed investment return is used to fund the original benefit. Thus, in a world where experience matched assumptions each year perfectly, annuitants would receive a 2.2% adjustment each year (7.2% less 5.0%). We don't live in that world.

### 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.



### Investment Gain/Loss to be Recognized In Future Years

|             | Year to Be Recognized (millions \$) |         |         |         |      | Core Net of<br>Fee<br>Investment |
|-------------|-------------------------------------|---------|---------|---------|------|----------------------------------|
| Year Earned | 2016                                | 2017    | 2018    | 2019    | 2020 | Return                           |
| 2017        |                                     | ?       | ?       | ?       | ?    | ?                                |
| 2016        | 121                                 | 121     | 121     | 121     | 121  | 8.29%                            |
| 2015        | (1,344)                             | (1,344) | (1,344) | (1,344) |      | (.67%)                           |
| 2014        | (243)                               | (243)   | (243)   |         |      | 5.40%                            |
| 2013        | 953                                 | 953     |         |         |      | 13.18%                           |
| 2012        | 793                                 |         |         |         |      | 13.36%                           |
| Totals      | 280                                 | (513)   | (1,466) | (1,223) | 121  |                                  |

### **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.



# Result of 7.2% Investment Return in 2017 - 2020

|                            | 2016  | 2017         | 2018         | 2019         | 2020         |
|----------------------------|-------|--------------|--------------|--------------|--------------|
| SWIB Net Investment Return | 8.29% | 7.2%         | 7.2%         | 7.2%         | 7.2%         |
| Effective Rate             | 7.9%  | 6.6% to 7.0% | 5.5% to 5.9% | 5.8% to 6.2% | 7.3% to 7.7% |
| Average Annuity Adjustment | 2.0%  | .5% to .9%   | 0%           | 0.6% to 1.0% | 1.6% to 2.0% |

# **Result of 5% Investment Return in 2017 and 7.2% in 2018 - 2020**

|                            | 2016  | 2017         | 2018         | 2019         | 2020         |
|----------------------------|-------|--------------|--------------|--------------|--------------|
| SWIB Net Investment Return | 8.29% | 5%           | 7.2%         | 7.2%         | 7.2%         |
| Effective Rate             | 7.9%  | 6.2% to 6.6% | 5.1% to 5.5% | 5.3% to 5.7% | 6.8% to 7.2% |
| Average Annuity Adjustment | 2.0%  | 0%           | 0%           | 0%           | 1.4% to 1.8% |

# Result of 0% Investment Return in 2017 and 7.2% in 2018 - 2020

|                            | 2016  | 2017         | 2018             | 2019            | 2020         |
|----------------------------|-------|--------------|------------------|-----------------|--------------|
| SWIB Net Investment Return | 8.29% | 0%           | 7.2%             | 7.2%            | 7.2%         |
| Effective Rate             | 7.9%  | 5.2% to 5.6% | 4.0% to 4.4%     | 4.2% to 4.6%    | 5.7% to 6.1% |
| Average Annuity Adjustment | 2.0%  | 0% to (.80%) | (1.0%) to (1.4%) | (.8%) to (1.2%) | 0%           |



# Thank you











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